



TIMBER NOTICE OF SALE

SALE NAME: Q GRANDVIEW

AGREEMENT NO: 30-98554

AUCTION: August 25, 2020 starting at 10:00 a.m., Northeast Region Office, Colville, WA

COUNTY: Okanogan

SALE LOCATION: Sale located approximately 9 miles north of Loomis, WA

PRODUCTS SOLD AND SALE AREA:

All green conifer species (excluding ponderosa pine) 7 inches and greater in diameter at breast height not banded with blue paint in Units 1, 2, 3, 4, 5, 6 and 7 bounded by white management unit boundary tags; and all right of way timber banded with orange paint

All forest products above located on part(s) of Sections 3, 10 and 11 all in Township 39 North, Range 25 East, W.M., containing 227 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: PwC-SFIFM-513)

ESTIMATED SALE VOLUMES AND QUALITY:

Table with columns: Species, Avg Ring DBH, Total MBF, MBF by Grade (P, SM, 1S, 2S, 3S, 4S, 5S, 6S, UT). Rows include Douglas fir and Sale Total.

MINIMUM BID: \$114,000.00

BID METHOD: Sealed Bids

PERFORMANCE SECURITY:

\$22,800.00

SALE TYPE: Lump Sum

EXPIRATION DATE: November 11, 2022

ALLOCATION: Export Restricted

BID DEPOSIT: \$11,400.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Ground based equipment, Track skidder, and Rubber tired skidder. Falling and Yarding will not be permitted from March 15 to June 1 unless authorized in writing by the Contract Administrator due to spring breakup.

ROADS: 249.01 stations of required construction. 4.55 stations of required reconstruction. 77.99 stations of required prehaul maintenance. Road construction will not be permitted from March 15 to June 1 unless authorized in writing by the Contract Administrator due to spring breakup and on the E392504G road from station 0+00 to 20+00 from January 1 to September 1 due to wildlife timing restrictions. The hauling of forest products will not be permitted from March 15 to June 1 unless authorized in writing by the Contract Administrator due to spring breakup.

ACREAGE DETERMINATION

CRUISE METHOD: Acreage determined using GPS methods. Acreage shown above is net harvest acres in harvest units. All species: 7.0 - 17.5 inches dbh has minimum top of 4.6 inch dib. All species 17.6 inches and greater dbh have a minimum top dib of 40% of dob at 16 feet or a 6 inch top whichever is greater. Utility wood: comprised of non-board foot volume and



## TIMBER NOTICE OF SALE

volume below the minimum top diameter of 5.0 inches or 40% of dob at 16 feet to a minimum of a 2.6 inch top.

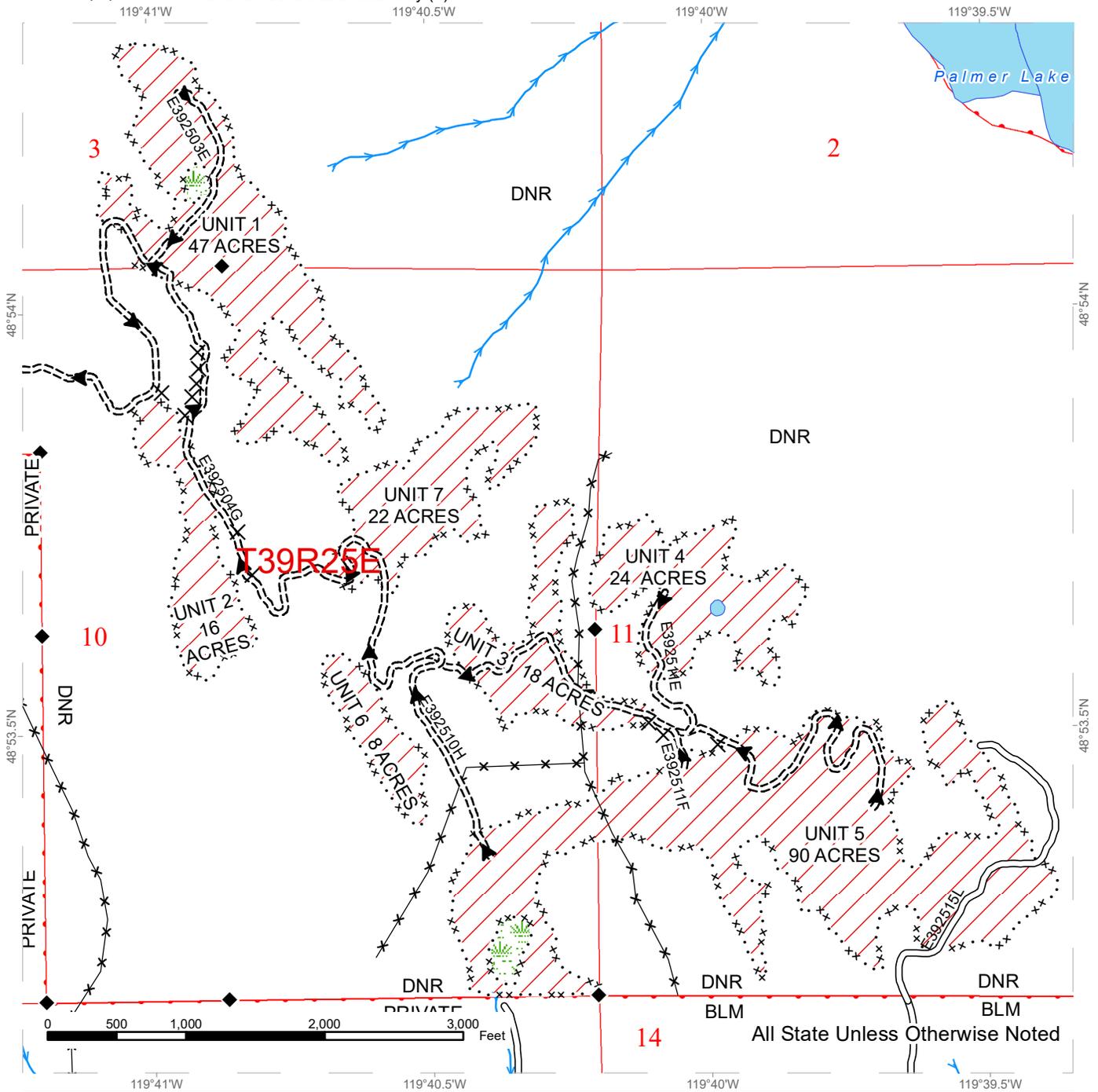
**FEES:** Within 10 days of day of sale, Purchaser shall provide payment for a road use permit in the amount of \$800.00. \$36,822.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

**SPECIAL REMARKS:** The road plan requires installation of a State owned bridge. See road plan for details. There is limited access to the sale area. Contact the Northeast Region Office at (509) 684-7474 for access.

# TIMBER SALE MAP

**SALE NAME:** Q GRANDVIEW  
**AGREEMENT #:** 30-098554  
**TOWNSHIP(S):** T39R25E  
**TRUST(S):** Common School and Indemnity (3)

**REGION:** Northeast Region  
**COUNTY(S):** Okanogan  
**ELEVATION RGE:** 3040-3920



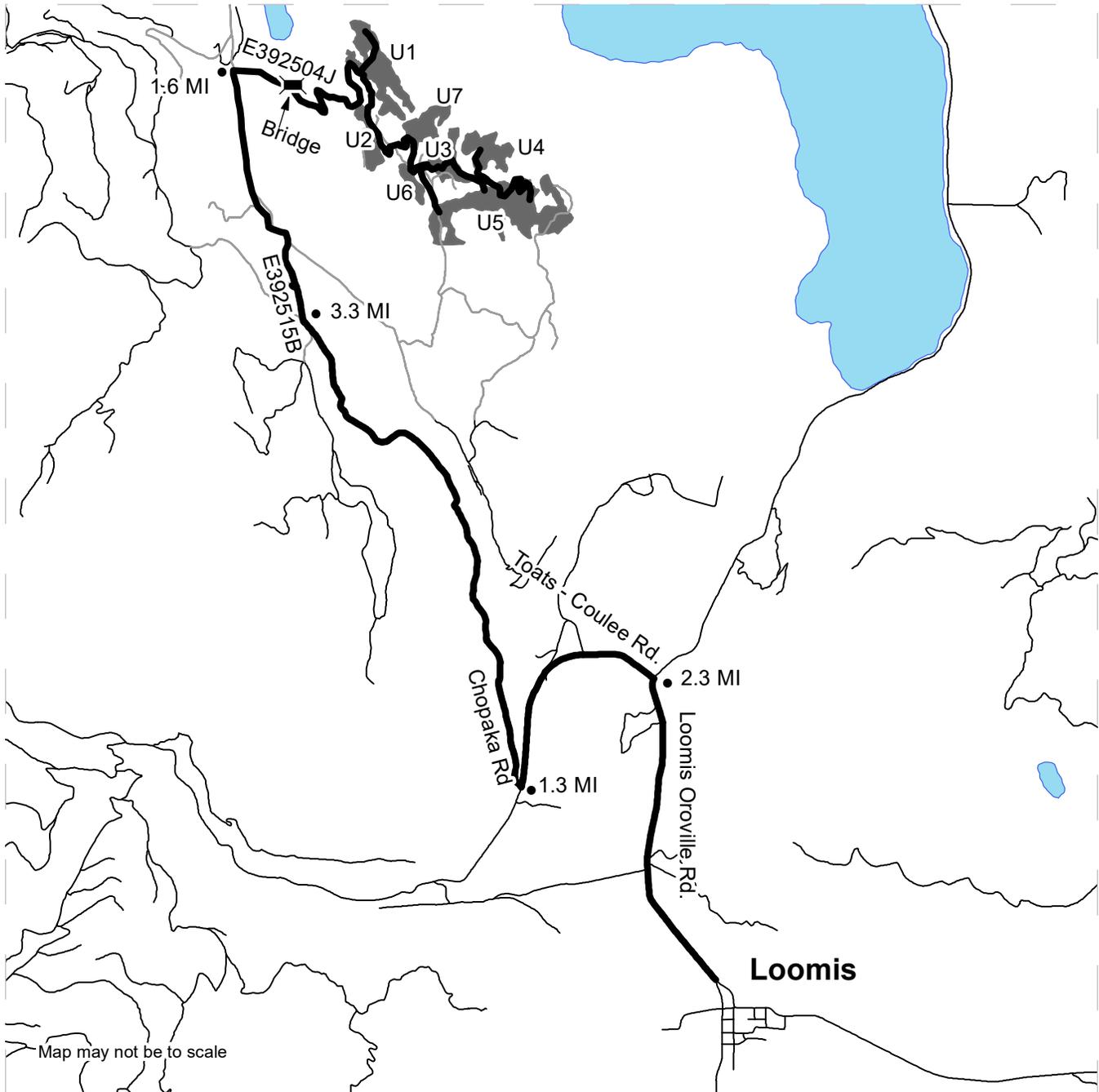
	Variable Retention Harvest		Streams
	Wetland Mgt Zone		Survey Monument
	Management Unit Boundary tags		(Banded) ROW trees = 2 acres
	Existing Roads		Fence
	Required Construction		
	Haul_Route		



# DRIVING MAP

**SALE NAME:** Q GRANDVIEW  
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Map may not be to scale

	Timber Sale Unit
	Haul Route
	Other Road

**DRIVING DIRECTIONS:**

Access Units 1, 2, 3, 4, 5, 6, and 7 from Loomis, WA.  
 From Loomis, travel north on the Loomis-Oroville Hwy for 2.3 miles, turn left onto Toats Coulee road and travel west for 1.3 miles to Chopaka road. Travel north on Chopaka road for 3.3 miles and turn right onto E392515B road. Travel north on E392515B road for 1.6 miles and turn right on E392504J road. Travel west to the bridge and E392504J turns into E392504E road. All units will be accessed from this road.



**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

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

**Export Restricted Lump Sum AGREEMENT NO. 30-098554**

**SALE NAME: Q GRANDVIEW**

**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 August 25, 2020 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 green conifer species (excluding ponderosa pine) 7 inches and greater in diameter at breast height not banded with blue paint in Units 1, 2, 3, 4, 5, 6 and 7 bounded by white management unit boundary tags; and all right of way timber banded with orange paint, located on approximately 227 acres on part(s) of Sections 3, 10, and 11 all in Township 39 North, Range 25 East W.M. in Okanogan 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 November 11, 2022.

## 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 \$265.00 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-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-102 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 shall become a part of this contract and the Scribner log scale volume, as defined by the Northwest Log Rules Eastside, 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-106 Adding Naturally Damaged Forest Products

Any forest products not designated for removal that are seriously damaged by disease, insects or wind, or that may contribute seriously to the spread of insect or disease damage may be added to this sale by the State's Contract Administrator. Additions must be in unlogged areas of the sale and added volume shall not exceed an amount equal to 10 percent of the original advertised volume. Added forest products become a part of this contract and shall be paid for at the rate set forth in clause G-101, G-102 or G-103.

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 program Standard under certificate number: PwC-SFIFM-513.

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® program 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 Colville, 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 Operation

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; E393504G, E392503E, E392509F, E392509J, E392510H, E392510J, E392511E, E392511F, E392515B and E392535A. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

## G-320 Erosion Control

Purchaser shall deliver 450 pounds of grass seed to a location designated by the Contract Administrator. Seed provided shall meet the following specifications.

40% Mountain Brome, 30% Sherman Big Bluegrass, 30% Idaho Fescue  
Seed shall be certified weed free, premixed and delivered to Highlands Fire Camp in 50 pound bags clearly labeled with the timber sale name on each bag.

## 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 Lower Corral (E392515B), Toats Coulee and Chopaka Mainline (E392535A) roads, 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 2130 with Allemandi dated July 29, 1985  
Easement 2130 amendment with Allemandi dated March 28, 2019  
Easement 306 with Woodard dated September 8, 1961  
Easement 83382 with Johnson dated June 12, 2009  
Easement 98419 with Allemandi dated April 24, 1985  
Easement 307 with Woodard dated May 29, 1961  
Easement 308 with McDaniel dated May 24, 1961  
Road Use Permit 97904 with Buzzard dated March 11, 2019

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:

Lease, including the terms and provisions thereof,  
For: Grazing  
In Favor of: Arra Sue Buzzard

Disclosed by Application No.: 10-A74646  
Granted: 6/1/2013  
Expires: 5/31/2023

Lease, including the terms and provisions thereof,  
For: Land Use License  
In Favor of: Washington Department of Fish & Wildlife  
Disclosed by Application No.: 60-094981  
Granted: 12/29/2016  
Expires: 12/31/2021

Water Right, including the terms and provisions thereof,  
For: Lake  
In Favor of: Washington Department of Natural Resources  
Disclosed by Application No.: 78-002087  
Granted: 3/1/1972  
Expires: Indefinite

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 \$56,316.00. The total contract price consists of a \$0.00 contract bid price plus \$56,316.00 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 \$22,800.00. 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-010 Cutting and Yarding Schedule**

Falling and Yarding will not be permitted from March 15 to June 1 in all units unless authorized in writing by the Contract Administrator.

**H-011 Certification of Fallers and Yarder Operators**

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

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

Excessive skid trail damage is defined in clause H-015 or H-016.

When leave tree damage exceeds the limits set forth in clause H-012, Purchaser shall be subject to liquidated damages (clause D-040 or D-041).

**H-012 Leave Tree Damage Definition**

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

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

- a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

**H-015 Skid Trail Requirements**

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

Purchaser shall comply with the following during the yarding operation:

- a. Skid trails will not exceed 16 feet in width, including rub trees.

- b. Skid trails shall not cover more than 20 percent of the total acreage on one unit.
- c. Skid trail location will be pre-approved by the Contract Administrator.
- d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.
- f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- g. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 10 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-050 Rub Trees

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

H-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-060 Skid Trail Locations

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

H-080 Snags Not to be Felled

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

H-110 Stump Height

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using D6 equivalent or smaller for ground skidding and ground base harvesting equipment. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-130 Hauling Schedule

The hauling of forest products will not be permitted on all roads from March 15 to June 1 unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Whole tree yarding is required in all units.
- b. Road construction activities will not be permitted on the E392504G road from station 0+00 to 20+00 from January 1 to September 1.
- c. If snow plowing occurs, snow berms shall be removed at locations designated by the Contract Administrator to allow surface water to drain from roads.

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

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-210 Log Length Hauling Restrictions

The maximum log length hauled from the sale area shall not exceed 45 feet unless otherwise approved in writing by the Contract Administrator.

**H-220 Protection of Residual or Adjacent Trees**

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

**H-230 Tops and Limbs Outside the Sale 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-260 Fall Leaners**

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

**Section C: Construction and Maintenance****C-040 Road Plan**

Road construction and associated work provisions of the Road Plan for this sale, dated 4/24/2019 are hereby made a part of this contract.

**C-050 Purchaser Road Maintenance and Repair**

Purchaser shall perform work at their own expense on E393504G, E392503E, E392509F, E392509J, E392510H, E392510J, E392511E, E392511F and E392515B 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 Chopaka road (E392535A). 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.

**C-090 Landing Location**

Landings shall be built 50 feet off the haul road(s).

**C-130 Dust Abatement**

Purchaser shall abate dust on the E392515B, E392509F, E392509J, E392504G, E392503E, E392510J, E392510H, E392511F, E392511E and Chopaka (E392535A) roads used for hauling from June 15 November 1.

C-140 Water Bars

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

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

An Emergency Response Plan (ERP) shall be provided to the Contract Administrator containing but not limited to, 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-040 Noxious Weed Control

Purchaser shall notify the Contract Administrator in advance of moving equipment onto State lands. Purchaser shall thoroughly clean all off road equipment prior to entry onto State land to remove contaminated soils and noxious weed seed. If equipment is moved from one DNR project area to another, the Contract Administrator reserves the right to require the cleaning of equipment. Equipment shall be cleaned at a location approved by the Contract Administrator.

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-100 Stream Cleanout

Slash or debris which enters any 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-120 Stream Protection

No timber shall be felled into, across, or yarded through any stream.

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 (contact information below).
- National Response Center (contact information below).
- Appropriate Department of Ecology (DOE) regional office (contact information below).
- DNR Contract Administrator

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

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

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

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

Department of Emergency Management 24-hour Number: 1-800-258-5990

National Response Center: 1-800-424-8802

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.

S-140 Fence Repair

Purchaser shall immediately repair all fence damage resulting from operations on this sale to an equal or better condition than existed at the time of sale.

## 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-040 Leave Tree Excessive Damage

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

\_\_\_\_\_  
Ken McNamee

\_\_\_\_\_  
Print Name

Northeast Region Manager

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Address: \_\_\_\_\_

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

STATE OF \_\_\_\_\_ )

COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally  
appeared \_\_\_\_\_

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

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

\_\_\_\_\_  
Notary Public in and for the State of

\_\_\_\_\_

My appointment expires \_\_\_\_\_



**WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES**  
**FOREST EXCISE TAX ROAD SUMMARY SHEET**

**Region:** Northeast

**Timber Sale Name:** Q Grandview

**Application Number:** 30- 98554

**EXCISE TAX APPLICABLE ACTIVITIES**

**Construction:** 24,901 linear feet  
*Road to be constructed (optional and required) but not abandoned*

**Reconstruction:** 455 linear feet  
*Road to be reconstructed (optional and required) but not abandoned*

**Abandonment:** 0 linear feet  
*Abandonment of existing roads not reconstructed under the contract*

**Decommission:** 0 linear feet  
*Road to be made undriveable but not officially abandoned.*

**Pre-Haul Maintenance:** 7,799 linear feet  
*Existing road to receive maintenance work (optional and required) prior to haul*

**EXCISE TAX EXEMPT ACTIVITIES**

**Temporary Construction:** 0 linear feet  
*Roads to be constructed (optional and required) and then abandoned*

0 linear feet

**Temporary Reconstruction:**  
*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)

## PRE-CRUISE NARRATIVE

Sale Name: <b>Grandview</b>	Region: <b>Northeast</b>
Agreement #: <b>30-098554</b>	District: Highlands
Contact Forester: Skyler Goodrich Phone / Location: 509-223-4044 Highlands workcenter	County(s): Choose a county, Okanogan
Alternate Contact: Matt Smith Phone / Location: 509-223-4044 Highlands workcenter	Other information: <a href="#">Click here to enter text.</a>

Type of Sale: Lump Sum	
Harvest System: Ground based <a href="#">Click here to enter text.</a>	100%

### 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	S3,10 T39 R25	03	49	.97	0	0	0	48	GPS (Garmin)
2	S10 T39 R25	03	16	0	0	0	0	16	GPS (Garmin)
3	S10, 11 T39 R25	03	18	0	0	0	0	18	GPS (Garmin)
4	S10, 11 T39 R25	03	24	0	0	0	0	24	GPS (Garmin)
5	S10, 11 T39 R25	03	95	2.4	0	0	0	92	GPS (Garmin)
6	S10 T39 R25	03	9	0	0	0	0	9	GPS (Garmin)
7	S10 T39 R25	03	22	0	0	0	0	22	GPS (Garmin)
ROW		03	2	0	0	0	0	2	GPS (Garmin)
<b>TOTAL ACRES</b>			235	3.77				231	

## HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Boundaries marked with white "Timber sale Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with blue. Leave all ponderosa pine. Leave all hardwoods.		Leave all PP; Loomis Landscape Plan rules apply. 13 leave trees per acre
2	Boundaries marked with white "Timber sale Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with blue paint. Leave all ponderosa pine. Leave all hardwoods.		Leave all PP; Loomis Landscape Plan rules apply. 13 leave trees per acre
3	Boundaries marked with white "Timber sale Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with blue paint. Leave all ponderosa pine. Leave all hardwoods.		Leave all PP; Loomis Landscape Plan rules apply. 13 leave trees per acre
4	Boundaries marked with white "Timber sale Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with blue paint. Leave all ponderosa pine. Leave all hardwoods.		Leave all PP; Loomis Landscape Plan rules apply. 13 leave trees per acre
5	Boundaries marked with white "Timber sale Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with blue paint. Leave all ponderosa pine. Leave all hardwoods.		Leave all PP; Loomis Landscape Plan rules apply. 13 leave trees per acre
6	Boundaries marked with white "Timber sale Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with blue paint. Leave all ponderosa pine. Leave all hardwoods.		Leave all PP; Loomis Landscape Plan rules apply. 13 leave trees per acre
7	Boundaries marked with white "Timber sale Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with paint. Leave all ponderosa pine. Leave all hardwoods.		Leave all PP; Loomis Landscape Plan rules apply. 13 leave trees per acre
ROW	ROW remove trees banded with orange paint		

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF	Chopaka mainline to E392515B Road to hike in point (no road access to all units)	
2	DF	Chopaka mainline to E392515B Road to hike in point (no road access to all units)	
3	DF	Chopaka mainline to E392515B Road to hike in point (no road access to all units)	
4	DF	Chopaka mainline to E392515B Road to hike in point (no road access to all units)	
5	DF	Chopaka mainline to E392515B Road to hike in point (no road access to all units)	
6	DF	Chopaka mainline to E392515B Road to hike in point (no road access to all units)	
7	DF	Chopaka mainline to E392515B Road to hike in point (no road access to all units)	
ROW	DF, PP	Found throughout sale area	
TOTAL MBF	2.7mmbf		

**REMARKS:**

There is no current road access to the harvest units. Hike in is about 30-40 minutes.
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Prepared By: Skyler Goodrich Date: 12/14/18	Title: Forester	CC: Matt Smith
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# Cruise Narrative

<b>Sale Name:</b> Grandview	<b>Region:</b> Northeast
<b>Agreement Number:</b> 30-098554	<b>District:</b> Highlands
<b>Lead Cruiser:</b> Jim Putnam	<b>Completion Date:</b> 5/30/19
<b>Other Cruisers on sale:</b> Dylan Worlock, Daniel Clark	<b>Legal:</b> Sections 3, 10, & 11, T 39 N, R 25 E WM.

Unit Acreage Specifications:							
Unit #	Gross Acres	Net Acres	Total Deletions	Existing Roads	Leave Tree Acres	Power Line	RMZ/WMZ
1	47.70	46.70	1.00				1.00
2	15.90	15.90	0.00				
3	18.50	18.50	0.00				
4	23.90	23.90	0.00				
5	92.20	89.80	2.40				2.40
6	8.60	8.60	0.00				
7	21.90	21.90	0.00				
ROW8	2.00	2.00	0.00				
<b>Total</b>	<b>230.70</b>	<b>227.30</b>	<b>3.40</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.40</b>

**Cruise Sample Design:** This timber sale was cruised using the **variable plot** sampling method. The double basal area system was employed; a small BAF to determine Basal Area (count trees) and a large BAF to determine the Volume-Basal Area Ratio (cruise trees). Each plot was a full plot. Plot locations were created using a computer generated grid, and found using a hand held GPS unit. The ROW was cruised using Individual Tree Sampling (ITS) method, cruising about 1 of every 3 trees tallied.

Unit #	Small BAF (count)	Large BAF (cruise)	Sighting height	Grid size (plot spacing in feet)	% Cruise to count Target	% Cruise to count Actual	Total number of Plots
1	27.78	111.11	D4H	220' x 220'	25%	26%	42
2	27.78	54.45	D4H	220' x 220'	51%	56%	21
3	27.78	54.45	D4H	220' x 220'	51%	58%	18
4	27.78	90	D4H	220' x 220'	31%	40%	21
5	27.78	111.11	D4H	250' x 250'	25%	34%	61
6	27.78	27.78	D4H	220' x 220'	100%	100%	8
7	27.78	90	D4H	220' x 220'	31%	30%	20
ROW8	n/a	n/a	n/a	ITS method	33%	39%	3
<b>Total</b>						<b>41%</b>	<b>194</b>

**Cruise Specifications:**

Minor species cruise intensity:	We grade the first tree of all minor species encountered with the smaller BAF; then followed through with the small BAF to large BAF ratio.
Minimum top dib:	<p><b>Ponderosa pine:</b> Trees less than 17.5" DBH have a minimum top of 5.6" dib. Trees 17.6" and greater DBH have a minimum top dib of 40% of DOB at 16' or a 6" top whichever is greater.</p> <p><b>All other species:</b> Trees less than 17.5" DBH have a minimum top of 4.6" dib. Trees 17.6" and greater DBH have a minimum top dib of 40% of DOB at 16' or a 6" top whichever is greater.</p>
Minimum dbh:	Ponderosa pine: 8.0 inches DBH All other species: 7.0 inches DBH
Log lengths:	Saw logs: 32 feet where possible, minimum of 12 feet Utility: 16 feet where possible, minimum of 12 feet
Take / Leave tree description:	Harvest all green conifers that meet the minimum cruise specifications and are not banded with blue paint. Leave all Ponderosa Pine and hardwoods except remove all orange painted/tagged ROW trees.
Commercial species observed in sale area, but not in cruise:	
Utility wood:	Comprised of non-board foot volume and volume below the minimum top diameter of 5" or 40% of DOB at 16' to a minimum of a 2.6" top.
Status codes used:	L – leave tree
Sort codes used	D – saw log, U – utility log
Species table used:	NE 2 inch
Grade table used:	Eastgrad
Other tables used (cruise adjustment):	

**Field Observations:**

Location:	Northern Okanogan County, 5 miles north-northwest of Loomis, Washington.
Aspect:	North, East, South and West
Elevation:	3000' to 4000'
Slope:	Unit 1 – 0% to 45%, Average 15% Unit 2 – 0% to 50%, Average 20% Unit 3 – 0% to 50%, Average 20% Unit 4 – 0% to 50%, Average 15% Unit 5 – 0% to 55%, Average 20% Unit 6 – 0% to 55%, Average 35% Unit 7 – 0% to 50%, Average 20%
Harvest Methods:	100% Ground base yarding.
Stand Composition:	The stands are second growth Douglas-fir and ponderosa pine with larger residual trees.
Stand Health:	Stand density and timber vigor is highly variable based on aspect, slope location and soil depth. Areas of the sale have some down timber in them, and signs of root rot exist.
Timber Quality:	The timber is domestic quality Douglas-fir (100%) plus two ponderosa pine in the right of way.
Non-board Foot Volume:	37 mbf of the total sale volume is comprised of utility wood.
Other Considerations:	

**Trust and Counties:** Entire sale is located within Okanogan county and Trust 03.

**Prepared by:** Dylan Worlock

**Title:** Timber Cruiser/Sm. Sales Forester

**CC:** Timber Sales Document Center & File #30-098554

**Species, Sort Grade - Board Foot Volumes (Project)**

T39N R25E S10 Ty00U2  
 THRU  
 T39N R25E S11 TyROW8

**Project: GRANDVIE**  
**Acres 227.30**

**Page 1**  
**Date 5/30/2019**  
**Time 10:31:31AM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	D	2		39	3.5	3,905	3,769	857			71	29			100	32	14	288	1.92	13.1	
DF	D	3		45	4.4	4,478	4,281	973		90	10			1	4	95	31	8	101	0.75	42.2
DF	D	4		14	6.3	1,402	1,313	299	65	35			43	26	31	23	6	28	0.37	47.3	
DF	U	UT		2		163	163	37	80	2	18			84	1	15	18	4	13	0.22	12.6
<b>DF Totals</b>				100	4.2	9,948	9,526	2,165	10	45	33	11	8	5	87	26	7	83	0.74	115.2	
PP	D	4		67	21.9	1	1	0			100				100	32	15	250	1.82	.0	
PP	D	5		33	7.7	1	1	0		100			17		83	26	7	60	0.75	.0	
<b>PP Totals</b>				0	17.8	2	2	0		32	68		5		95	28	10	123	1.16	.0	
<b>Totals</b>					4.2	9,950	9,528	2,166	10	45	33	11	8	5	87	26	7	83	0.74	115.2	

TC PSTATS						<b>PROJECT STATISTICS</b>				PAGE	1
						PROJECT		GRANDVIE		DATE	5/30/2019
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
39N	25E	10	GRANDVIEW	00U2	THR	227.30	194	866	S	E	
39N	25E	11	GRANDVIEW	ROW8							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			194	866	4.5						
CRUISE			102	233	2.3	15,428	1.5				
DBH COUNT											
REFOREST											
COUNT			76	229	3.0						
BLANKS			16								
100 %											
STAND SUMMARY											
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR		231	67.9	14.6	59	20.6	78.7	9,948	9,526	2,242	
P PINE		2	.0	19.3	45	0.0	.0	2	2	0	
<b>TOTAL</b>		<b>233</b>	<b>67.9</b>	<b>14.6</b>	<b>59</b>	<b>20.6</b>	<b>78.7</b>	<b>9,950</b>	<b>9,528</b>	<b>2,243</b>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		88.9	5.9	253	268	284					
P PINE		126.1	118.1		185	404					
<b>TOTAL</b>		<b>89.0</b>	<b>5.9</b>	<b>252</b>	<b>268</b>	<b>283</b>	<b>317</b>	<b>79</b>	<b>35</b>		
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		76.5	5.1	58	61	64					
P PINE		97.7	91.5	4	49	93					
<b>TOTAL</b>		<b>76.5</b>	<b>5.0</b>	<b>57</b>	<b>60</b>	<b>64</b>	<b>234</b>	<b>58</b>	<b>26</b>		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		87.8	6.3	64	68	72					
P PINE		1392.8	99.9	0	0	0					
<b>TOTAL</b>		<b>87.8</b>	<b>6.3</b>	<b>64</b>	<b>68</b>	<b>72</b>	<b>308</b>	<b>77</b>	<b>34</b>		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		75.4	5.4	74	79	83					
P PINE		1392.8	99.9	0	0	0					
<b>TOTAL</b>		<b>75.3</b>	<b>5.4</b>	<b>74</b>	<b>79</b>	<b>83</b>	<b>227</b>	<b>57</b>	<b>25</b>		
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		75.6	5.4	9,010	9,526	10,043					
P PINE		1392.8	99.9	0	2	3					
<b>TOTAL</b>		<b>75.5</b>	<b>5.4</b>	<b>9,011</b>	<b>9,528</b>	<b>10,044</b>	<b>228</b>	<b>57</b>	<b>25</b>		
CL	68.1	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		73.6	5.3	2,124	2,242	2,360					
P PINE		1392.8	99.9	0	0	1					
<b>TOTAL</b>		<b>73.5</b>	<b>5.3</b>	<b>2,124</b>	<b>2,242</b>	<b>2,361</b>	<b>216</b>	<b>54</b>	<b>24</b>		
CL	68.1	COEFF	V BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR				114	121	128					
P PINE		1392.8	99.9	0	91	182					
<b>TOTAL</b>		<b>75.3</b>	<b>5.4</b>	<b>114</b>	<b>121</b>	<b>128</b>	<b>226</b>	<b>57</b>	<b>25</b>		

**PROJECT STATISTICS**  
**PROJECT GRANDVIE**

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
39N	25E	10	GRANDVIEW	00U2 THR	227.30	194	866	S	E
39N	25E	11	GRANDVIEW	ROW8					

T39N R25E S11 T00U1										T39N R25E S11 T00U1				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
39N	25E	11	GRANDVIEW	00U1	46.70	42	85	S	E					

Spp	S	So	Gr	T	rt	ad	%	Net	Percent Net Board Foot Volume								Average Log				Logs Per /Acre					
									Bd. Ft. per Acre				Total	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
									Def%	Gross	Net	Net MBF		4-5	6-11	12-16	17+	12-20	21-30	31-35						36-99
DF	D		2				34	4.5	2,947	2,814	131			77	23			100		32	14	258	1.75	10.9		
DF	D		3				41	4.7	3,503	3,338	156			100				100		32	9	101	0.74	33.0		
DF	D		4				21	3.2	1,751	1,695	79	75	25					47	17	36		27	0.34	62.7		
DF	U		UT				4		272	272	13	48		52				100		18	5	19	0.28	14.3		
<b>DF</b>	<b>Totals</b>						100	4.2	8,473	8,119	379	17	46	28	8			13	4	83		25	7	67	0.64	120.9
<b>Type</b>	<b>Totals</b>							4.2	8,473	8,119	379	17	46	28	8			13	4	83		25	7	67	0.64	120.9

T39N R25E S10 T00U2										T39N R25E S10 T00U2				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
39N	25E	10	GRANDVIEW	00U2	15.90	21	65	S	E					

Spp	So	Gr	T	rt	ad	%	Percent Net Board Foot Volume										Average Log				Logs Per /Acre		
							Bd. Ft. per Acre			Total Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In		Bd Ft	CF/Lf
							Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	D	2				50	2.9	6,751	6,552	104		83	17		100	32	14	287	1.76	22.8			
DF	D	3				39	4.0	5,282	5,069	81		96	4		3	97	32	9	111	0.77	45.6		
DF	D	4				10	8.8	1,499	1,366	22	61	39		35	17	48	23	6	29	0.38	47.7		
DF	U	UT				1		59	59	1	100			100			16	3	10	0.21	5.9		
<b>DF</b>	<b>Totals</b>					100	4.0	13,590	13,046	207	7	41	44	8	4	3	93	28	8	107	0.84	122.0	
<b>Type Totals</b>							4.0	13,590	13,046	207	7	41	44	8	4	3	93	28	8	107	0.84	122.0	

T39N R25E S11 T00U3										T39N R25E S11 T00U3				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
39N	25E	11	GRANDVIEW	00U3	18.50	18	52	S	E					

S Twp	So Rt	Gr ad	%	Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	D	2	43		1.8	3,151	3,095	57		72	28			100			32	15	340	2.30	9.1	
DF	D	3	40		.8	2,845	2,823	52		100				100			32	8	103	0.78	27.5	
DF	D	4	14		8.3	1,140	1,045	19	69	31			45	22	33		23	5	27	0.38	38.6	
DF	U	UT	3			148	148	3	90	10			100				15	3	6	0.17	24.0	
<b>DF</b>	<b>Totals</b>		100		2.4	7,285	7,112	132	12	44	31	12		9	3	88		24	7	72	0.73	99.2
<b>Type</b>	<b>Totals</b>				2.4	7,285	7,112	132	12	44	31	12		9	3	88		24	7	72	0.73	99.2

<b>T39N R25E S11 T00U4</b>										<b>T39N R25E S11 T00U4</b>			
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>				
<b>39N</b>	<b>25E</b>	<b>11</b>	<b>GRANDVIEW</b>	<b>00U4</b>	<b>23.90</b>	<b>21</b>	<b>50</b>	<b>S</b>	<b>E</b>				

S T	So rt	Gr ad	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf		
DF	D	2	63	2.5	5,305	5,171	124			58	42			100			32	14	296	1.97	17.5
DF	D	3	22	3.0	1,828	1,774	42			100				100			32	8	91	0.74	19.5
DF	D	4	13	22.1	1,404	1,093	26	32	68					33	12	55	25	6	32	0.42	33.8
DF	U	UT	2		132	132	3	100						100			15	3	10	0.17	13.2
<b>DF</b>	<b>Totals</b>		100	5.8	8,668	8,169	195	6	31	37	26			6	2	92	27	8	97	0.87	84.0
<b>Type</b>	<b>Totals</b>			5.8	8,668	8,169	195	6	31	37	26			6	2	92	27	8	97	0.87	84.0

T39N R25E S11 T00U5										T39N R25E S11 T00U5				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
39N	25E	11	GRANDVIEW	00U5	89.80	61	181	S	E					

S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf		
DF	D	2	29	4.5	2,875	2,746	247			72	28			100	32	15	310	2.03	8.9		
DF	D	3	55	4.9	5,432	5,166	464		80	20				2	7	91	31	9	104	0.78	49.6
DF	D	4	14	4.8	1,390	1,323	119	60	40					45	29	26	23	6	28	0.39	46.8
DF	U	UT	2		123	123	11	100						51		49	23	3	15	0.25	8.3
<b>DF</b>	<b>Totals</b>		100	4.7	9,820	9,358	840	10	50	32	8			8	8	84	27	8	82	0.73	113.5
<b>Type</b>	<b>Totals</b>			4.7	9,820	9,358	840	10	50	32	8			8	8	84	27	8	82	0.73	113.5

T39N R25E S11 T00U6										T39N R25E S11 T00U6				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
39N	25E	11	GRANDVIEW	00U6	8.60	8	31	S	E					

S T	So rt	Gr ad	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	D	2	30	3.9	2,341	2,250	19	100				100				32	12	205	1.40	11.0
DF	D	3	56	5.6	4,458	4,211	36	91 9				6 94				31	8	80	0.67	52.9
DF	D	4	9	2.4	729	711	6	100				19 68 13				23	5	27	0.27	26.6
DF	U	UT	5	318		318	3	100				84 16				17	4	10	0.19	30.6
<b>DF</b>	<b>Totals</b>		100	4.5	7,846	7,490	64	14	51	35	5	10	84	26	6	62	0.60	121.2		
<b>Type Totals</b>				4.5	7,846	7,490	64	14	51	35	5	10	84	26	6	62	0.60	121.2		

T39N R25E S11 T00U7										T39N R25E S11 T00U7				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
39N	25E	11	GRANDVIEW	00U7	21.90	20	52	S	E					

S Twp	So Rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	D	2	49	2.5	7,689	7,493	164		65	35		100					32	14	276	1.92	27.2
DF	D	3	41	3.9	6,519	6,265	137		100			1	99				32	8	97	0.68	64.4
DF	D	4	8		1,211	1,211	27	84	16			41	59				22	5	25	0.29	49.2
DF	U	UT	2	.0	167	167	4	86	14			100					16	4	11	0.16	15.5
<b>DF</b>	<b>Totals</b>		100	2.9	15,587	15,137	331	8	43	32	17	4	5	90			27	8	97	0.80	156.3
<b>Type Totals</b>				2.9	15,587	15,137	331	8	43	32	17	4	5	90			27	8	97	0.80	156.3

<b>T39N R25E S11 TROW8</b>										<b>T39N R25E S11 TROW8</b>				
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>					
39N	25E	11	GRANDVIEW	ROW8	2.00	3	22	S	E					

Spp	S	So	Gr	T	rt	ad	%	Percent Net Board Foot Volume										Average Log				Logs Per /Acre			
								Bd. Ft. per Acre			Total Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In		Bd Ft	CF/Lf	
								Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	D		2				64	7.3	5,459	5,060	10			35	65			100			32	16	368	2.63	13.8
DF	D		3				30	5.5	2,489	2,351	5			100				10	90		32	9	122	1.01	19.3
DF	D		4				5	9.1	454	413	1	73	27					43	30	27	22	6	27	0.43	15.1
DF	U		UT				1		14	14	0	100						100			18	3	10	0.30	1.4
<b>DF</b>	<b>Totals</b>						98	6.9	8,415	7,838	16	4	31	23	42			2	5	93	29	10	158	1.36	49.5
PP	D		4				67	21.9	160	125	0			100					100		32	15	250	1.82	.5
PP	D		5				33	7.7	65	60	0			100				17	83		26	7	60	0.75	1.0
<b>PP</b>	<b>Totals</b>						2	17.8	225	185	0			32	68			5	95		28	10	123	1.16	1.5
<b>Type Totals</b>								7.1	8,640	8,023	16	4	31	24	41			3	4	93	28	10	157	1.36	51.0

**Species Summary - Trees, Logs, Tons, CCF, MBF**

T39N R25E S10 Ty00U2	15.9
T39N R25E S11 Ty00U1	46.7
T39N R25E S11 TyROW	2.0

**Project GRANDVIE**  
**Acres 227.30**

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Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	15,426	26,185	14,524	33.03	19.46	0.75	5,096	5,096	2,261	2,165
P PINE	2	3	2	48.52	32.34	1.16	1	1	0	0
<b>Totals</b>	15,428	26,188	14,527	33.04	19.46	0.75	5,097	5,097	2,262	2,166

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
C	15,428	26,188	14,527	33.04	19.46	0.75	5,097	5,097	2,262	2,166
<b>Totals</b>	15,428	26,188	14,527	33.04	19.46	0.75	5,097	5,097	2,262	2,166

**Log Stock Table - MBF**

T39N R25E S10 Ty00U2  
 THRU  
 T39N R25E S11 TyROW8

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**Acres 227.30**

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Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF		D	2	32	888	3.5	857	39.6				299	269	235	37	16				
DF		D	3	16	8		8	.4				8								
DF		D	3	20	1		1	.1				1								
DF		D	3	24	7		7	.3			4	4								
DF		D	3	26	16	2.4	16	.7			2	13								
DF		D	3	28	4		4	.2			3		0							
DF		D	3	30	14	6.4	13	.6			13									
DF		D	3	32	967	4.5	924	42.7			229	284	310	101						
DF		D	4	12	3		3	.1			1	1	2							
DF		D	4	14	9	8.6	8	.4			3	1	1	3						
DF		D	4	16	30		30	1.4			12	17	1							
DF		D	4	18	26		26	1.2			24	2	0							
DF		D	4	20	62	2.1	61	2.8			31	25	5							
DF		D	4	24	30	1.1	29	1.4			27	3								
DF		D	4	26	30	7.9	27	1.3			17	10								
DF		D	4	28	17		17	.8			7	11								
DF		D	4	30	5	14.5	4	.2			4									
DF		D	4	32	107	13.8	92	4.2			68	24								
DF		U	UT	12	7		7	.3			0	0		7						
DF		U	UT	14	5		5	.2			4	1	1							
DF		U	UT	16	6		6	.3			4	2								
DF		U	UT	18	1		1	.1			1	1								
DF		U	UT	20	12		12	.5			5	7								
DF		U	UT	24	0		0	.0			0									
DF		U	UT	32	5		5	.3			5									
DF		Totals			2,261	4.2	2,165	100.0			13	210	345	310	323	400	276	235	37	16
PP		D	4	32	0	21.9	0	67.6						0						
PP		D	5	20	0	33.3	0	5.4				0								
PP		D	5	32	0		0	27.0				0								
PP		Totals			0	17.8	0	.0				0			0					
Total		All Species			2,262	4.2	2,166	100.0			13	210	345	310	323	400	276	235	37	16

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	GRANDVIE			DATE	5/30/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
39N	25E	11	GRANDVIEW	00U1	46.70	42	166	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		42	166	4.0						
CRUISE		17	28	1.6	3,573		.8			
DBH COUNT										
REFOREST										
COUNT		23	60	2.6						
BLANKS		2								
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	28	76.5	13.1	53	19.7	71.4	8,473	8,119	1,923	1,922
<b>TOTAL</b>	28	76.5	13.1	53	19.7	71.4	8,473	8,119	1,923	1,922
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	92.2	17.7		165	201	237				
<b>TOTAL</b>	92.2	17.7		165	201	237	353	88	39	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	81.7	15.7		39	47	54				
<b>TOTAL</b>	81.7	15.7		39	47	54	277	69	31	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	77.1	11.9		67	76	86				
<b>TOTAL</b>	77.1	11.9		67	76	86	237	59	26	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	74.0	11.4		63	71	80				
<b>TOTAL</b>	74.0	11.4		63	71	80	218	55	24	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	77.6	12.0		7,148	8,119	9,089				
<b>TOTAL</b>	77.6	12.0		7,148	8,119	9,089	240	60	27	
CL:	68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	75.9	11.7		1,697	1,922	2,147				
<b>TOTAL</b>	75.9	11.7		1,697	1,922	2,147	230	58	26	
CL:	68.1 %	COEFF	<b>V-BAR/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				100	114	127				
<b>TOTAL</b>	481.3	74.2		100	114	127	9,251	2,313	1,028	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	GRANDVIE			DATE	5/30/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
39N	25E	10	GRANDVIEW	00U2	15.90	21	93	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		21	93	4.4						
CRUISE		11	36	3.3	963		3.7			
DBH COUNT										
REFOREST										
COUNT		6	13	2.2						
BLANKS		4								
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	36	60.5	16.0	71	21.2	84.7	13,590	13,046	2,838	2,839
<b>TOTAL</b>	<b>36</b>	<b>60.5</b>	<b>16.0</b>	<b>71</b>	<b>21.2</b>	<b>84.7</b>	<b>13,590</b>	<b>13,046</b>	<b>2,838</b>	<b>2,839</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	65.8	11.1		312	351	390				
<b>TOTAL</b>	<b>65.8</b>	<b>11.1</b>		<b>312</b>	<b>351</b>	<b>390</b>	<b>173</b>	<b>43</b>	<b>19</b>	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	60.5	10.2		67	74	82				
<b>TOTAL</b>	<b>60.5</b>	<b>10.2</b>		<b>67</b>	<b>74</b>	<b>82</b>	<b>146</b>	<b>37</b>	<b>16</b>	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	85.2	19.0		49	61	72				
<b>TOTAL</b>	<b>85.2</b>	<b>19.0</b>		<b>49</b>	<b>61</b>	<b>72</b>	<b>305</b>	<b>76</b>	<b>34</b>	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	48.1	10.7		76	85	94				
<b>TOTAL</b>	<b>48.1</b>	<b>10.7</b>		<b>76</b>	<b>85</b>	<b>94</b>	<b>97</b>	<b>24</b>	<b>11</b>	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	51.0	11.4		11,559	13,046	14,533				
<b>TOTAL</b>	<b>51.0</b>	<b>11.4</b>		<b>11,559</b>	<b>13,046</b>	<b>14,533</b>	<b>109</b>	<b>27</b>	<b>12</b>	
CL:	68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	48.0	10.7		2,534	2,839	3,143				
<b>TOTAL</b>	<b>48.0</b>	<b>10.7</b>		<b>2,534</b>	<b>2,839</b>	<b>3,143</b>	<b>97</b>	<b>24</b>	<b>11</b>	
CL:	68.1 %	COEFF	<b>V-BAR/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				137	154	172				
<b>TOTAL</b>	<b>175.8</b>	<b>39.3</b>		<b>137</b>	<b>154</b>	<b>172</b>	<b>1,297</b>	<b>324</b>	<b>144</b>	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	GRANDVIE			DATE	5/30/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
39N	25E	11	GRANDVIEW	00U3	18.50	18	69	S	E		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		18	69	3.8							
CRUISE		11	23	2.1	1,006	2.3					
DBH COUNT											
REFOREST											
COUNT		5	18	3.6							
BLANKS		2									
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	23	54.4	14.4	57	16.3	61.7	7,285	7,112	1,742	1,742	
<b>TOTAL</b>	<b>23</b>	<b>54.4</b>	<b>14.4</b>	<b>57</b>	<b>16.3</b>	<b>61.7</b>	<b>7,285</b>	<b>7,112</b>	<b>1,742</b>	<b>1,742</b>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	91.5	19.5		220	273	327					
<b>TOTAL</b>	<b>91.5</b>	<b>19.5</b>		<b>220</b>	<b>273</b>	<b>327</b>	<b>349</b>	<b>87</b>	<b>39</b>		
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	81.0	17.3		52	63	74					
<b>TOTAL</b>	<b>81.0</b>	<b>17.3</b>		<b>52</b>	<b>63</b>	<b>74</b>	<b>274</b>	<b>69</b>	<b>30</b>		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	82.3	19.9		44	54	65					
<b>TOTAL</b>	<b>82.3</b>	<b>19.9</b>		<b>44</b>	<b>54</b>	<b>65</b>	<b>287</b>	<b>72</b>	<b>32</b>		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	66.5	16.1		52	62	72					
<b>TOTAL</b>	<b>66.5</b>	<b>16.1</b>		<b>52</b>	<b>62</b>	<b>72</b>	<b>187</b>	<b>47</b>	<b>21</b>		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	78.3	19.0		5,762	7,112	8,461					
<b>TOTAL</b>	<b>78.3</b>	<b>19.0</b>		<b>5,762</b>	<b>7,112</b>	<b>8,461</b>	<b>259</b>	<b>65</b>	<b>29</b>		
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	70.7	17.1		1,444	1,742	2,041					
<b>TOTAL</b>	<b>70.7</b>	<b>17.1</b>		<b>1,444</b>	<b>1,742</b>	<b>2,041</b>	<b>212</b>	<b>53</b>	<b>24</b>		
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR				93	115	137					
<b>TOTAL</b>	<b>199.9</b>	<b>48.4</b>		<b>93</b>	<b>115</b>	<b>137</b>	<b>1,690</b>	<b>423</b>	<b>188</b>		

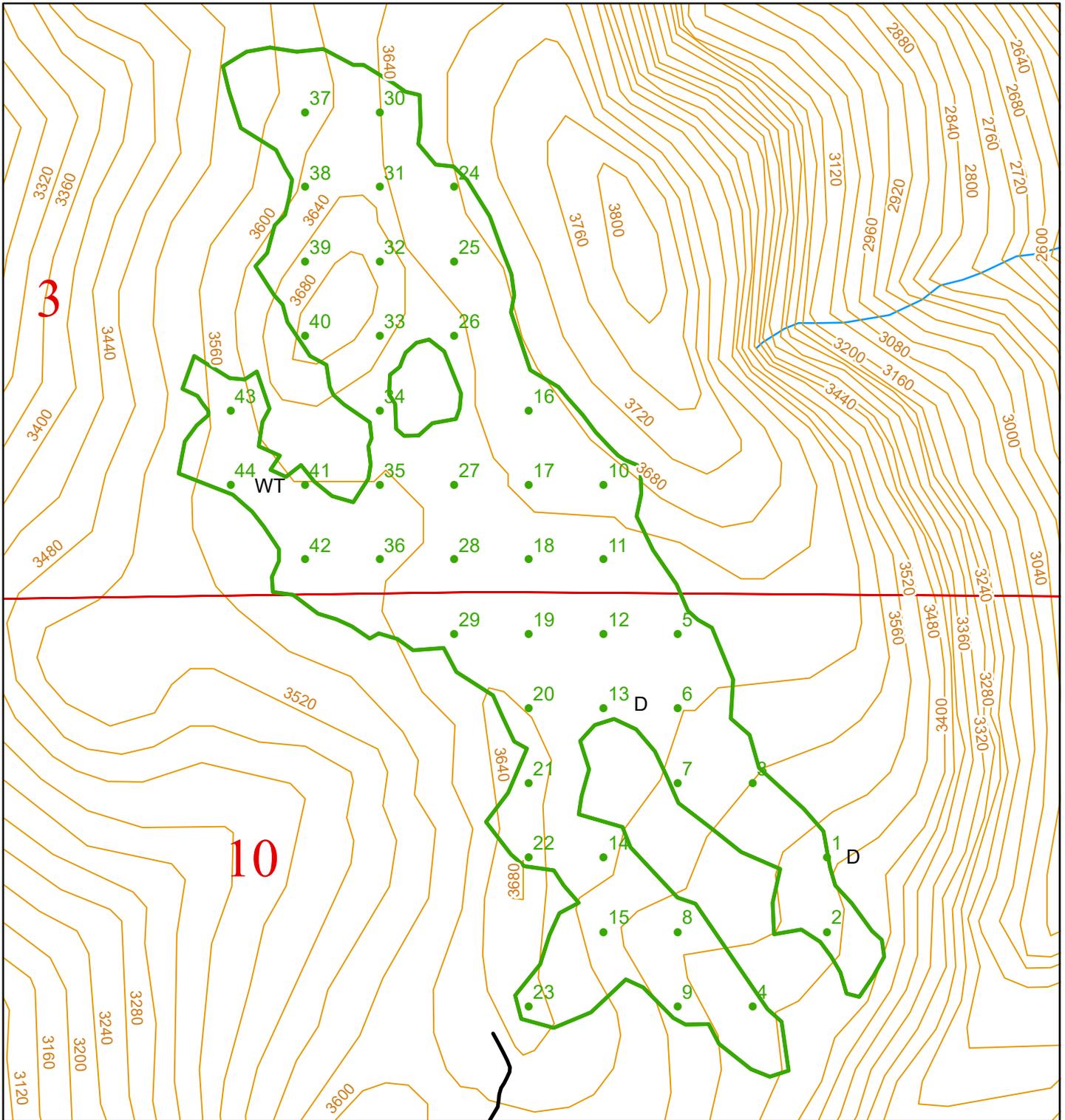
TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	GRANDVIE		DATE	5/30/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
39N	25E	11	GRANDVIEW	00U4	23.90	21	80	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		21	80	3.8						
CRUISE		11	20	1.8	1,132		1.8			
DBH COUNT										
REFOREST										
COUNT		8	19	2.4						
BLANKS		2								
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	20	47.4	16.0	58	16.5	66.1	8,668	8,169	1,951	1,950
<b>TOTAL</b>	<b>20</b>	<b>47.4</b>	<b>16.0</b>	<b>58</b>	<b>16.5</b>	<b>66.1</b>	<b>8,668</b>	<b>8,169</b>	<b>1,951</b>	<b>1,950</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	93.4	21.4		262	334	406				
<b>TOTAL</b>	<b>93.4</b>	<b>21.4</b>		<b>262</b>	<b>334</b>	<b>406</b>	<b>367</b>	<b>92</b>	<b>41</b>	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	76.4	17.5		60	73	86				
<b>TOTAL</b>	<b>76.4</b>	<b>17.5</b>		<b>60</b>	<b>73</b>	<b>86</b>	<b>245</b>	<b>61</b>	<b>27</b>	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	57.0	12.7		41	47	53				
<b>TOTAL</b>	<b>57.0</b>	<b>12.7</b>		<b>41</b>	<b>47</b>	<b>53</b>	<b>136</b>	<b>34</b>	<b>15</b>	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	38.7	8.6		60	66	72				
<b>TOTAL</b>	<b>38.7</b>	<b>8.6</b>		<b>60</b>	<b>66</b>	<b>72</b>	<b>63</b>	<b>16</b>	<b>7</b>	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	49.3	11.0		7,269	8,169	9,069				
<b>TOTAL</b>	<b>49.3</b>	<b>11.0</b>		<b>7,269</b>	<b>8,169</b>	<b>9,069</b>	<b>102</b>	<b>25</b>	<b>11</b>	
CL:	68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	42.1	9.4		1,767	1,950	2,134				
<b>TOTAL</b>	<b>42.1</b>	<b>9.4</b>		<b>1,767</b>	<b>1,950</b>	<b>2,134</b>	<b>74</b>	<b>19</b>	<b>8</b>	
CL:	68.1 %	COEFF	<b>V-BAR/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				110	124	137				
<b>TOTAL</b>	<b>265.2</b>	<b>59.3</b>		<b>110</b>	<b>124</b>	<b>137</b>	<b>2,950</b>	<b>738</b>	<b>328</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	GRANDVIE			DATE	5/30/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
39N	25E	11	GRANDVIEW	00U5	89.80	61	302	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	PER PLOT	TREES	TREES		
TOTAL		61	302	5.0						
CRUISE		33	63	1.9	6,634		.9			
DBH COUNT										
REFOREST										
COUNT		24	87	3.6						
BLANKS		4								
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	63	73.9	14.5	57	22.2	84.3	9,820	9,358	2,239	2,239
<b>TOTAL</b>	<b>63</b>	<b>73.9</b>	<b>14.5</b>	<b>57</b>	<b>22.2</b>	<b>84.3</b>	<b>9,820</b>	<b>9,358</b>	<b>2,239</b>	<b>2,239</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	104.4	13.5		196	227	257				
<b>TOTAL</b>	<b>104.4</b>	<b>13.5</b>		<b>196</b>	<b>227</b>	<b>257</b>	<b>436</b>	<b>109</b>	<b>48</b>	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	83.7	10.8		46	52	57				
<b>TOTAL</b>	<b>83.7</b>	<b>10.8</b>		<b>46</b>	<b>52</b>	<b>57</b>	<b>280</b>	<b>70</b>	<b>31</b>	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	83.9	10.7		66	74	82				
<b>TOTAL</b>	<b>83.9</b>	<b>10.7</b>		<b>66</b>	<b>74</b>	<b>82</b>	<b>281</b>	<b>70</b>	<b>31</b>	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	74.9	9.6		76	84	92				
<b>TOTAL</b>	<b>74.9</b>	<b>9.6</b>		<b>76</b>	<b>84</b>	<b>92</b>	<b>224</b>	<b>56</b>	<b>25</b>	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	76.4	9.8		8,444	9,358	10,272				
<b>TOTAL</b>	<b>76.4</b>	<b>9.8</b>		<b>8,444</b>	<b>9,358</b>	<b>10,272</b>	<b>233</b>	<b>58</b>	<b>26</b>	
CL:	68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	74.8	9.6		2,025	2,239	2,453				
<b>TOTAL</b>	<b>74.8</b>	<b>9.6</b>		<b>2,025</b>	<b>2,239</b>	<b>2,453</b>	<b>223</b>	<b>56</b>	<b>25</b>	
CL:	68.1 %	COEFF	<b>V-BAR/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				100	111	122				
<b>TOTAL</b>	<b>357.5</b>	<b>45.7</b>		<b>100</b>	<b>111</b>	<b>122</b>	<b>5,102</b>	<b>1,276</b>	<b>567</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	GRANDVIE			DATE	5/30/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
39N	25E	11	GRANDVIEW	00U6	8.60	8	31	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		8	31	3.9						
CRUISE		6	19	3.2	605		3.1			
DBH COUNT										
REFOREST										
COUNT		2	5	2.5						
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	19	70.4	13.1	57	18.2	66.0	7,846	7,490	1,876	1,876
<b>TOTAL</b>	<b>19</b>	<b>70.4</b>	<b>13.1</b>	<b>57</b>	<b>18.2</b>	<b>66.0</b>	<b>7,846</b>	<b>7,490</b>	<b>1,876</b>	<b>1,876</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	71.9	17.0		136	163	191				
<b>TOTAL</b>	<b>71.9</b>	<b>17.0</b>		<b>136</b>	<b>163</b>	<b>191</b>	<b>218</b>	<b>55</b>	<b>24</b>	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	61.4	14.5		34	40	46				
<b>TOTAL</b>	<b>61.4</b>	<b>14.5</b>		<b>34</b>	<b>40</b>	<b>46</b>	<b>159</b>	<b>40</b>	<b>18</b>	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	101.2	38.2		44	70	97				
<b>TOTAL</b>	<b>101.2</b>	<b>38.2</b>		<b>44</b>	<b>70</b>	<b>97</b>	<b>466</b>	<b>117</b>	<b>52</b>	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	112.4	42.4		38	66	94				
<b>TOTAL</b>	<b>112.4</b>	<b>42.4</b>		<b>38</b>	<b>66</b>	<b>94</b>	<b>575</b>	<b>144</b>	<b>64</b>	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	150.8	56.9		3,232	7,490	11,749				
<b>TOTAL</b>	<b>150.8</b>	<b>56.9</b>		<b>3,232</b>	<b>7,490</b>	<b>11,749</b>	<b>1,034</b>	<b>259</b>	<b>115</b>	
CL:	68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	132.0	49.8		943	1,876	2,809				
<b>TOTAL</b>	<b>132.0</b>	<b>49.8</b>		<b>943</b>	<b>1,876</b>	<b>2,809</b>	<b>792</b>	<b>198</b>	<b>88</b>	
CL:	68.1 %	COEFF	<b>V-BAR/ACRE</b>				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	150.8	56.9		49	114	178				
<b>TOTAL</b>	<b>150.8</b>	<b>56.9</b>		<b>49</b>	<b>114</b>	<b>178</b>	<b>1,034</b>	<b>259</b>	<b>115</b>	

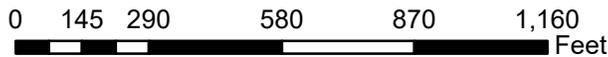
TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	GRANDVIE			DATE	5/30/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
39N	25E	11	GRANDVIEW	00U7	21.90	20	103	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		20	103	5.2						
CRUISE		10	22	2.2	1,459		1.5			
DBH COUNT										
REFOREST										
COUNT		8	27	3.4						
BLANKS		2								
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	22	66.6	16.7	78	24.8	101.4	15,587	15,137	3,417	3,417
<b>TOTAL</b>	22	66.6	16.7	78	24.8	101.4	15,587	15,137	3,417	3,417
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	67.2	14.6		295	346	397				
<b>TOTAL</b>	67.2	14.6		295	346	397	189	47	21	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	61.5	13.4		66	77	87				
<b>TOTAL</b>	61.5	13.4		66	77	87	158	40	18	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	50.4	11.6		59	67	74				
<b>TOTAL</b>	50.4	11.6		59	67	74	107	27	12	
CL:	68.1 %	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	39.0	8.9		92	101	110				
<b>TOTAL</b>	39.0	8.9		92	101	110	64	16	7	
CL:	68.1 %	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	39.2	9.0		13,777	15,137	16,496				
<b>TOTAL</b>	39.2	9.0		13,777	15,137	16,496	65	16	7	
CL:	68.1 %	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	39.0	8.9		3,112	3,417	3,722				
<b>TOTAL</b>	39.0	8.9		3,112	3,417	3,722	64	16	7	
CL:	68.1 %	COEFF	<b>V-BAR/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				136	149	163				
<b>TOTAL</b>	349.7	80.2		136	149	163	5,141	1,285	571	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	GRANDVIE			DATE	5/30/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
39N	25E	11	GRANDVIEW	ROW8	2.00	3	22	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	PER PLOT	TREES	TREES		
TOTAL		3	22	7.3						
CRUISE		3	22	7.3	57		38.6			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	20	27.5	20.8	60	14.2	64.7	8,415	7,838	1,922	1,922
P PINE	2	1.0	19.3	45	0.5	2.0	225	185	48	49
<b>TOTAL</b>	<b>22</b>	<b>28.5</b>	<b>20.7</b>	<b>59</b>	<b>14.7</b>	<b>66.7</b>	<b>8,640</b>	<b>8,023</b>	<b>1,971</b>	<b>1,971</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	91.9	21.1		225	285	345				
P PINE	126.1	118.1			185	404				
<b>TOTAL</b>	<b>92.8</b>	<b>20.2</b>		<b>220</b>	<b>276</b>	<b>332</b>	<b>360</b>	<b>90</b>	<b>40</b>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	78.8	18.1		57	70	83				
P PINE	97.7	91.5		4	49	93				
<b>TOTAL</b>	<b>79.1</b>	<b>17.3</b>		<b>56</b>	<b>68</b>	<b>80</b>	<b>262</b>	<b>65</b>	<b>29</b>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	85.3	59.0		11	28	44				
P PINE	173.2	119.8			1	2				
<b>TOTAL</b>	<b>81.0</b>	<b>56.0</b>		<b>13</b>	<b>29</b>	<b>44</b>	<b>377</b>	<b>94</b>	<b>42</b>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	64.0	44.3		36	65	93				
P PINE	173.2	119.8			2	4				
<b>TOTAL</b>	<b>61.0</b>	<b>42.2</b>		<b>39</b>	<b>67</b>	<b>95</b>	<b>214</b>	<b>54</b>	<b>24</b>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	50.5	34.9		5,102	7,838	10,573				
P PINE	173.2	119.8			185	407				
<b>TOTAL</b>	<b>48.2</b>	<b>33.4</b>		<b>5,345</b>	<b>8,023</b>	<b>10,700</b>	<b>134</b>	<b>33</b>	<b>15</b>	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	56.1	38.8		1,177	1,922	2,668				
P PINE	173.2	119.8			49	107				
<b>TOTAL</b>	<b>53.6</b>	<b>37.1</b>		<b>1,240</b>	<b>1,971</b>	<b>2,702</b>	<b>165</b>	<b>41</b>	<b>18</b>	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	73.5	50.9		79	121	163				
P PINE	173.2	119.8			91	200				
<b>TOTAL</b>	<b>65.8</b>	<b>45.5</b>		<b>80</b>	<b>120</b>	<b>160</b>	<b>249</b>	<b>62</b>	<b>28</b>	



**FMA POLYGON AND SAMPLE POINT INFORMATION**

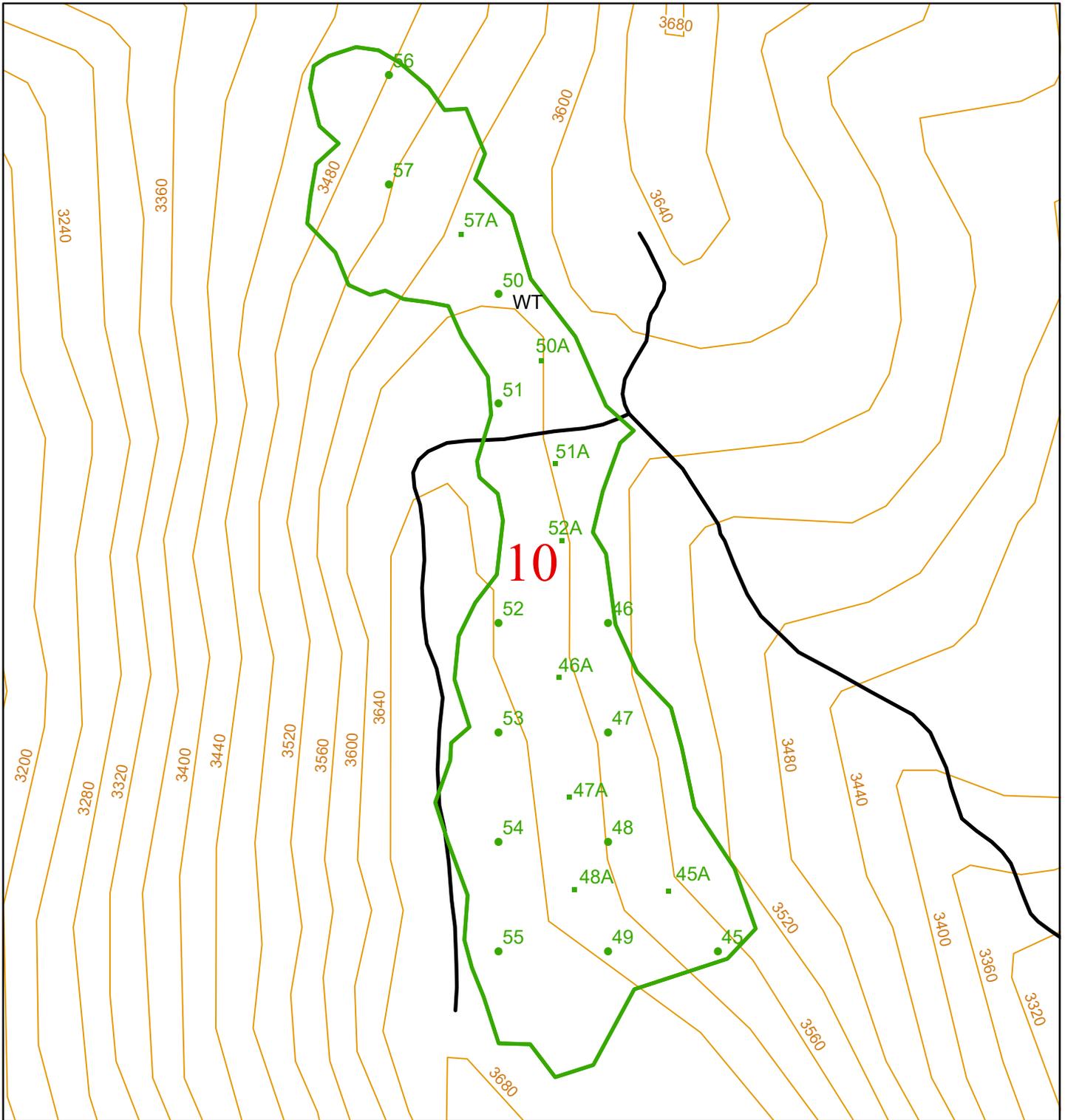
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FMA_ID:	267358	DNR Region:	NORTHEAST
Acres:	48	Total Sample Points:	44
County:	OKANOGAN	Spacing Between Points:	Width: 220 Height: 220
Deleted plot:	D	Point Rotation Degrees:	0
Walkthrough plot	WT		



Scale 1:5,000

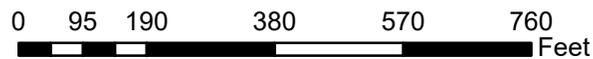
**Legend**

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



**FMA POLYGON AND SAMPLE POINT INFORMATION**

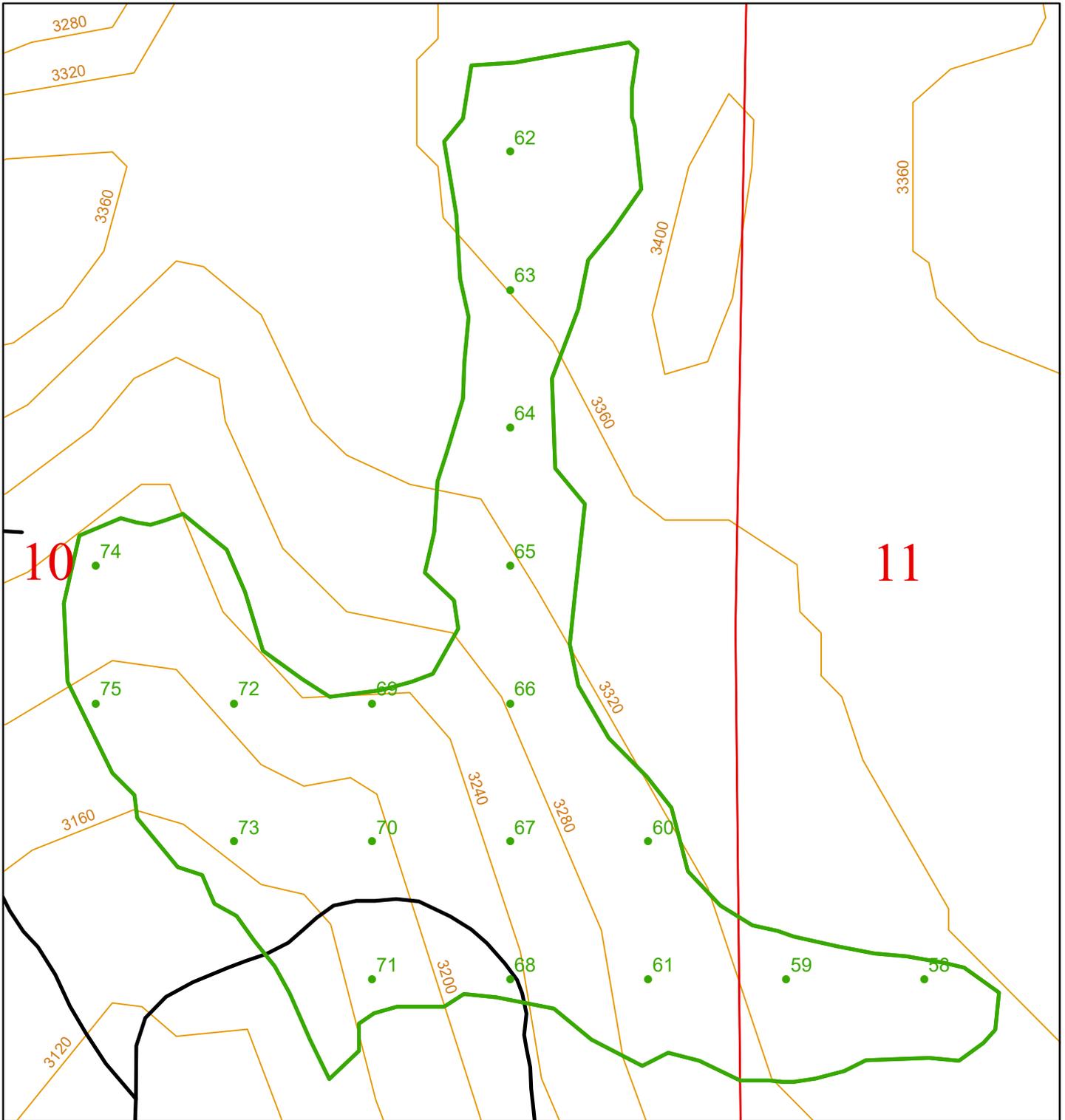
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Acres:	16	Total Sample Points:	13
County:	OKANOGAN	Spacing Between Points:	Width: 220 Height: 220
Walkthrough plot	WT	Point Rotation Degrees:	0



Scale 1:3,400

**Legend**

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



**FMA POLYGON AND SAMPLE POINT INFORMATION**

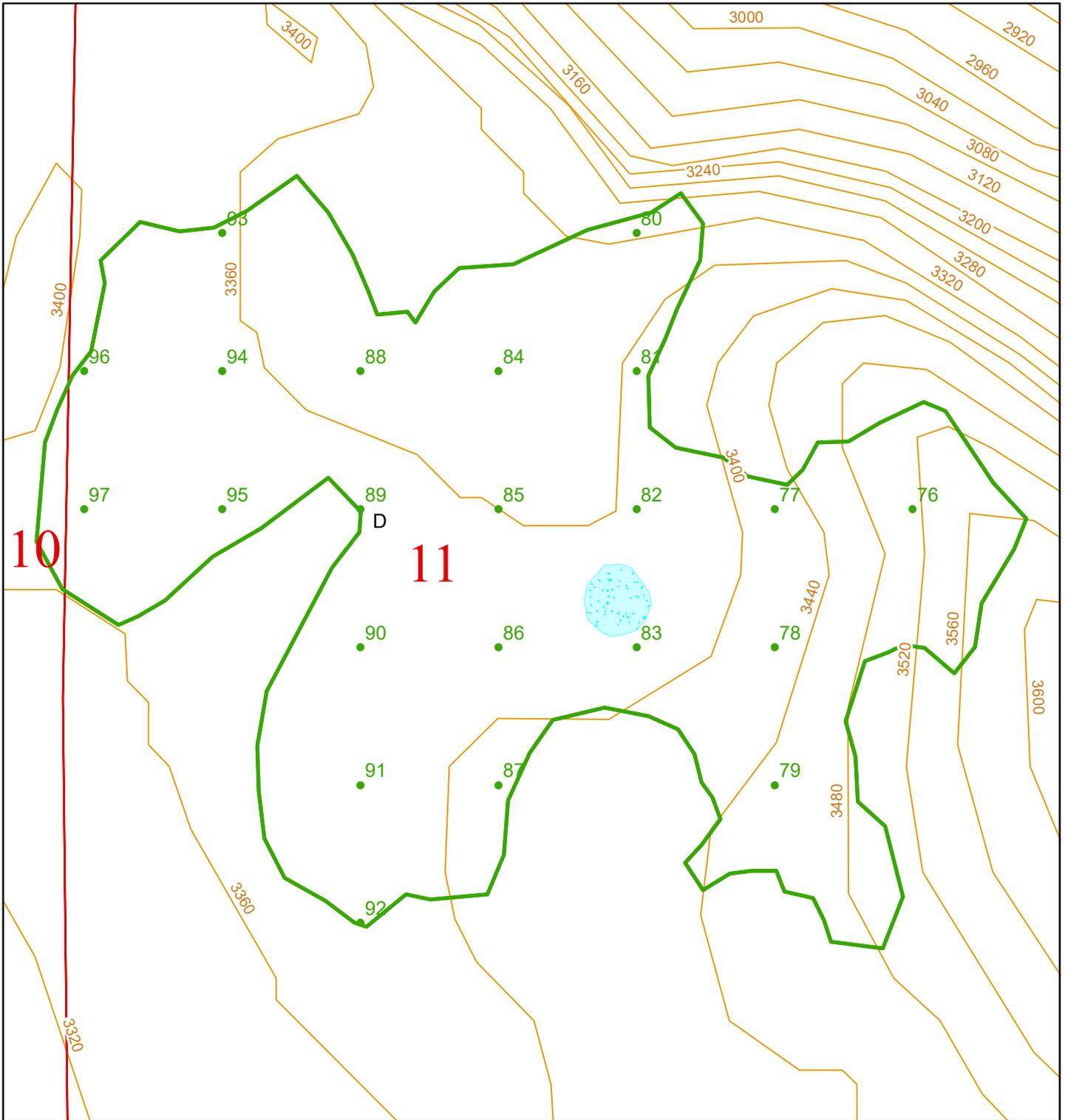
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FMA_ID:	267359	DNR Region:	NORTHEAST
Acres:	19	Total Sample Points:	18
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		Point Rotation Degrees:	0



Scale 1:2,700

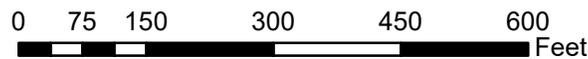
**Legend**

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



**FMA POLYGON AND SAMPLE POINT INFORMATION**

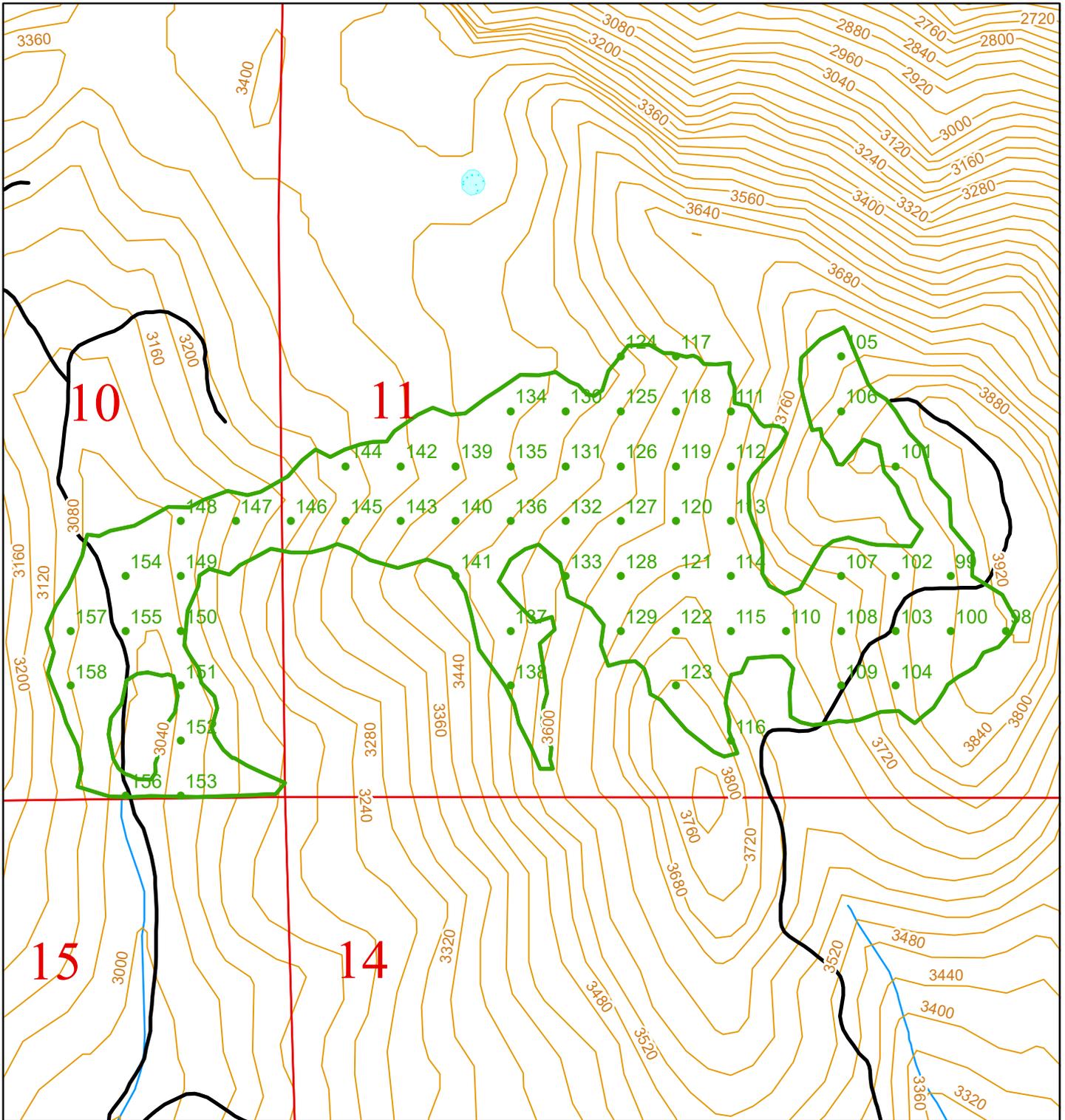
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FMA_ID:	312043	DNR Region:	NORTHEAST
Acres:	24	Total Sample Points:	22
County:	OKANOGAN	Spacing Between Points:	Width: 220 Height: 220
Deleted plot	D	Point Rotation Degrees:	0



Scale 1:2,700

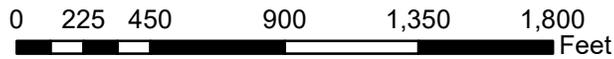
**Legend**

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



**FMA POLYGON AND SAMPLE POINT INFORMATION**

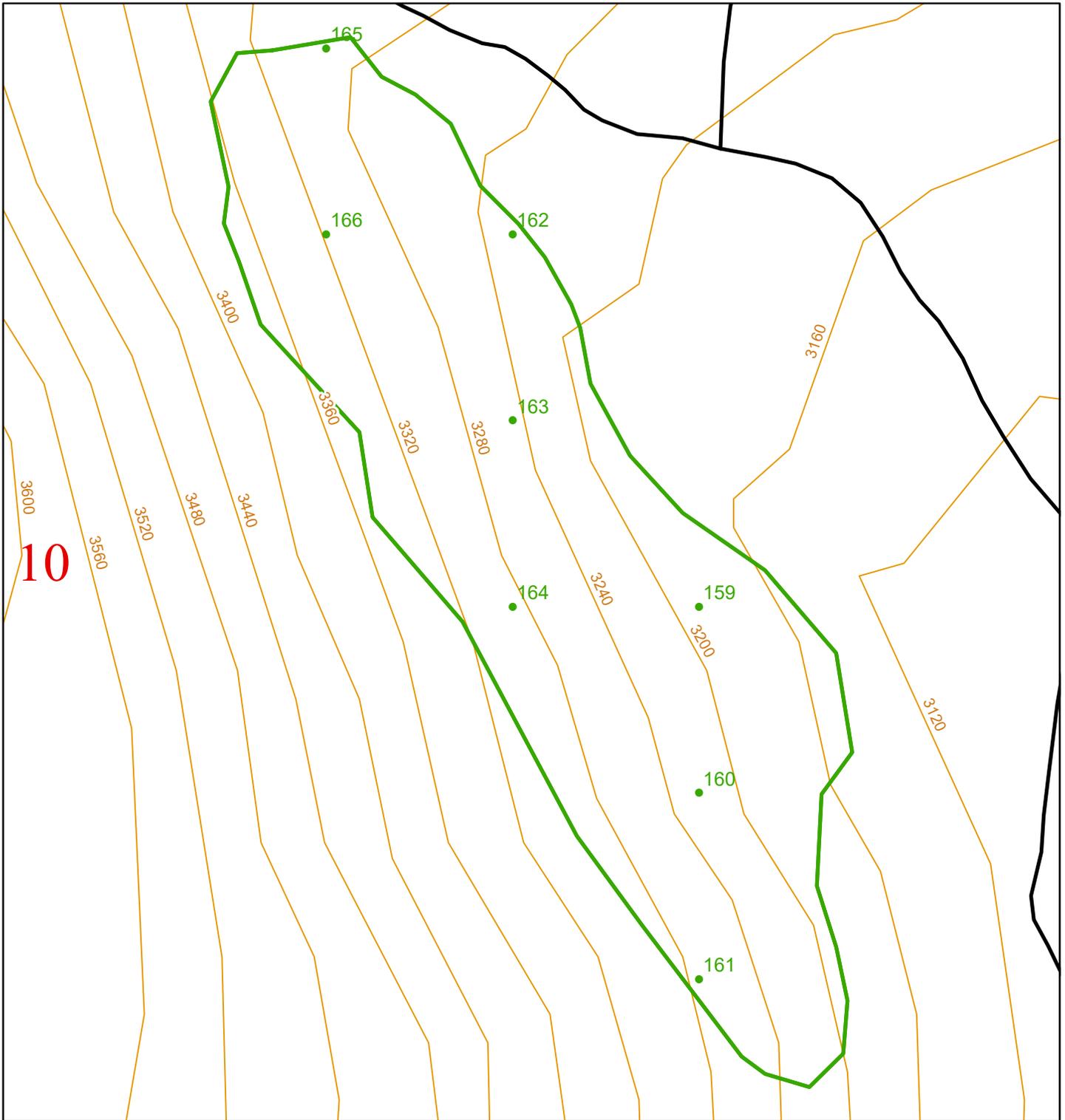
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FMA_ID:	312044	DNR Region:	NORTHEAST
Acres:	92	Total Sample Points:	61
County:	OKANOGAN	Spacing Between Points:	Width: 250 Height: 250
		Point Rotation Degrees:	0



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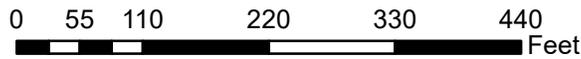
**Legend**

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



**FMA POLYGON AND SAMPLE POINT INFORMATION**

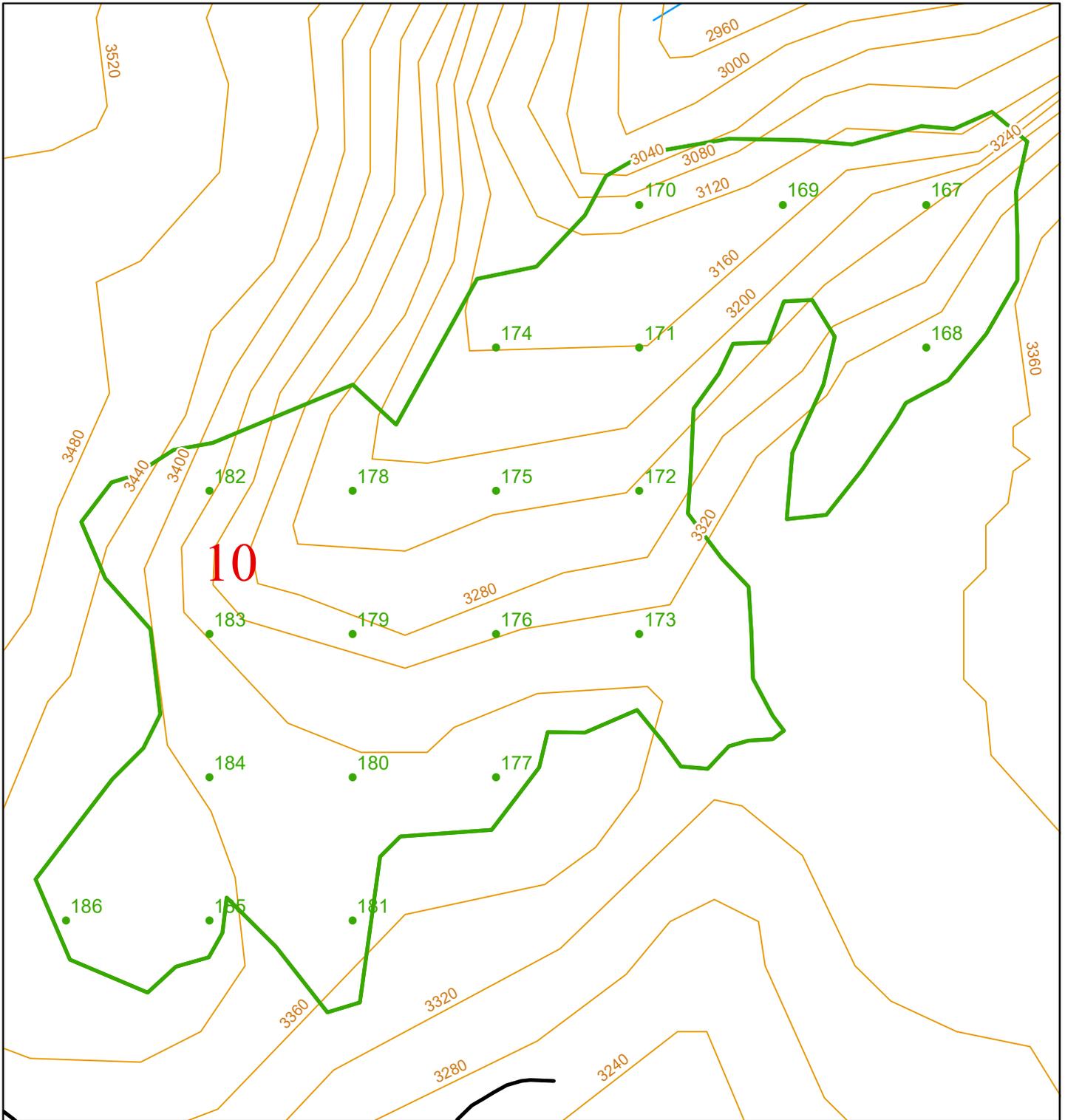
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FMA_ID:	312045	DNR Region:	NORTHEAST
Acres:	9	Total Sample Points:	8
County:	OKANOGAN	Spacing Between Points:	Width: 220 Height: 220
		Point Rotation Degrees:	0



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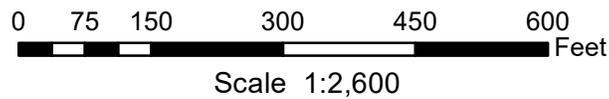
**Legend**

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



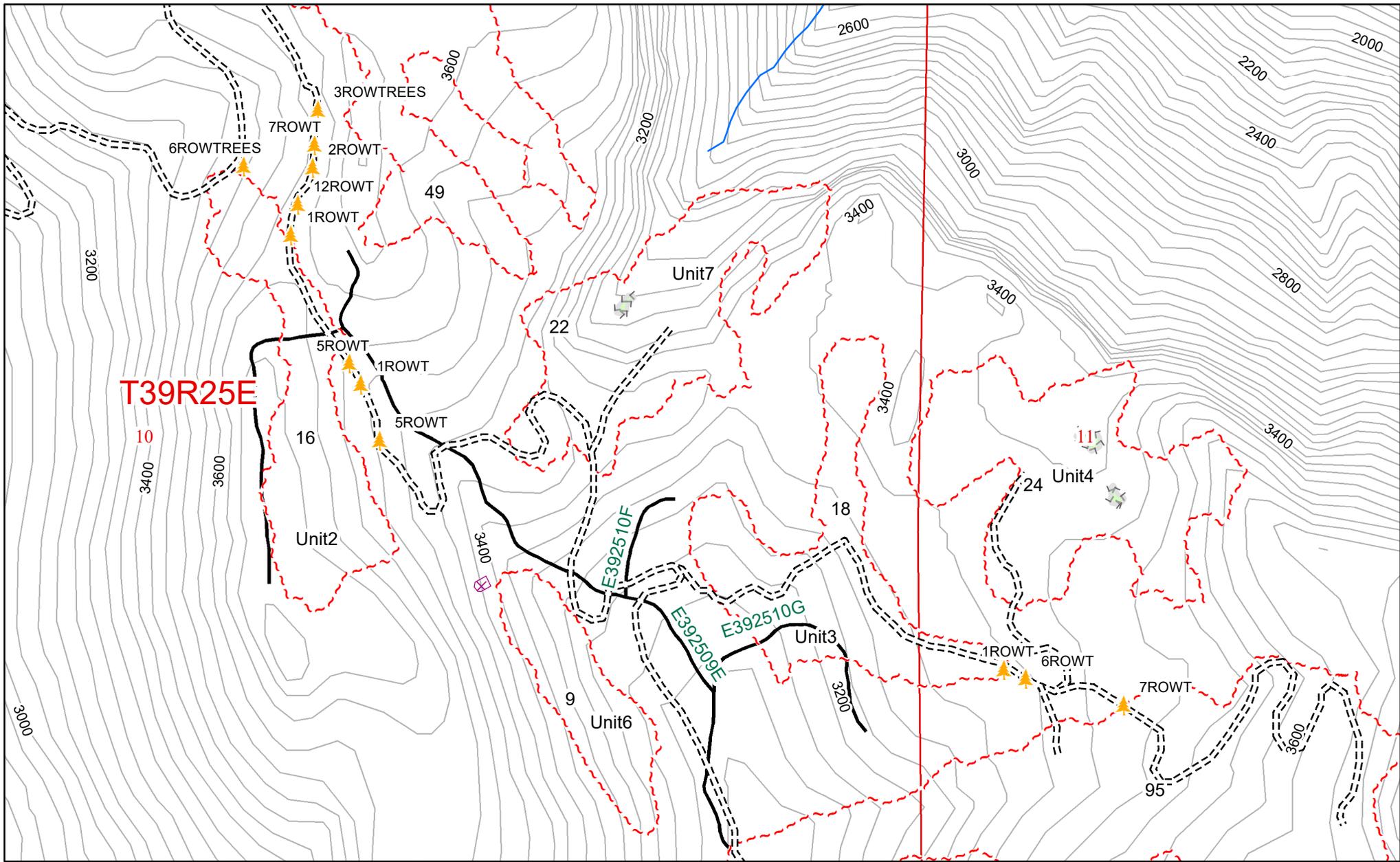
**FMA POLYGON AND SAMPLE POINT INFORMATION**

FMA_NM:	GRANDVIEW U7	Township:	T39R25E
FMA_ID:	312046	DNR Region:	NORTHEAST
Acres:	22	Total Sample Points:	20
County:	OKANOGAN	Spacing Between Points:	Width: 220 Height: 220
		Point Rotation Degrees:	0



**Legend**

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



**Legend**

-  ROW trees
-  Grandview Proposed Units
-  Proposed new construction

Aprrx. 56 ROW trees banded with orange paint





## Forest Practices Application/Notification Notice of Decision

**FPA/N No:** 3023646  
**Effective Date:** 08/21/2019  
**Expiration Date:** 08/21/2022  
**Shut Down Zone:** 678 W  
**EARR Tax Credit:**  Eligible     Non-eligible  
**Reference:** DNR/"Grandview"  
3, 4, 9, 10, 11, 15, 26-39-25

### Decision

- Notification**      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.  
 **Closed**                Applicant has withdrawn FPA/N.

### 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

- 1) Operator will notify Forest Practice Forester 2 business days prior to anticipated start of road construction or bridge installation. Contact Forest Practice Office @ 684-7474 with FPA # and anticipated start time, and FP Forester @ 509-999-8545.
- 2) Two round trip equipment crossings are permitted for each bridge installation. Equipment will be checked to ensure there are no fluid leaks, prior to stream crossing/construction. A oil/fluid spill containment kit will be readily available at the bridge sites during all phases of construction.
- 3) If any spills or water contamination occur, they will be reported immediately to the Dept. of Ecology, WDFW, and WADNR.
- 4) If operations are temporarily suspended during the life of the FPA, roads will be left in a condition which will minimize sediment delivery potential to typed waters.

**Issued By:** Craig Dibble

**Region:** Northeast

**Title:** Forest Practices Forester

**Date:** 08/21/2019

**Copies to:**     Landowner, Timber Owner and Operator.

**Issued in person:**     Landowner  Timber Owner  Operator **By:** April Miller

**Appeal Information**

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:

**Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501**

**Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903**

Information regarding the Pollution Control Hearings Board can be found at: <http://www.eluho.wa.gov/>

At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

Office of the Attorney General  
Natural Resources Division  
1125 Washington Street SE  
PO Box 40100  
Olympia, WA 98504-0100

And

Department Of Natural Resources  
Northeast Region  
225 S Silke Rd  
Colville, WA 99114

**Other Applicable Laws**

Operating as described in this application/notification does not ensure compliance with the Endangered Species Act, or other federal, state, or local laws.

**Transfer of Forest Practices Application/Notification (WAC 222-20-010)**

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website: <http://www.dnr.wa.gov/businesspermits/forestpractices>. Notify DNR of new Operators within 48 hours.

**Continuing Forest Land Obligations (RCW 76.09.060, RCW 76.09.070, RCW 76.09.390, and WAC 222-20-055)**

Obligations include reforestation, road maintenance and abandonment plans, conversions of forest land to non-forestry use and/or harvest strategies on perennial non-fish habitat (Type Np) waters in Eastern Washington.

Before the sale or transfer of land or perpetual timber rights subject to continuing forest land obligations, the seller must notify the buyer of such an obligation on a form titled "Notice of Continuing Forest Land Obligation". The seller and buyer must both sign the "Notice of Continuing Forest Land Obligation" form and send it to the DNR Region Office for retention. This form is available at DNR region offices.

If the seller fails to notify the buyer about the continuing forest land obligation, the seller must pay the buyer's costs related to continuing forest land obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forest land obligation against the seller.

Failure by the seller to send the required notice to the DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forest land obligation prior to sale.

**DNR affidavit of mailing:**

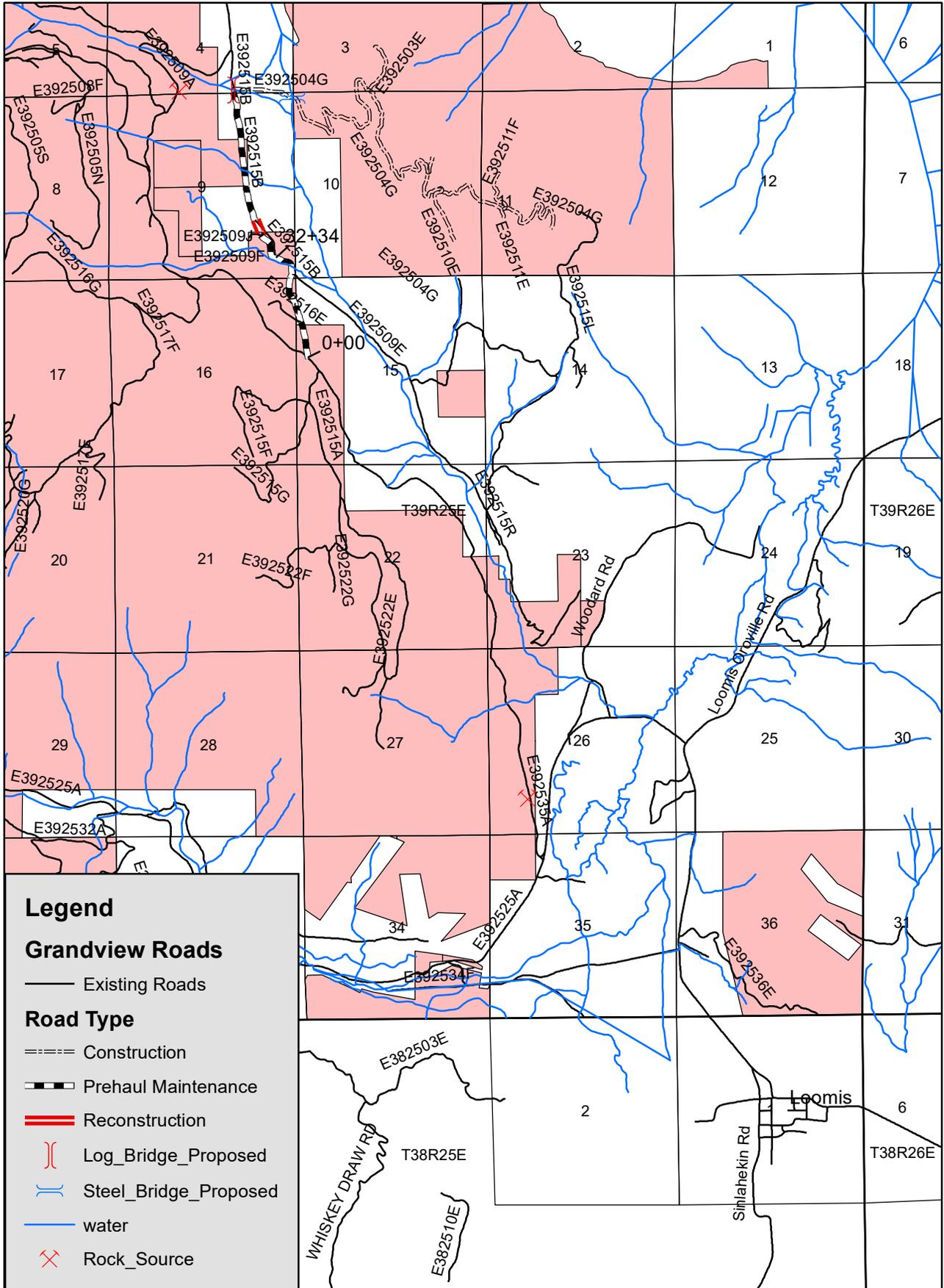
On this day _____, I placed in the United States mail at _____ Colville _____, WA,
(date) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # 3023646
_____
(Printed name) (Signature)

# Washington State Department Resources Grandview Timber Sale

Vicinity Map  
Trust:03

Agreement No. 30-098554

Region: Northeast  
County: Okanogan



**Legend**

**Grandview Roads**

- Existing Roads

**Road Type**

- Construction
- Prehaul Maintenance
- Reconstruction
- Log\_Bridge\_Proposed
- Steel\_Bridge\_Proposed
- water
- Rock\_Source



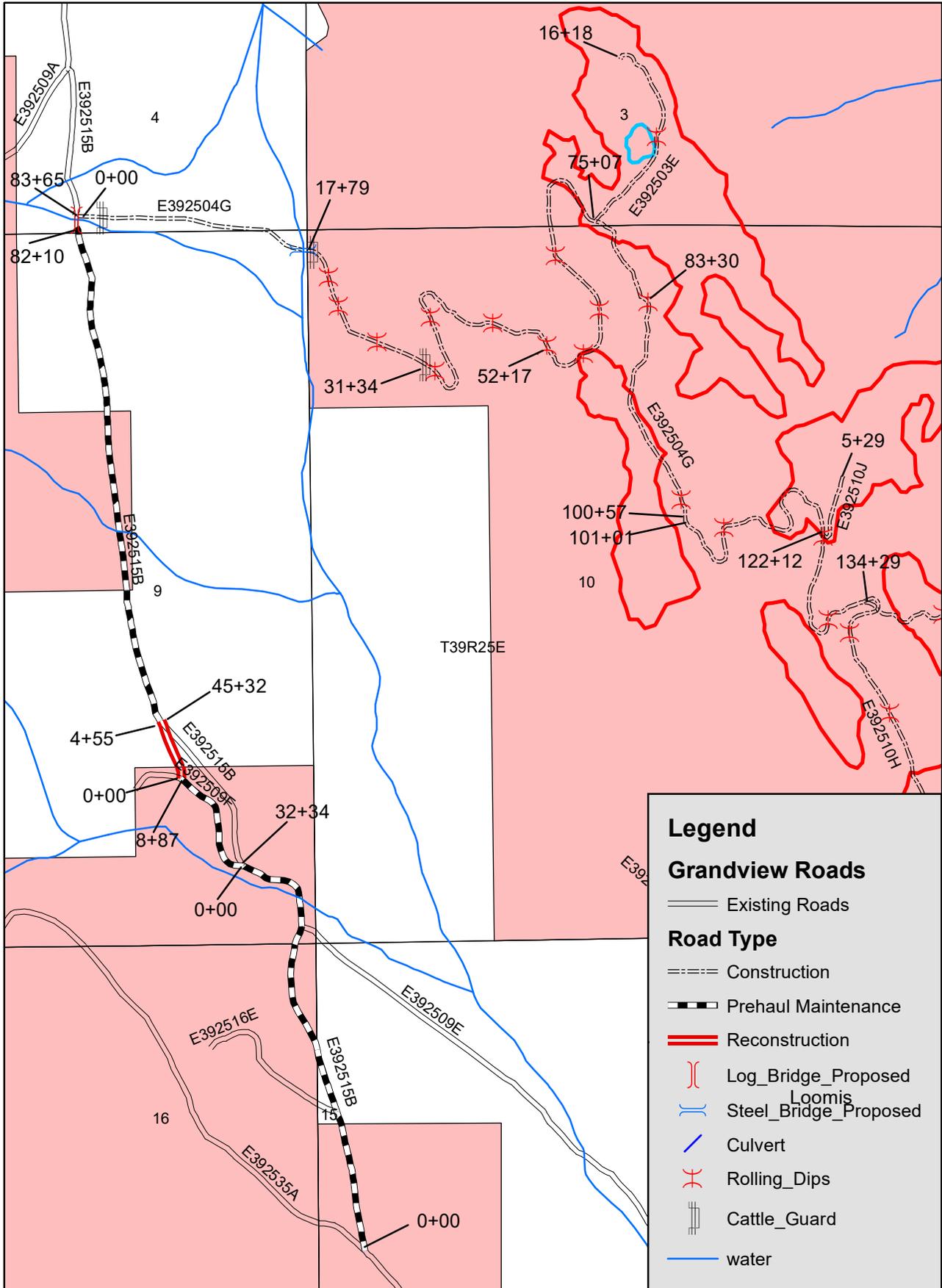
T39N R25E

# Washington State Department Resources Grandview Timber Sale

Map #1  
Trust:03

Agreement No. 30-098554

Region: Northeast  
County: Okanogan



**Legend**

**Grandview Roads**

- Existing Roads

**Road Type**

- Construction
- Prehaul Maintenance
- Reconstruction

**Bridge Types**

- Log\_Bridge\_Proposed
- Steel\_Bridge\_Proposed
- Culvert
- Rolling\_Dips
- Cattle\_Guard
- water

1,000 500 0 1,000 Feet

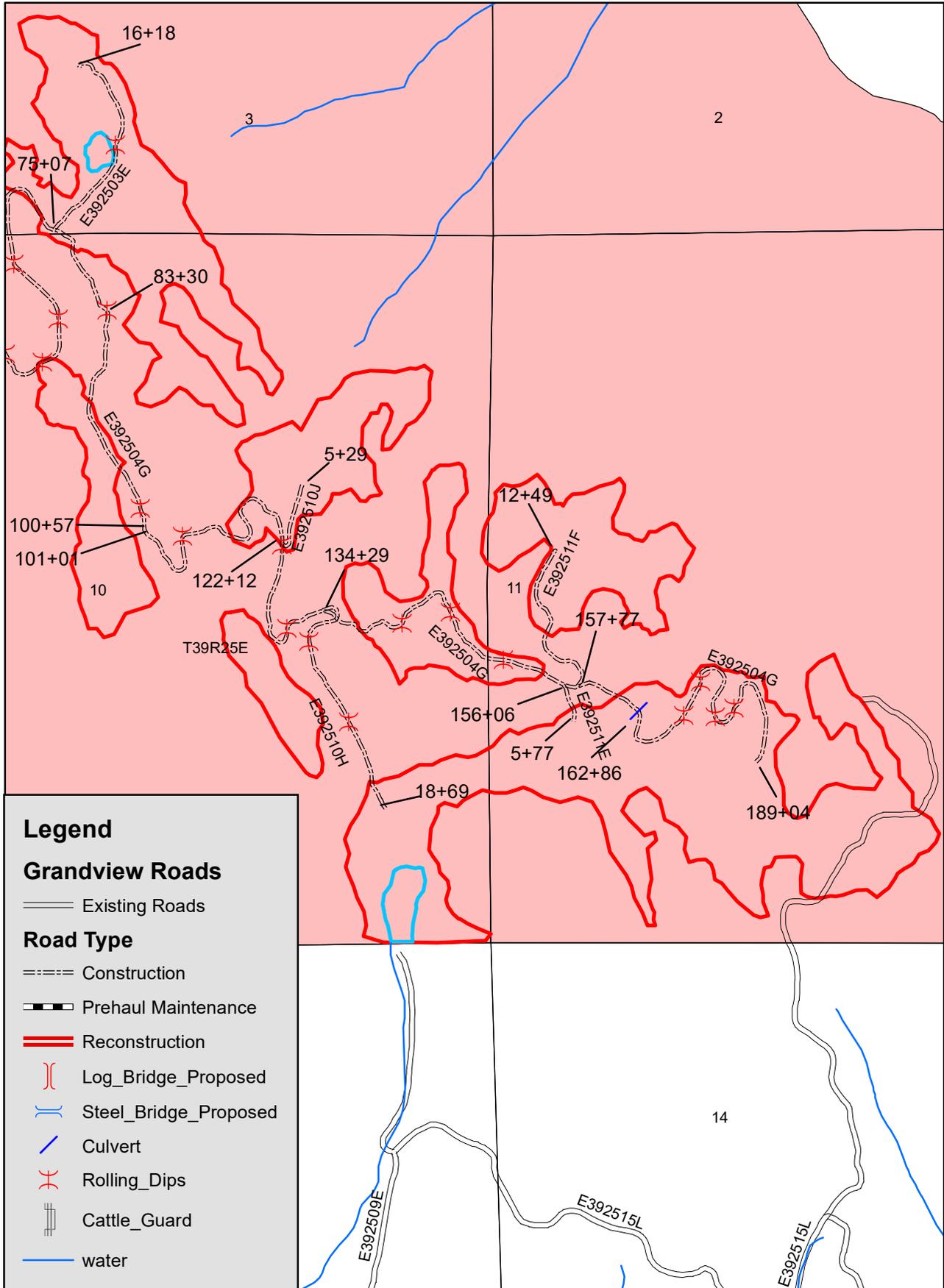
T39N R25E

# Washington State Department of Natural Resources Grandview Timber Sale

Map # 1  
Trust:03

Agreement No. 30-098554

Region: Northeast  
County: Okanogan



T39N R25E

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

GRANDVIEW TIMBER SALE ROAD PLAN  
OKANOGAN COUNTY  
HIGHLANDS UNIT  
NORTHEAST REGION

AGREEMENT NO.: 30-098554

STAFF ENGINEER: ERIC ANDERSON

DATE: 04-24-2019

DRAWN & COMPILED BY: ERIC ANDERSON

SECTION 0 – SCOPE OF PROJECT

**0-1 ROAD PLAN SCOPE**

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

**0-2 REQUIRED ROADS**

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
E392504G	189.04	Construction
E392503E	16.18	Construction
E392509F	8.87	Pre Haul Maintenance
E392509J	4.55	Reconstruction
E392510H	18.69	Construction
E392510J	5.29	Construction
E392511E	5.77	Construction
E392511F	12.49	Construction
E392515B	69.12	Pre Haul Maintenance
E392515B	1.55	Construction

**0-4 CONSTRUCTION**

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E392504G	<u>0+00 to 17+79</u>	Grub, excavate and grade new road as marked in field. End haul rip rap size rocks to a site designated by contract administrator. Install Steel Bridge, incorporate designated structures into road.

E392504G	17+79 to 189+04	Grub, excavate and grade new road as marked in field. Rip and/or drill & shoot an estimated 15.86 stations. Construct road on fill, approx. 4.7 sta. Incorporate designated drainage structures into road.
E392503E	0+00 to 16+18	Grub, excavate and grade new road as marked in field. Incorporate designated drainage structures into road.
E392510H	0+00 to 18+69	Grub, excavate and grade new road as marked in field. Incorporate designated drainage structures into road.
E392510J	0+00 to 5+29	Grub, excavate and grade new road as marked in field. Incorporate designated drainage structures into road.
E392511E	0+00 to 5+77	Grub, excavate and grade new road as marked in field. Incorporate designated drainage structures into road.
E392511F	0+00 to 12+49	Grub, excavate and grade new road as marked in field. Incorporate designated drainage structures into road.
E392515B	82+10 to 83+65	Grub, excavate and grade new road as marked in field. Install Log Stringer Bridge, Incorporate designated drainage structures into road.

**0-5 RECONSTRUCTION**

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E392509J	0+00 to 4+55	Reconstruct prism in old road grade. Grub, excavate and grade as needed.

**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>
E392509F	0+00 to 8+87	Blade, shape, improve and maintain drainage.
E392515B	0+00 to 32+34	Blade, shape, improve and maintain drainage.
E392515B	45+32 to 82+10	Blade, shape, improve and maintain drainage.

**0-7 POST-HAUL MAINTENANCE**

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

**0-12 DEVELOP ROCK SOURCE**

Purchaser may develop a new rock source. Rock source development will involve utilizing rock created from excavation and/or blasting bedrock within and adjacent to new road construction.

**0-13 STRUCTURES**

Purchaser shall install a log stringer bridge and a 40-foot steel bridge provided by the State. Requirements for these structures are listed in Section 7 STRUCTURES and the Bridge Installation details.

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.

**1-4 ROAD TOLERANCES**

Purchaser shall perform roadwork 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

**1-5 DESIGN DATA**

Design data is available upon request at the Department of Natural Resources Northeast Region Office in Colville, WA.

**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.

**1-10 WSDOT STANDARD SPECIFICATION REFERENCE**

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

**1-11 HPA REQUIREMENTS**

The following work is subject to requirements under a Hydraulics Project Approval (HPA) issued by the State of Washington.

<u>Road</u>	<u>Stations</u>	<u>Work Type</u>
E392504G	16+59 to 18+99	Install 40’ steel bridge and approach
E392515B	82+10 to 83+65	Install 20’ log stringer bridge and approach

SUBSECTION ROAD MARKING

**1-15 ROAD MARKING**

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

- Orange Flagging.
- Construction Stakes.

**1-16 CONSTRUCTION STAKES SET BY STATE**

Purchaser shall perform work on the following road(s) in accordance with the construction stakes and reference points set in the field for grade and alignment. Reconstruction of existing road grades must conform to the original location except where construction staked or designed.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
E392504G	16+59 to 18+99	Construction
E392504G	35+23 to 47+82	Construction
E392504G	70+90 to 74+15	Construction
E392504G	103+71 to 107+89	Construction
E392504G	112+74 to 118+59	Construction
E392504G	171+03 to 185+46	Construction

**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 any 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 14 calendar days before work begins.

**SUBSECTION RESTRICTIONS**

**1-25 ACTIVITY TIMING RESTRICTION**

The operation of road construction equipment is not allowed on weekends or state recognized holidays, unless authorized in writing by the Contract Administrator. Road construction is not allowed on the E392504G road between Feb 1 and August 31 from station 0+00 to station 20+00 without written approval from the Contract Administrator.

**1-26 OPERATING DURING CLOSURE PERIOD**

If permission is granted to operate during a closure period listed in Clause 1-25

ACTIVITY TIMING RESTRICTION, Purchase 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 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 roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Wheel track rutting exceeds 4 inches on native surface roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

**1-32 BRIDGE SURFACE RESTRICTION**

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

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

After repairs, Purchaser shall have bridges load rated by a Registered Professional Engineer licensed in the State of Washington. All load rating reports, calculations, or drawings must be stamped by the licensed engineer and submitted to the Contract Administrator prior to allowing any work to continue. All damage to the bridge from transporting equipment will be repaired at the Purchaser's expense.

**1-33 SNOW PLOWING RESTRICTION**

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

**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.

**2-4 PASSAGE OF LIGHT VEHICLES**

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

**2-5 MAINTENANCE GRADING – EXISTING ROAD**

Purchaser shall use a grader to shape the existing surface before final approval. Purchaser shall accomplish all grading using a motor grader.

**2-6 CLEANING CULVERTS**

Purchaser shall clean the inlets and outlets of all culverts and shall obtain written approval from the Contract Administrator before final approval.

**2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS**

Purchaser shall clean ditches, headwalls, and catchbasins within this road plan. Work must be completed before timber haul. Pulling ditch material across crushed rock surface roads or mixing in with the crushed surfacing is not allowed.

**SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL**

**3-1 BRUSHING**

Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

**3-2 BRUSHING RESTRICTION**

Pulling, digging, pushing over, and other non-cutting methods used for vegetation removal may not be used for brushing. Excavator buckets, log loaders and similar equipment may not be used for brushing unless otherwise approved in writing by the Contract Administrator.

**3-5 CLEARING**

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

**3-7 RIGHT-OF-WAY DECKING**

Purchaser shall deck all right-of-way timber. Decks must be parallel to the road centerline and placed within the cleared right-of-way. Decks must be free of dirt, limbs, and other right-of-way debris, and removable by standard log loading equipment from the roadbed.

**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 40%.
- Against standing trees.

**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. Purchaser shall remove stumps using a hydraulic mounted excavator unless authorized in writing by the Contract Administrator. Stumps over 22 inches diameter must be split. Stumps over 40 inches must be quartered. Grubbing must be completed before starting excavation and embankment.

**3-12 STUMP PLACEMENT**

Purchaser shall place grubbed stumps adjacent to the road shoulder and in compliance with all other clauses in this road plan. Stumps must be positioned upright, with root wads in contact with the forest floor on stable locations. Purchaser shall pile stumps no greater than 10 feet high.

**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 clearing and waste area limits as shown on the TYPICAL SECTION SHEET.

**3-21 DISPOSAL COMPLETION**

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

**3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS**

Waste areas for organic debris are located at areas approved in writing by the Contract Administrator.

**3-23 PROHIBITED DISPOSAL AREAS**

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 40%.
- 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.

**3-30 EXCLUSION OF DOZER BLADES**

Purchaser shall not use dozer blades for the piling of organic debris.

**3-31 PILING**

Purchaser shall pile organic debris no closer than 20 feet from standing timber and no higher than 10 feet in areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS. Piles must be free of rock and soil.

**3-32 END HAULING ORGANIC DEBRIS**

On slopes greater than 45%, Purchaser shall end haul or push organic debris to the designated waste areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS or to a waste area located by the Contract Administrator.

SECTION 4 - EXCAVATION

**4-1 EXCAVATOR CONSTRUCTION**

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

**4-2 PIONEERING**

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

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

**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 18 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%.
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

**4-5 CUT SLOPE RATIO**

Purchaser shall construct excavation slopes no steeper than shown on the following table, 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 55%)	1:1	100
Common Earth (56% to 70% side slopes)	¾:1	133
Common Earth (on slopes over 70%)	½:1	200
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**

Where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width except as construction staked or designed.

**4-14 ONE-FOOT EXCAVATION LIMIT**

Purchaser shall not exceed a one-foot cut at centerline unless approved by the Contract Administrator.

**4-21 TURNOUTS**

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

**4-22 TURNAROUNDS**

Turnarounds must be no larger than 30 feet long and 30 feet wide. Locations are subject to written approval by the Contract Administrator.

**4-25 DITCH CONSTRUCTION AND RECONSTRUCTION**

Purchaser shall construct ditches into the subgrade as specified on the TYPICAL SECTION SHEET.

**4-28 DITCH DRAINAGE**

Ditches must drain to cross-drain culverts or ditchouts.

**4-29 DITCHOUTS**

Purchaser shall construct ditchouts as identified, 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. Locations may not be changed without written approval from the Contract Administrator.

**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 55%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

**4-37 WASTE AREA LOCATION**

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

**4-38 PROHIBITED WASTE DISPOSAL AREAS**

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

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- Within a riparian management zone.
- Within a wetland management zone.
- On side slopes steeper than 35%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.
- Outside the clearing limits

**4-47 BORROW MATERIAL**

Borrow material may not contain more than 5% clay, organic debris, or trash by volume. Borrow material must be free of rocks greater than 6 inches in any dimension.

**4-48 NATIVE MATERIAL**

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 6 inches in any dimension.

**4-49 BORROW SOURCE**

Purchaser shall obtain borrow material from borrow sources identified or approved by the Contract Administrator. Development of the borrow source must be in accordance with 0-12 DEVELOP ROCK AND BORROW SOURCES.

**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. Purchaser shall accomplish all shaping using a motor.

**4-56 DRY WEATHER SHAPING**

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.

**4-60 FILL COMPACTION**

Purchaser shall compact all embankment and waste material 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 deeper than 5 feet at the road shoulder by routing equipment over the entire width. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before final approval.

**4-62 DRY WEATHER COMPACTION**

The Contract Administrator may require the application of water to facilitate compaction activities. The method of water application is subject to written approval by the Contract Administrator.

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 AND DRAINAGE 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 10-15 through 10-24.

**5-12 UNUSED MATERIALS STATE PROPERTY**

On required roads, any materials listed on the CULVERT AND DRAINAGE LIST that are not installed will become the property of the state. Purchaser shall stockpile materials at Highlands Camp.

**5-15 CULVERT INSTALLATION**

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures" Culverts over 18 inches diameter shall be banded using lengths of no less than 10 feet, and no more than one length less than 16 feet. Shorter section of banded culvert shall be installed at the inlet end.

**5-16 APPROVAL FOR LARGER CULVERT INSTALLATION**

Purchaser shall obtain written approval from the Area Engineer listed in this plan for the installation of culverts 30 inches in diameter and over before backfilling.

**5-17 CROSS DRAIN SKEW AND SLOPE**

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

**5-18 CULVERT DEPTH OF COVER**

All 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 cross drain culverts. Energy dissipater installation is subject to approval by the Contract Administrator.

**5-21 DOWNSPOUTS AND FLUMES**

Downspouts and flumes longer than 20 feet must be staked on both sides at a maximum interval of 10 feet with 6-foot heavy-duty steel posts, and fastened securely to the posts with No. 10 galvanized smooth wire 1/2-inch bolts in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

**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 unless specified otherwise on within the Road Plan.

**5-26 HEADWALLS FOR CROSS DRAIN CULVERTS**

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts on the CULVERT AND DRAINAGE LIST THAT specify the placement of rock. Rock used for headwalls must be Light Loose Rip Rap. 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. Rock must be set in place by machine. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed. Light Loose Rip Rap shall meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP.

**5-30 DRIVABLE WATERBAR CONSTRUCTION**

Purchaser shall construct drivable waterbars in accordance with the DRIVABLE WATERBAR DETAIL and as marked in the field. Drivable waterbars must be installed concurrently with construction of the subgrade and must be maintained in an operable condition. Purchaser shall install drivable waterbars using a crawler tractor. Use of any other equipment is not allowed without written approval from the Contract Administrator.

**5-31 ROLLING DIP CONSTRUCTION**

Purchaser shall construct rolling dips in accordance with the ROLLING DIP DETAIL and as marked in the field. Rolling dips must be installed concurrently with construction of the subgrade and must be maintained in an operable condition. Purchaser shall install rolling dips using a crawler tractor. Use of other equipment is not allowed without written approval of the Contract Administrator.

**5-33 NATIVE SURFACE ROADS**

If overwintered, native surface roads must be waterbarred by November 1. Purchaser shall construct waterbars according to the attached DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 300 feet.

**SECTION 6 – ROCK AND SURFACING**

**6-2 ROCK SOURCE ON STATE LAND**

Rock used in accordance with the quantities on the ROCK LIST may be obtained from state land at no charge to the Purchaser. The location specified is commonly known as the Chopaka Grade where it passes through a stretch that naturally produces an abundance of talus material. Purchaser shall obtain written approval from the Contract Administrator for the use of material from state land. If other operators are using, or desire to use the rock source(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
E392535A	W1/2 SW1/4 Sec 26 T39R25E	Talus/Shale

**6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE**

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
E392509A	SE1/4 SW1/4 Sec 4 T39R25E	Boulders/Rip Rap

**6-5 ROCK FROM COMMERCIAL SOURCE**

Rock used in accordance with the quantities on the ROCK LIST may be obtained from commercial source at the Purchaser's expense. Rock sources are subject to written approval by the Contract Administrator before their use.

**6-21 IN-PLACE PROCESSING**

Purchaser shall use in-place processing, such as a grid roller, mobile linear crusher, or other method of in-place processing to produce 4-inch in-place rock. Rock must meet the surfacing size specified in Clause 6-38 40-INCH IN-PLACE ROCK, purchaser shall remove any existing organic debris before the start of in-place crushing operations. The use of in-place processing methods is subject to written approval by 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.

**6-38 4-INCH IN-PLACE ROCK**

4-inch in-place rock must have a minimum of 90 percent of the top 4 inches of the running surface pass a 4-inch square opening.

In-place rock may not contain more than 5 percent by weight of organic debris and trash. No more than 50 percent of rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension.

**6-50 LIGHT LOOSE RIP RAP**

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

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

**6-51 HEAVY LOOSE RIP RAP**

Heavy loose rip rap must consist of angular, hard, sound, and durable stone. It must be free from segregation, seams, cracks, and other defects tending to destroy its resistance

to weather. Heavy loose rip rap must be free of rock fines, soil, organic debris or other extraneous material, and must meet the following requirements:

<u>Quantity</u>	<u>Size Range</u>
30% to 90%	1 ton to 2 ton (28" - 36")
30% to 70%	500 lbs. to 1 ton (18" - 28")
20% to 50%	50 lbs. to 500 lbs. (8" - 18")
10% to 20%	3 inch to 50 lbs. (3" - 8")

**6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH**

Measurement of specified rock depths, are defined as the compacted depth(s) using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are compacted 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.

**6-70 APPROVAL BEFORE ROCK APPLICATION**

Purchaser shall obtain written approval from the Contract Administrator before rock application.

**6-71 ROCK APPLICATION**

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

**6-76 DRY WEATHER ROCK COMPACTION**

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.

**6-80 WATERING FOR DUST ABATEMENT**

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

SECTION 7 – STRUCTURES

**7-6 STREAM CROSSING INSTALLATION**

Purchaser shall install stream crossing structures in accordance with the manufacturer's requirements, Permits, Designs, Specifications and/or DETAILS.

**7-46 STATE SUPPLIED BRIDGE**

Purchaser shall install the bridge listed below. Bridge is available for use within the terms of the contract without charge from the state. Refer to Bridge Crossing on Road E392504G for details of Steel bridge. See also “Log Stringer Bridge Detail” for details of Log Bridge.

Road	Station	Length (ft)	W.B.S.R <sup>1</sup> (ft)	Type	Current Location <sup>2</sup>
E392504G	17+59	40	16	Steel	Highlands Camp
E392515B	82+63	27	16	Log Stringer	Road E392509A

<sup>1</sup>W.B.S.R. = Width between shear rails

<sup>2</sup>DNR Loomis Fire Camp.

Steel Bridge Specification: Two main sections, approximately 20,000 lbs. per section.

Purchaser may pick up bridge Monday through Friday, between 8:00 A.M. and 3:30 P.M. excluding state recognized holidays. Purchaser shall notify the Contract Administrator a minimum of 3 business days before pick up of the bridge and associated hardware.

**7-48 STATE SUPPLIED BRIDGE – MOBILIZATION**

The bridge is partially assembled and ready to load for transportation to the jobsite. Purchaser shall submit a plan of operations to the Contract Administrator for written approval for, loading, transport, and placement of the state provided bridge superstructure. The plan must include a description of the equipment and techniques to be used to lift and place the superstructure. Equipment used to lift the superstructure must have sufficient capacity to lift it free and clear without dragging. Purchaser is liable for damage to the bridge structure.

**7-50 TEMPORARY LOG BRIDGE CONSTRUCTION**

- Purchaser shall construct a temporary bridge in accordance with this plan. Refer to LOG BRIDGE design sheet for details. Douglas fir timber for the manufacture of stringers and cribbing is available from DNR land outside the sale area. Purchaser may salvage logs upon completion of road use.
- Purchaser shall place any unsalvaged logs from the bridge in a location on State Land which is approved in writing by the CA.

**7-53 BRIDGE INSTALLATION**

Purchaser shall install bridge ensuring there is a full width, continuous deck with no gaps that allow water and sediment to drain from the bridge to the stream.

**CATTLE GUARDS**

**7-66 TEMPORARY CATTLE GUARDS**

On the following road, Contractor shall install a temporary cattle guard supplied by the state if the road is used between May 1 and November 1. The cattle guards are stored at Highlands Fire Camp. Temporary cattle guards shall be set flush with the ground so that vehicles may smoothly drive over them, as directed by the Contract Administrator. Installations shall be incorporated in and connected to existing fences with arms and/or wire. Contractor is liable for any damages to the temporary cattle guards and they must be returned to Highlands Fire Camp within 10 days after timber haul is completed. Gates shall be installed concurrent with the removal of the temporary cattle guards.

<u>Road</u>	<u>Stations</u>	<u>Provided by</u>
E392504G	1+82	State
E392504G	18+50	State
E392504G	31+34	State

**7-71 GATE CLOSURE DURING HAUL**

Contractor may elect to install 4-wire gates instead of temporary cattle guards. On the following road(s), Contractor shall keep gates closed except for the passing of vehicles.

<u>Road</u>	<u>Station</u>	<u>Gate No.</u>	<u>Closure Period</u>	<u>Comment</u>
E392504G	1+82			Closed except for passing vehicles
E392504G	18+50			Closed except for passing vehicles
E392504G	31+34			Closed except for passing vehicles

**7-78 GATE SUPPLIED BY PURCHASER**

Purchaser shall provide all gates specified for installation in Clause 7-71 GATE CLOSURE DURING HAUL. Purchaser shall obtain written approval for the gates from the Contract Administrator before installation.

**7-82 4-WIRE GATE INSTALLATION**

On the following road(s), Purchaser shall provide and install 4-wire gates in accordance with the 4-WIRE GATE DETAIL. Gates must be installed to connect into the existing fencing.

E392504G	1+82
E392504G	18+50
E392504G	31+34

## SECTION 9 – POST-HAUL ROAD WORK

### 9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the SPOILS BERM DETAIL.

### 9-5 POST-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
E392504G	189.04	Blade, shape, improve and maintain drainage.
E392503E	16.18	Blade, shape, improve and maintain drainage.
E392509F	8.87	Blade, shape, improve and maintain drainage.
E392509J	4.55	Blade, shape, improve and maintain drainage.
E392510H	18.69	Blade, shape, improve and maintain drainage.
E392510J	5.29	Blade, shape, improve and maintain drainage.
E392511E	5.77	Blade, shape, improve and maintain drainage.
E392511F	12.49	Blade, shape, improve and maintain drainage.
E392515B	69.12	Blade, shape, improve and maintain drainage.
E392515B	1.55	Blade, shape, improve and maintain drainage.

### 9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface at all landings.

### 10-15 CORRUGATED STEEL CULVERT

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

### 10-20 FLUME AND DOWNSPOUT

Downspouts and flumes must meet the AASHTO specification designated for the culvert.

### 10-21 METAL BAND

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

### 10-23 RUBBER CULVERT GASKETS

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

**10-24 GAUGE AND CORRUGATION**

Unless otherwise stated by the manufacturer, metal culverts must conform to the following specifications for gauge and corrugation as a function of diameter.

<u>Diameter</u>	<u>Gauge</u>	<u>Corrugation</u>
18"	16 (0.064")	2 <sup>2</sup> / <sub>3</sub> " X 1/2"
24" to 48"	14 (0.079")	2 <sup>2</sup> / <sub>3</sub> " X 1/2"
54" to 96"	12 (0.109")	3" X 1"





STATE OF WASHINGTON  
**DEPARTMENT OF NATURAL RESOURCES**

Application No.: 30-098554

Name of Sale: Grandview TS

Date: 03-18-2019

# CULVERT & DRAINAGE LIST

Road Name	Station	CULVERT			LENGTH			RIPRAP			Ditch	Staked	Rolling Dip	Notes	
		Diameter (in)	Gauge	Skew	Culvert (ft)	Downspout	Flume	Inlet C.Y.	Outlet C.Y.	Catchbasin					
E392504G	17+79													40' steel bridge	
E392504G	20+09											X		9	
E392504G	23+34											X		9	
E392504G	27+91											X		9	
E392504G	33+97											X		9	
E392504G	41+84											X		9	
E392504G	47+99											X		9	
E392504G	52+17											X		17	
E392504G	56+24											X		9	
E392504G	59+49											X		9	
E392504G	65+47											X		9	
E392504G	83+30											X		9	
E392504G	99+38											X		9	
E392504G	107+98											X		9	
E392504G	121+82											X		9	
E392504G	130+10											X		9	
E392504G	140+42											X		9	
E392504G	146+15											X		9	
E392504G	151+29											X		9	
E392504G	162+86	18	PLASTIC		30	Plastic culvert supplied by DNR is located at Highlands camp									2,6,10,15
E392504G	169+04											X		9	
E392504G	172+32											X		9	
E392504G	178+14											X		9	
E392504G	180+38											X		9	
E392503E	7+78											X		9	
E392510H	5+07											X		9	
E392510H	12+12											X		9	
E392515B	82+63													Log Stringeer Bridge	

## STRUCTURE NOTES

2. Install Catchbasin - See Detail D1
3. Armor Catchbasin - See Detail D1
4. Armor Ditch
5. Heavy Loose RipRap
6. Light Loose RipRap
7. Step Bevel Pipe Ends
8. Remove Existing Pipe
9. See Rolling Dip Detail D5
10. See Pipe Installation Detail D1
13. Start Ditch
15. For gauge refer to Road Plan:  
10-23 Gauge and Corrugation
16. See Appendix B
17. Armored Rolling Dip see Rock List

**FOREST ROAD ACCESS**  
Road Maintenance Specifications

Prior to Acceptance of Contract or Acceptance on Timber Sale

**A. Cuts and Fills**

- (1) Maintain slope lines as constructed. Remove slides from the ditches and roadway. Replace fills to 1 ½:1 slopes with selected material or as directed. Remove overhanging material from cut slopes.
- (2) Material from slides or other sources requiring removal must not be deposited in streams or at locations where it will erode into streams or water courses.
- (3) Undesirable slide materials and debris must not be allowed to contaminate or mix with surface material.

**B. Roadway Surfaces**

- (1) Grade and shape road surface, turnouts and shoulder to original crown, inslope or outslope as directed to provide suitable traveled surface and surface water runoff in an even, unconcentrated manner.
- (2) Blading must not undercut backslopes at bottom of cut slopes.
- (3) Watering may be required to control dust and to retain fine surface rock.
- (4) Desirable surface material shall not be bladed off roadway.
- (5) Replace surface material lost or worn away.
- (6) Remove berms except as otherwise directed by the State.

**C. Drainage**

- (1) Keep ditches and drainage channels at outlets and inlets of culverts clear of obstructions.
- (2) Inspect and clean culverts at least monthly, with additional inspection during storms and periods of high runoff. This must be done even during periods of inactivity.
- (3) Place non erodable material or rock at drainage outfalls.
- (4) Keep silt bearing surface runoff from contaminating live streams.

**D. Structures**

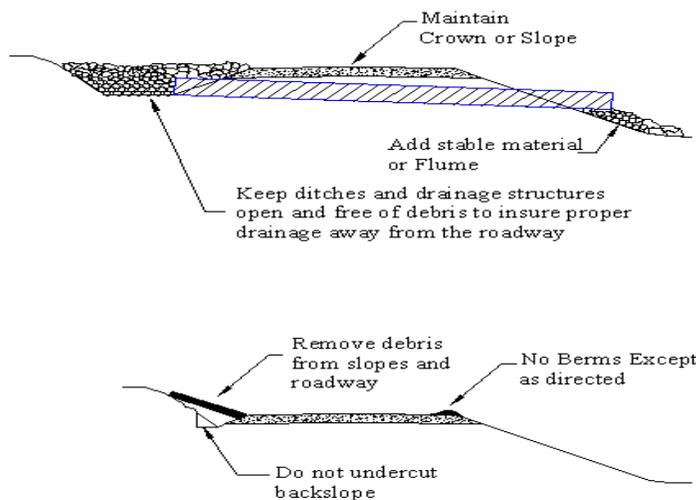
- (1) Repair bridges, culverts, cattle guards, fences and other road structures to conditions required by construction specifications.

**E. Termination of Use, or End of Season**

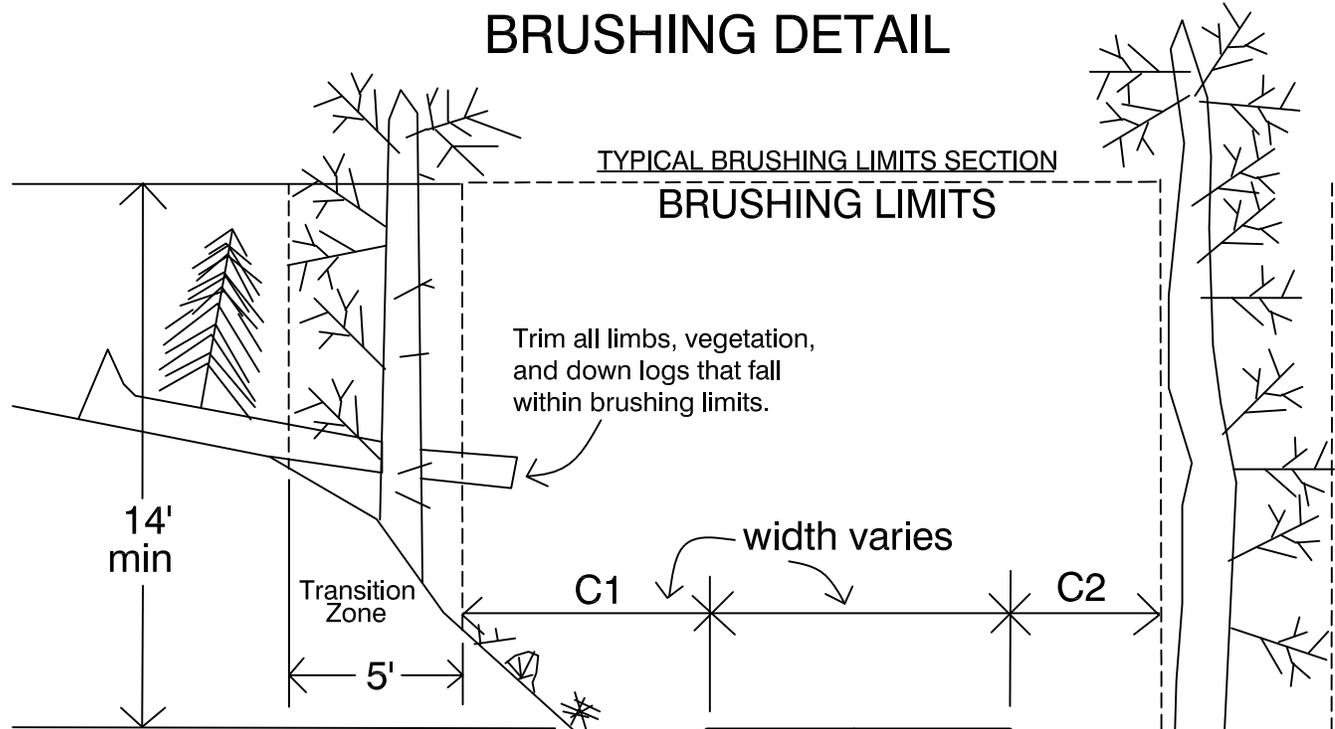
- (1) Do maintenance work to minimize damage from the elements such as blading to insure correct runoff, ditch and culvert clearing and water bars.

**F. Debris**

- (1) Remove fallen timber, limbs, stumps from slopes and roadway, ditchlines and culvert inlets.



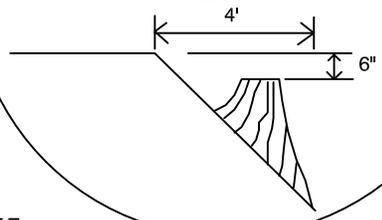
# BRUSHING DETAIL



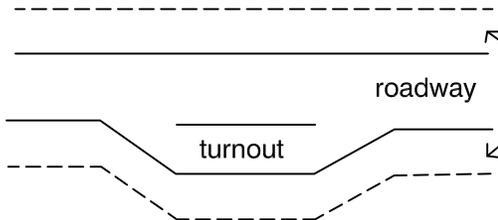
All limbs on standing trees that extend into the brushing limits shall be trimmed within 6" of the stem

Any trees less than 6" in diameter shall be cleared within the transition zones.

Trim all stumps and vegetation within 4' of edge of road and in ditch to at least 6" below the elevation of the edge of road.

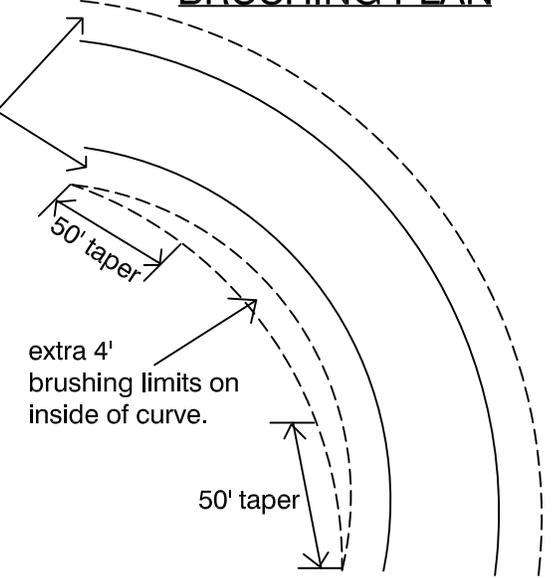


## CURVE BRUSHING PLAN



## TURNOUT BRUSHING PLAN

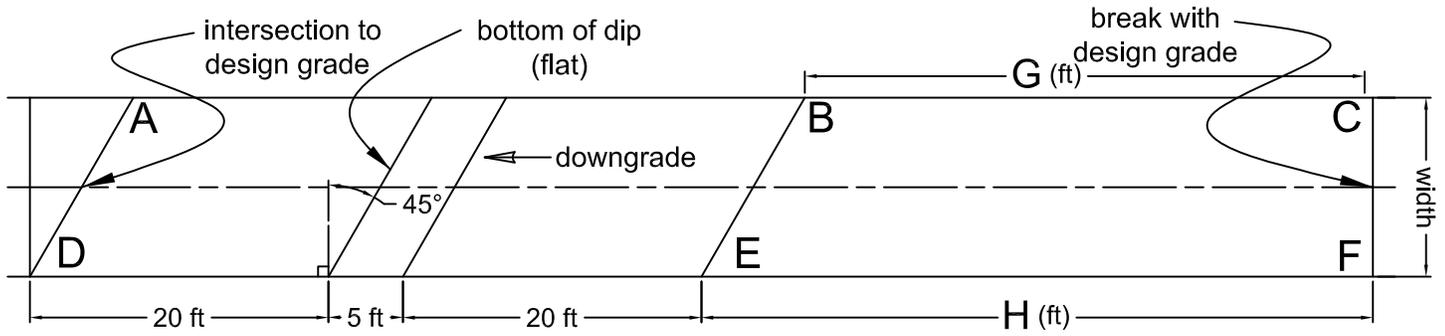
1. All vegetation within the brushing limits shall be cut to within 8" of the ground unless otherwise directed by the contract administrator.
2. All brush, trees limbs, etc. shall be removed from the road surface and ditchline.
3. All debris that may roll or migrate into the ditchline shall be removed.



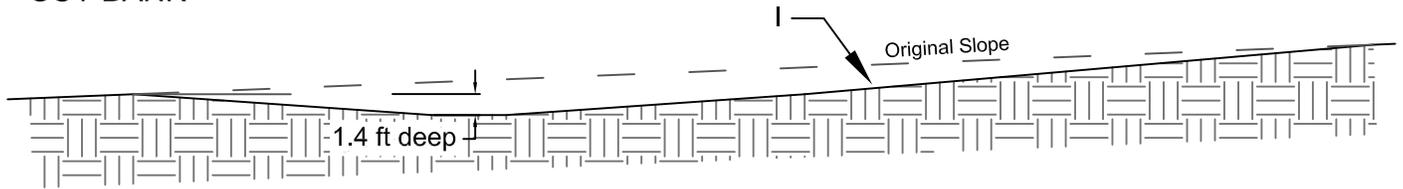
Brushing limits as shown on typical section

# STANDARD 45° ROLLING DIP

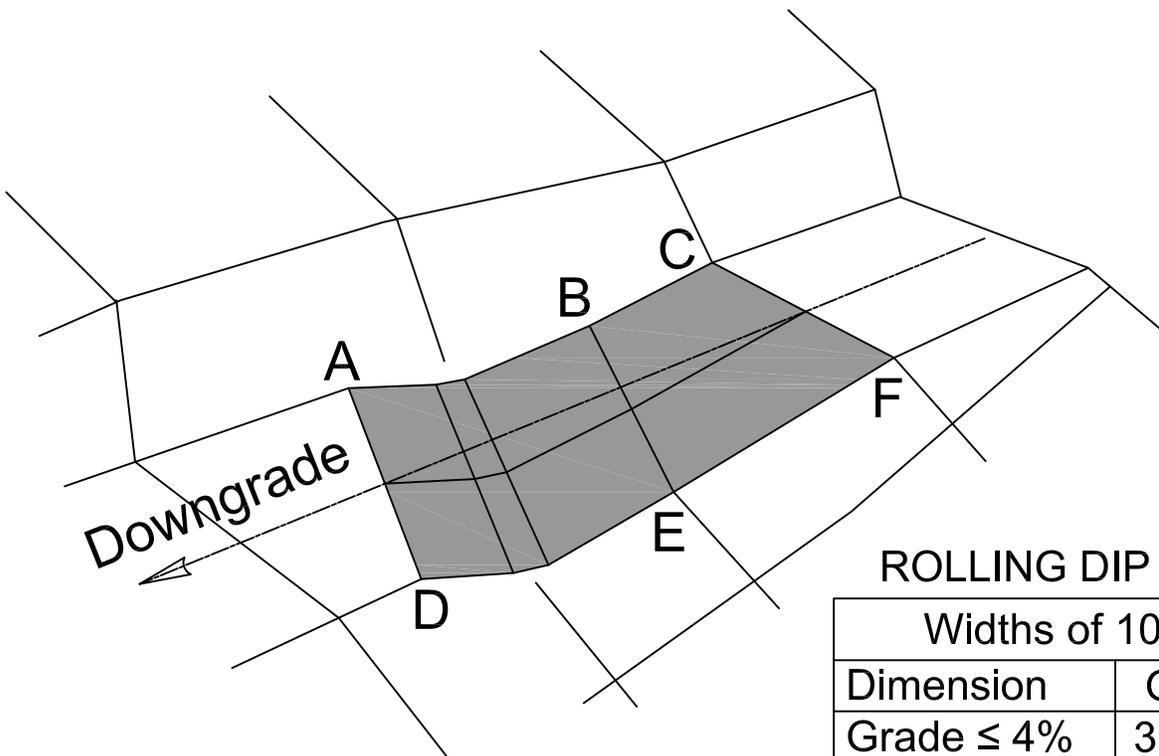
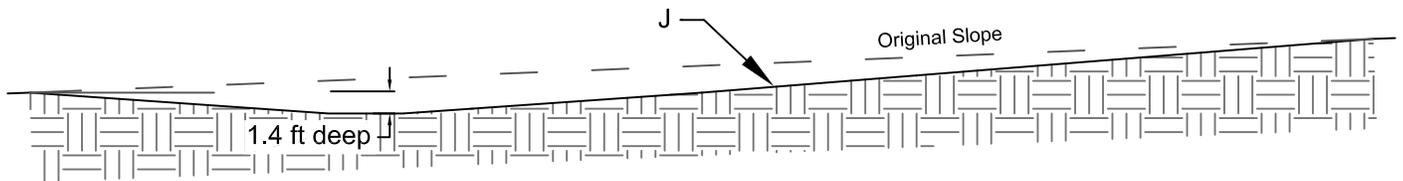
## PLAN OF ROLLING DIP



## CUT BANK



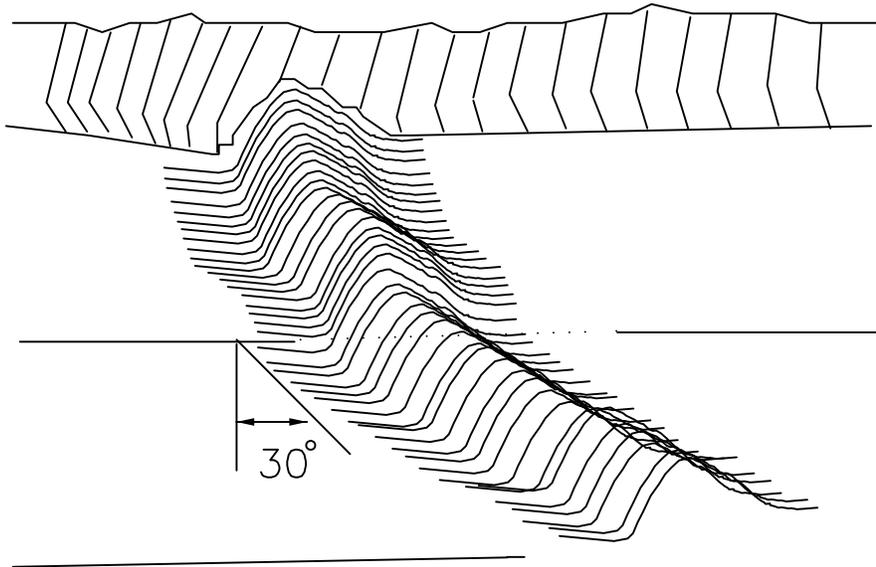
## FILL SLOPE



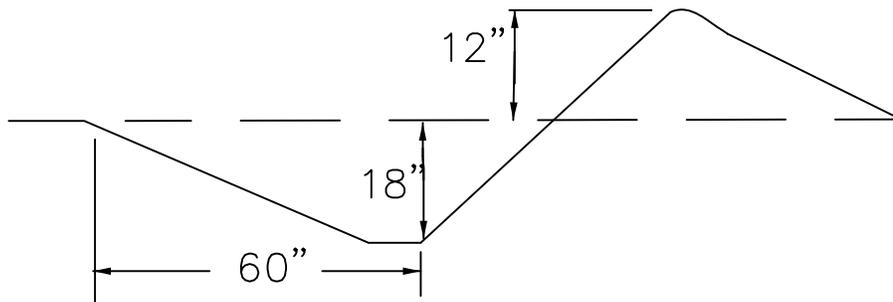
## ROLLING DIP DEMENSIONS

Widths of 10' through 14'				
Dimension	G	H	I	J
Grade ≤ 4%	38'	45'	9%	8%
Grade = 6%	48'	55'	11%	11%
Grade = 8%	58'	65'	14%	14%

Top View

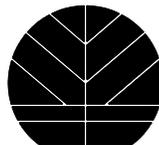


Side View



1. Waterbar construction for forest roads with little or no traffic.
2. Specifications are average and may be adjusted to conditions.
3. Bottom of waterbar must be outsloped to ensure proper drainage.
4. Rock outlet if steep fill slope is present.

## Driveable Waterbar Detail



WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**

Northeast Region  
Colville, Washington

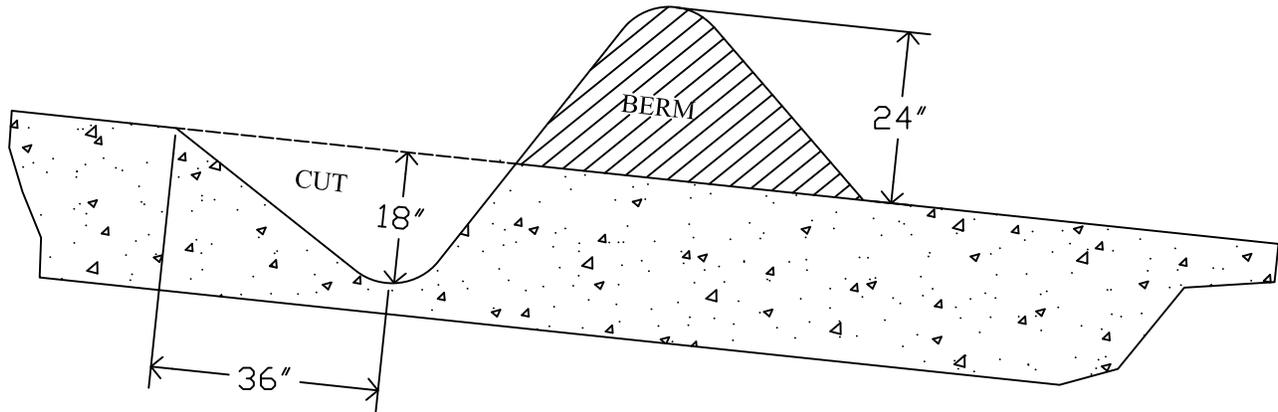
Designed By: Stash Slabinski 9/06/05

Drawn By: Stash Slabinski 9/06/05

Revised:

1 OF 1

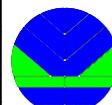
# Non-Driveable Water Bar Detail



Notes:

1. WATERBAR CONSTRUCTION FOR FOREST ROADS WITH NO TRAFFIC. SPECIFICATIONS ARE AVERAGE AND MAY BE ADJUSTED TO CONDITIONS.
2. TIE BERM INTO BANK. IF DITCH EXISTS, TIE CUT INTO DITCH.
3. CONSTRUCT CROSS DRAIN BERM APPROXIMATELY 24 IN. HIGH.
4. CUT WATERBAR A MINIMUM OF 18 IN.
5. ENSURE PROPER DRAINAGE AT OUTLET.
6. SKEW WATERBAR 30 DEGREES DOWNGRADE WITH ROAD CENTERLINE.

## Non-Driveable Waterbar Detail



WASHINGTON STATE DEPARTMENT OF  
Natural Resources

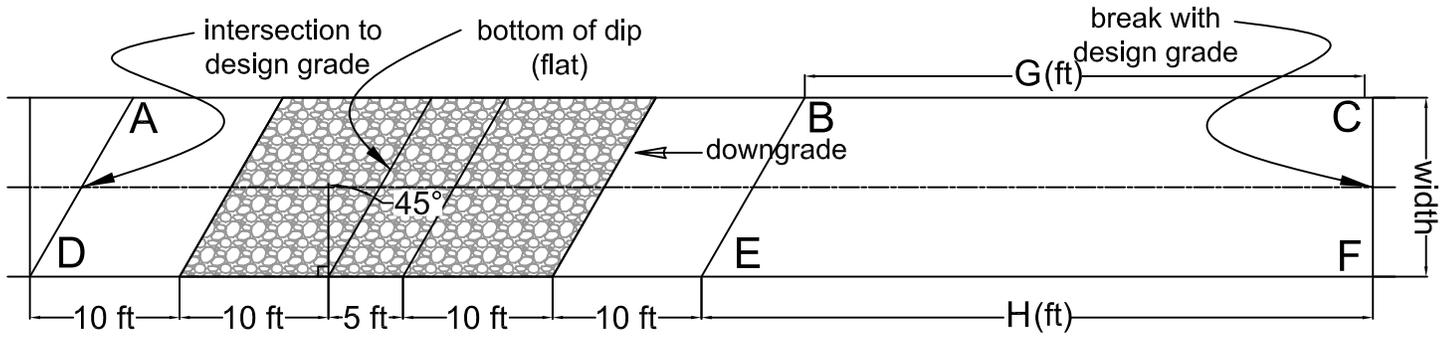
Northeast Region Colville, Washington		
Designed By:	Stash Slabinski	4/21/05
Drawn By:	Stash Slabinski	4/21/05

Revised:

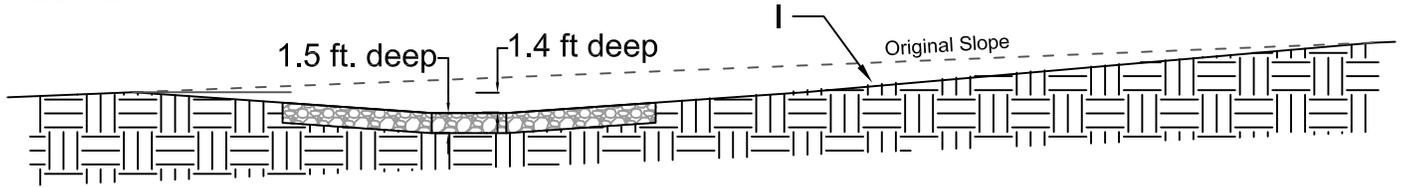
1 OF 1

# ARMORED ROLLING DIP

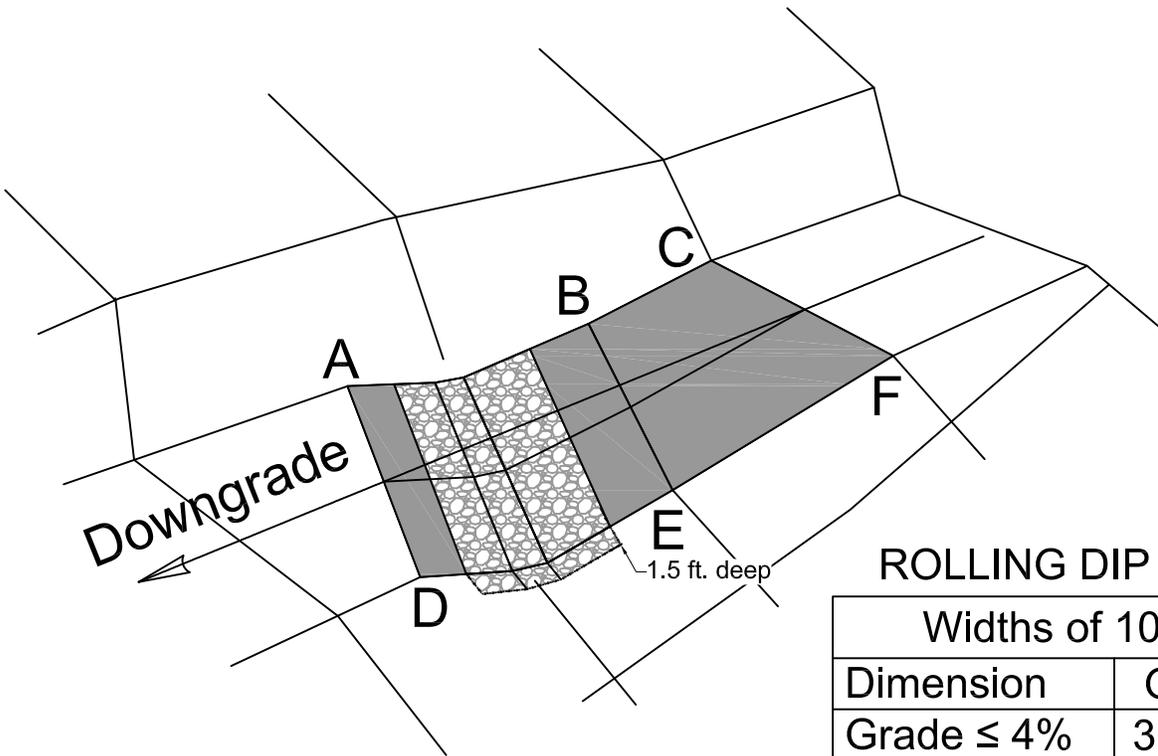
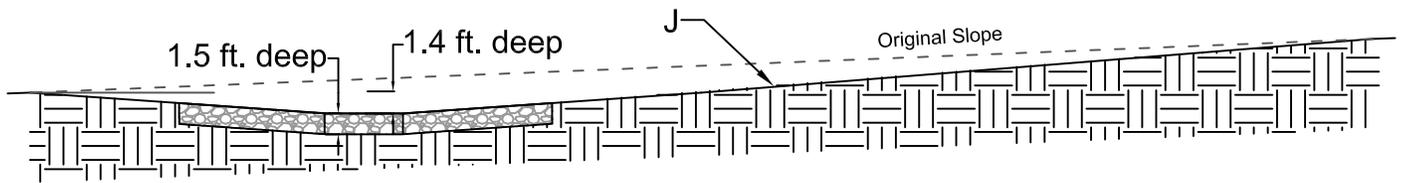
## PLAN OF ARMORED ROLLING DIP



## CUT BANK



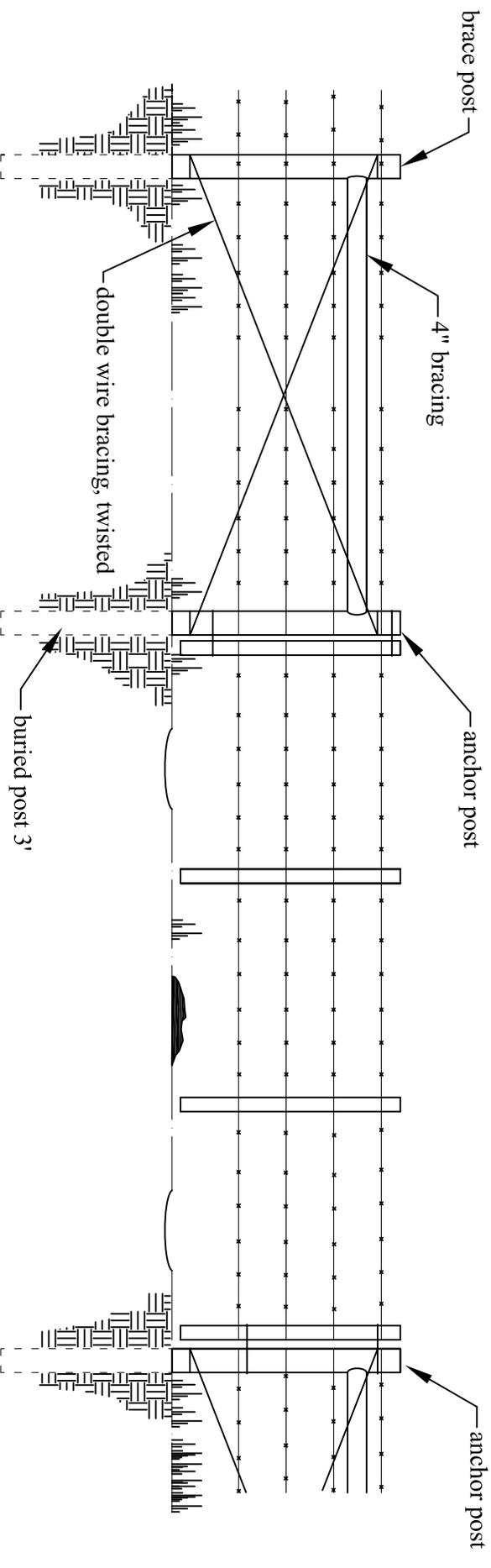
## FILL SLOPE



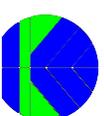
## ROLLING DIP DIMENSIONS

Widths of 10' through 14'				
Dimension	G	H	I	J
Grade ≤ 4%	38'	45'	9%	8%
Grade = 6%	48'	55'	11%	11%
Grade = 8%	58'	65'	14%	14%

# 4 Strand Wire Gate and Gate Brace Detail



1. First wire from ground must be 14" high.
2. Subsequent wires must be no less than 10" apart.
3. Double wrap all bracing.
4. All brace posts must be 7' long, 5" in diameter, and embedded 3'.
5. Dap braces into posts.
6. Spike braces to posts.
7. There must be 8' on center between anchor post and brace post.
8. The gate stays must be no less than 5' apart and 1 1/2" in diameter.
9. Barbed wire must be 12 1/2 gauge conventional or 15 1/2 gauge high-tension. 2 twisted strands with 14 gauge or heavier two-point barbs on approx. 5 in centers. Class 1 (min. or equivalent) zinc-coating as per ASTM A-121.
10. There must be a gate brace at both ends of the gate.



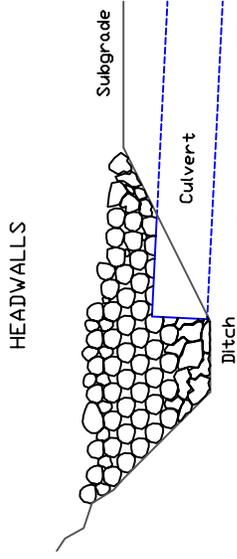
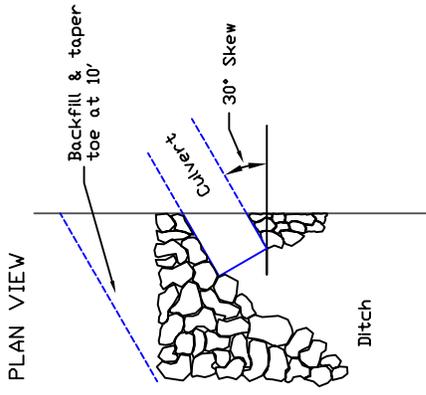
Washington State Department of  
**Natural Resources**

Northeast Region  
Colville, Washington

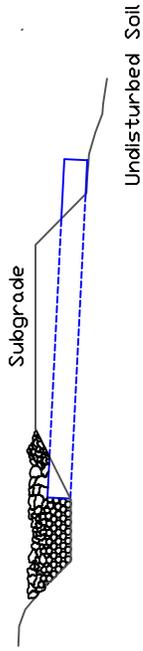
Drawn by: Jason Bauer

Revised: 10/06/2009

# CULVERT AND DRAINAGE SPECIFICATIONS DETAIL - D1

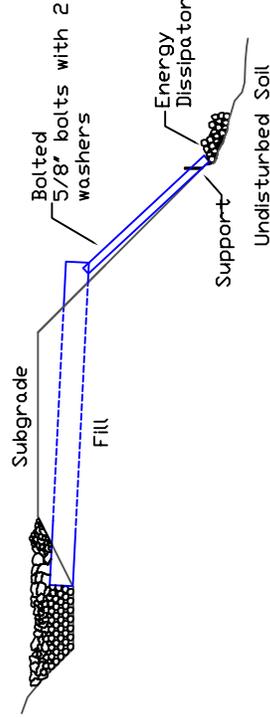


Headwall to be constructed of material that will resist erosion



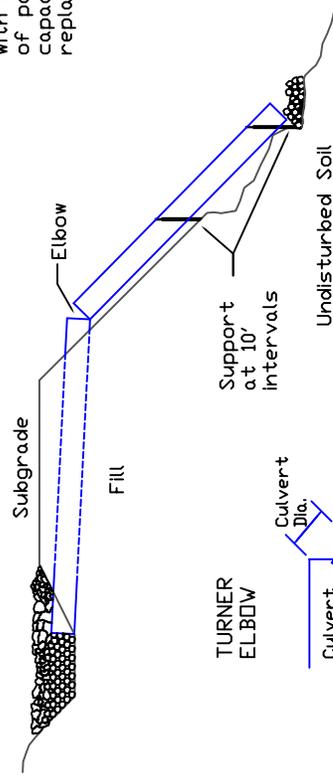
## FLUME

Use where ground conditions are uniform, providing for stability of flume.



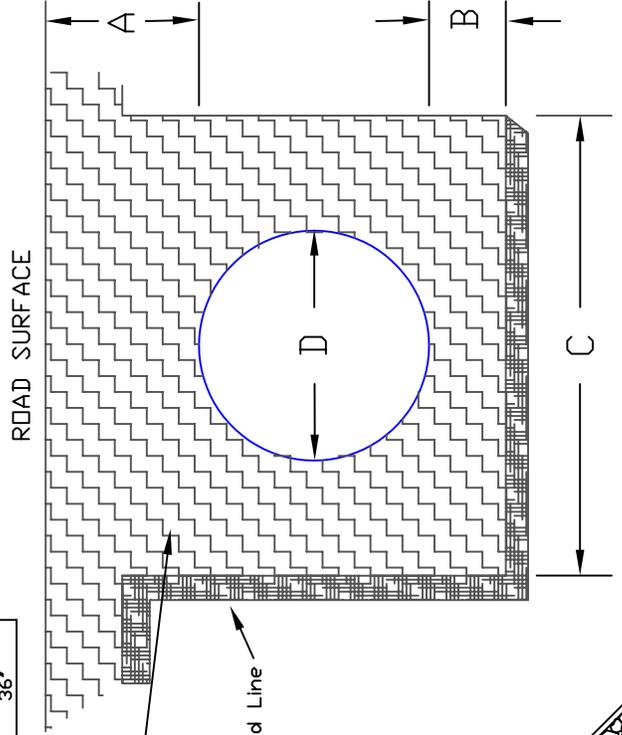
## DOWNSPOUT

Use where ground conditions are irregular.



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

## CULVERT BACKFILL & BASE PREPARATION (For Culverts Less Than 36')

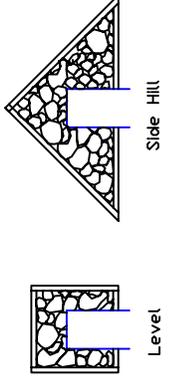


## BEDDING MATERIAL:

Use granular material - 3' minus. Large rocks shall be replaced with suitable material. Materials of poor or non-uniform bearing capacity shall be removed and replaced with suitable fill.

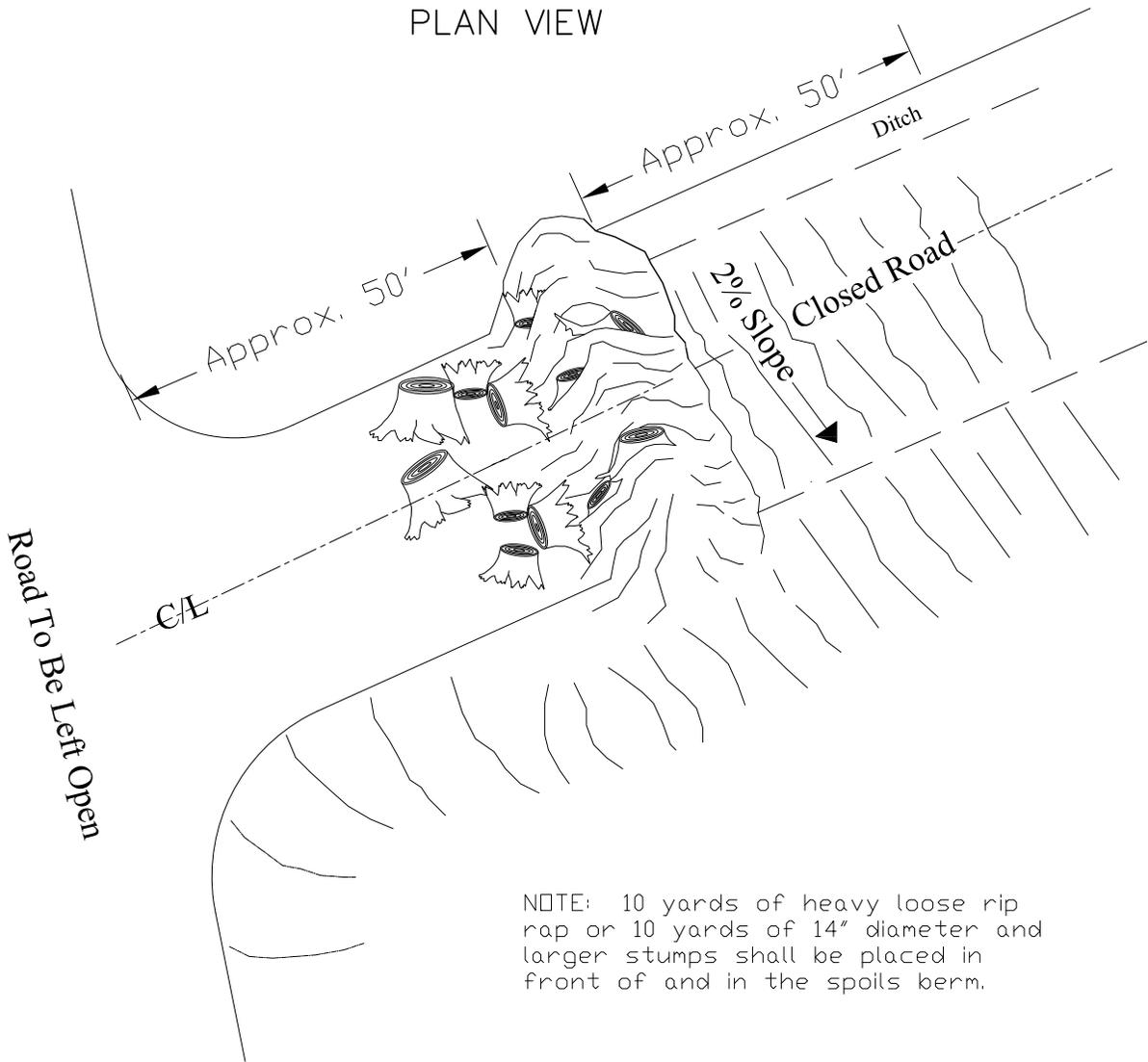
## DISSIPATOR SPEC'S

Area  $2 \times 2$   
Depth 1  
Aggregate 1/3

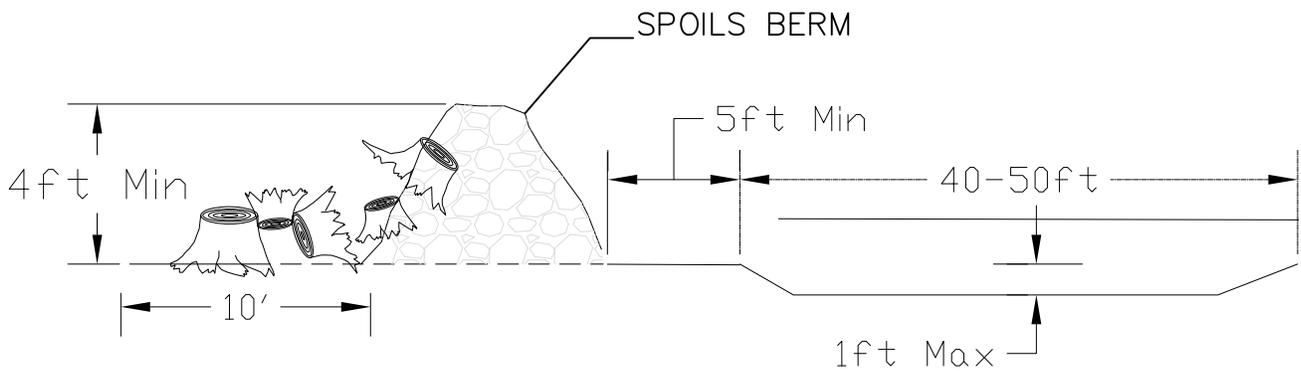


# SPOILS BERM DETAIL

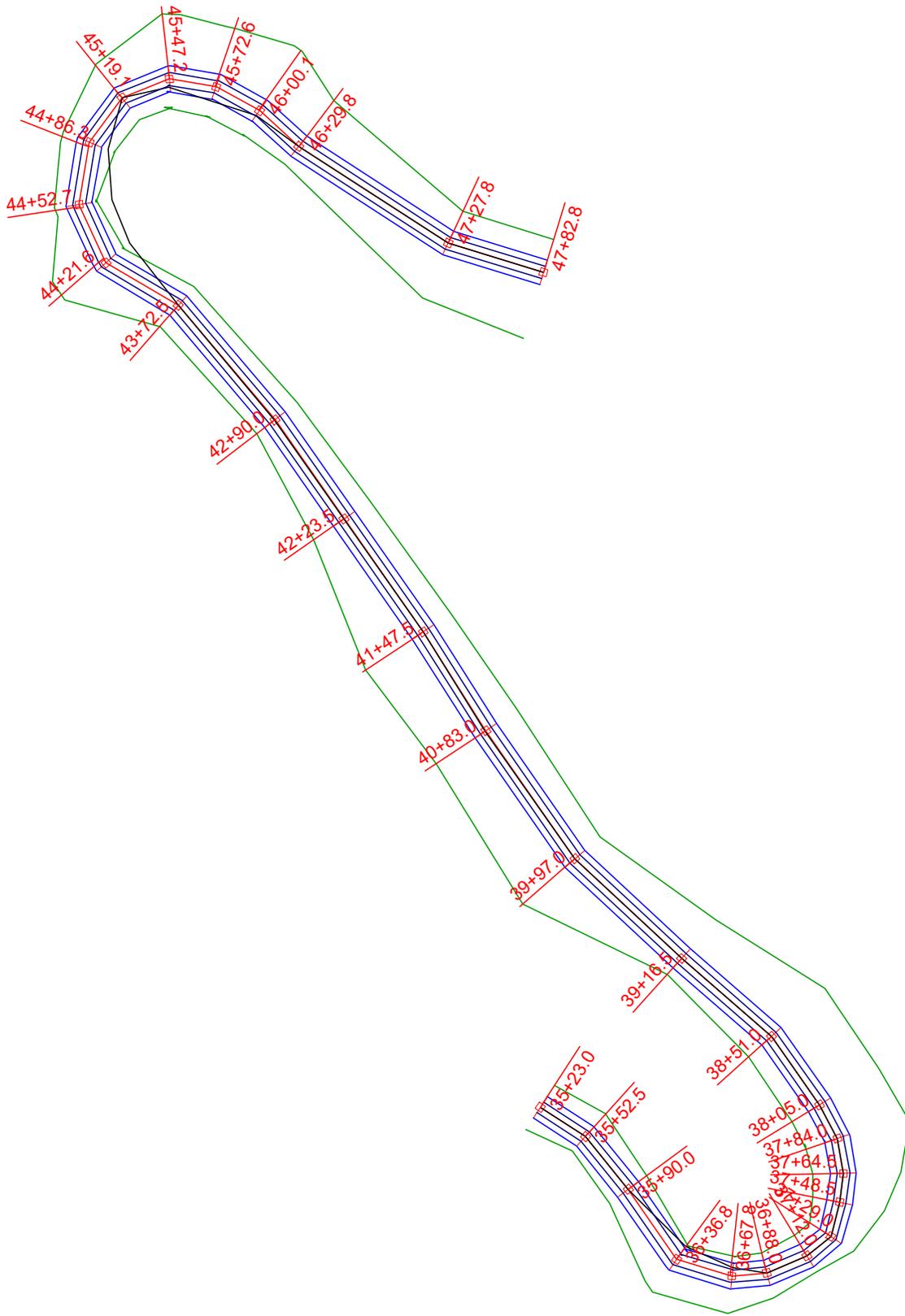
## PLAN VIEW

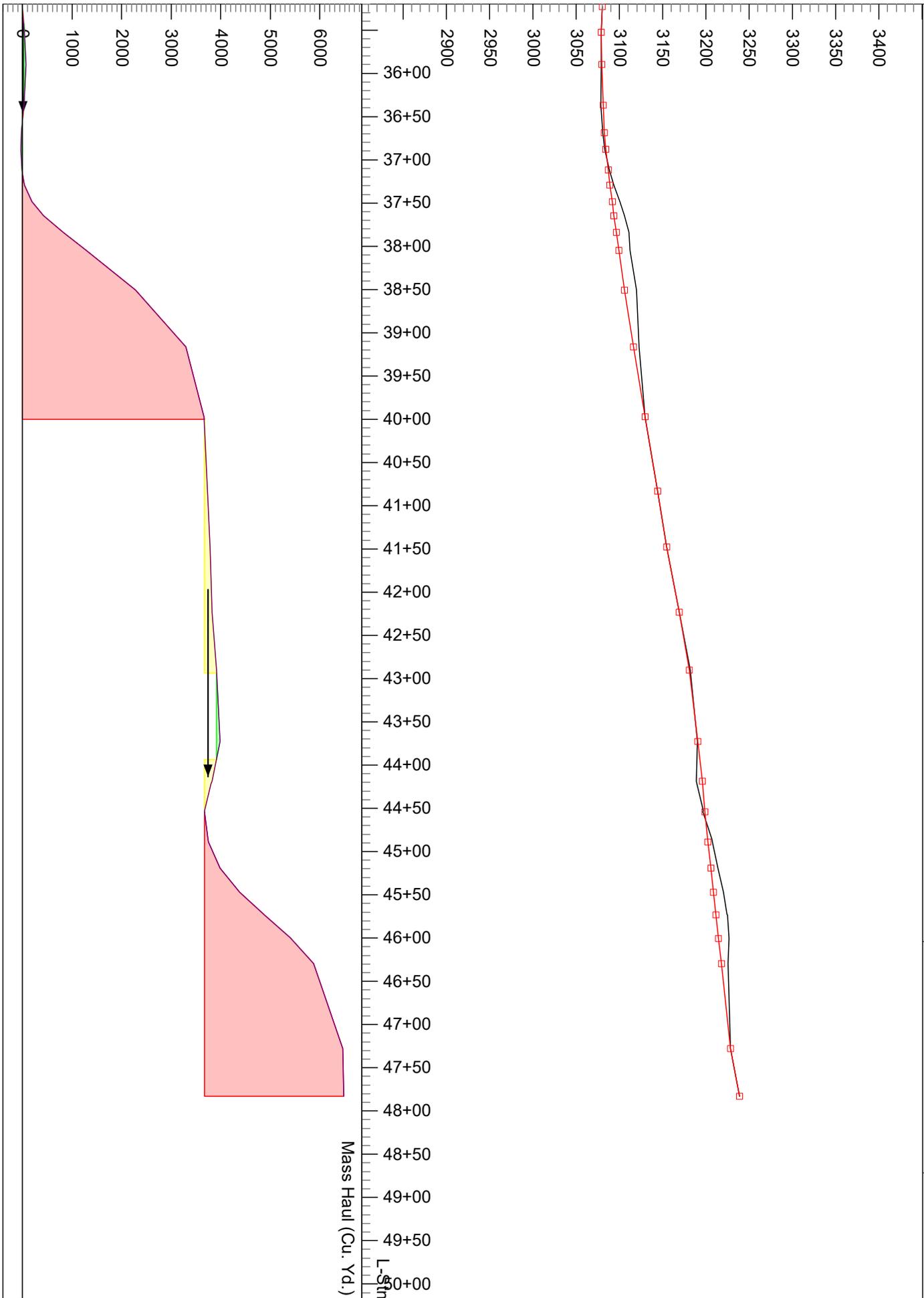


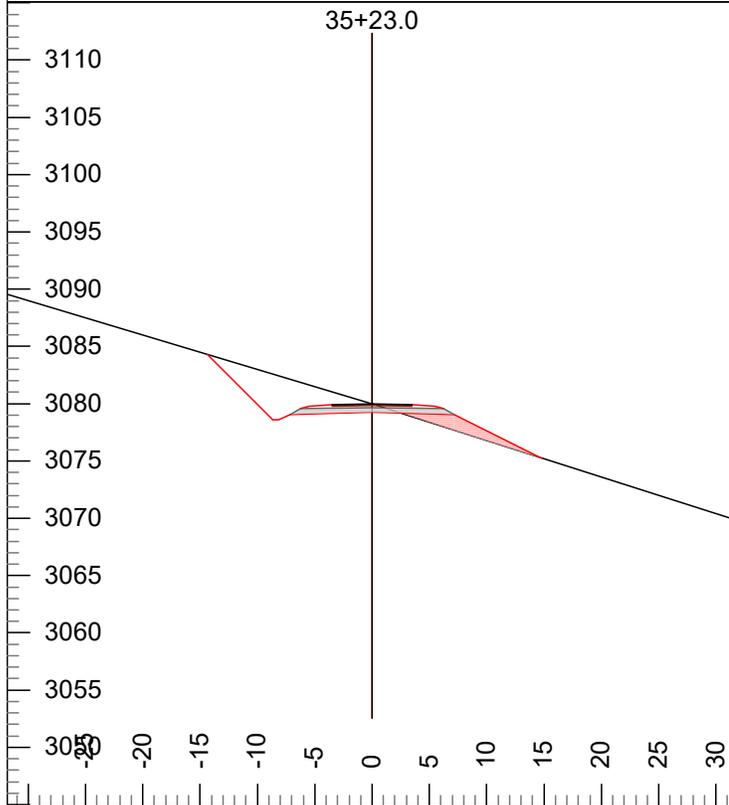
NOTE: 10 yards of heavy loose rip rap or 10 yards of 14" diameter and larger stumps shall be placed in front of and in the spoils berm.



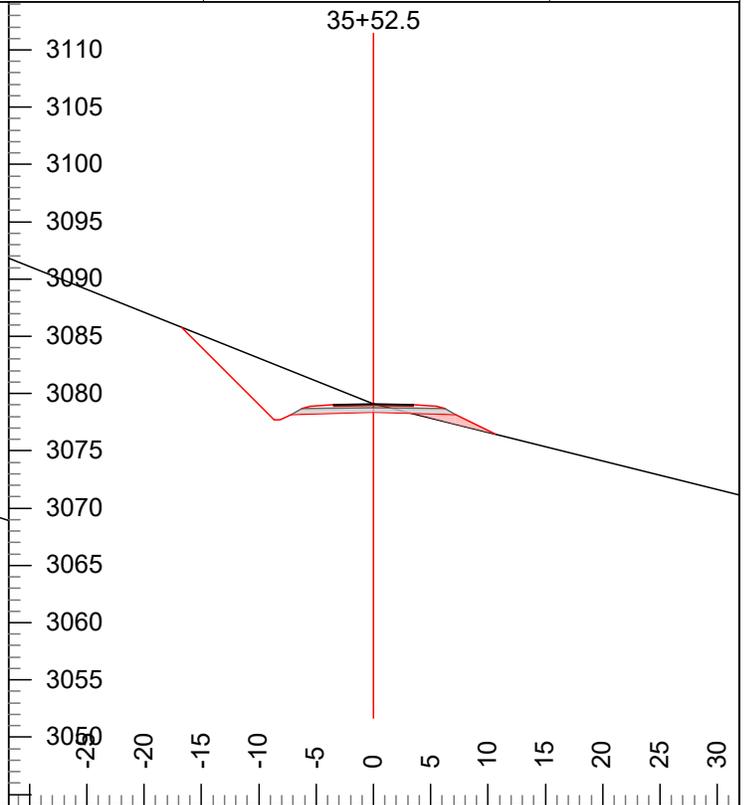
Note:  $\frac{1}{3}$  of stumps or rip rap shall be partially buried in the spoils berm and/or road surface.



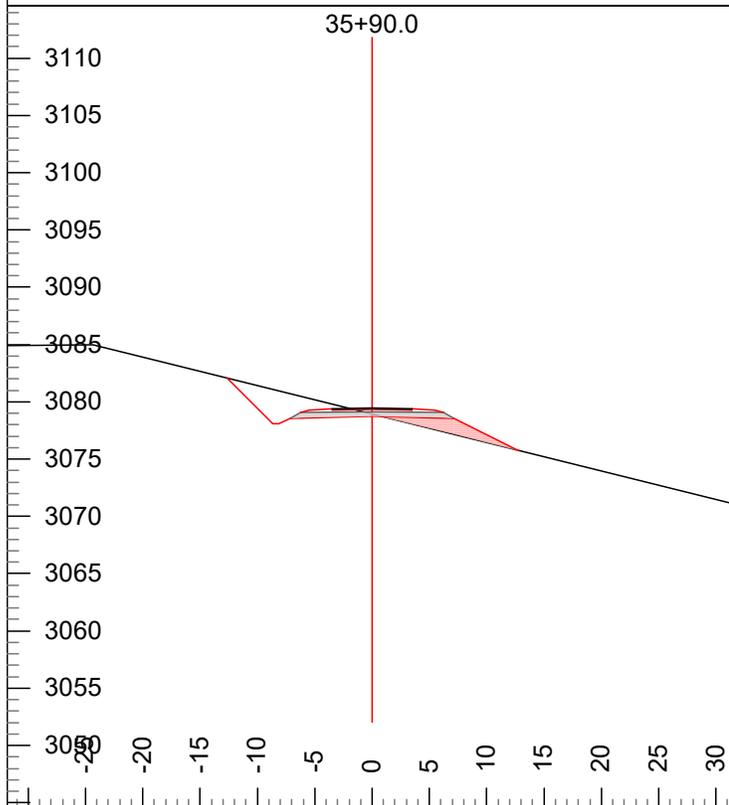




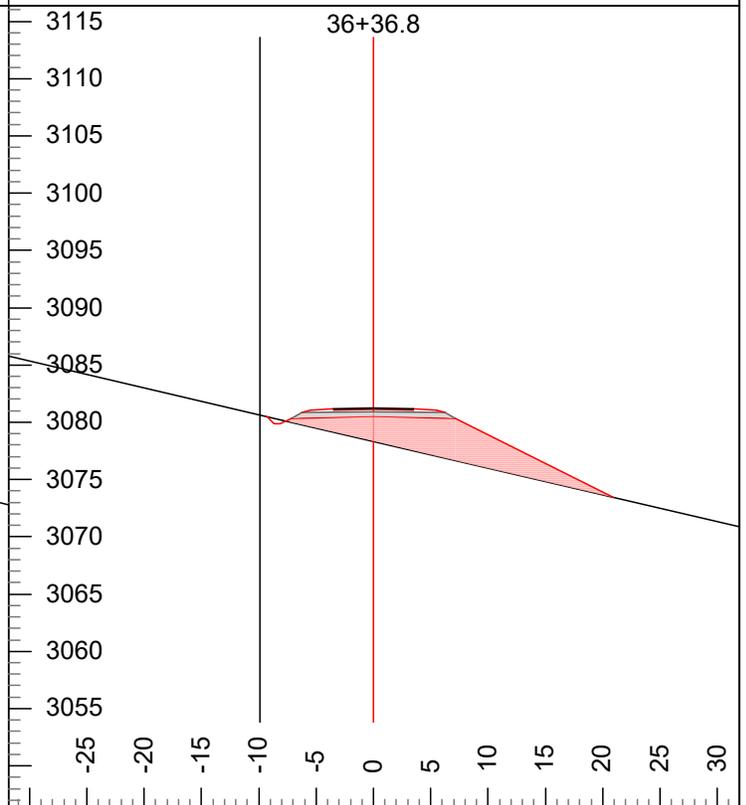
L-Stn : 35+23.0 Grd.Lst: n/a F Slope L: 100  
 Cut Dp: 0.0 L-Ssl: 30 F Slope R: -50  
 Grd.Nxt.: -3 L-Ssr: -32 H. Offset: 0.0



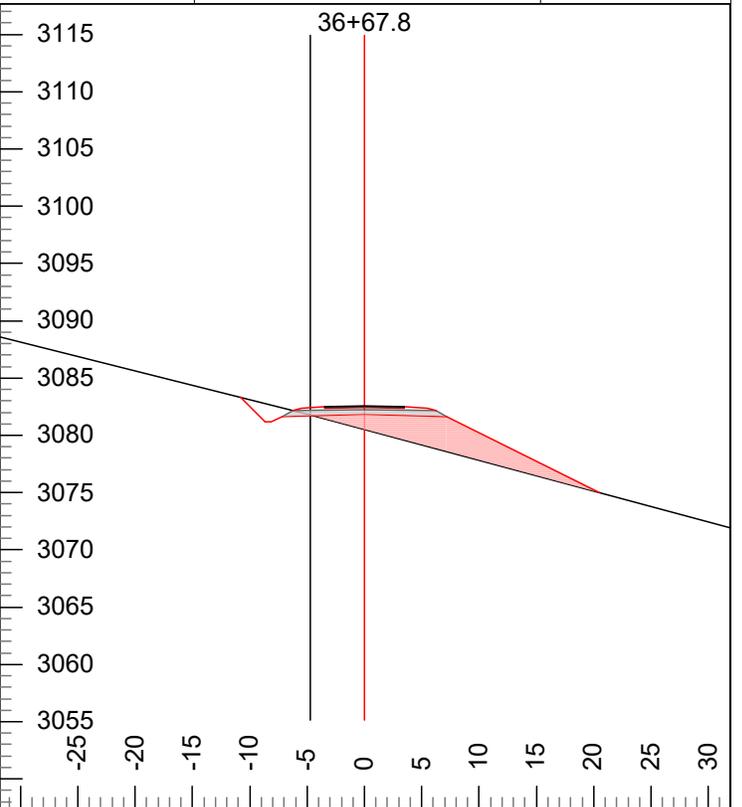
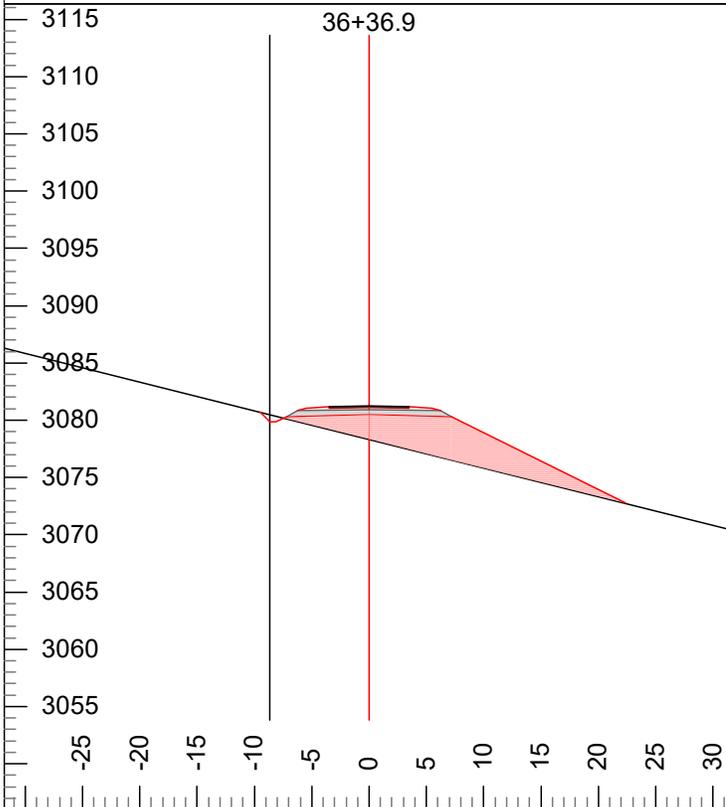
L-Stn : 35+52.5 Grd.Lst: -3 F Slope L: 100  
 Cut Dp: 0.0 L-Ssl: 40 F Slope R: -50  
 Grd.Nxt.: 1 L-Ssr: -25 H. Offset: 0.0



L-Stn : 35+90.0 Grd.Lst: 1 F Slope L: 100  
 Cut Dp: -0.5 L-Ssl: 25 F Slope R: -50  
 Grd.Nxt.: 4 L-Ssr: -25 H. Offset: 0.0

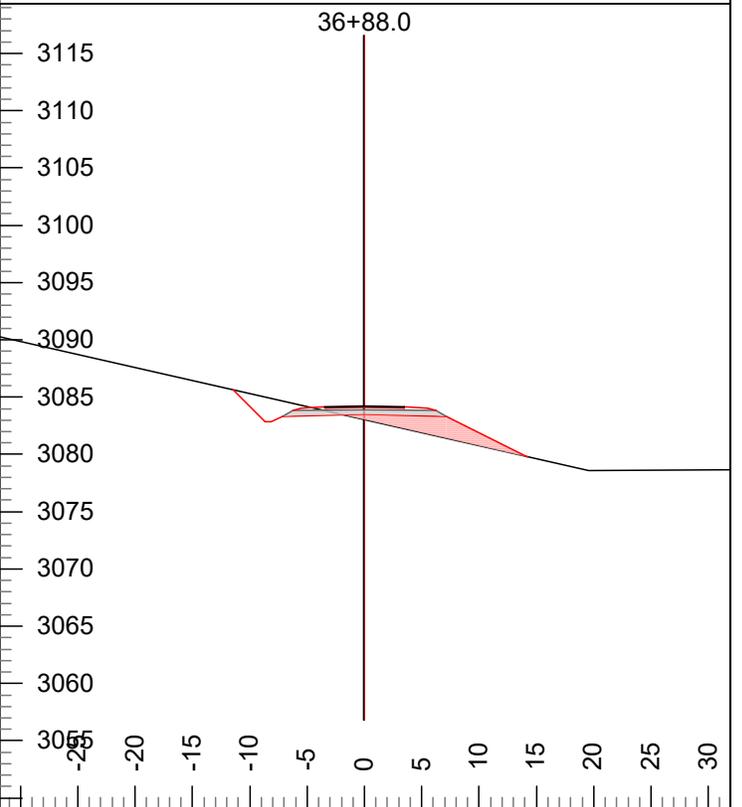
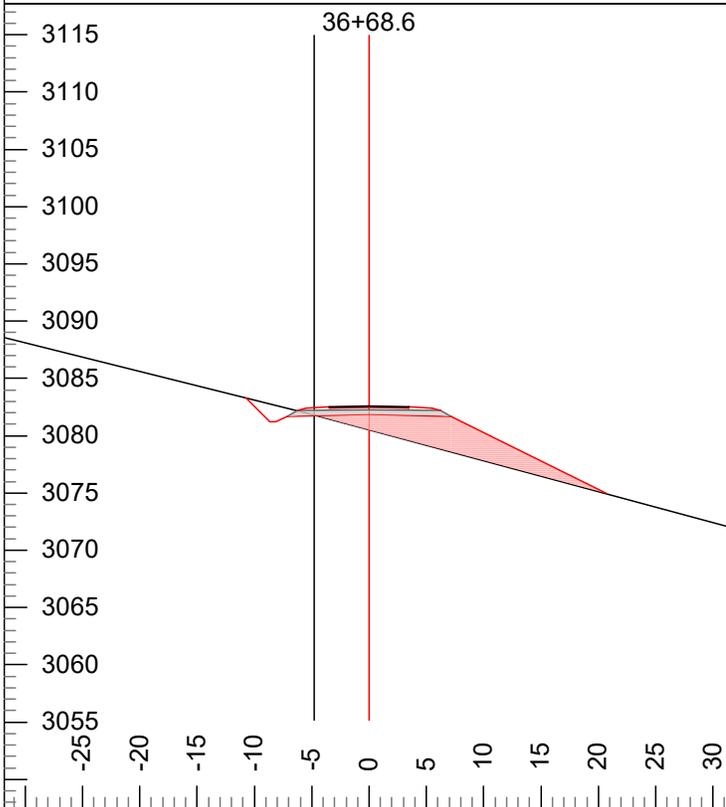


L-Stn : 36+36.8 Grd.Lst: 4 F Slope L: 100  
 Cut Dp: -2.9 L-Ssl: 23 F Slope R: -50  
 Grd.Nxt.: 4 L-Ssr: -23 H. Offset: 8.6



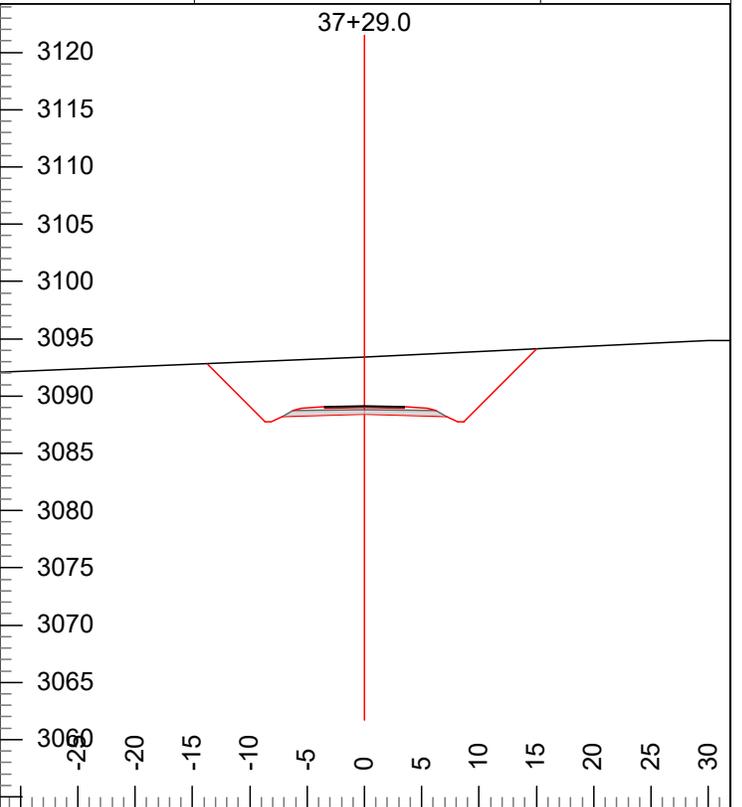
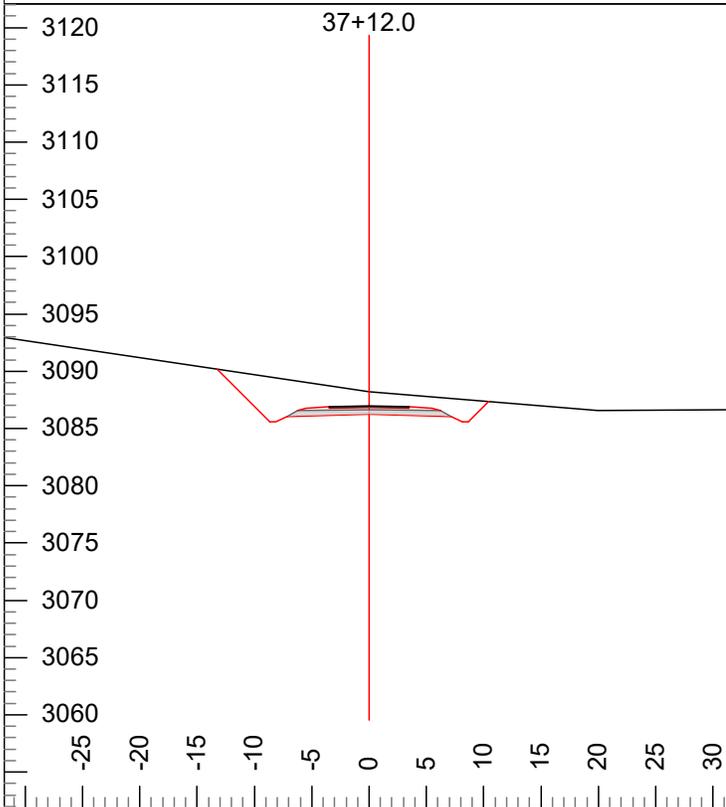
L-Stn : 36+36.9 Grd.Lst: 4 F Slope L: 100  
 Cut Dp: -2.9 L-Ssl: 25 F Slope R: -50  
 Grd.Nxt.: 4 L-Ssr: -25 H. Offset: 8.6

L-Stn : 36+67.8 Grd.Lst: 4 F Slope L: 100  
 Cut Dp: -2.0 L-Ssl: 26 F Slope R: -50  
 Grd.Nxt.: 4 L-Ssr: -27 H. Offset: 4.7



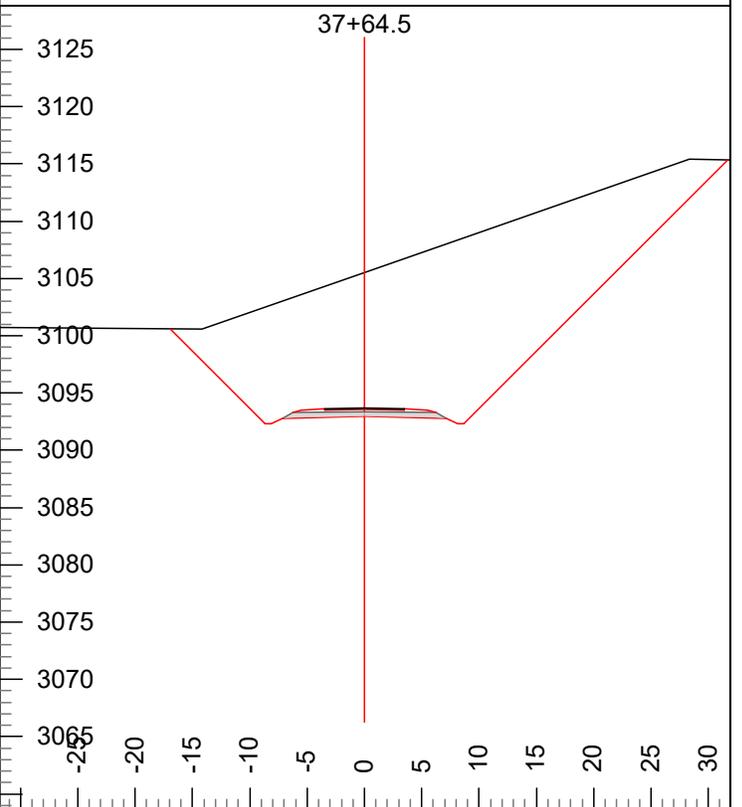
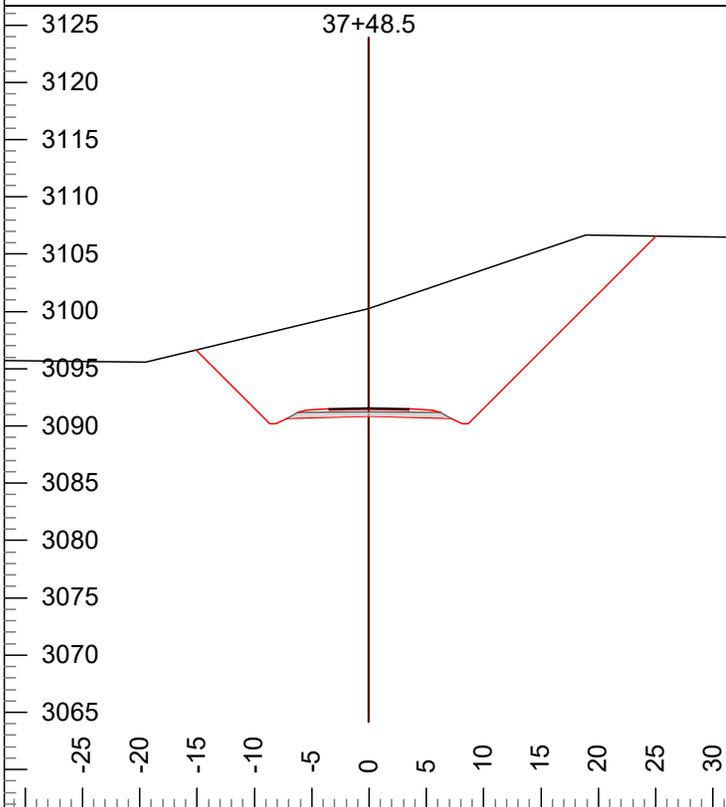
L-Stn : 36+68.6 Grd.Lst: 4 F Slope L: 100  
 Cut Dp: -2.1 L-Ssl: 26 F Slope R: -50  
 Grd.Nxt.: 8 L-Ssr: -27 H. Offset: 4.8

L-Stn : 36+88.0 Grd.Lst: 8 F Slope L: 100  
 Cut Dp: -1.2 L-Ssl: 23 F Slope R: -50  
 Grd.Nxt.: 11 L-Ssr: -23 H. Offset: 0.1



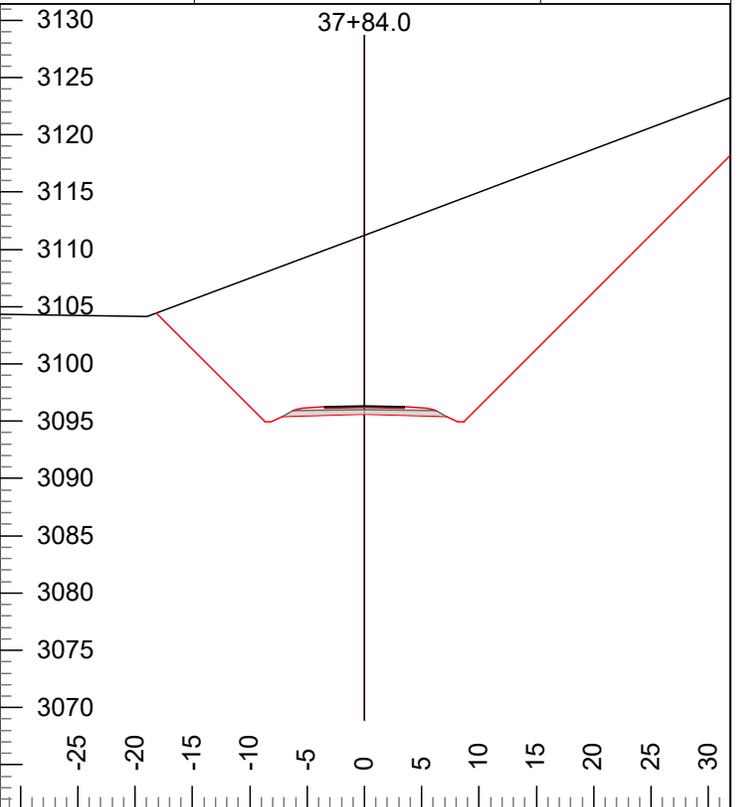
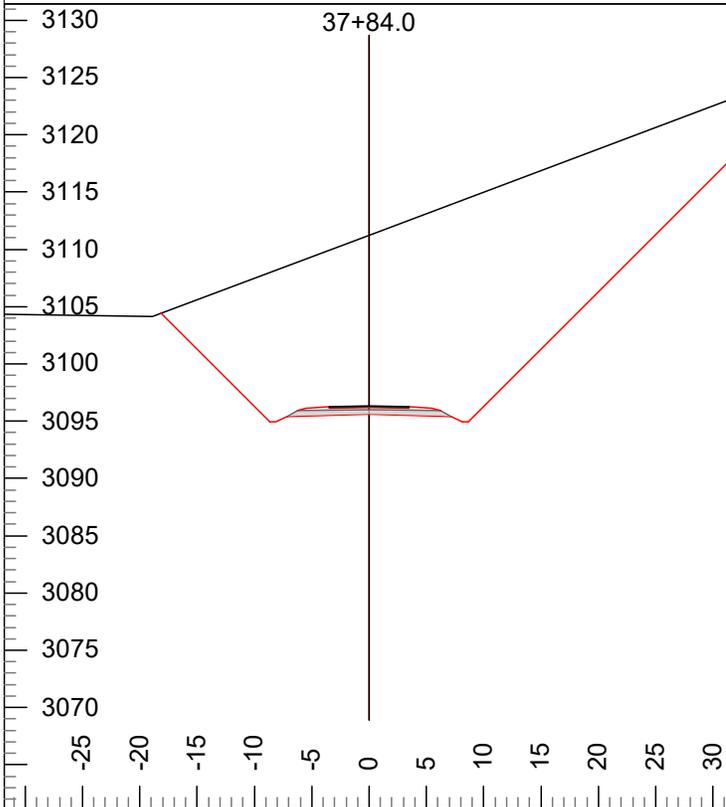
L-Stn : 37+12.0 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 1.2 L-Ssl: 15 F Slope R: 100  
 Grd.Nxt.: 13 L-Ssr: -8 H. Offset: 0.0

L-Stn : 37+29.0 Grd.Lst: 13 F Slope L: 100  
 Cut Dp: 4.2 L-Ssl: -4 F Slope R: 100  
 Grd.Nxt.: 13 L-Ssr: 5 H. Offset: 0.0



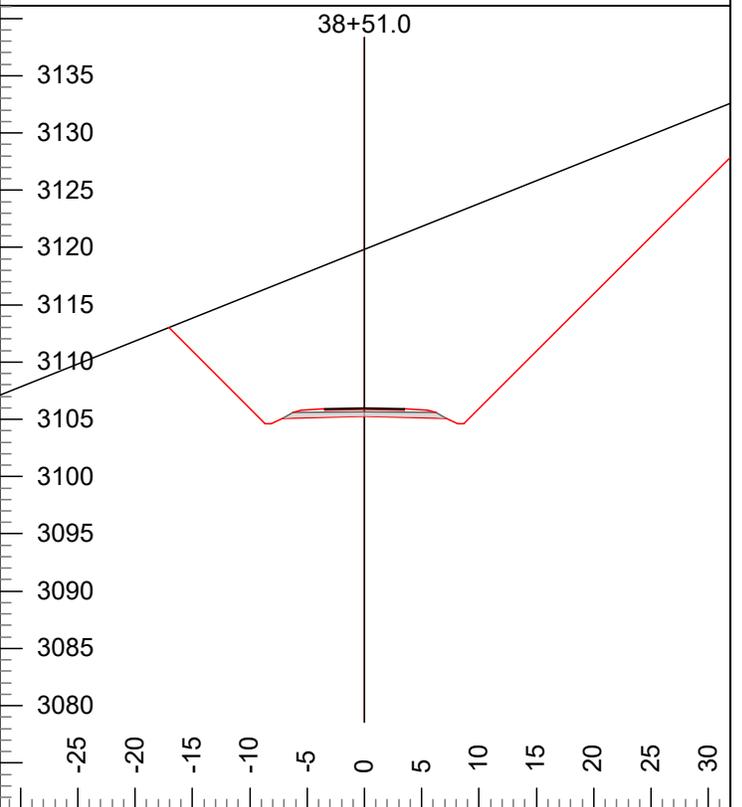
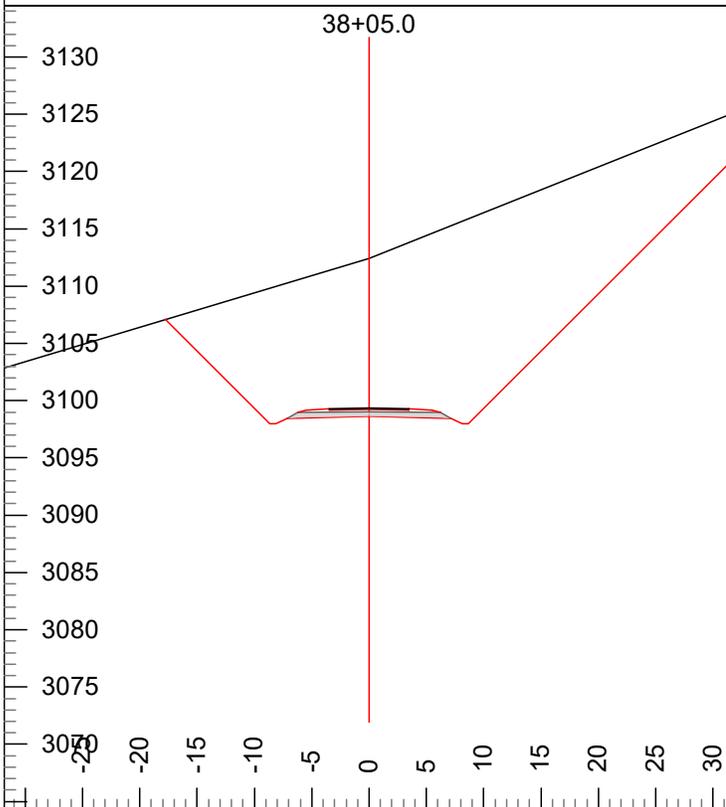
L-Stn : 37+48.5 Grd.Lst: 13 F Slope L: 100  
 Cut Dp: 8.7 L-Ssl: -24 F Slope R: 100  
 Grd.Nxt.: 13 L-Ssr: 34 H. Offset: 0.1

L-Stn : 37+64.5 Grd.Lst: 13 F Slope L: 100  
 Cut Dp: 11.8 L-Ssl: -35 F Slope R: 100  
 Grd.Nxt.: 13 L-Ssr: 35 H. Offset: 0.0



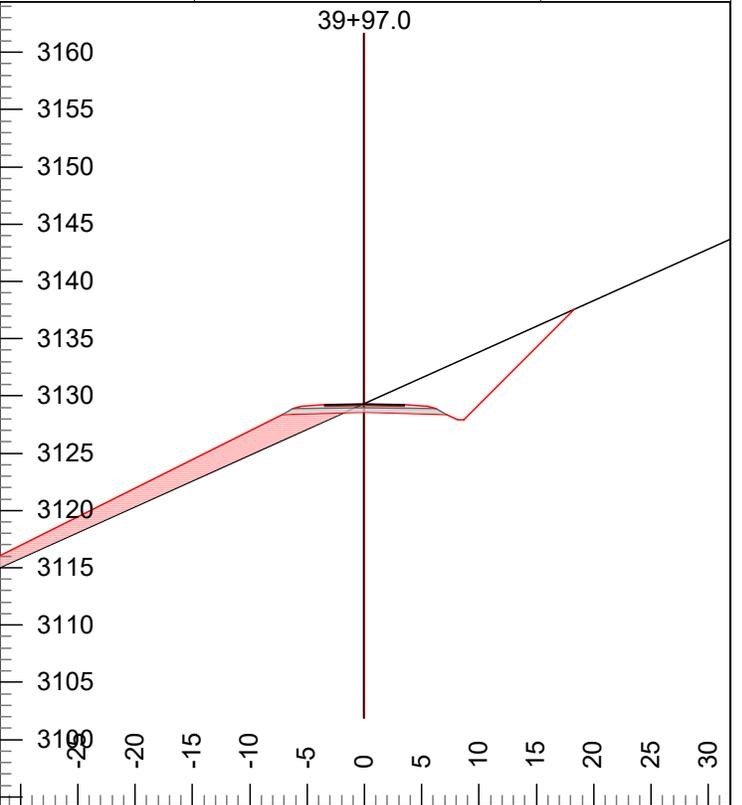
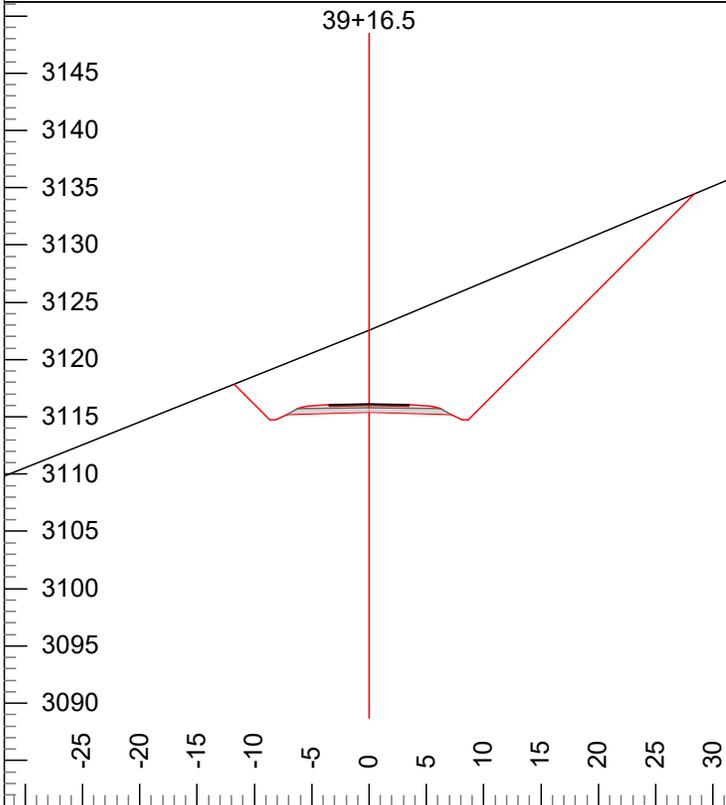
L-Stn : 37+84.0 Grd.Lst: 13 F Slope L: 100  
 Cut Dp: 14.9 L-Ssl: -38 F Slope R: 100  
 Grd.Nxt.: 13 L-Ssr: 38 H. Offset: 0.0

L-Stn : 37+84.0 Grd.Lst: 13 F Slope L: 100  
 Cut Dp: 14.9 L-Ssl: -38 F Slope R: 100  
 Grd.Nxt.: 14 L-Ssr: 38 H. Offset: 0.0



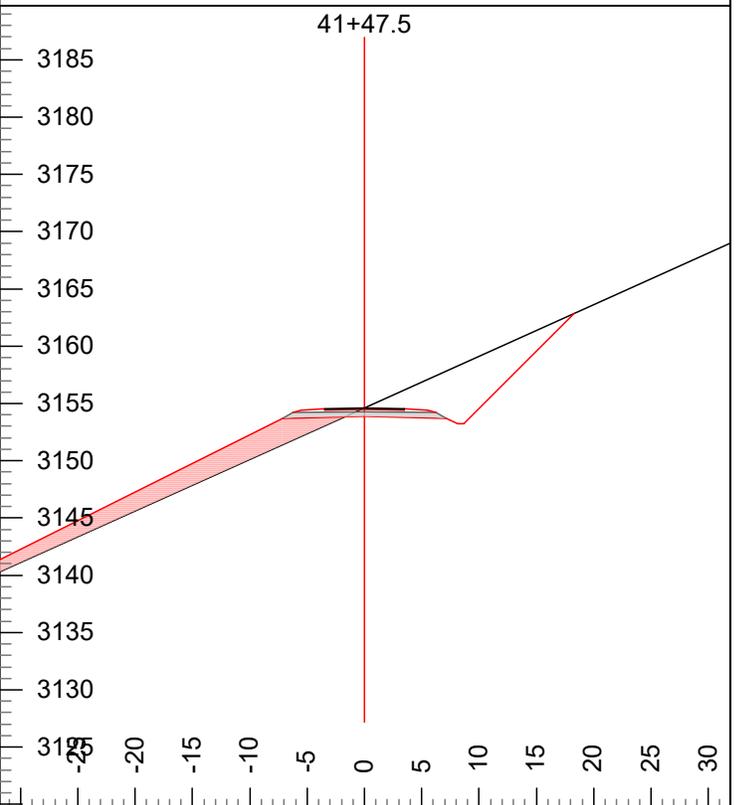
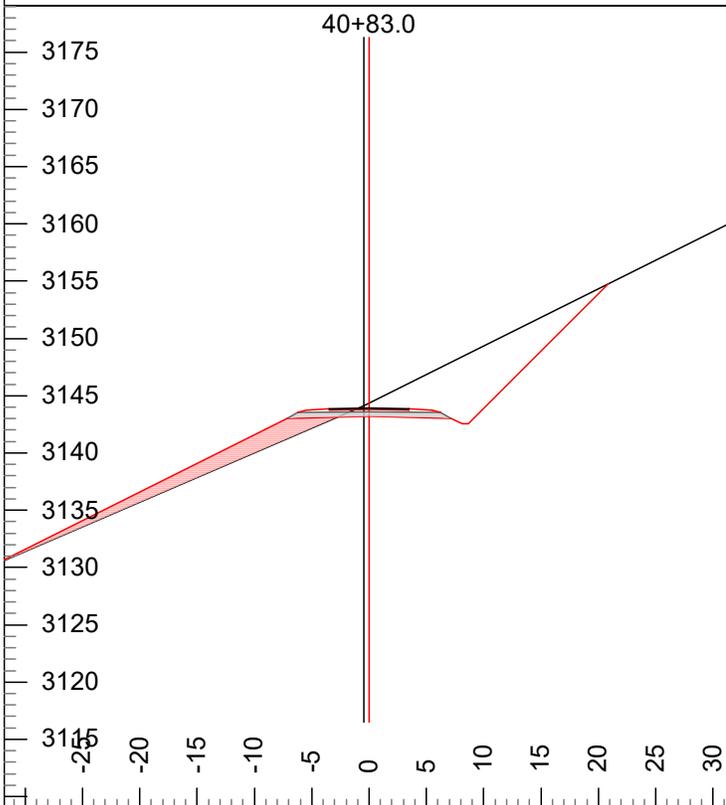
L-Stn : 38+05.0 Grd.Lst: 14 F Slope L: 100  
 Cut Dp: 13.0 L-Ssl: -30 F Slope R: 100  
 Grd.Nxt.: 14 L-Ssr: 40 H. Offset: 0.0

L-Stn : 38+51.0 Grd.Lst: 14 F Slope L: 100  
 Cut Dp: 13.8 L-Ssl: -40 F Slope R: 100  
 Grd.Nxt.: 15 L-Ssr: 40 H. Offset: 0.0



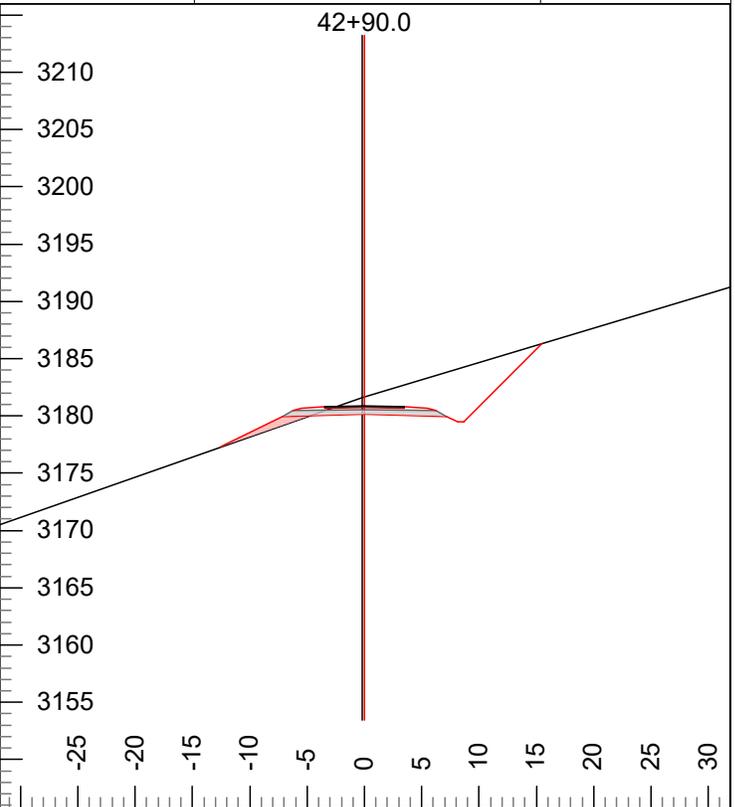
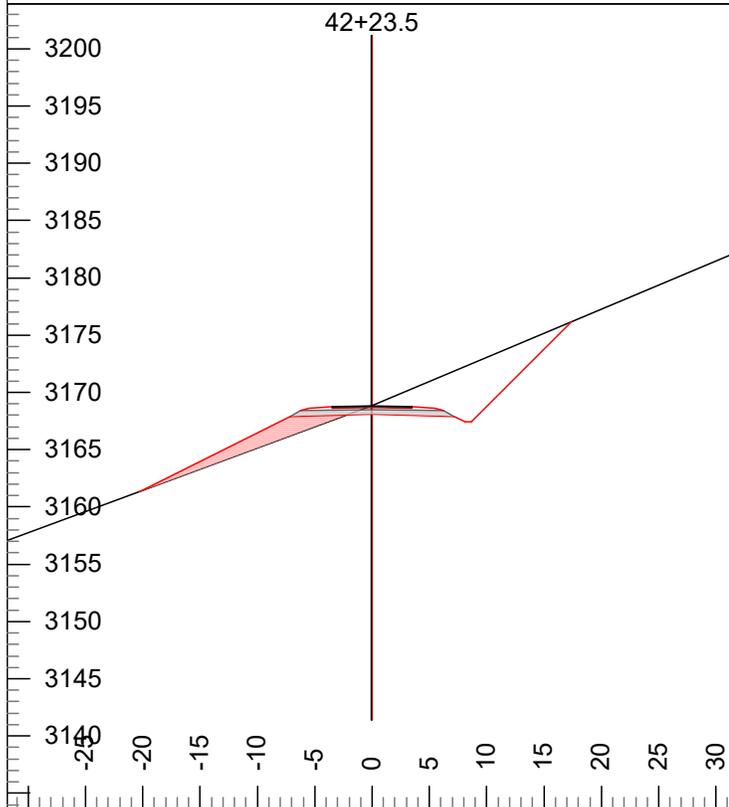
L-Stn : 39+16.5 Grd.Lst: 15 F Slope L: 100  
 Cut Dp: 6.4 L-Ssl: -40 F Slope R: 100  
 Grd.Nxt.: 16 L-Ssr: 42 H. Offset: 0.0

L-Stn : 39+97.0 Grd.Lst: 16 F Slope L: -50  
 Cut Dp: 0.0 L-Ssl: -45 F Slope R: 100  
 Grd.Nxt.: 17 L-Ssr: 45 H. Offset: 0.1



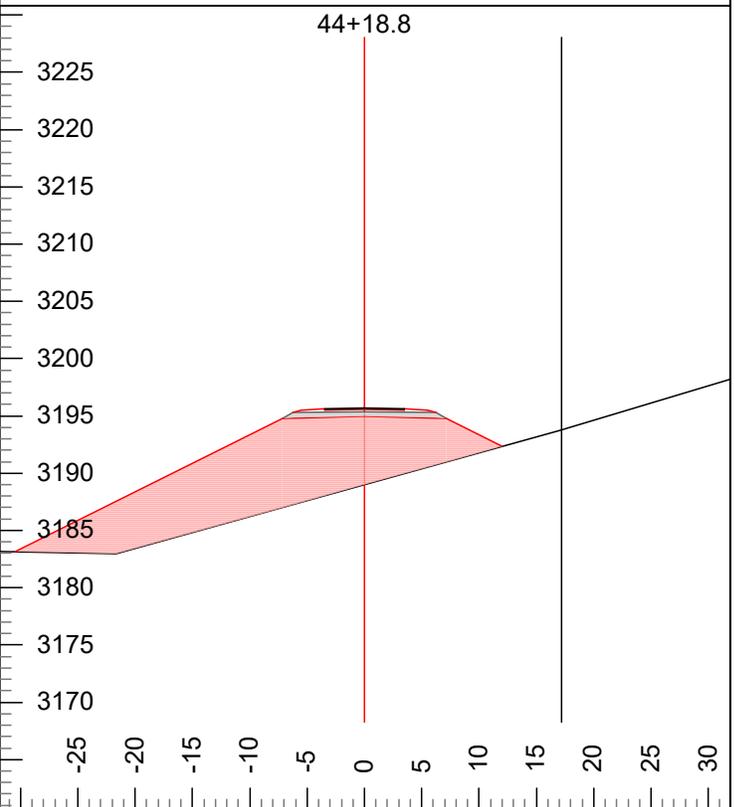
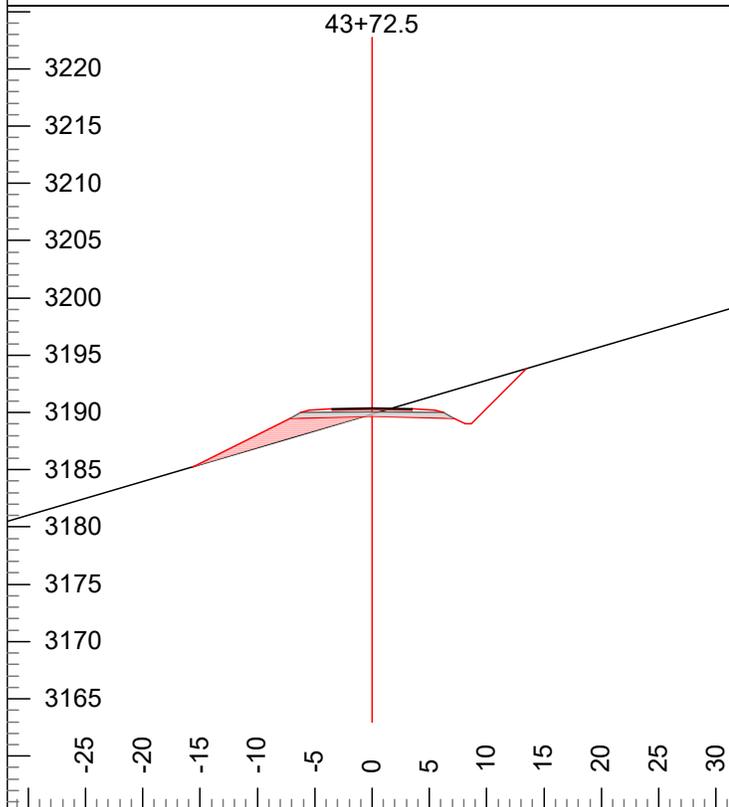
L-Stn : 40+83.0 Grd.Lst: 17 F Slope L: -50  
 Cut Dp: 0.4 L-Ssl: -43 F Slope R: 100  
 Grd.Nxt.: 17 L-Ssr: 50 H. Offset: 0.4

L-Stn : 41+47.5 Grd.Lst: 17 F Slope L: -50  
 Cut Dp: 0.0 L-Ssl: -45 F Slope R: 100  
 Grd.Nxt.: 19 L-Ssr: 45 H. Offset: 0.0



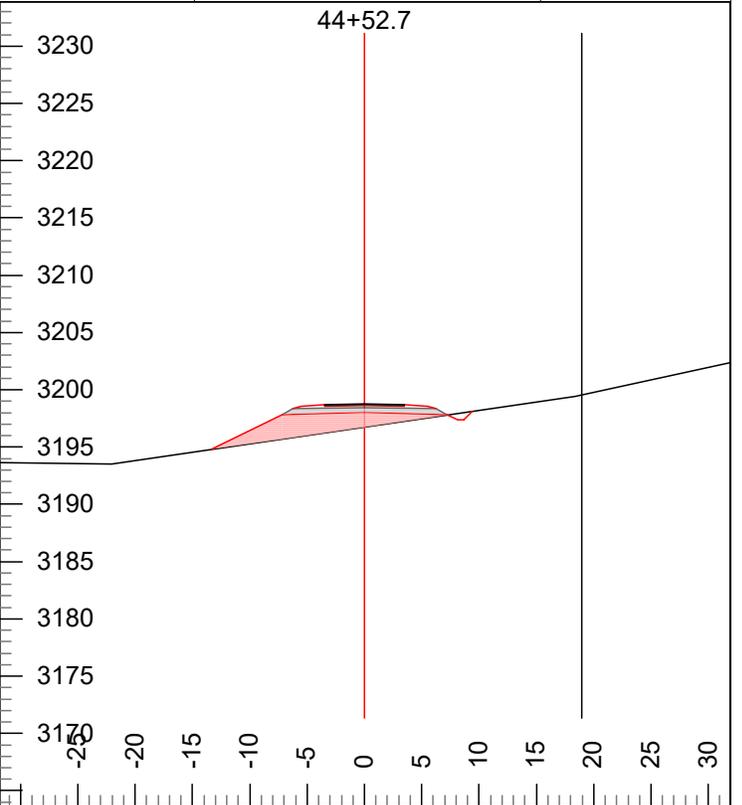
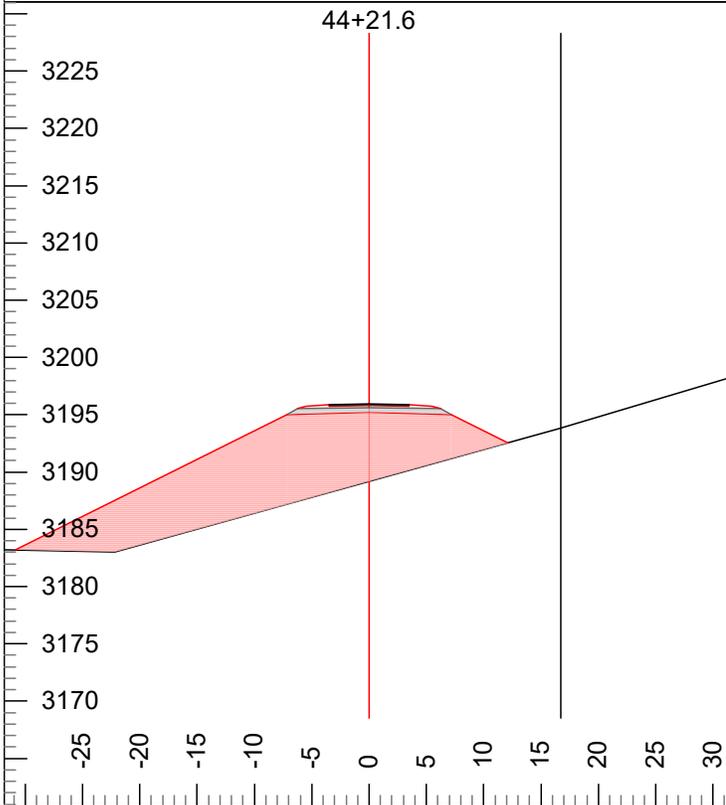
L-Stn : 42+23.5 Grd.Lst: 19 F Slope L: -50  
 Cut Dp: 0.0 L-Ssl: -37 F Slope R: 100  
 Grd.Nxt.: 18 L-Ssr: 42 H. Offset: 0.1

L-Stn : 42+90.0 Grd.Lst: 18 F Slope L: -50  
 Cut Dp: 0.8 L-Ssl: -35 F Slope R: 100  
 Grd.Nxt.: 12 L-Ssr: 30 H. Offset: 0.2



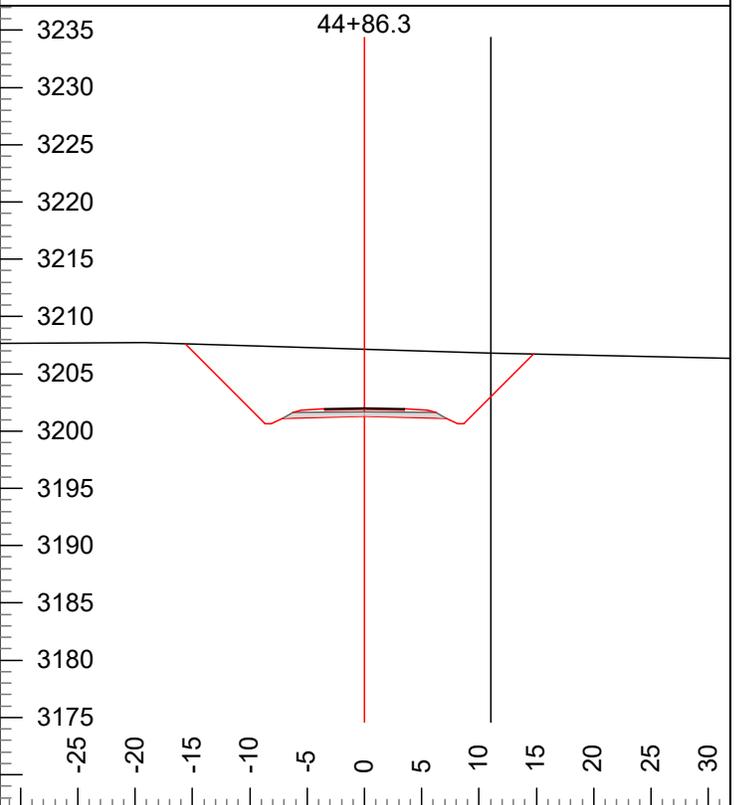
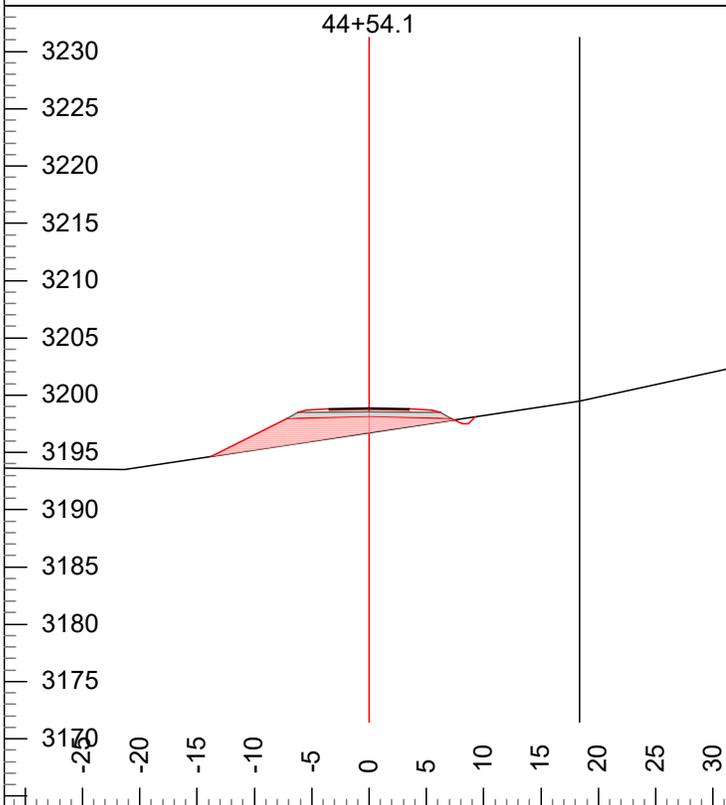
L-Stn : 43+72.5 Grd.Lst: 12 F Slope L: -50  
 Cut Dp: -0.5 L-Ssl: -29 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: 29 H. Offset: 0.0

L-Stn : 44+18.8 Grd.Lst: 11 F Slope L: -50  
 Cut Dp: -6.7 L-Ssl: -28 F Slope R: -50  
 Grd.Nxt.: 9 L-Ssr: 28 H. Offset: -16.9



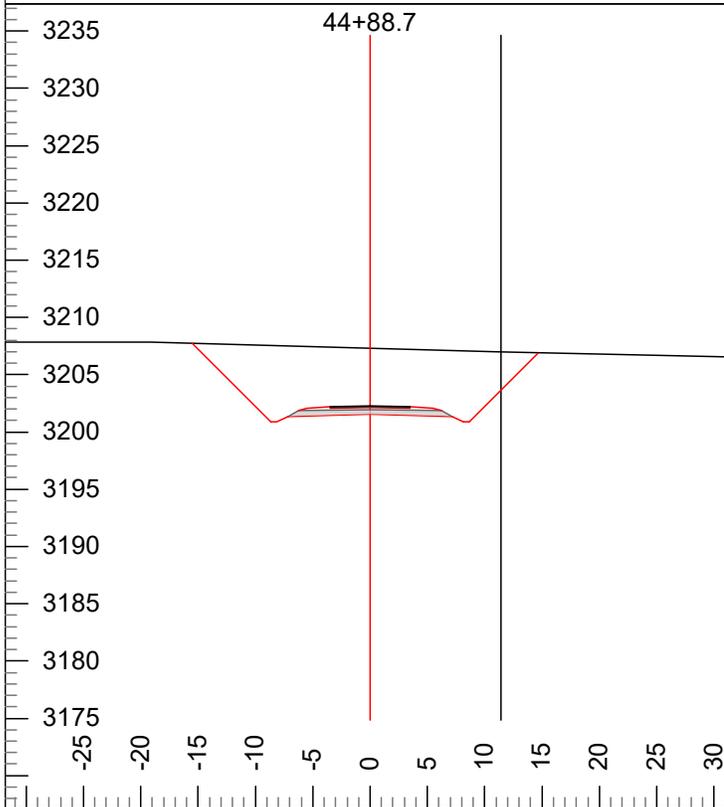
L-Stn : 44+21.6 Grd.Lst: 9 F Slope L: -50  
 Cut Dp: -6.8 L-Ssl: -28 F Slope R: -50  
 Grd.Nxt.: 9 L-Ssr: 28 H. Offset: -16.4

L-Stn : 44+52.7 Grd.Lst: 9 F Slope L: -50  
 Cut Dp: -2.0 L-Ssl: -15 F Slope R: 100  
 Grd.Nxt.: 9 L-Ssr: 15 H. Offset: -18.0

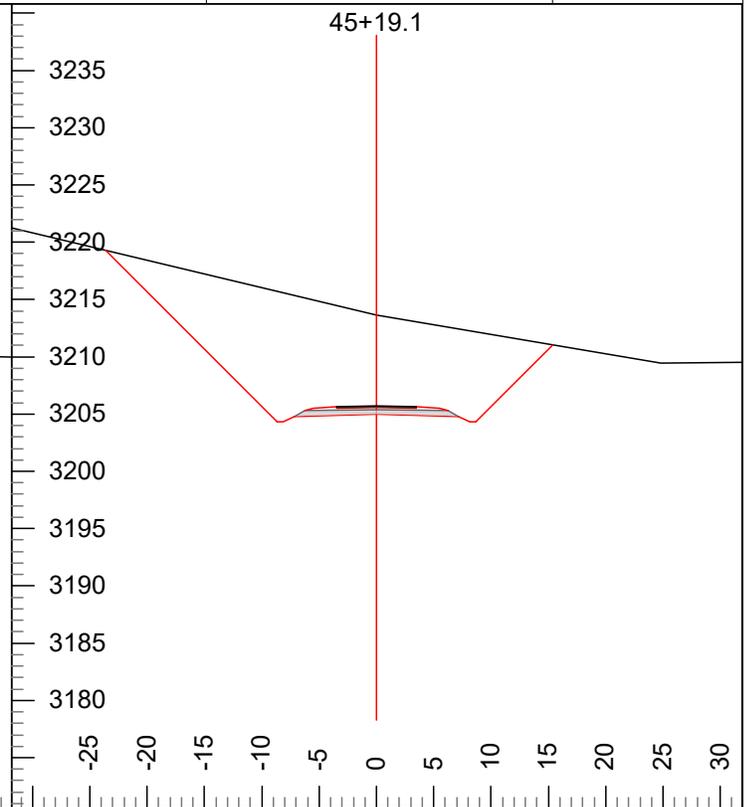


L-Stn : 44+54.1 Grd.Lst: 9 F Slope L: -50  
 Cut Dp: -2.2 L-Ssl: -15 F Slope R: 100  
 Grd.Nxt.: 10 L-Ssr: 15 H. Offset: -18.3

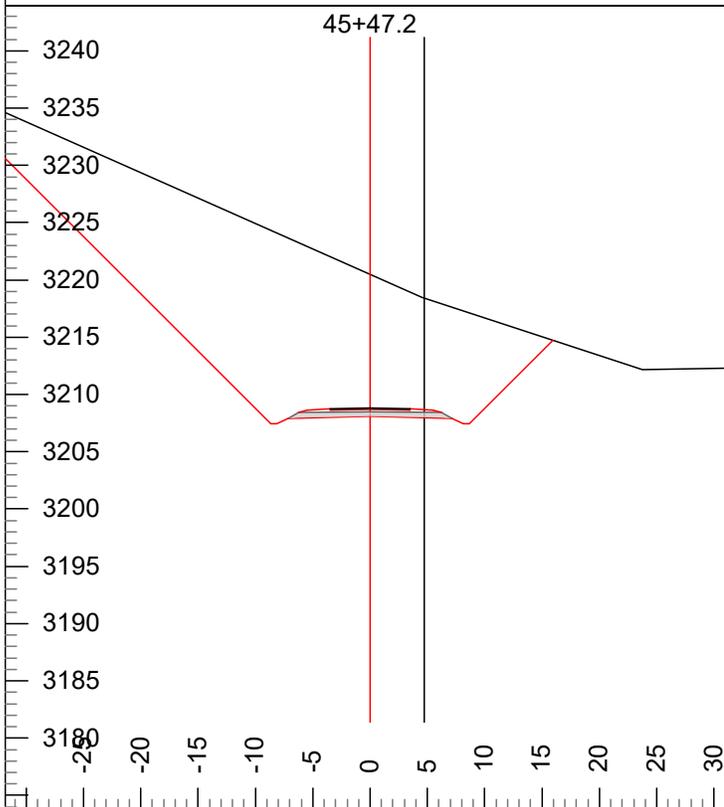
L-Stn : 44+86.3 Grd.Lst: 10 F Slope L: 100  
 Cut Dp: 5.1 L-Ssl: 3 F Slope R: 100  
 Grd.Nxt.: 10 L-Ssr: -3 H. Offset: -10.9



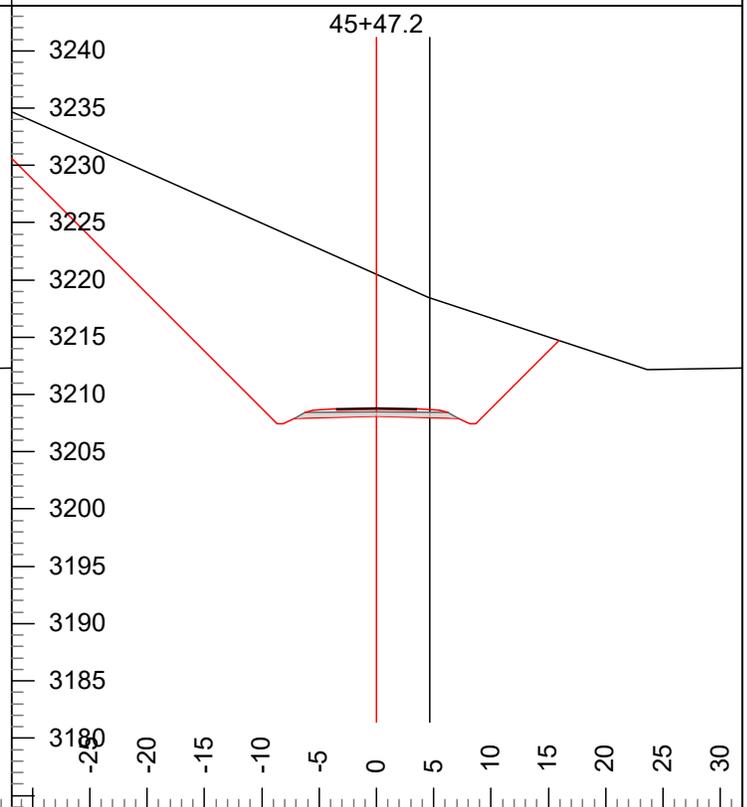
L-Stn : 44+88.7 Grd.Lst: 10 F Slope L: 100  
 Cut Dp: 5.0 L-Ssl: 3 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: -3 H. Offset: -11.0



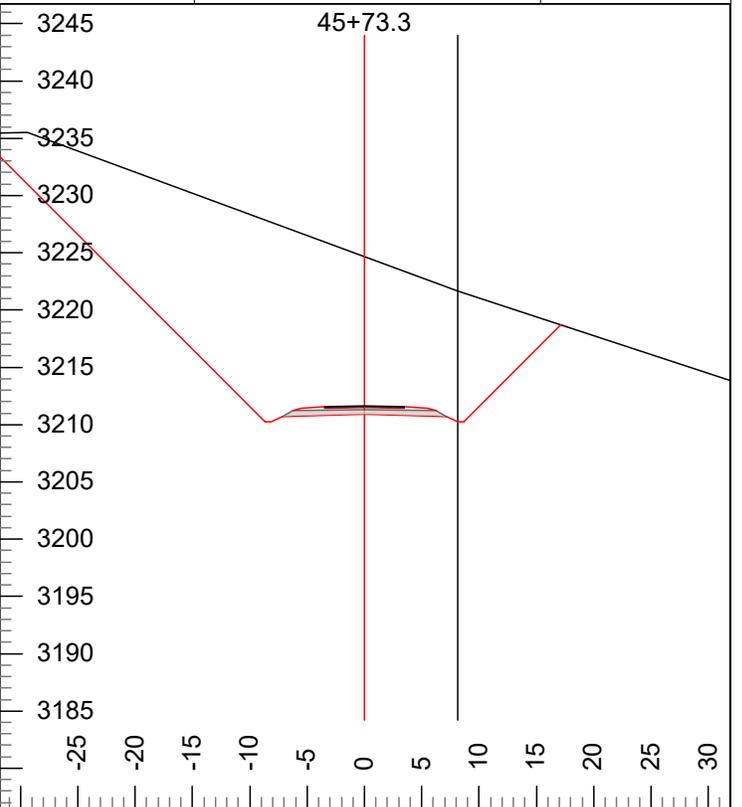
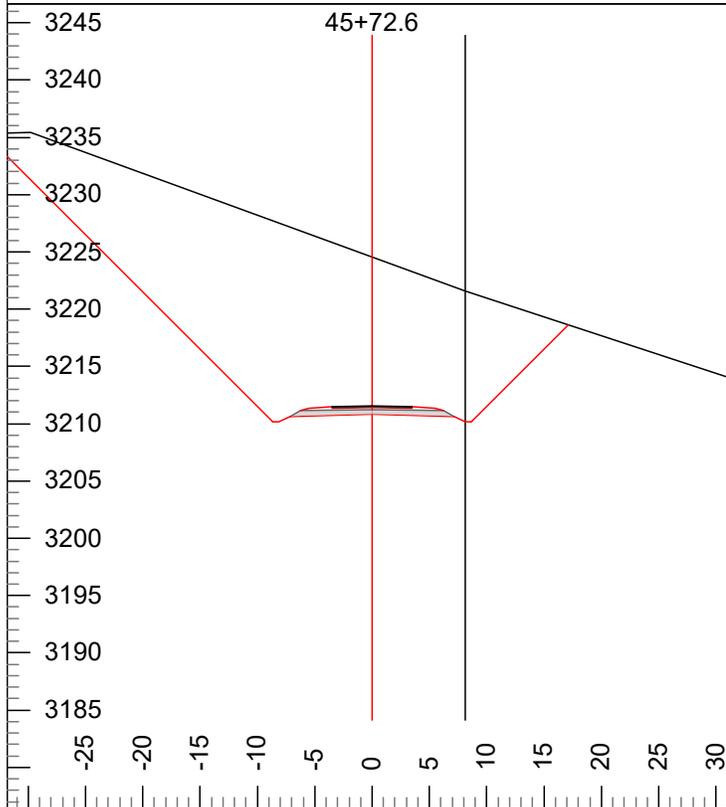
L-Stn : 45+19.1 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 7.9 L-Ssl: 24 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: -17 H. Offset: 0.0



L-Stn : 45+47.2 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 11.6 L-Ssl: 44 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: -38 H. Offset: -4.5

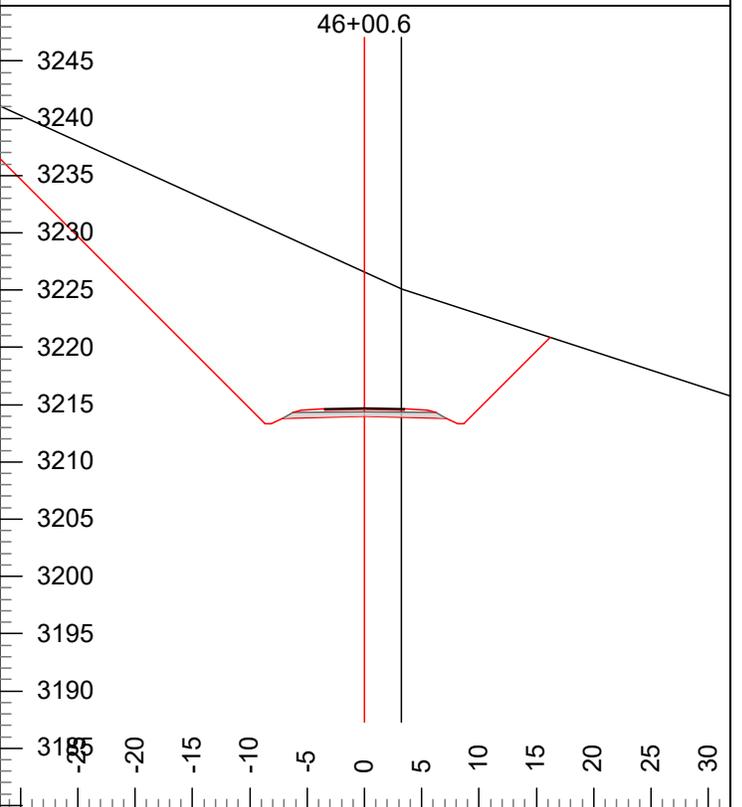
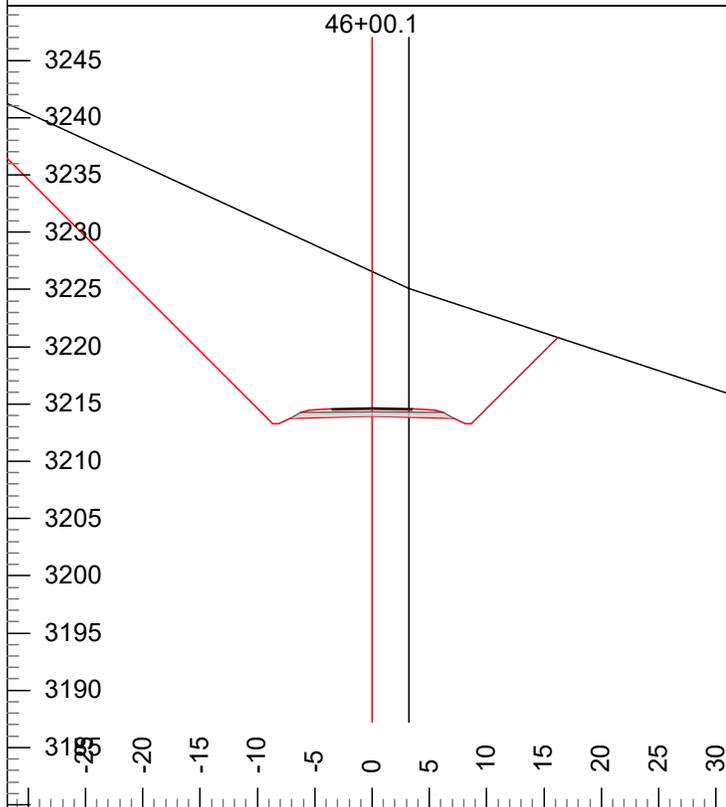


L-Stn : 45+47.2 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 11.6 L-Ssl: 45 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: -38 H. Offset: -4.5



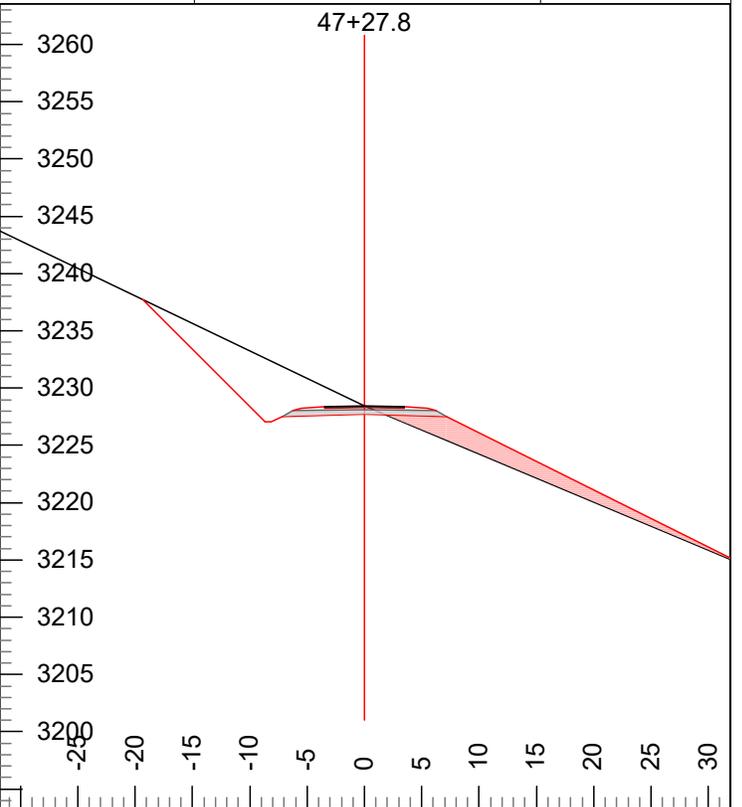
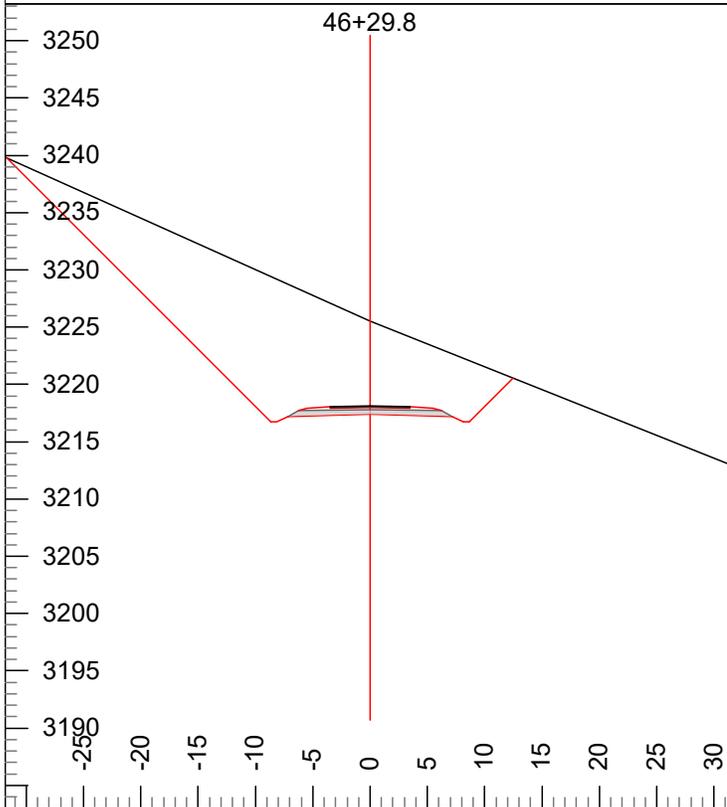
L-Stn : 45+72.6 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 13.0 L-Ssl: 37 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: -36 H. Offset: -8.0

L-Stn : 45+73.3 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 13.0 L-Ssl: 37 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: -36 H. Offset: -8.2



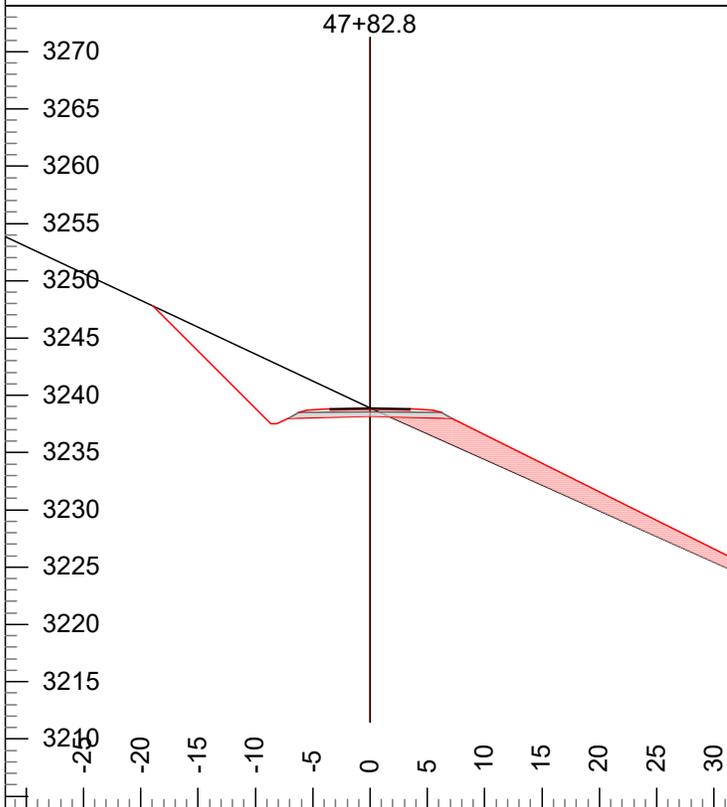
L-Stn : 46+00.1 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 11.9 L-Ssl: 46 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: -37 H. Offset: -3.2

L-Stn : 46+00.6 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 11.9 L-Ssl: 45 F Slope R: 100  
 Grd.Nxt.: 12 L-Ssr: -37 H. Offset: -3.2

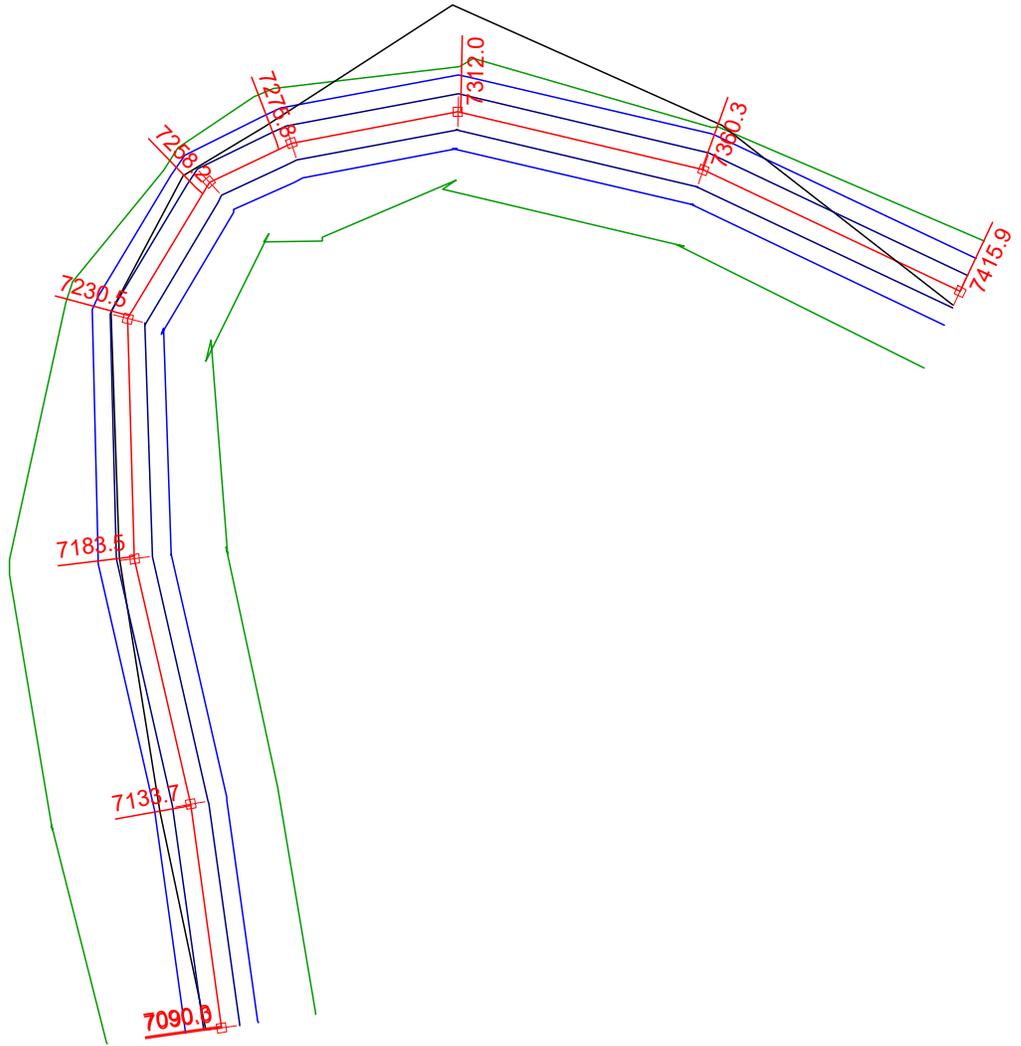


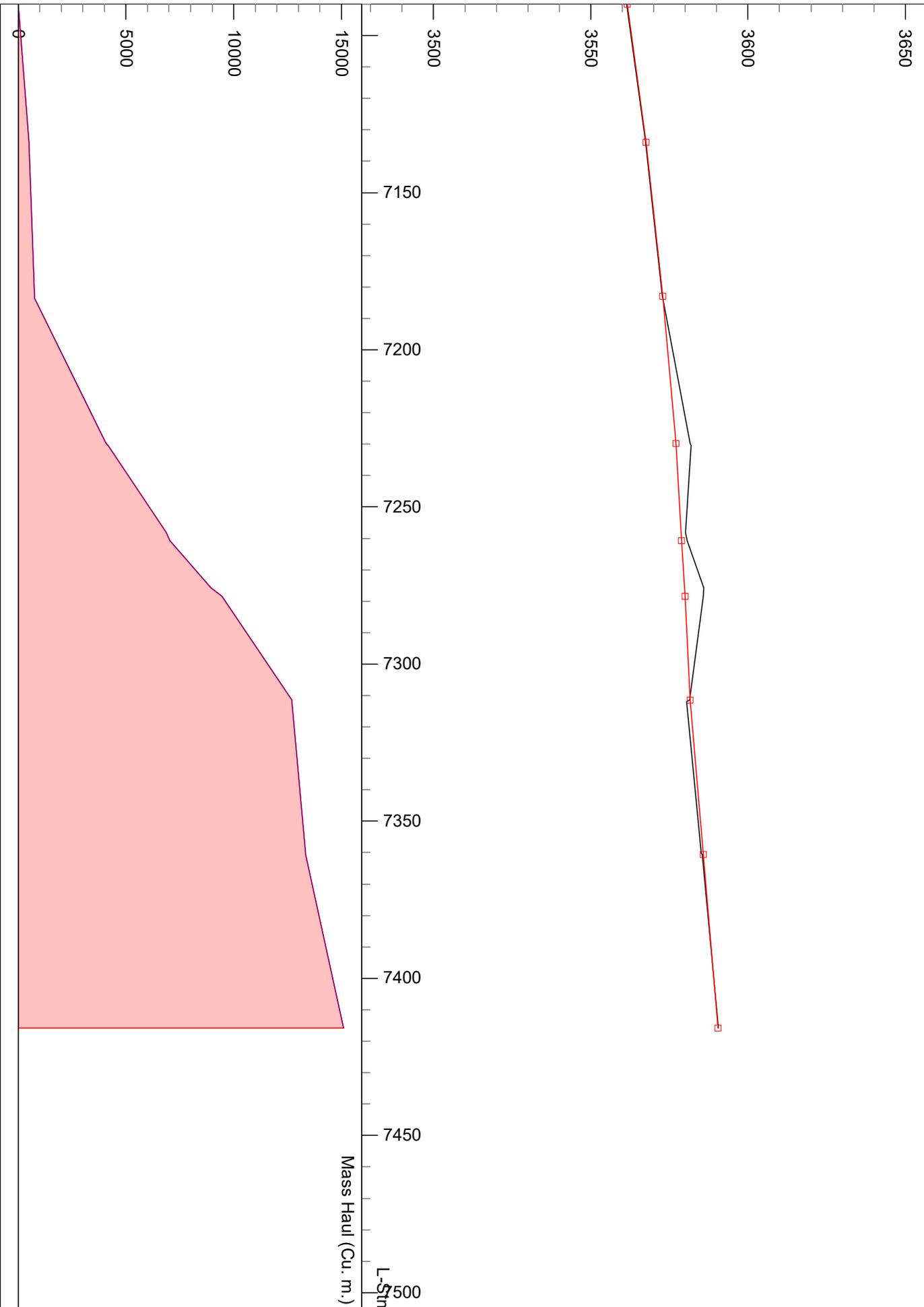
L-Stn : 46+29.8 Grd.Lst: 12 F Slope L: 100  
 Cut Dp: 7.4 L-Ssl: 45 F Slope R: 100  
 Grd.Nxt.: 11 L-Ssr: -40 H. Offset: 0.0

L-Stn : 47+27.8 Grd.Lst: 11 F Slope L: 100  
 Cut Dp: 0.0 L-Ssl: 48 F Slope R: -50  
 Grd.Nxt.: 19 L-Ssr: -42 H. Offset: 0.0



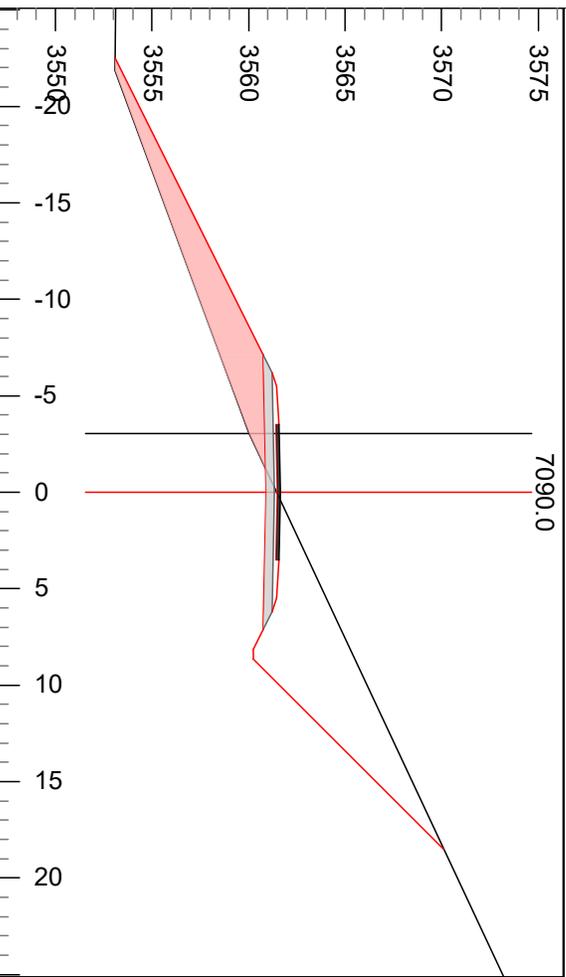
L-Stn : 47+82.8 Grd.Lst: 19 F Slope L: 100  
 Cut Dp: 0.0 L-Ssl: 47 F Slope R: -50  
 Grd.Nxt.: n/a L-Ssr: -45 H. Offset: 0.0



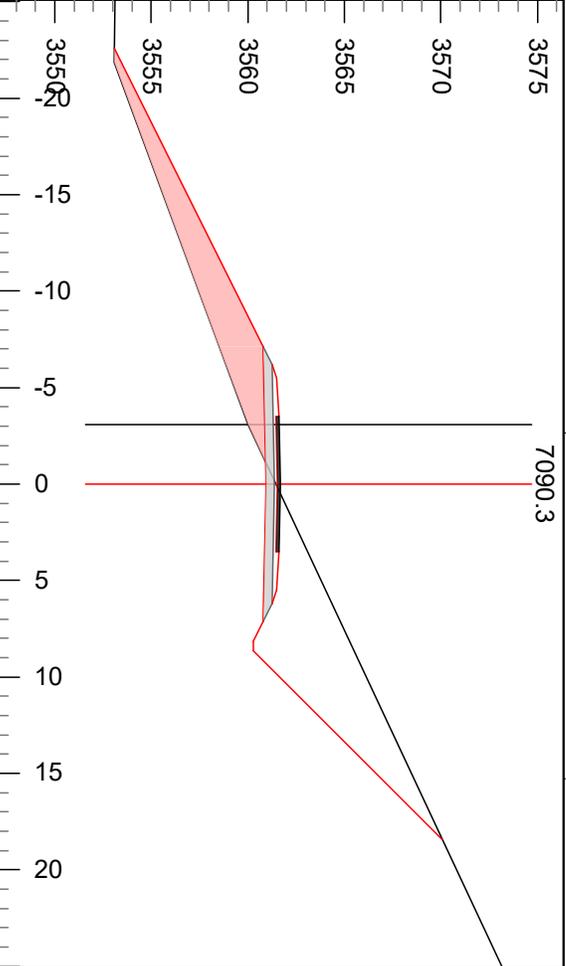


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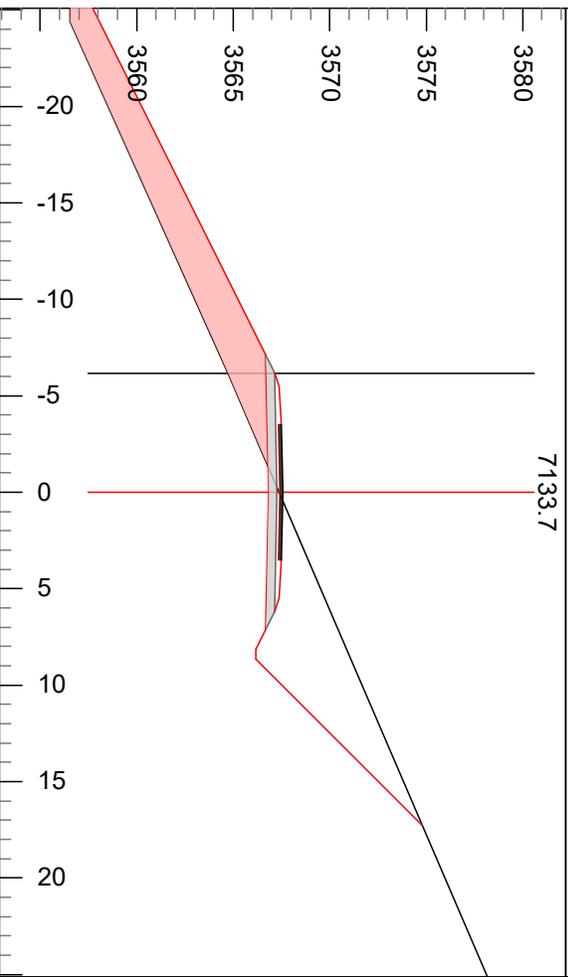
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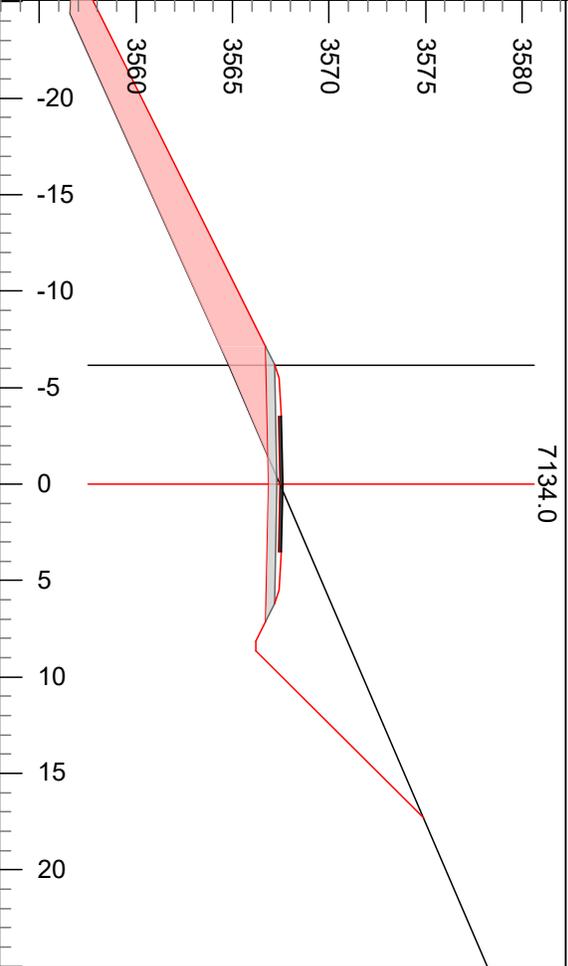
L-Stn : 7090.0 Grd.Lst: n/a F Slope L: -50 H. Offset: 3.1  
 Cut Dp: -0.2 L-Ssl: -40 F Slope R: 100 V. Offset: 1.6  
 Grd.Nxt.: 14 L-Ssr: 47 CL Elev: 3561.6



L-Stn : 7090.3 Grd.Lst: 14 F Slope L: -50 H. Offset: 3.1  
 Cut Dp: -0.2 L-Ssl: -40 F Slope R: 100 V. Offset: 1.7  
 Grd.Nxt.: 14 L-Ssr: 47 CL Elev: 3561.7



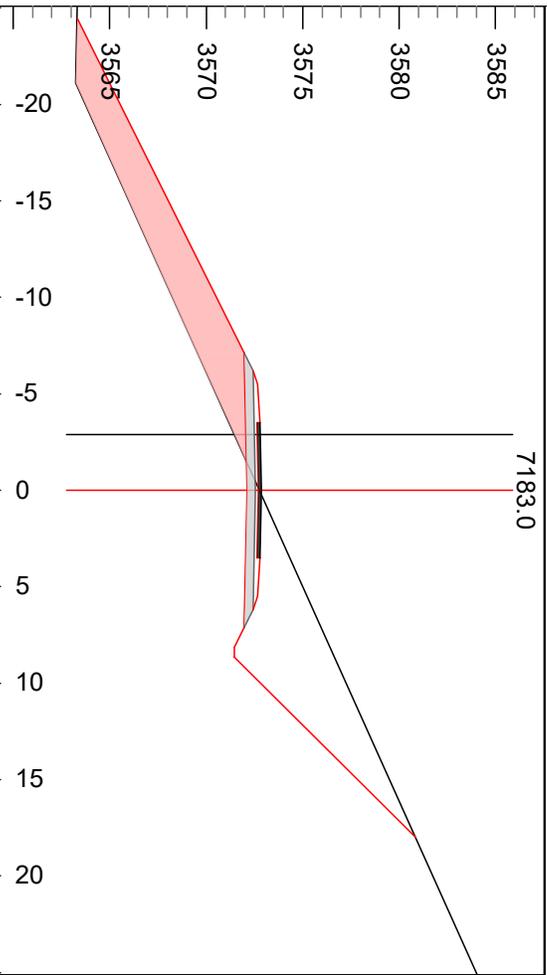
L-Stn : 7133.7 Grd.Lst: 14 F Slope L: -50 H. Offset: 6.1  
 Cut Dp: -0.2 L-Ssl: -44 F Slope R: 100 V. Offset: 2.8  
 Grd.Nxt.: 14 L-Ssr: 43 CL Elev: 3567.6



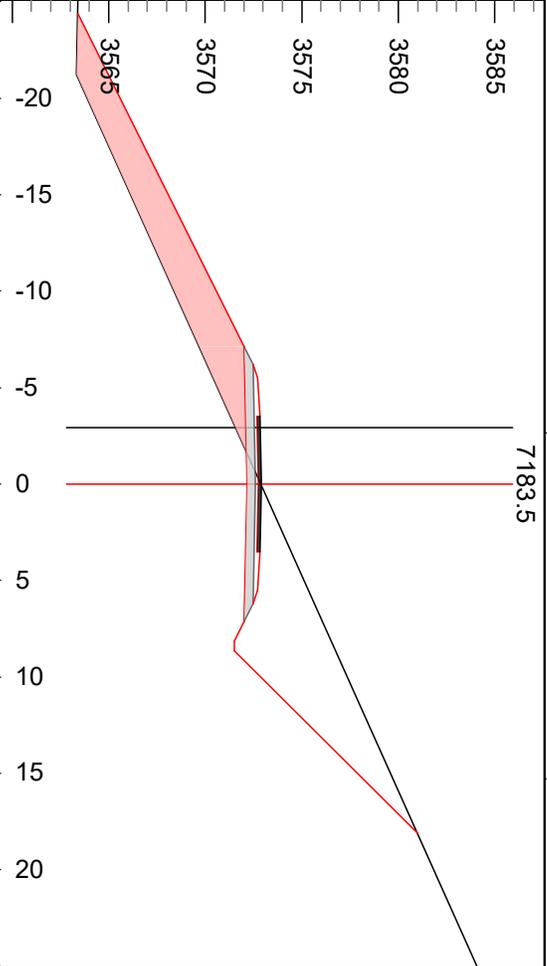
L-Stn : 7134.0 Grd.Lst: 14 F Slope L: -50 H. Offset: 6.1  
 Cut Dp: -0.2 L-Ssl: -44 F Slope R: 100 V. Offset: 2.8  
 Grd.Nxt.: 11 L-Ssr: 43 CL Elev: 3567.6

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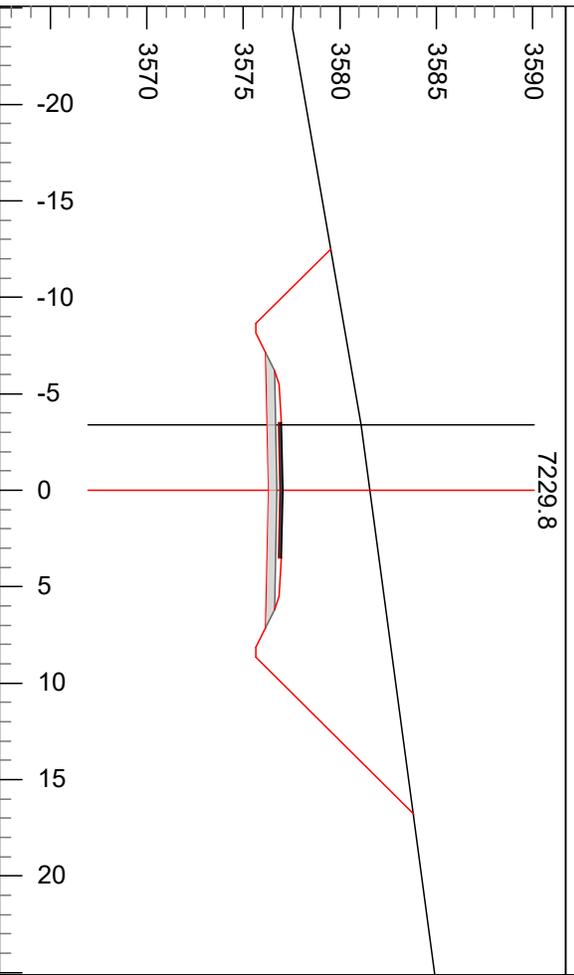
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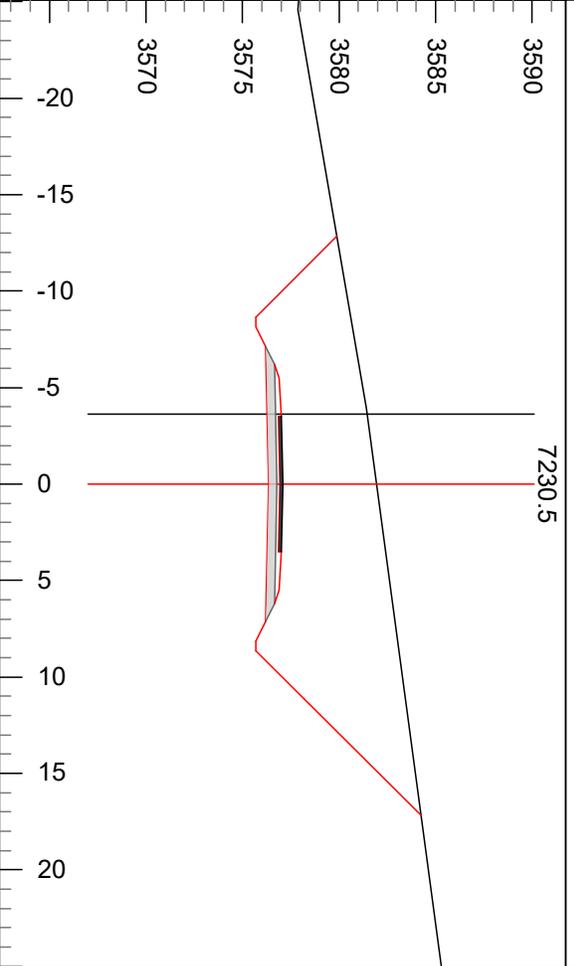
L-Stn : 7183.0 Grd.Lst: 11 F Slope L: -50 H. Offset: 2.9  
 Cut Dp: -0.1 L-Ssl: -45 F Slope R: 100 V. Offset: 1.4  
 Grd.Nxt.: 9 L-Ssr: 45 CL Elev: 3572.9



L-Stn : 7183.5 Grd.Lst: 9 F Slope L: -50 H. Offset: 2.9  
 Cut Dp: 0.0 L-Ssl: -45 F Slope R: 100 V. Offset: 1.4  
 Grd.Nxt.: 9 L-Ssr: 45 CL Elev: 3572.9



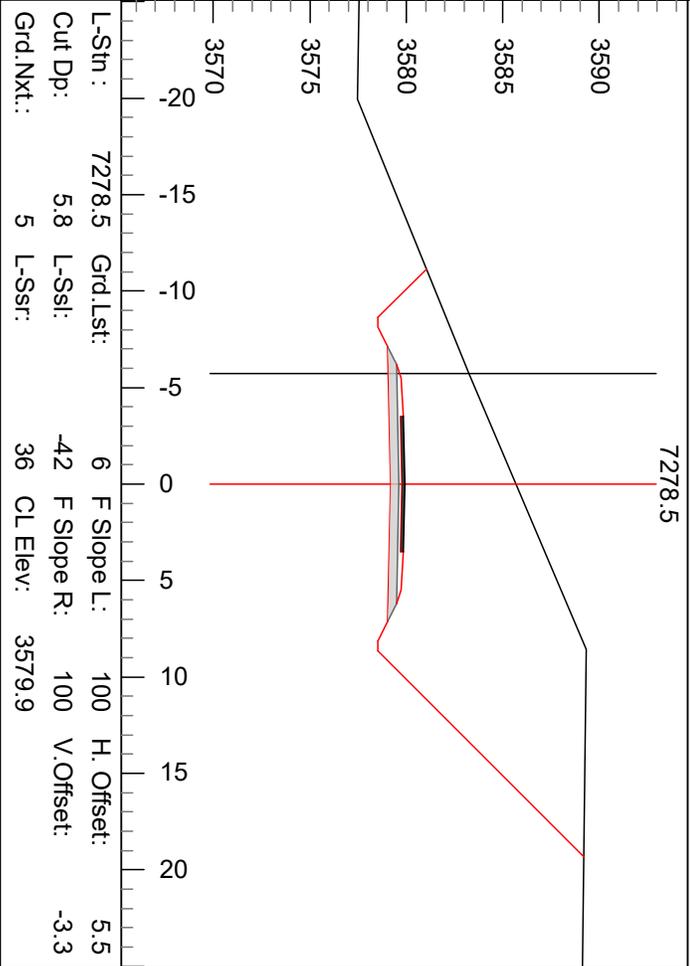
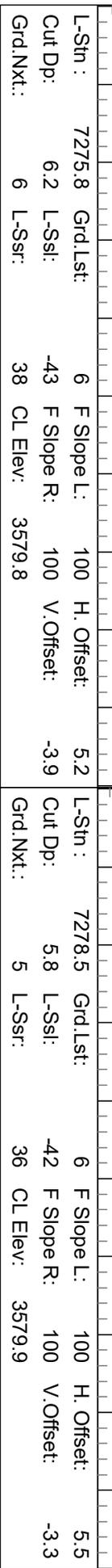
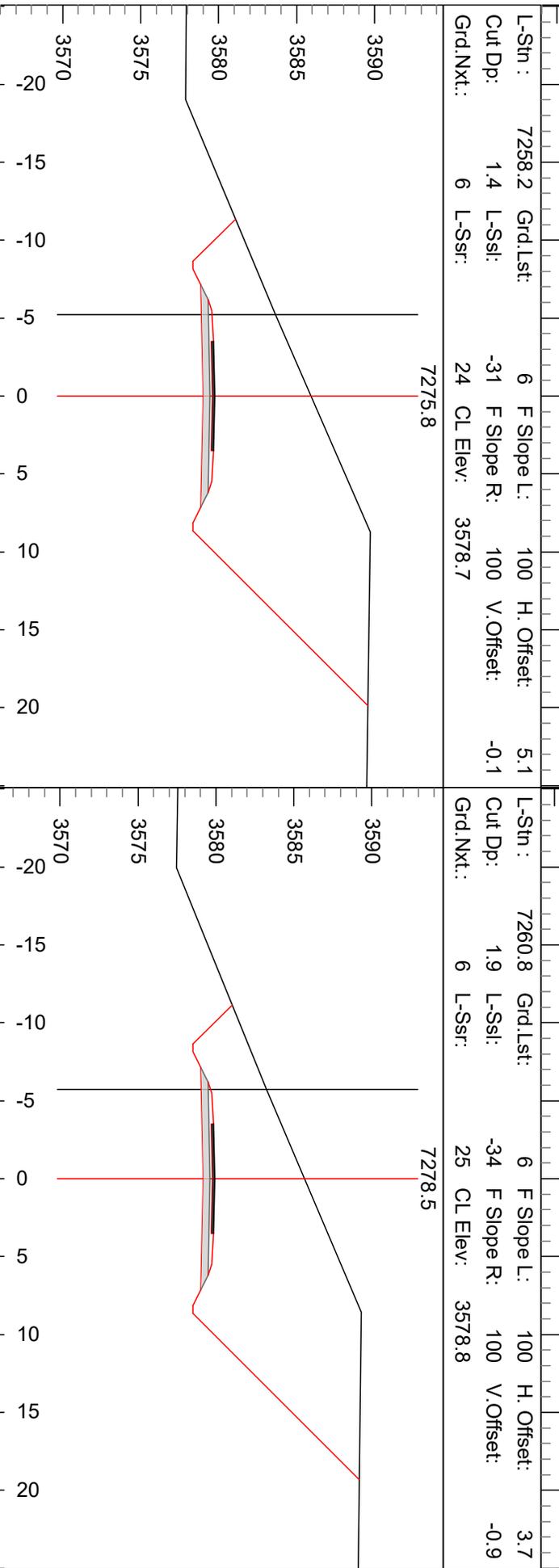
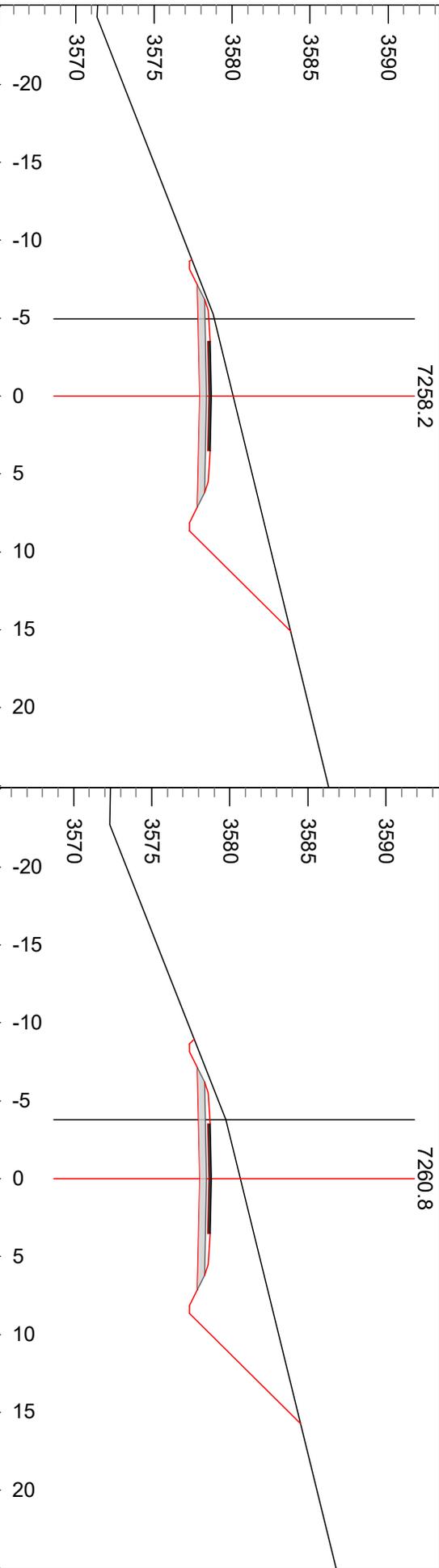
L-Stn : 7229.8 Grd.Lst: 9 F Slope L: 100 H. Offset: 3.2  
 Cut Dp: 4.5 L-Ssl: -16 F Slope R: 100 V. Offset: -4.1  
 Grd.Nxt.: 6 L-Ssr: 13 CL Elev: 3577.0



L-Stn : 7230.5 Grd.Lst: 6 F Slope L: 100 H. Offset: 3.7  
 Cut Dp: 4.9 L-Ssl: -16 F Slope R: 100 V. Offset: -4.3  
 Grd.Nxt.: 6 L-Ssr: 13 CL Elev: 3577.1

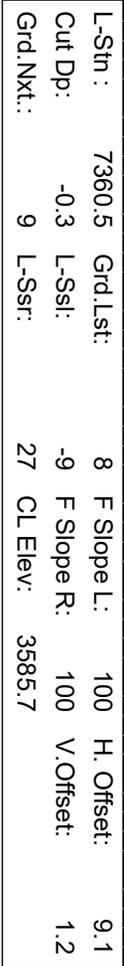
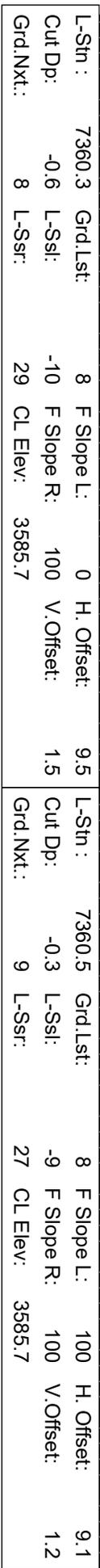
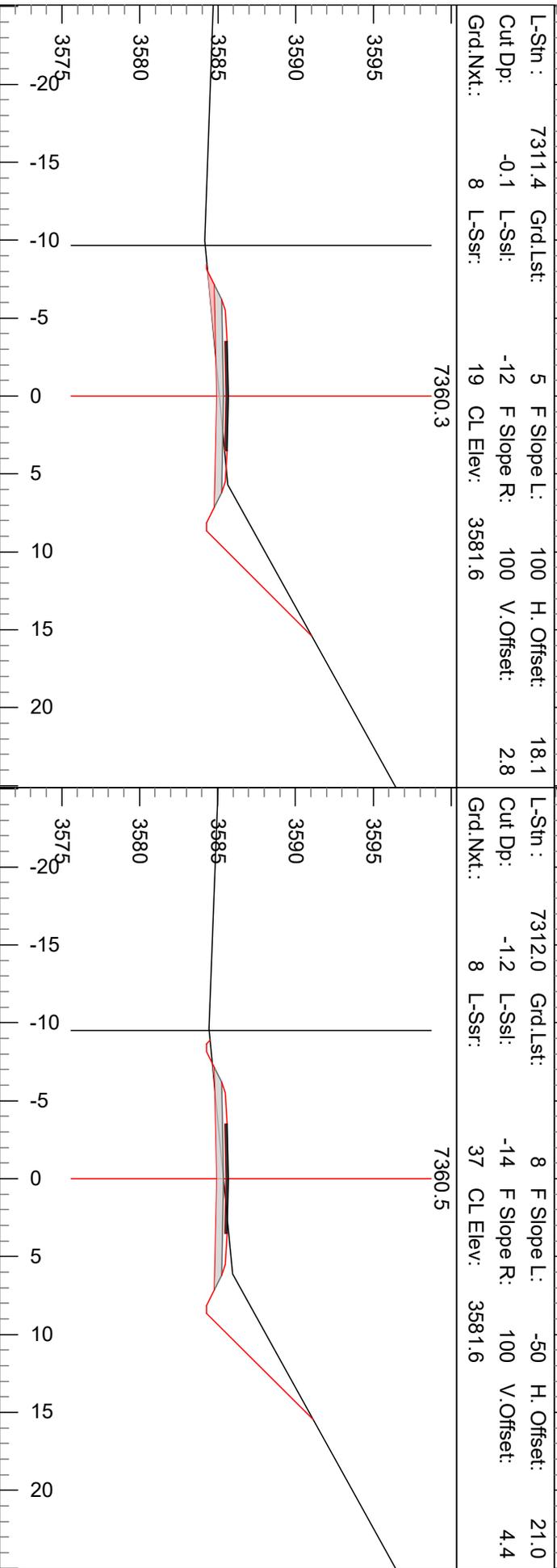
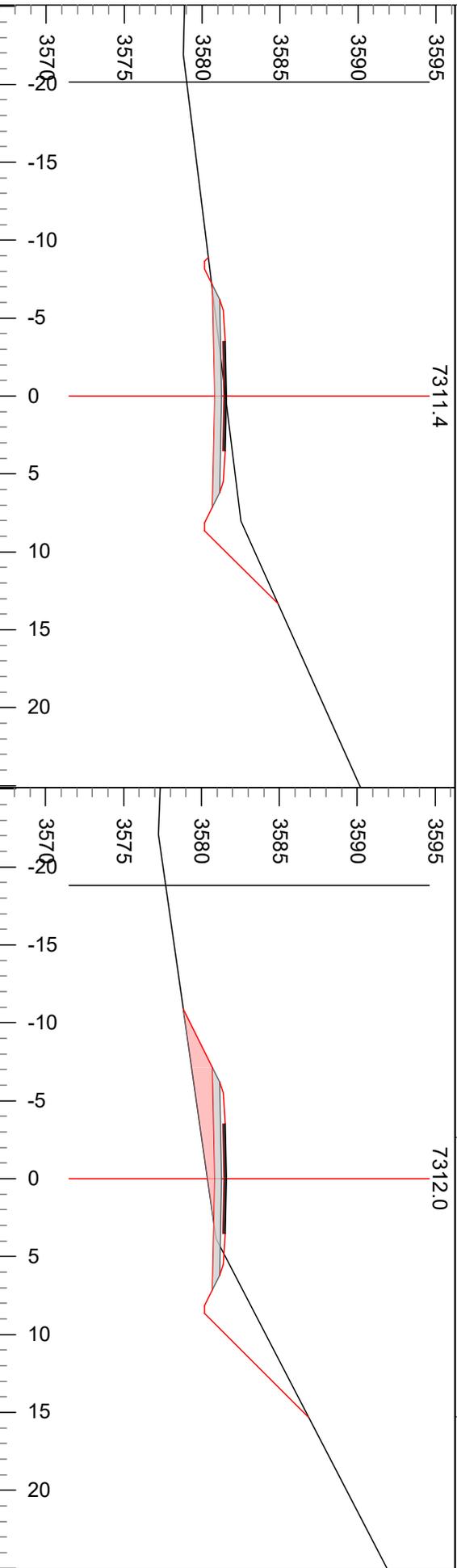
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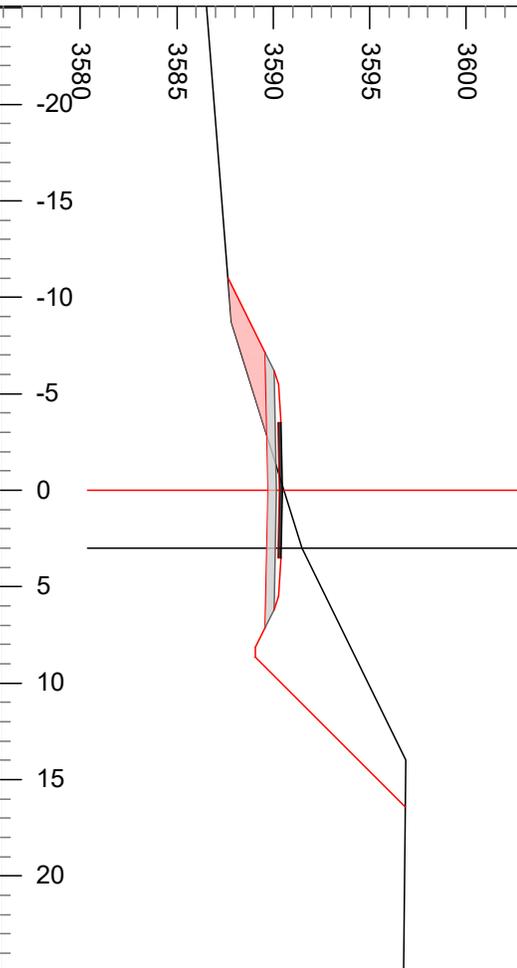
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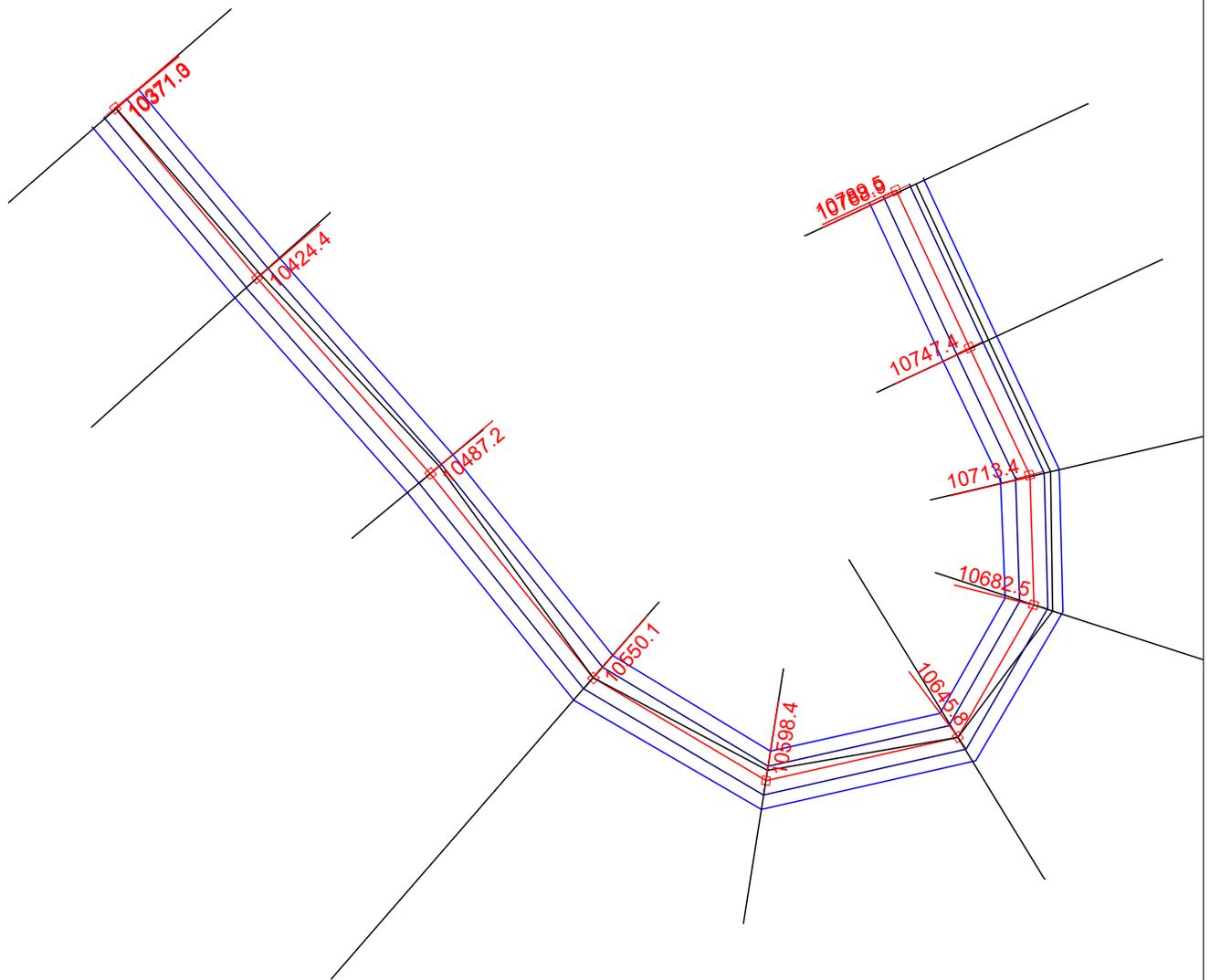


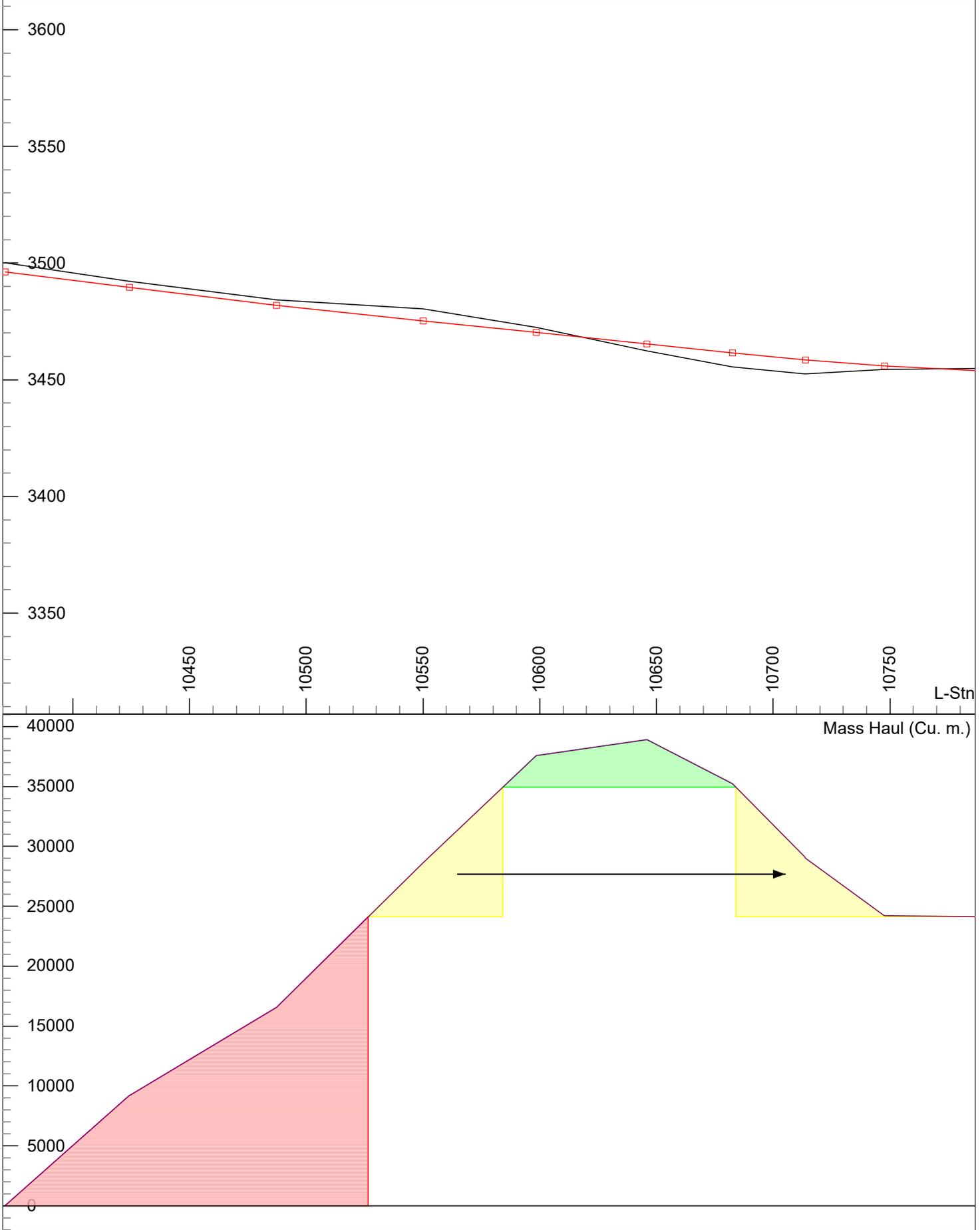
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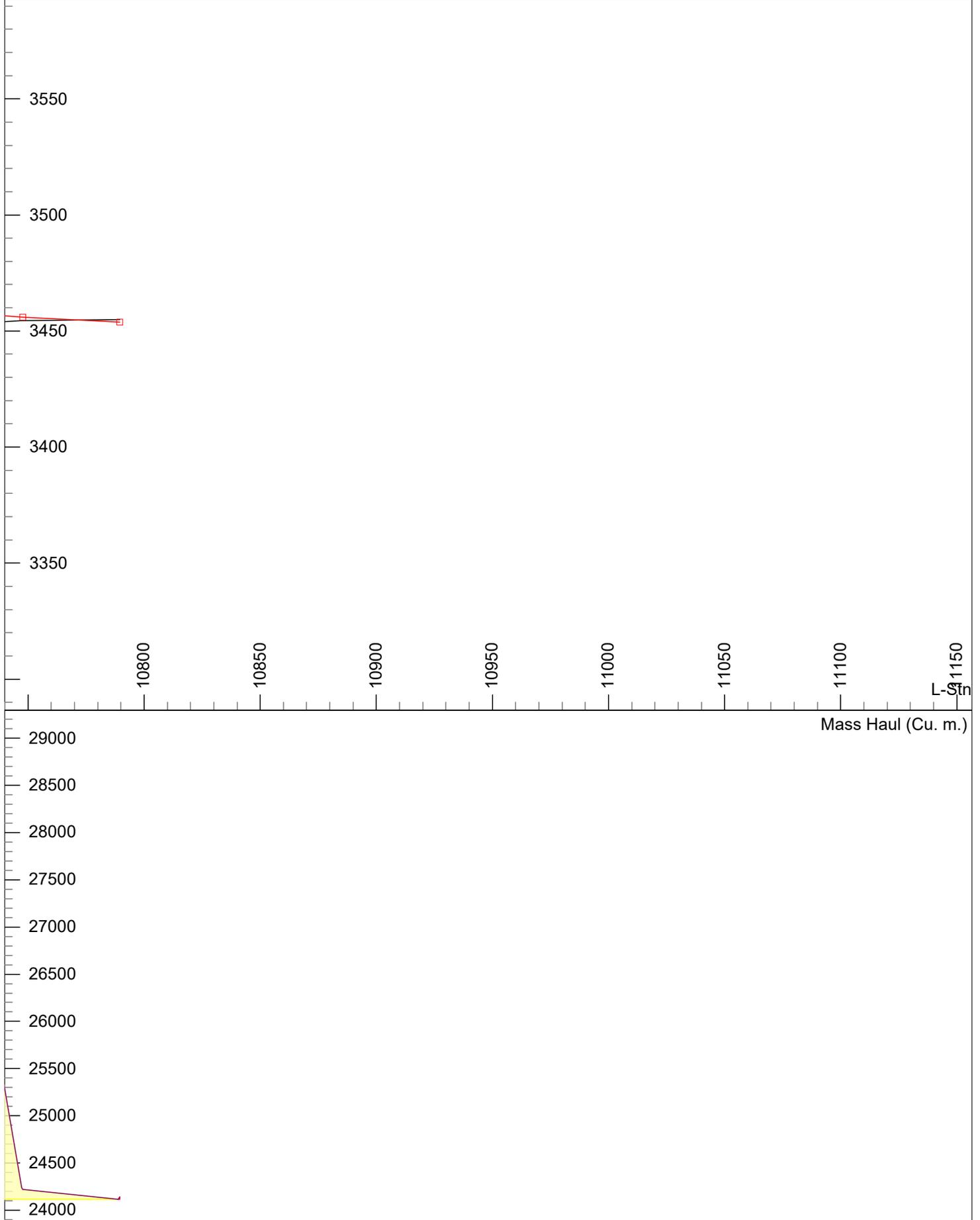
7415.9

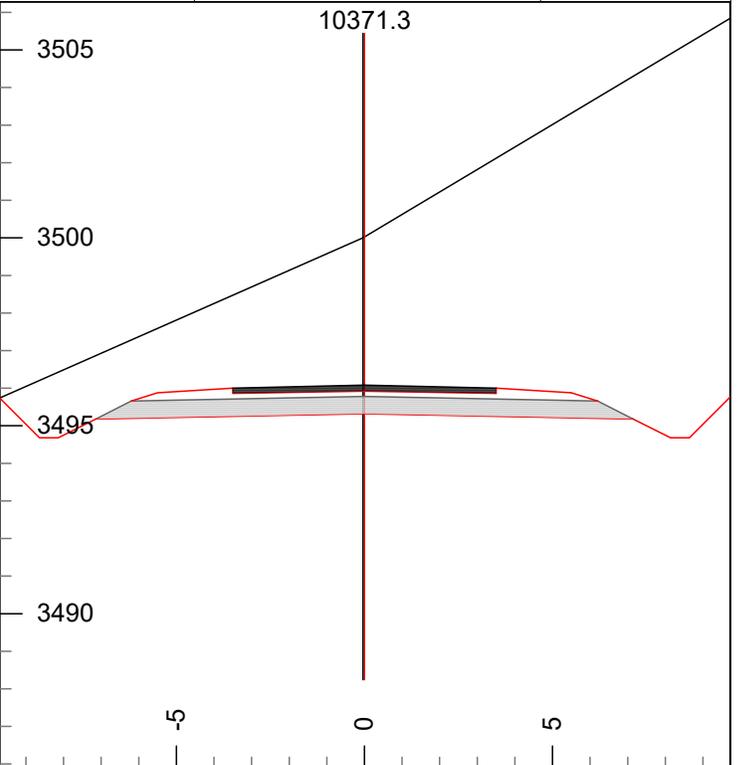
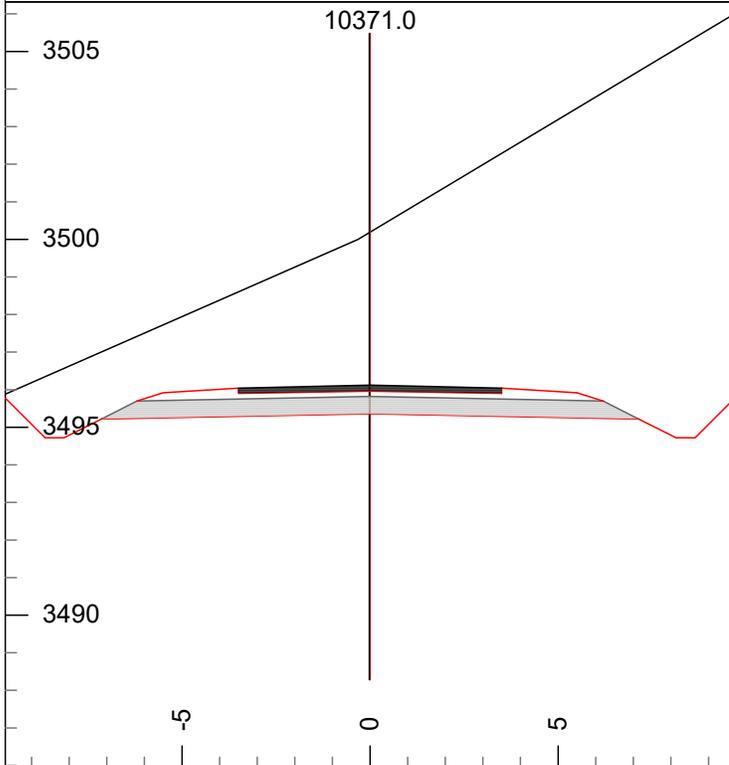


L-Stn :	7415.9	Grd Lst:	9	F Slope L:	-50	H. Offset:	-2.9
Cut Dp:	0.1	L-Ssl:	-28	F Slope R:	100	V. Offset:	-1.0
Grd:Nxt:	n/a	L-Ssr:	44	CL Elev:	3590.5		



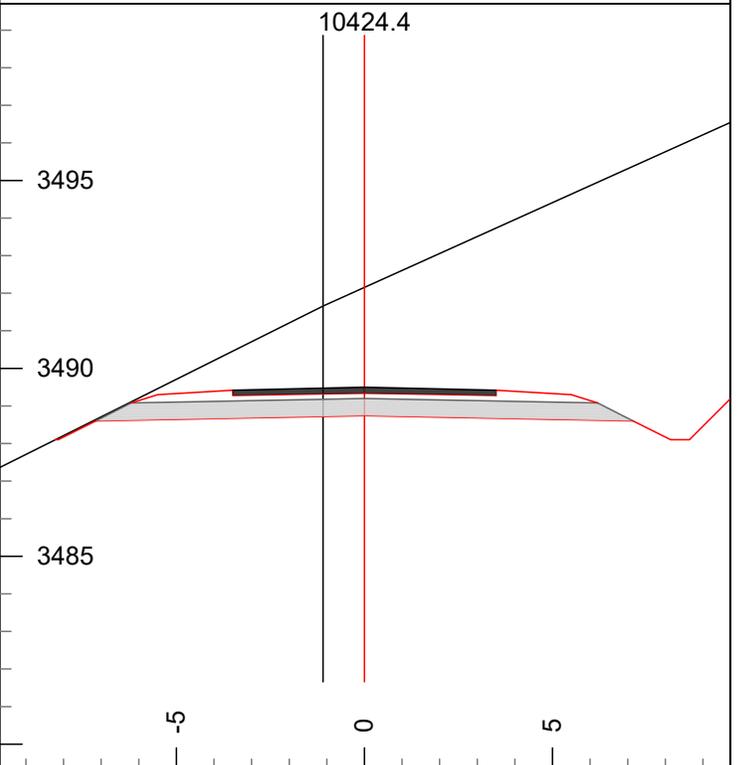
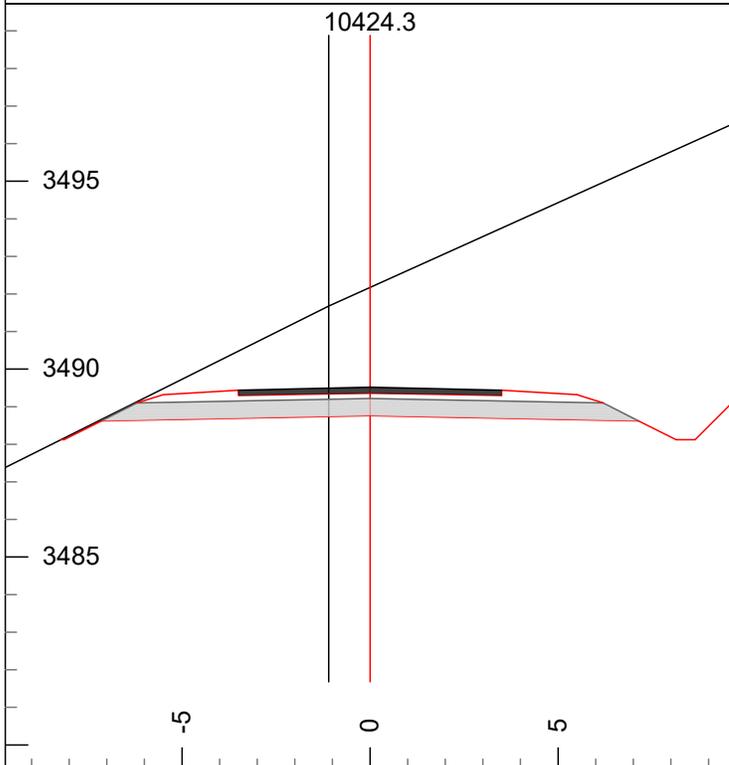






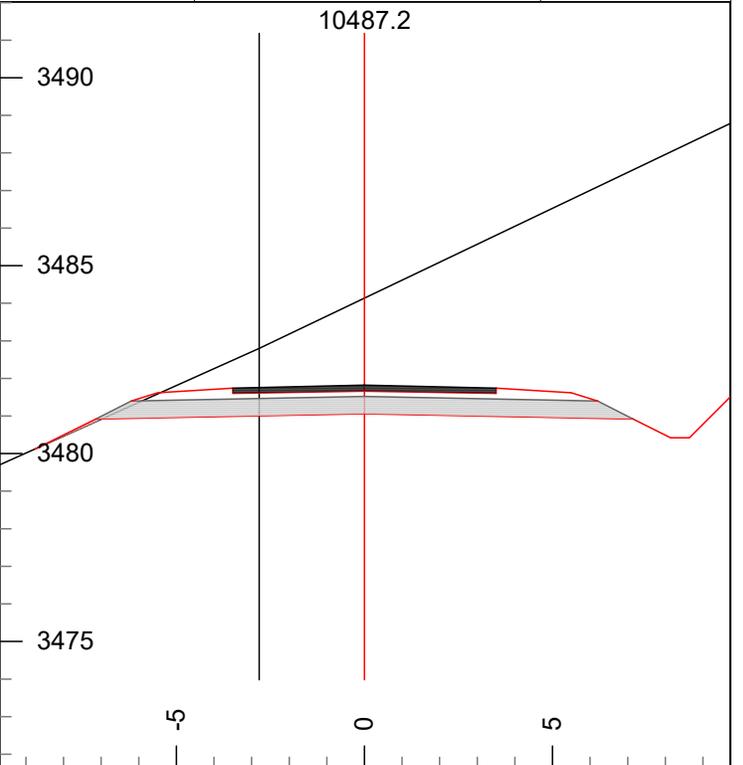
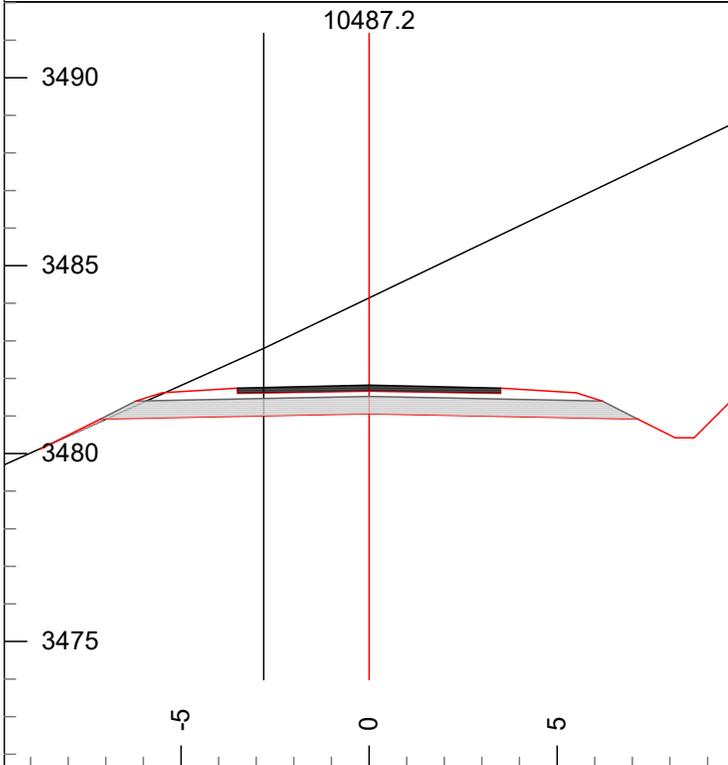
L-Stn : 10371.0 L-Ssl: -44 H. Offset: 0.3  
 Cut Dp: 4.1 L-Ssr: 60 CL Elev: 3496.1  
 Grd.Nxt.: -12 F Slope L: 100  
 Grd.Lst: n/a F Slope R: 100

L-Stn : 10371.3 L-Ssl: -44 H. Offset: 0.0  
 Cut Dp: 3.9 L-Ssr: 60 CL Elev: 3496.1  
 Grd.Nxt.: -12 F Slope L: 100  
 Grd.Lst: -12 F Slope R: 100



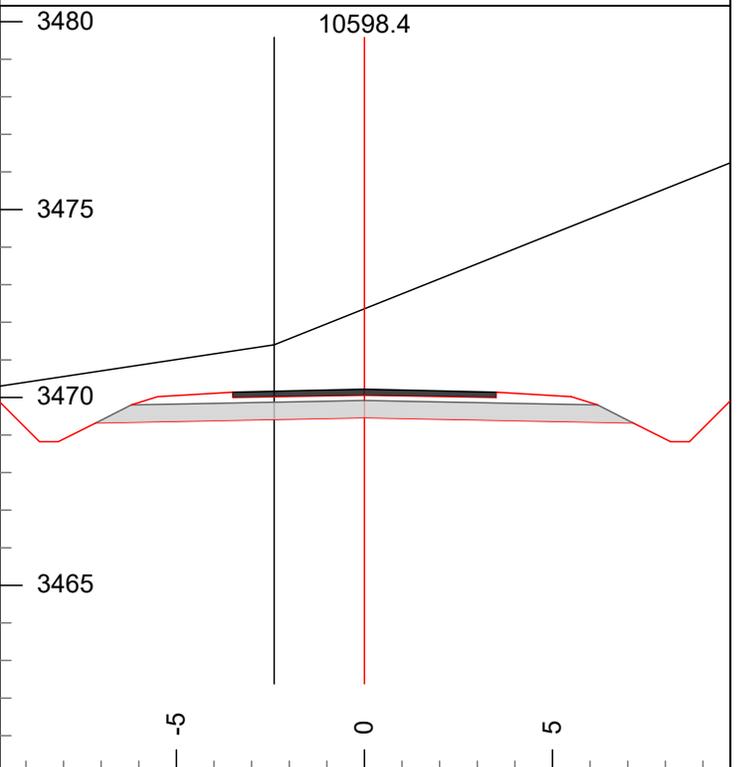
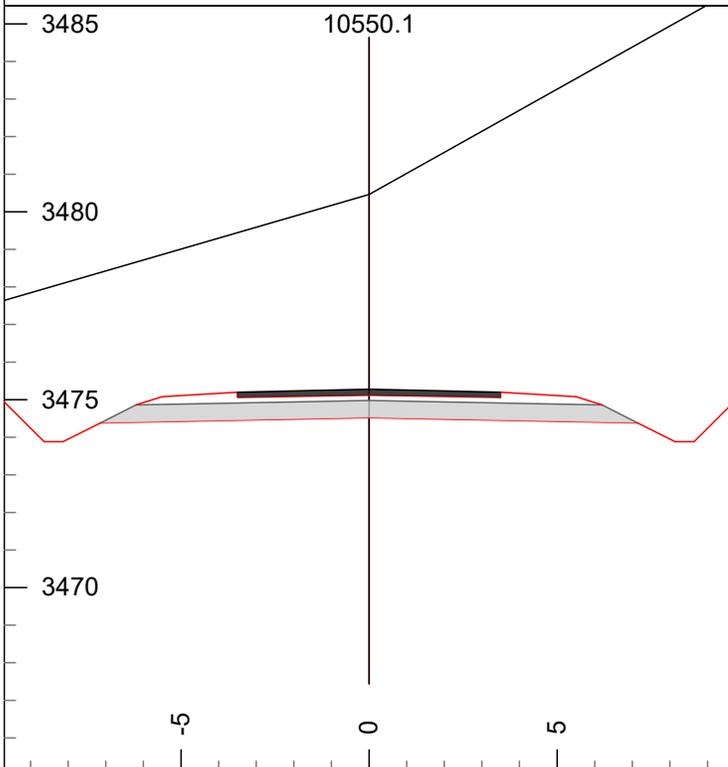
L-Stn : 10424.3 L-Ssl: -49 H. Offset: 1.1  
 Cut Dp: 2.7 L-Ssr: 45 CL Elev: 3489.5  
 Grd.Nxt.: -12 F Slope L: 0  
 Grd.Lst: -12 F Slope R: 100

L-Stn : 10424.4 L-Ssl: -49 H. Offset: 1.1  
 Cut Dp: 2.7 L-Ssr: 45 CL Elev: 3489.5  
 Grd.Nxt.: -12 F Slope L: 0  
 Grd.Lst: -12 F Slope R: 100



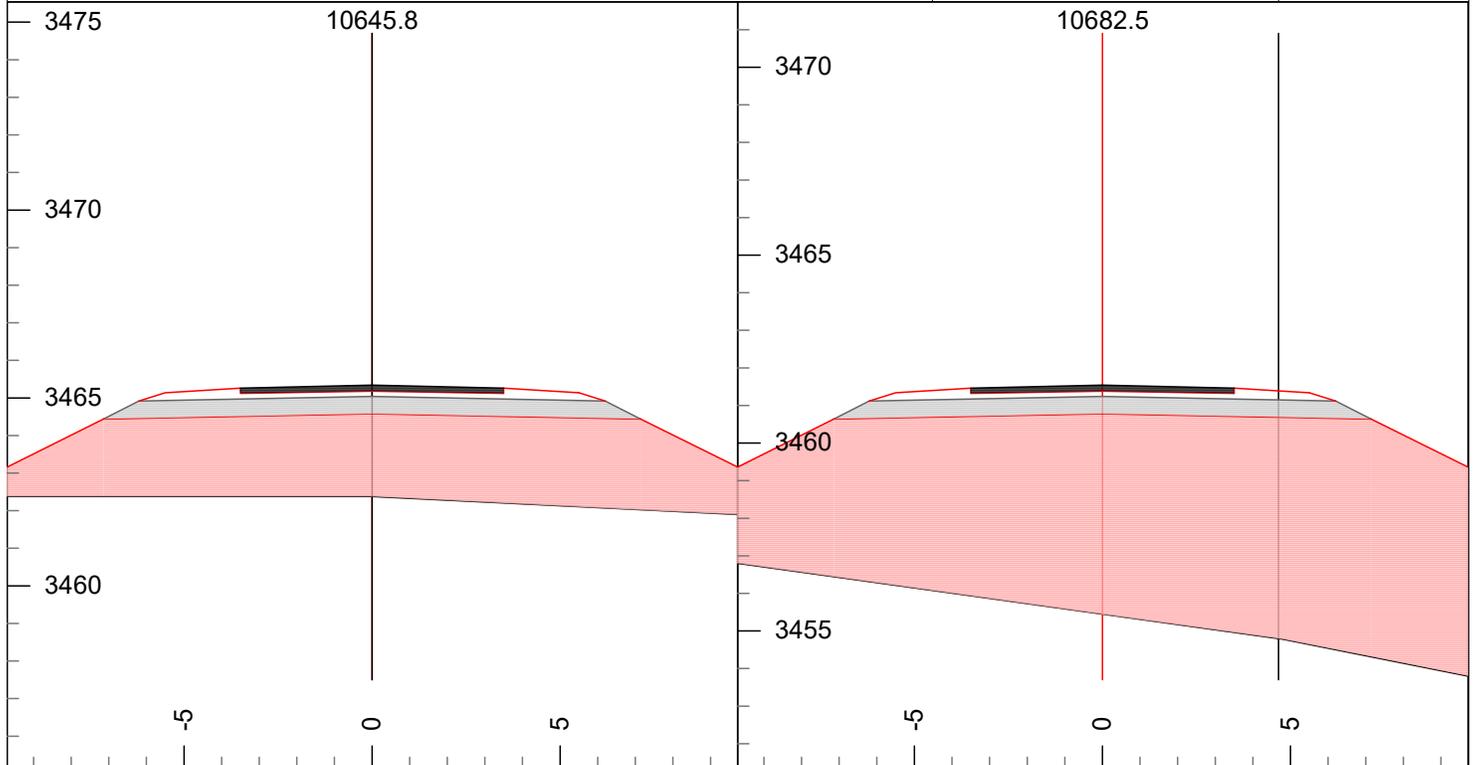
L-Stn : 10487.2 L-Ssl: -46 H. Offset: 2.8  
 Cut Dp: 2.3 L-Ssr: 48 CL Elev: 3481.8  
 Grd.Nxt.: -12 F Slope L: -50  
 Grd.Lst: -12 F Slope R: 100

L-Stn : 10487.2 L-Ssl: -46 H. Offset: 2.8  
 Cut Dp: 2.3 L-Ssr: 48 CL Elev: 3481.8  
 Grd.Nxt.: -10 F Slope L: -50  
 Grd.Lst: -12 F Slope R: 100



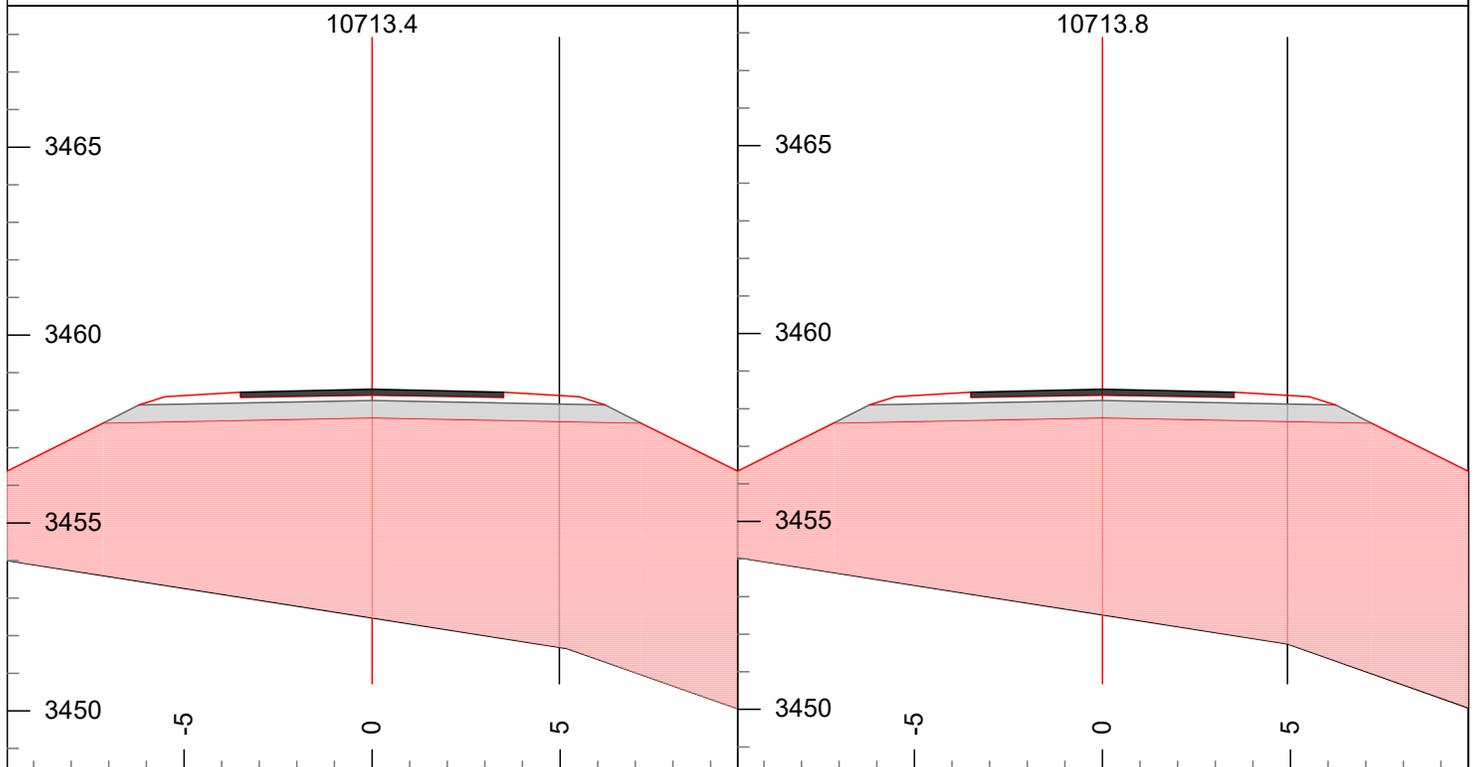
L-Stn : 10550.1 L-Ssl: -29 H. Offset: 0.0  
 Cut Dp: 5.2 L-Ssr: 56 CL Elev: 3475.3  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: 100

L-Stn : 10598.4 L-Ssl: -21 H. Offset: 2.4  
 Cut Dp: 2.1 L-Ssr: 40 CL Elev: 3470.2  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: 100



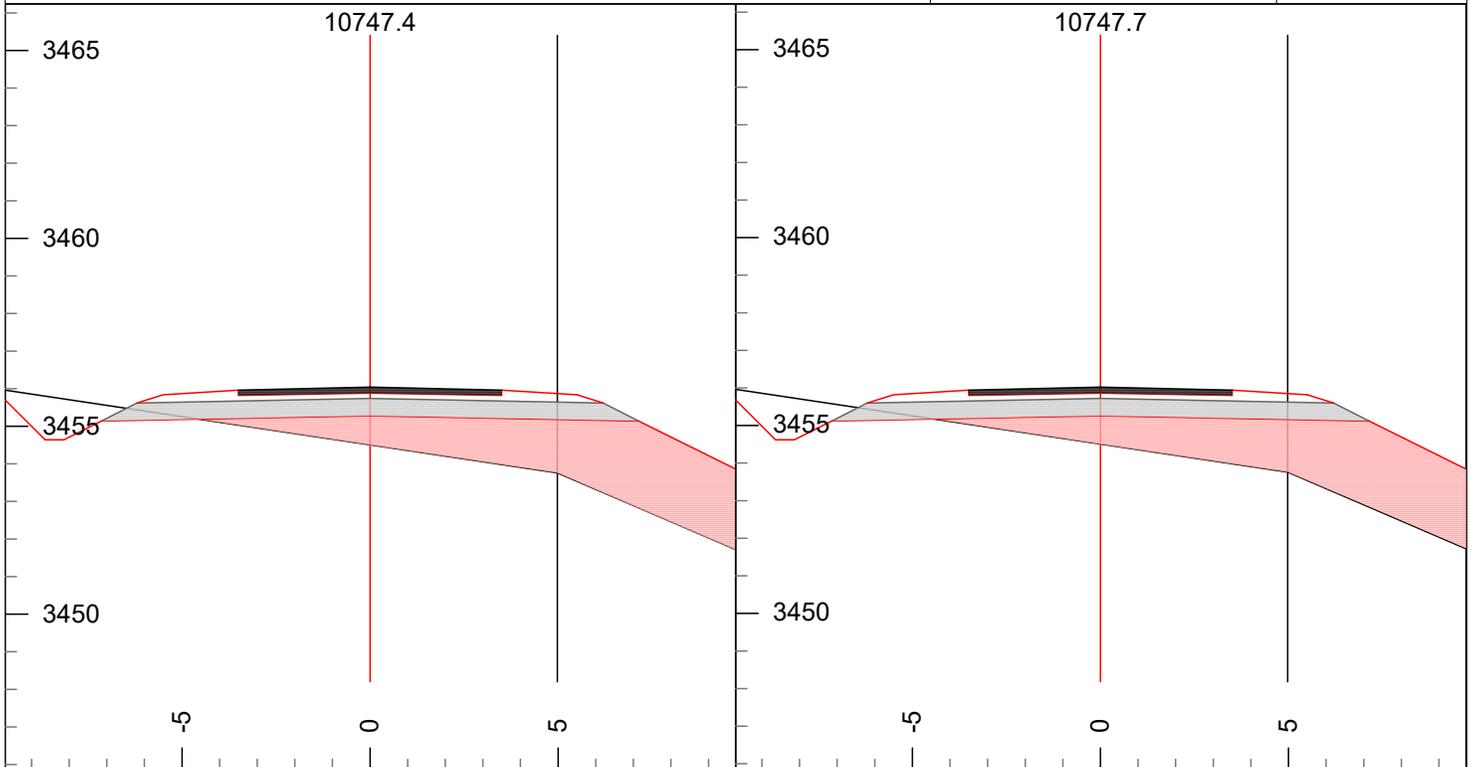
L-Stn : 10645.8 L-Ssl: 0 H. Offset: 0.0  
 Cut Dp: -3.0 L-Ssr: -5 CL Elev: 3465.3  
 Grd.Nxt.: -10 F Slope L: -50  
 Grd.Lst: -10 F Slope R: -50

L-Stn : 10682.5 L-Ssl: 14 H. Offset: -4.8  
 Cut Dp: -6.1 L-Ssr: -17 CL Elev: 3461.5  
 Grd.Nxt.: -10 F Slope L: -50  
 Grd.Lst: -10 F Slope R: -50



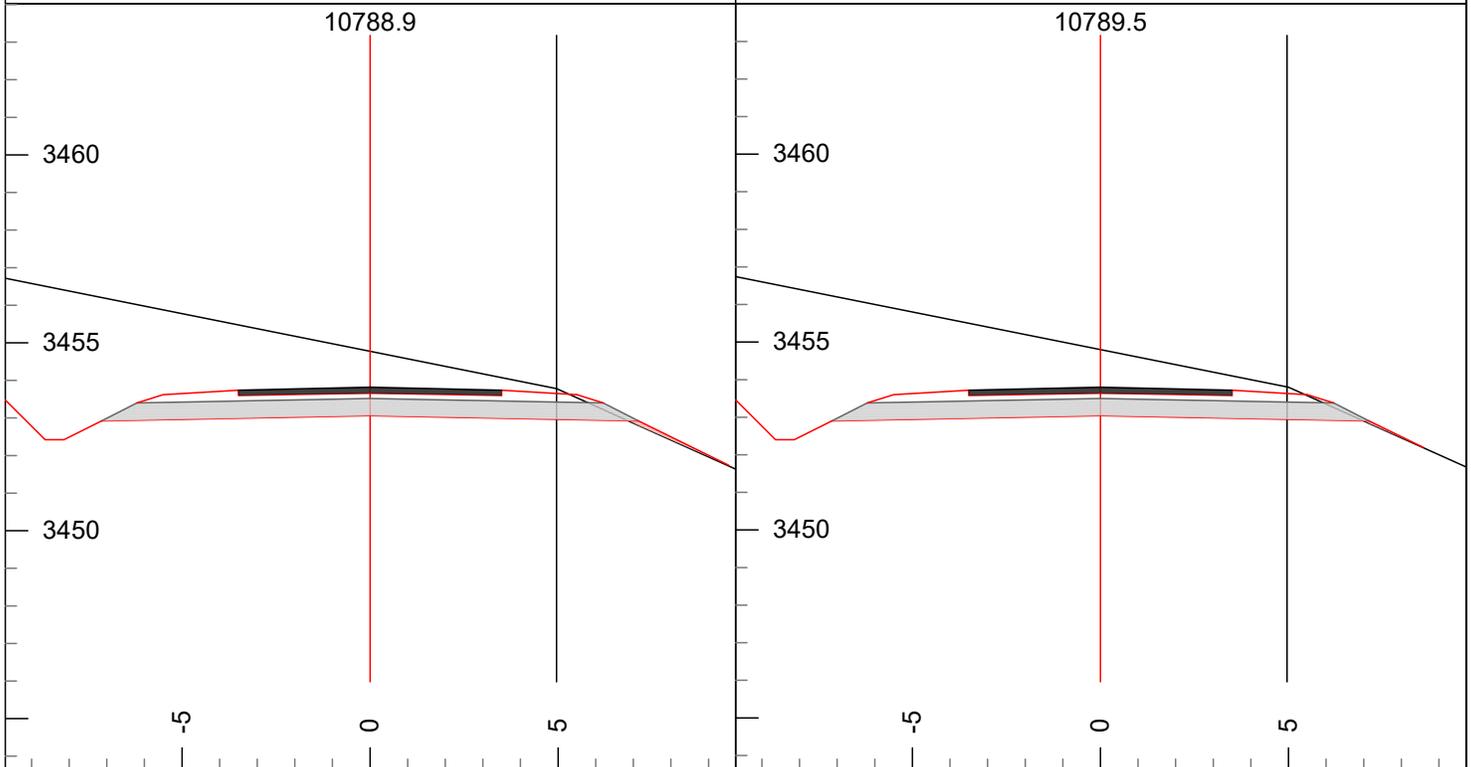
L-Stn : 10713.4 L-Ssl: 16 H. Offset: -5.1  
 Cut Dp: -6.1 L-Ssr: -25 CL Elev: 3458.6  
 Grd.Nxt.: -10 F Slope L: -50  
 Grd.Lst: -10 F Slope R: -50

L-Stn : 10713.8 L-Ssl: 16 H. Offset: -4.8  
 Cut Dp: -6.0 L-Ssr: -26 CL Elev: 3458.5  
 Grd.Nxt.: -7 F Slope L: -50  
 Grd.Lst: -10 F Slope R: -50



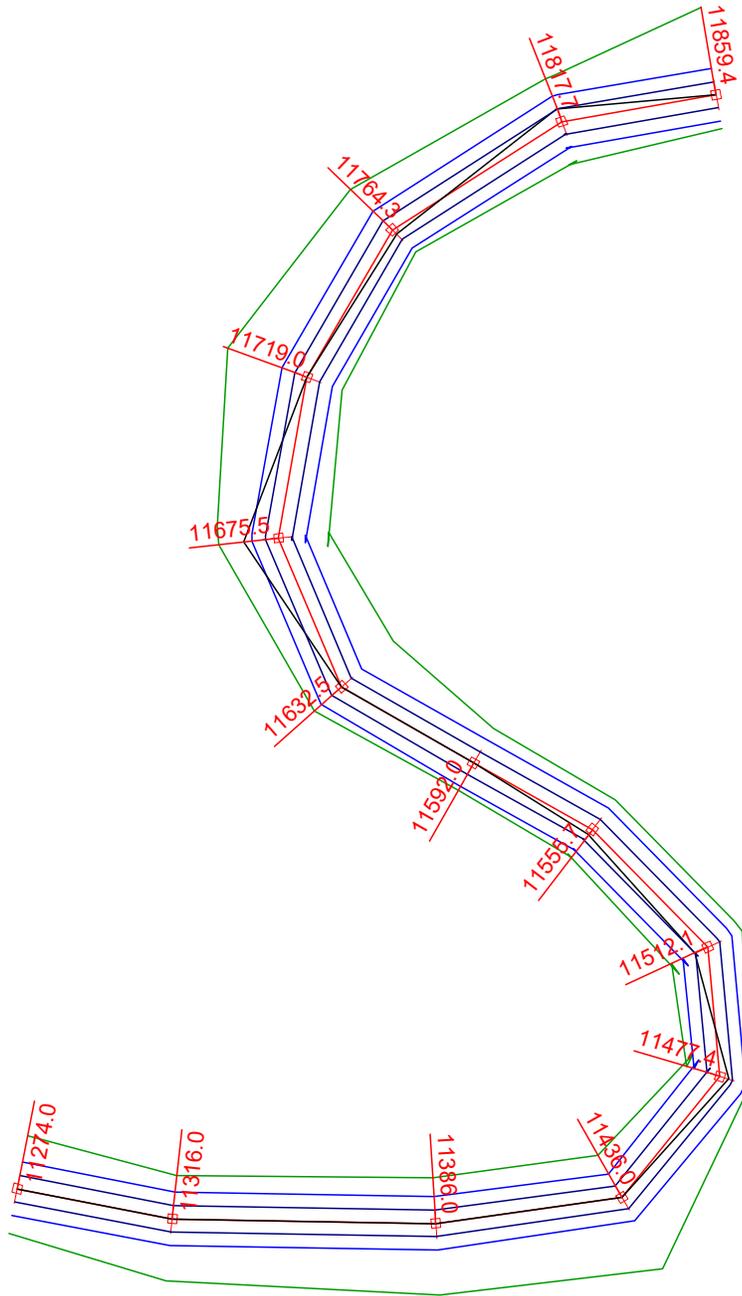
L-Stn : 10747.4 L-Ssl: 15 H. Offset: -5.0  
 Cut Dp: -1.5 L-Ssr: -29 CL Elev: 3456.0  
 Grd.Nxt.: -7 F Slope L: 100  
 Grd.Lst: -7 F Slope R: -50

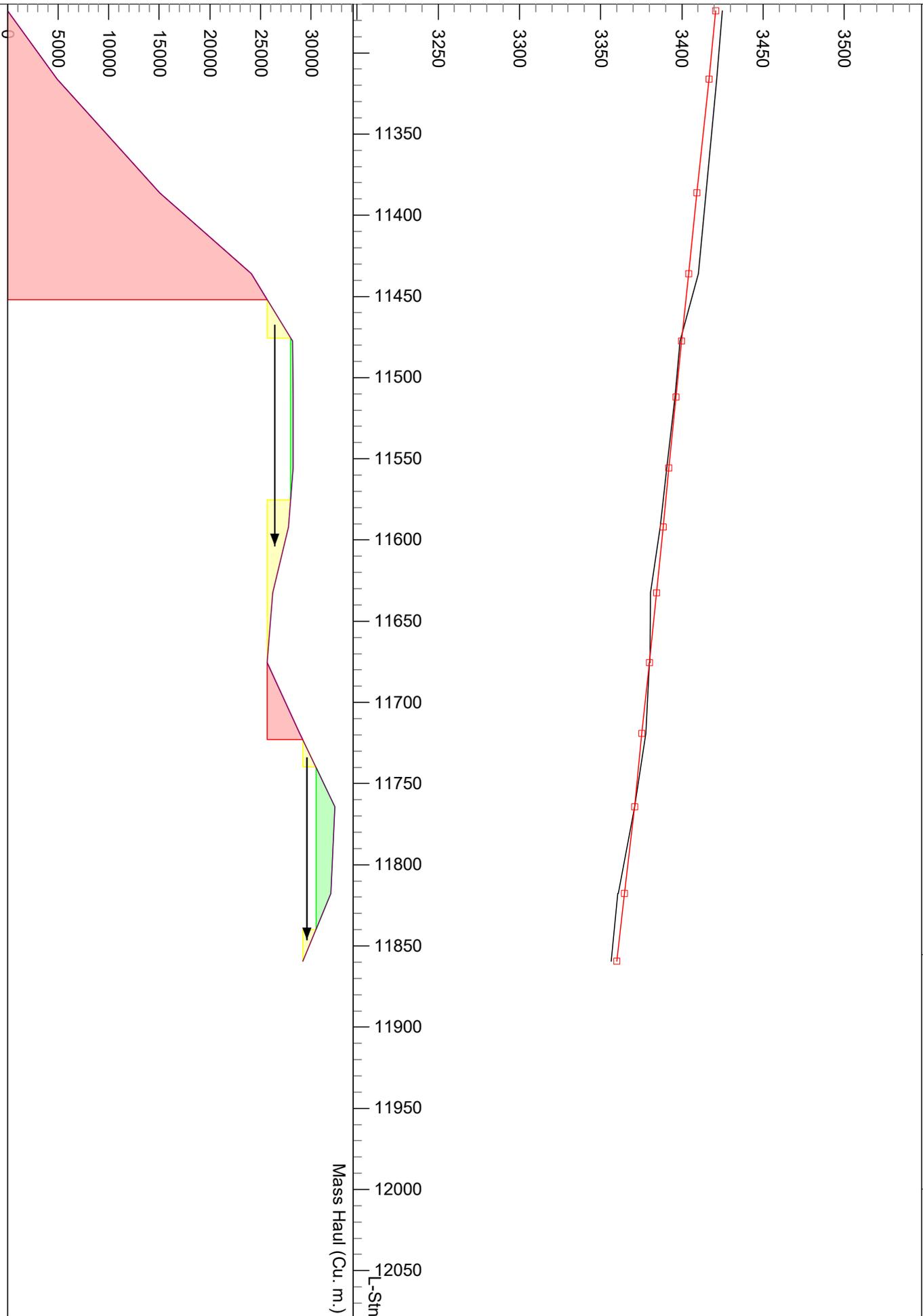
L-Stn : 10747.7 L-Ssl: 15 H. Offset: -5.0  
 Cut Dp: -1.5 L-Ssr: -29 CL Elev: 3456.0  
 Grd.Nxt.: -5 F Slope L: 100  
 Grd.Lst: -7 F Slope R: -50

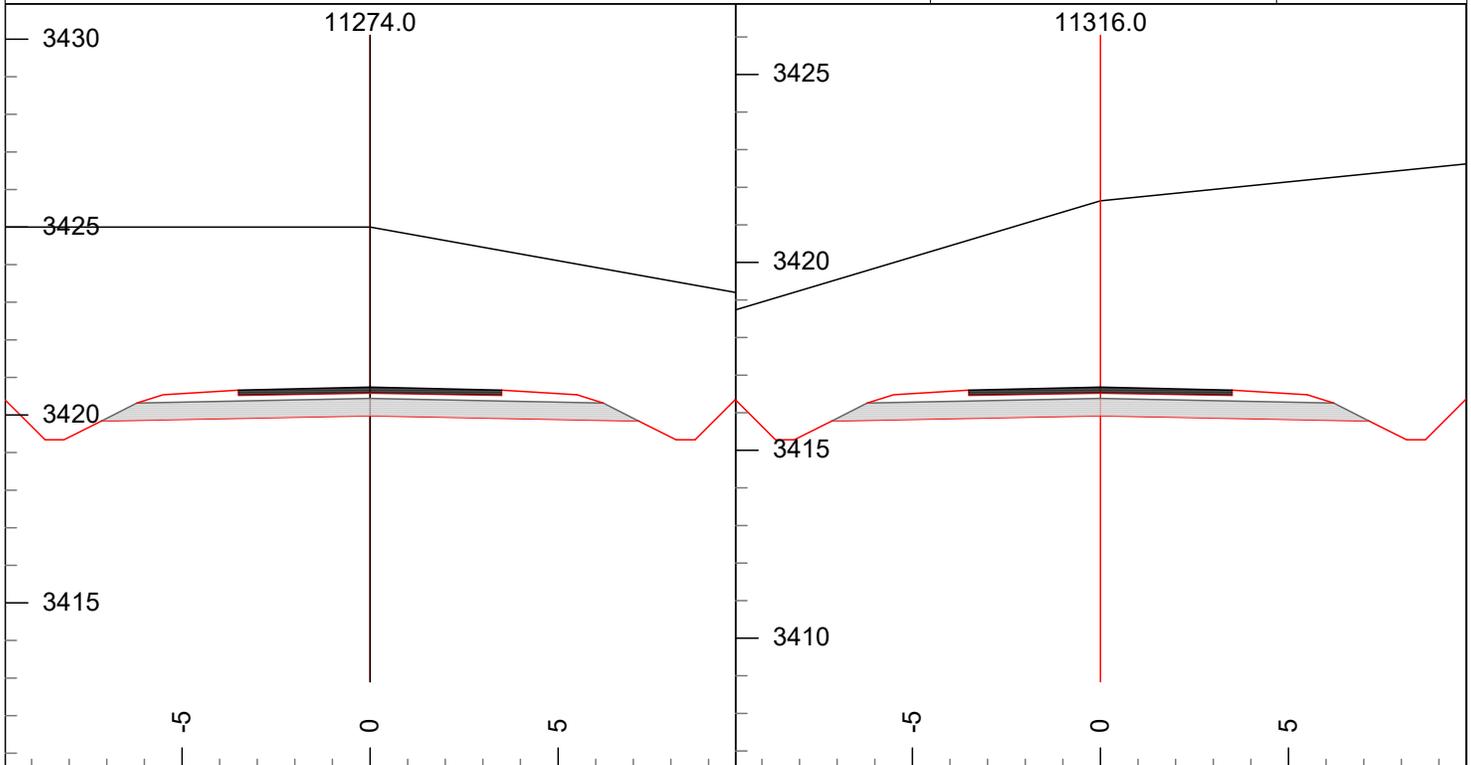


L-Stn : 10788.9 L-Ssl: 20 H. Offset: -5.0  
 Cut Dp: 1.0 L-Ssr: -33 CL Elev: 3453.8  
 Grd.Nxt.: -5 F Slope L: 100  
 Grd.Lst: -5 F Slope R: -50

L-Stn : 10789.5 L-Ssl: 20 H. Offset: -5.0  
 Cut Dp: 1.0 L-Ssr: -32 CL Elev: 3453.8  
 Grd.Nxt.: n/a F Slope L: 100  
 Grd.Lst: -5 F Slope R: -50

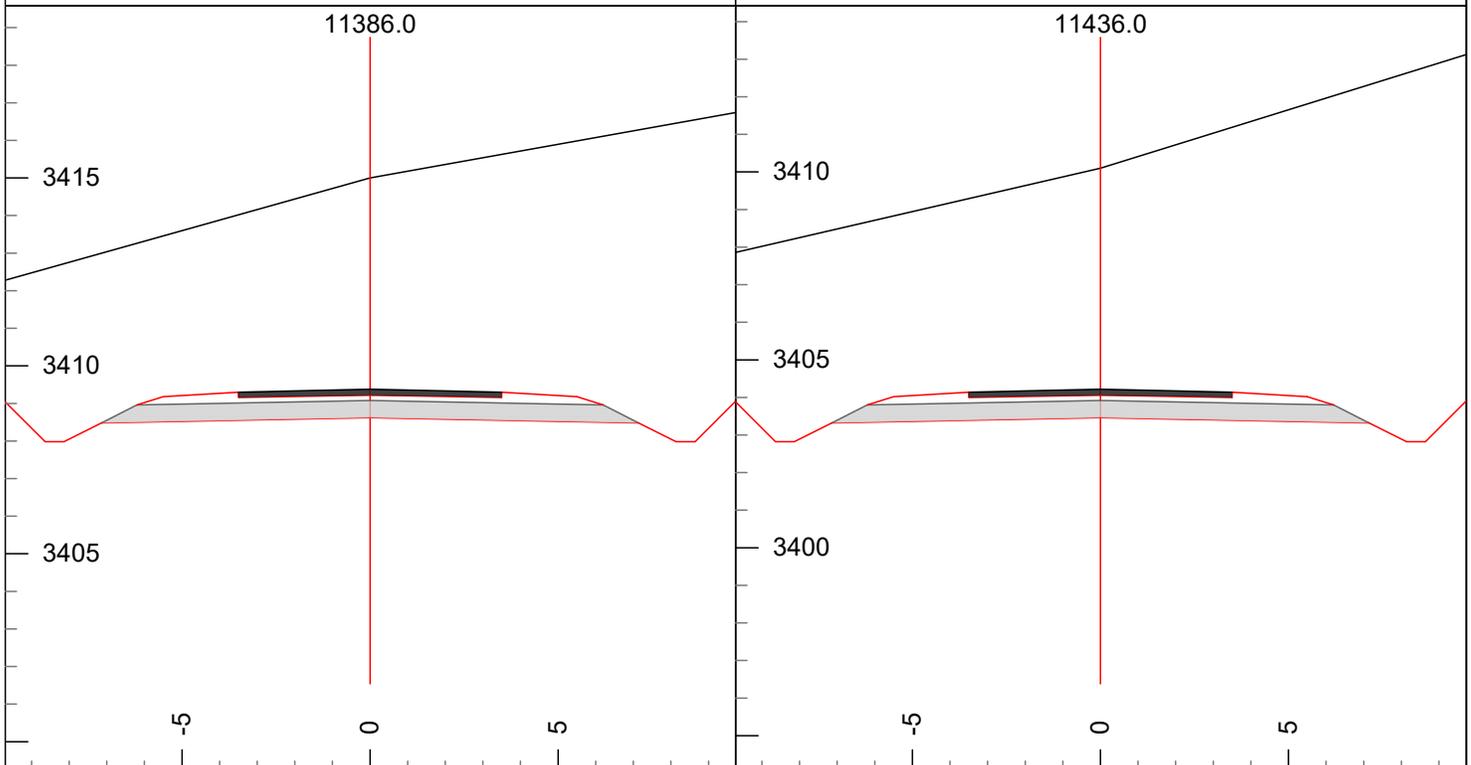






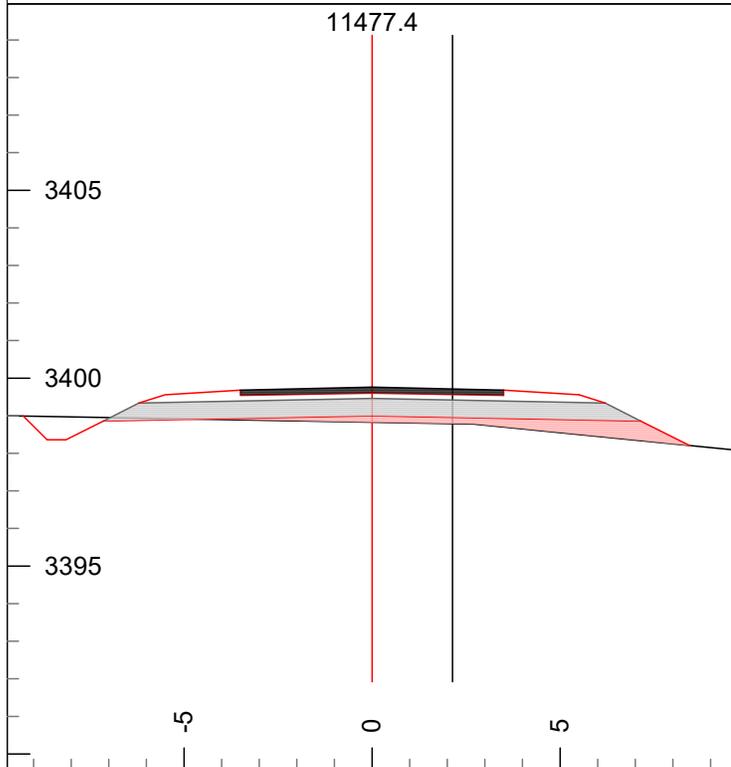
L-Stn : 11274.0 L-Ssl: 0 CL Elev: 3420.7  
 Cut Dp: 4.3 L-Ssr: -18 H. Offset: 0.0  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: n/a F Slope R: 100

L-Stn : 11316.0 L-Ssl: -30 CL Elev: 3416.7  
 Cut Dp: 5.0 L-Ssr: 10 H. Offset: 0.0  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: 100

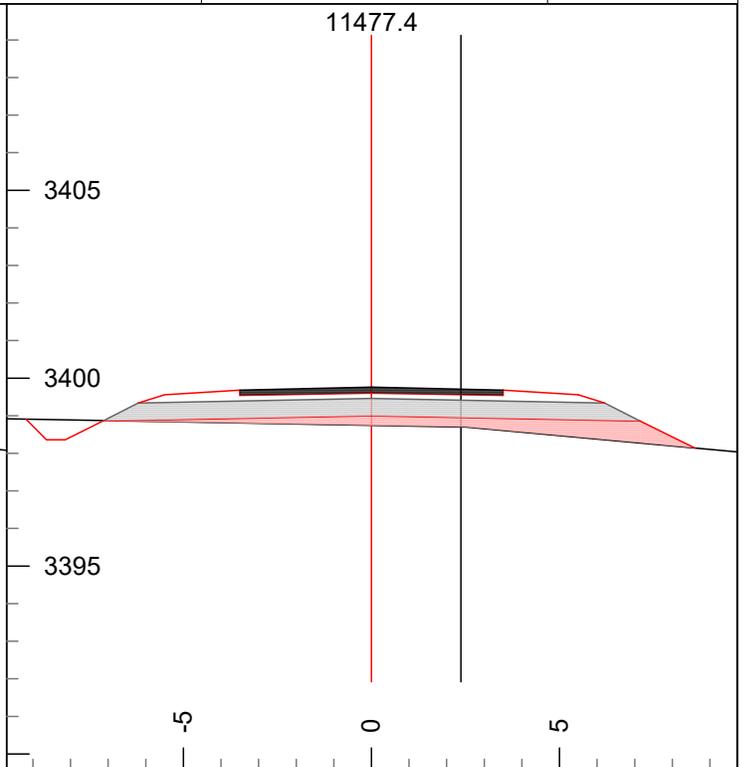


L-Stn : 11386.0 L-Ssl: -28 CL Elev: 3409.4  
 Cut Dp: 5.6 L-Ssr: 18 H. Offset: 0.0  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: 100

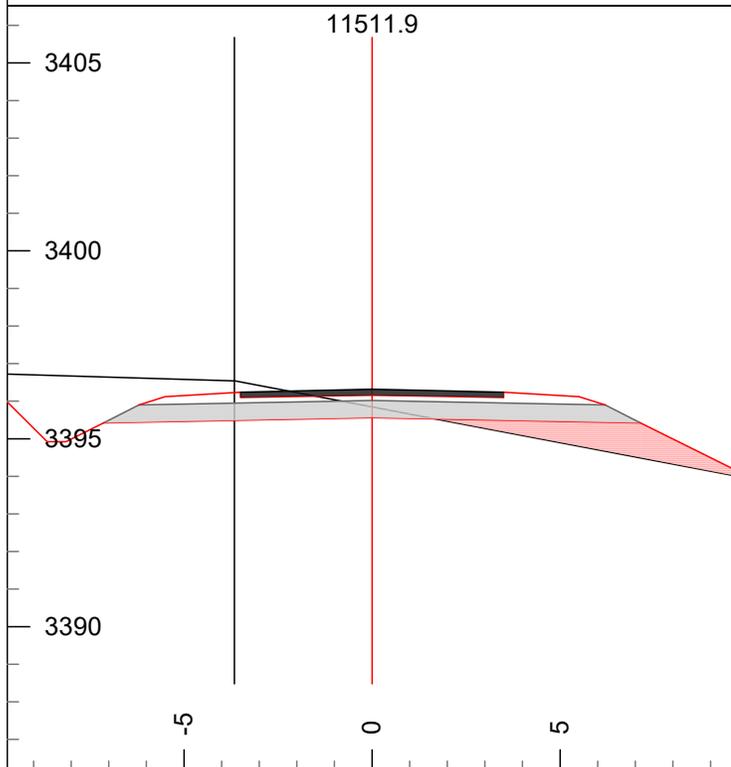
L-Stn : 11436.0 L-Ssl: -23 CL Elev: 3404.2  
 Cut Dp: 5.9 L-Ssr: 31 H. Offset: 0.0  
 Grd.Nxt.: -11 F Slope L: 100  
 Grd.Lst: -10 F Slope R: 100



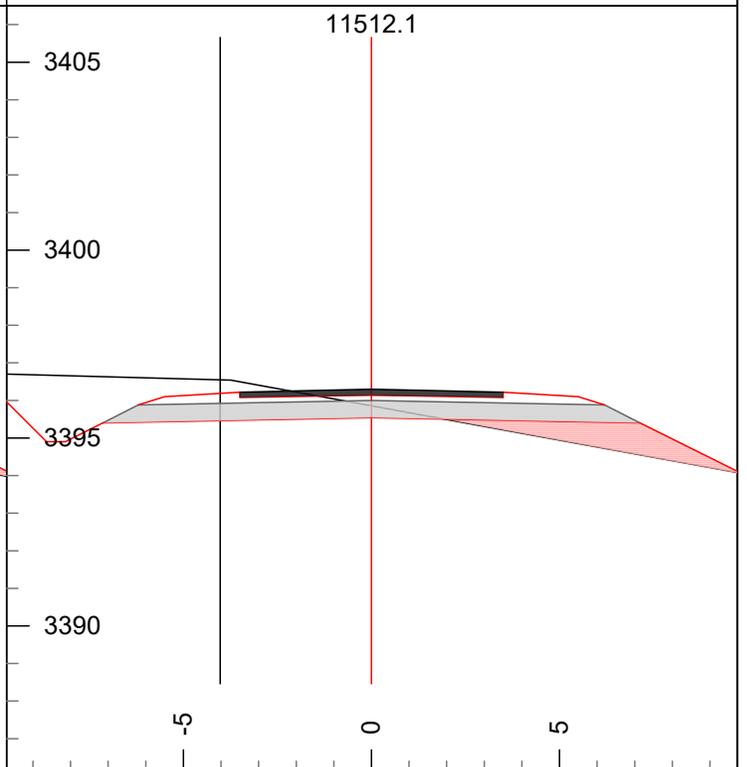
L-Stn : 11477.4 L-Ssl: 2 CL Elev: 3399.8  
 Cut Dp: -0.9 L-Ssr: -8 H. Offset: -2.4  
 Grd.Nxt.: -11 F Slope L: 100  
 Grd.Lst: -11 F Slope R: -50



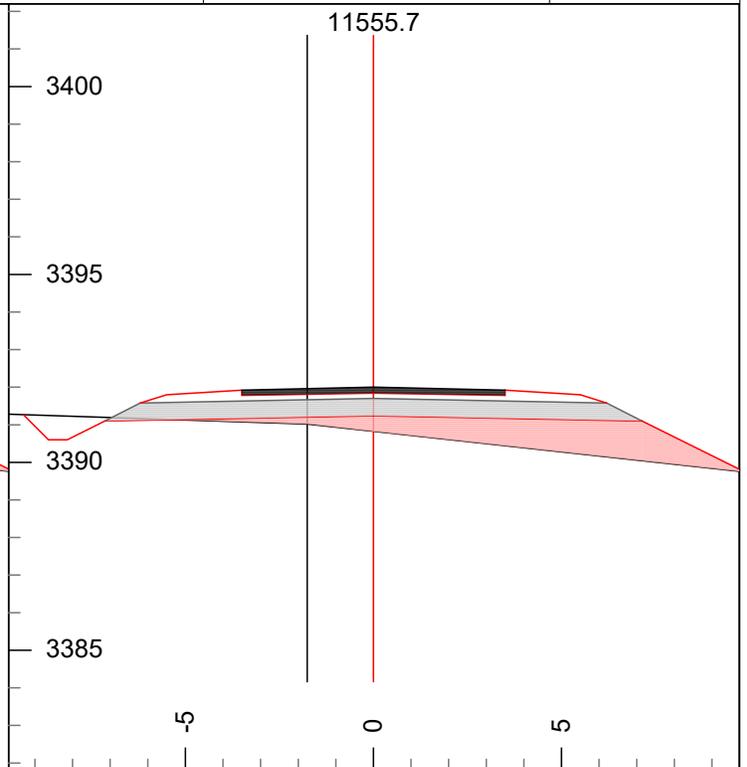
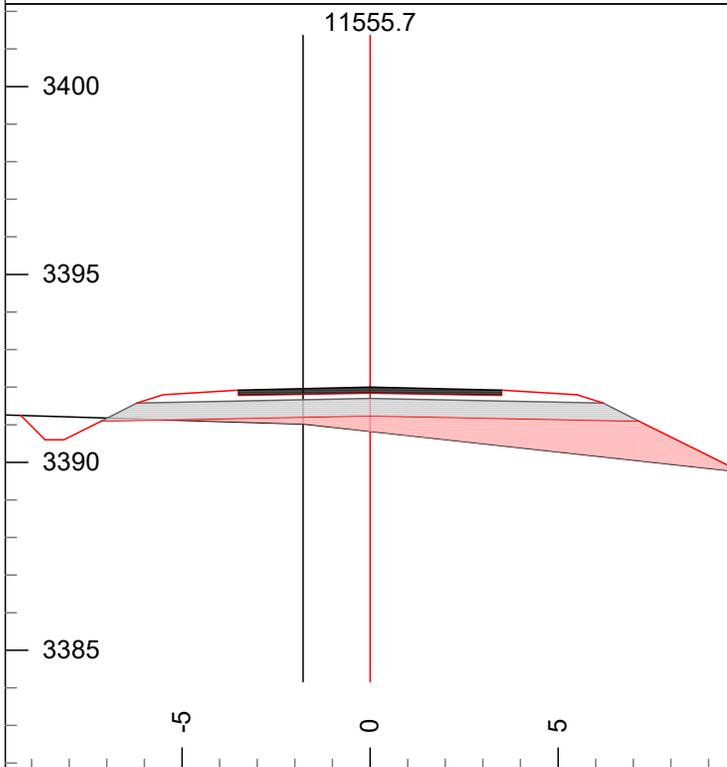
L-Stn : 11477.4 L-Ssl: 2 CL Elev: 3399.8  
 Cut Dp: -1.0 L-Ssr: -7 H. Offset: -2.1  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -11 F Slope R: -50



L-Stn : 11511.9 L-Ssl: 9 CL Elev: 3396.3  
 Cut Dp: -0.5 L-Ssr: -19 H. Offset: 3.6  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: -50

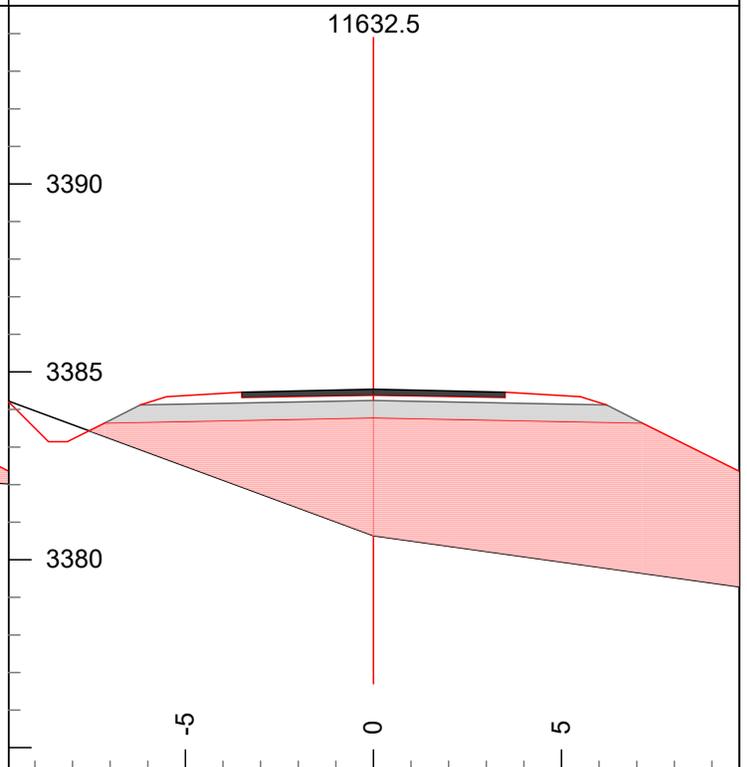
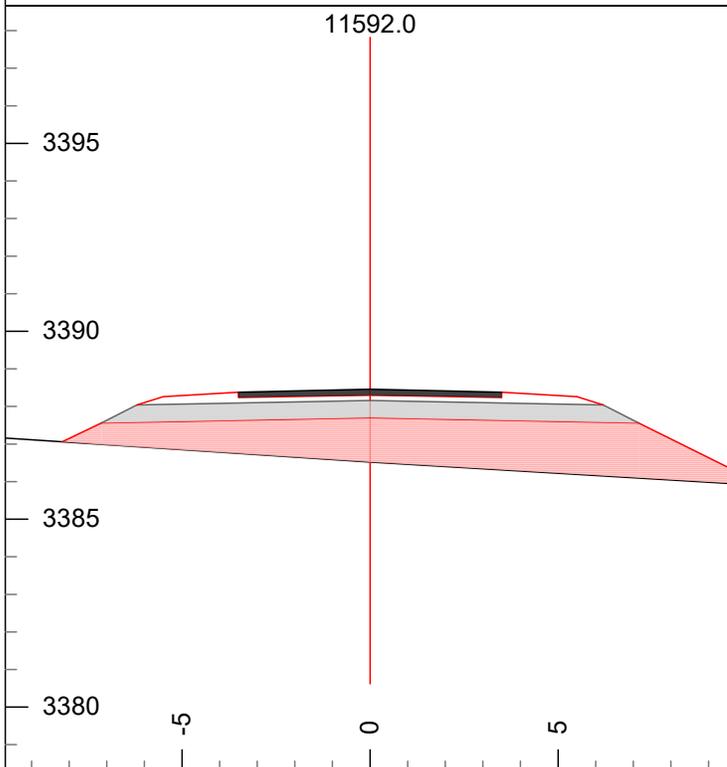


L-Stn : 11512.1 L-Ssl: 9 CL Elev: 3396.3  
 Cut Dp: -0.4 L-Ssr: -18 H. Offset: 3.6  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: -50



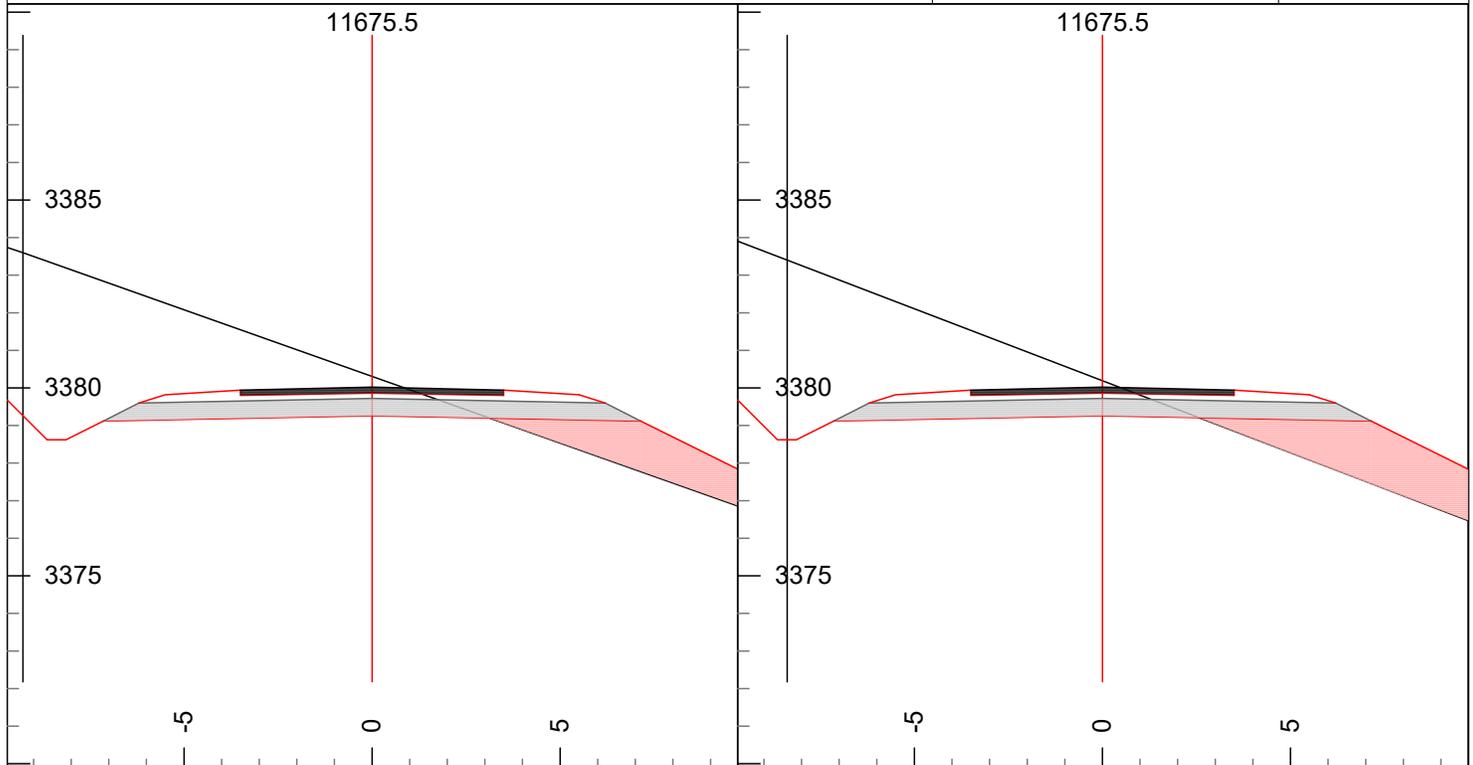
L-Stn : 11555.7 L-Ssl: 5 CL Elev: 3392.0  
 Cut Dp: -1.2 L-Ssr: -11 H. Offset: 1.8  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: -50

L-Stn : 11555.7 L-Ssl: 5 CL Elev: 3392.0  
 Cut Dp: -1.2 L-Ssr: -11 H. Offset: 1.8  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: -50



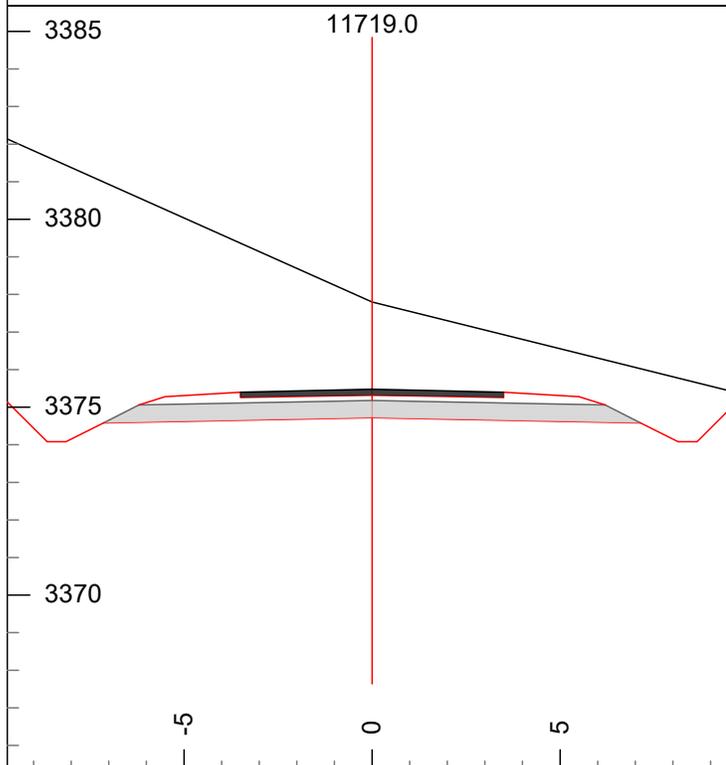
L-Stn : 11592.0 L-Ssl: 6 CL Elev: 3388.5  
 Cut Dp: -1.9 L-Ssr: -6 H. Offset: 0.0  
 Grd.Nxt.: -10 F Slope L: -50  
 Grd.Lst: -10 F Slope R: -50

L-Stn : 11632.5 L-Ssl: 37 CL Elev: 3384.5  
 Cut Dp: -3.9 L-Ssr: -14 H. Offset: 0.0  
 Grd.Nxt.: -11 F Slope L: 100  
 Grd.Lst: -10 F Slope R: -50

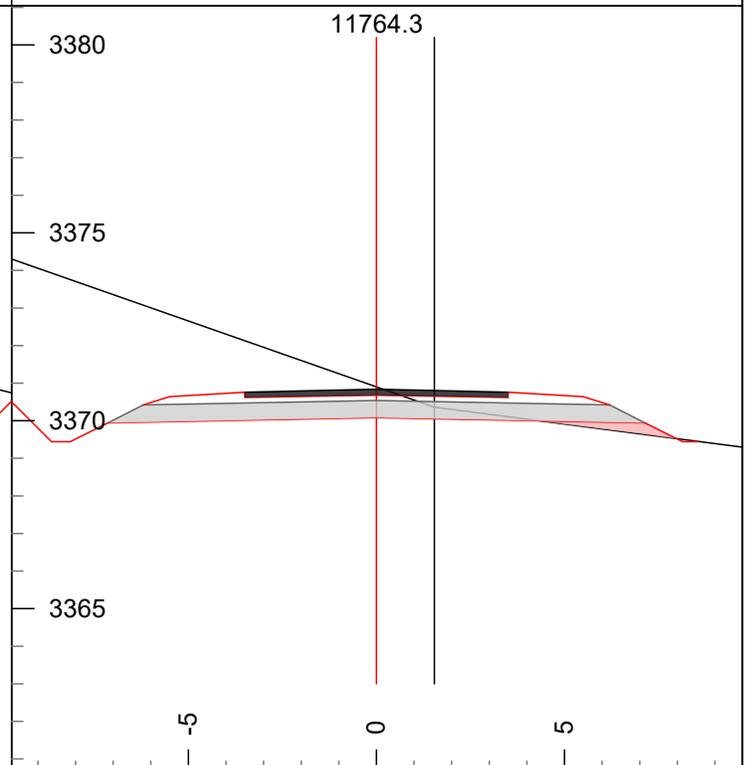


L-Stn : 11675.5 L-Ssl: 35 CL Elev: 3380.0  
 Cut Dp: 0.3 L-Ssr: -35 H. Offset: 8.2  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -11 F Slope R: -50

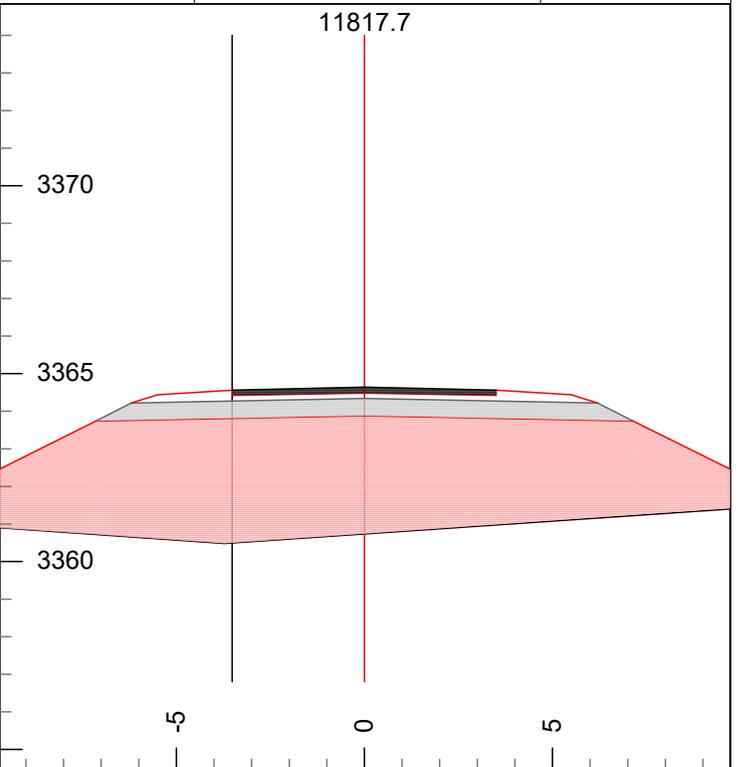
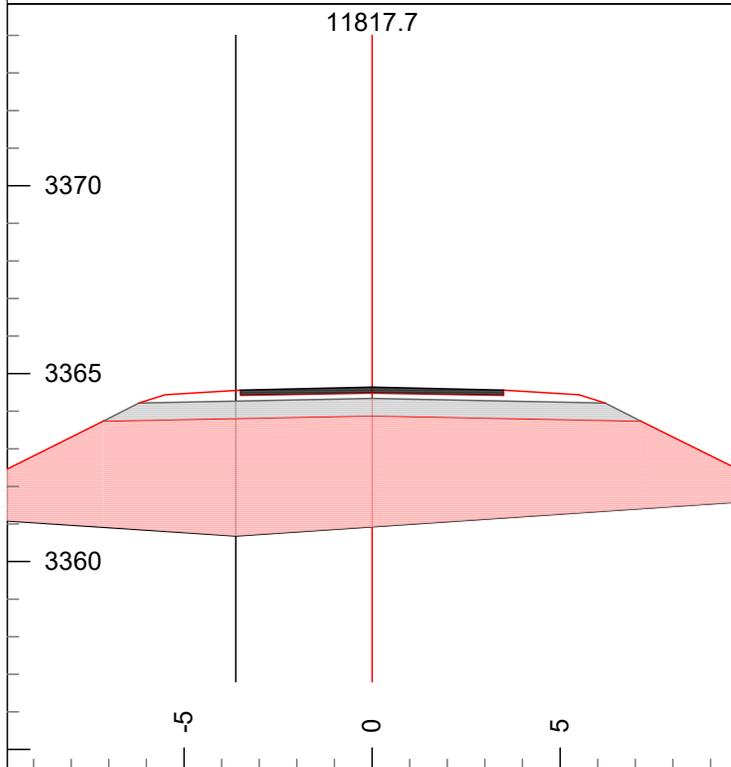
L-Stn : 11675.5 L-Ssl: 38 CL Elev: 3380.0  
 Cut Dp: 0.2 L-Ssr: -38 H. Offset: 9.3  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: -50



L-Stn : 11719.0 L-Ssl: 45 CL Elev: 3375.5  
 Cut Dp: 2.3 L-Ssr: -25 H. Offset: 0.0  
 Grd.Nxt.: -10 F Slope L: 100  
 Grd.Lst: -10 F Slope R: 100

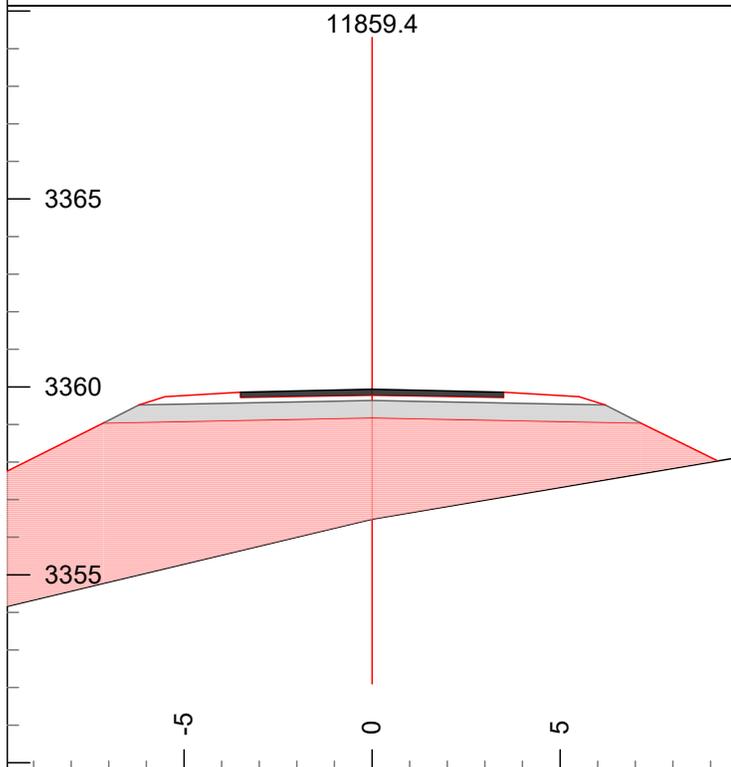


L-Stn : 11764.3 L-Ssl: 35 CL Elev: 3370.8  
 Cut Dp: 0.1 L-Ssr: -16 H. Offset: -1.5  
 Grd.Nxt.: -12 F Slope L: 100  
 Grd.Lst: -10 F Slope R: 0

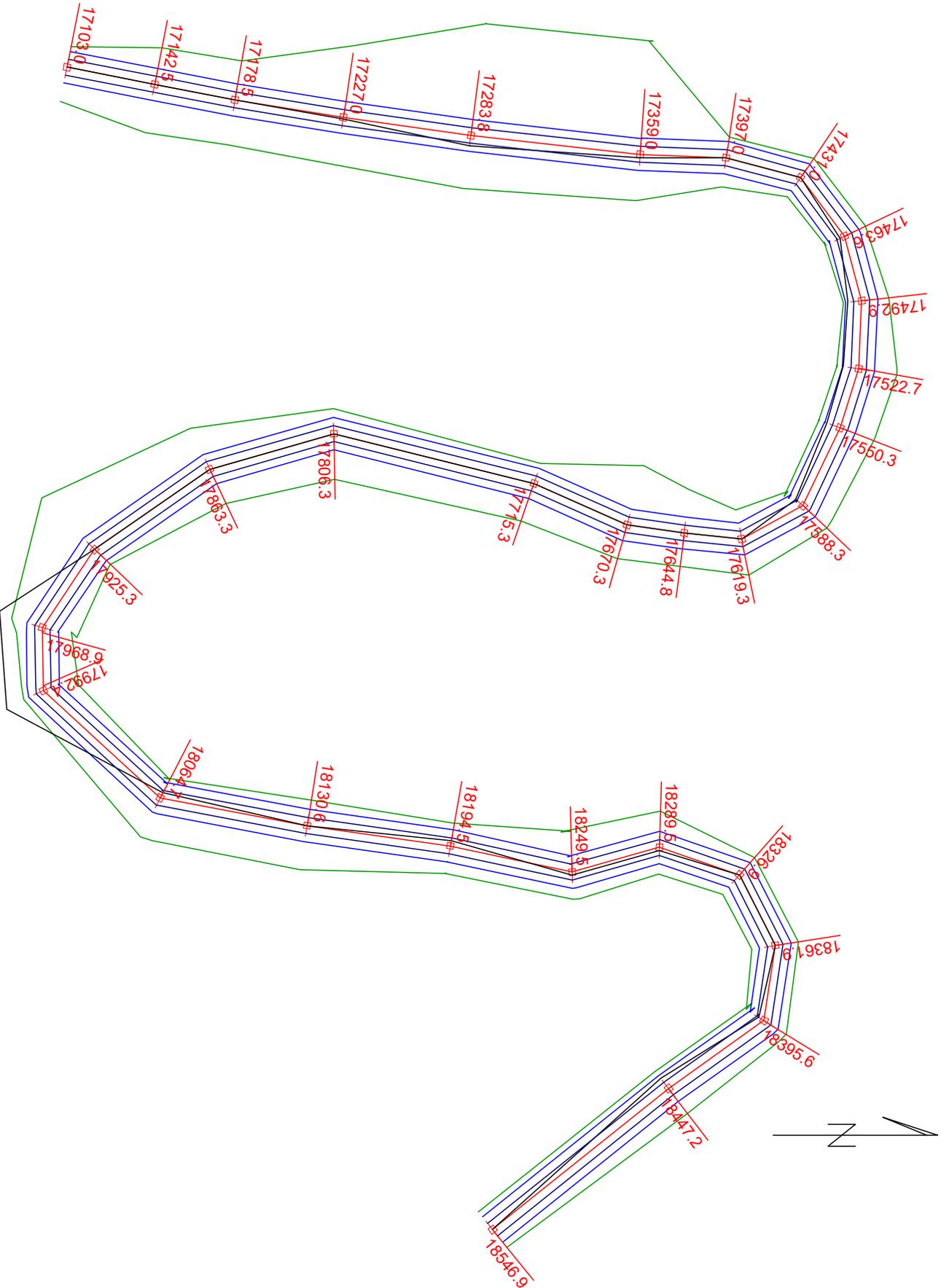


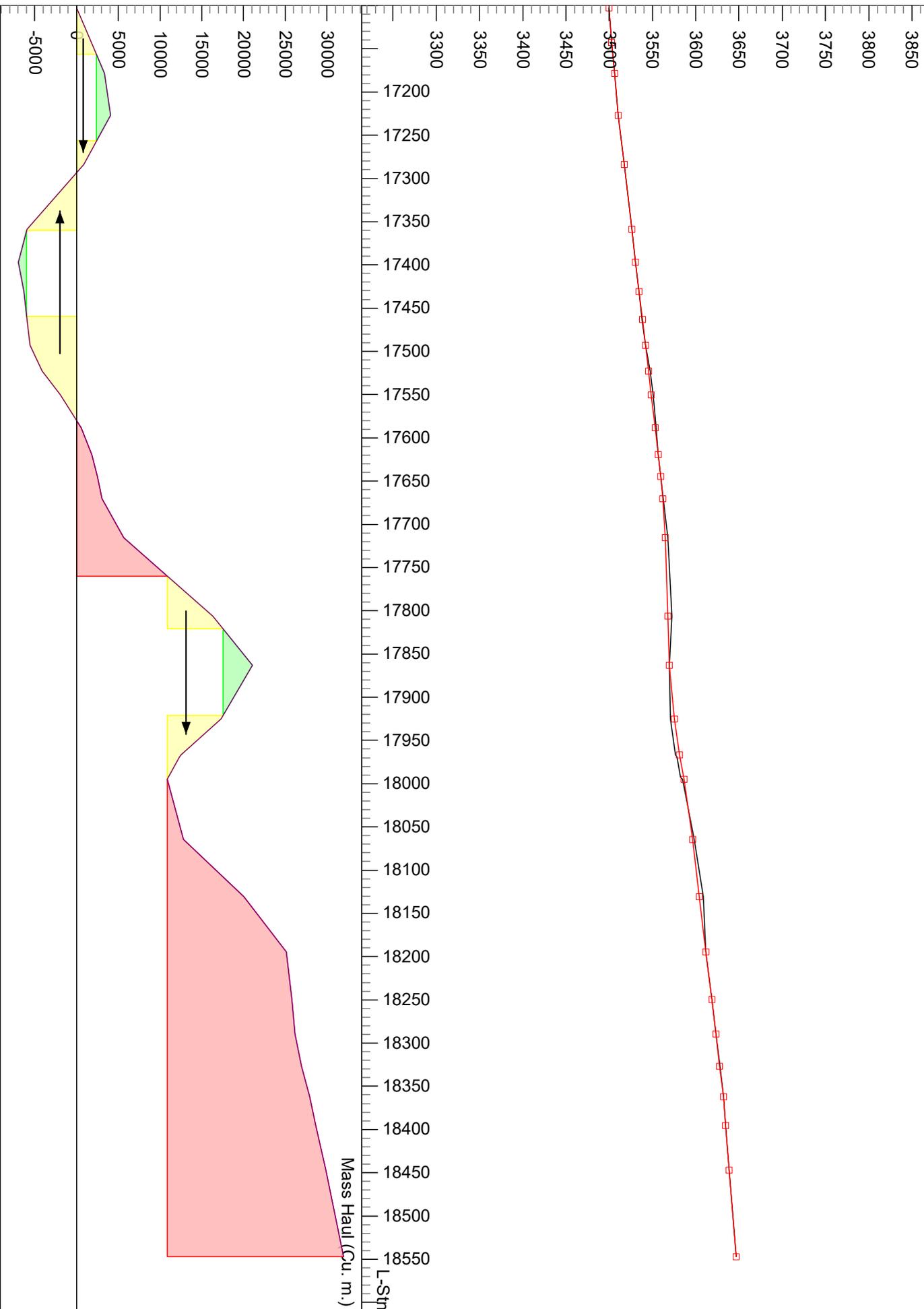
L-Stn : 11817.7 L-Ssl: 2 CL Elev: 3364.6  
 Cut Dp: -3.7 L-Ssr: 7 H. Offset: 3.5  
 Grd.Nxt.: -11 F Slope L: -50  
 Grd.Lst: -12 F Slope R: -50

L-Stn : 11817.7 L-Ssl: 2 CL Elev: 3364.6  
 Cut Dp: -3.9 L-Ssr: 7 H. Offset: 3.7  
 Grd.Nxt.: -11 F Slope L: -50  
 Grd.Lst: -11 F Slope R: -50



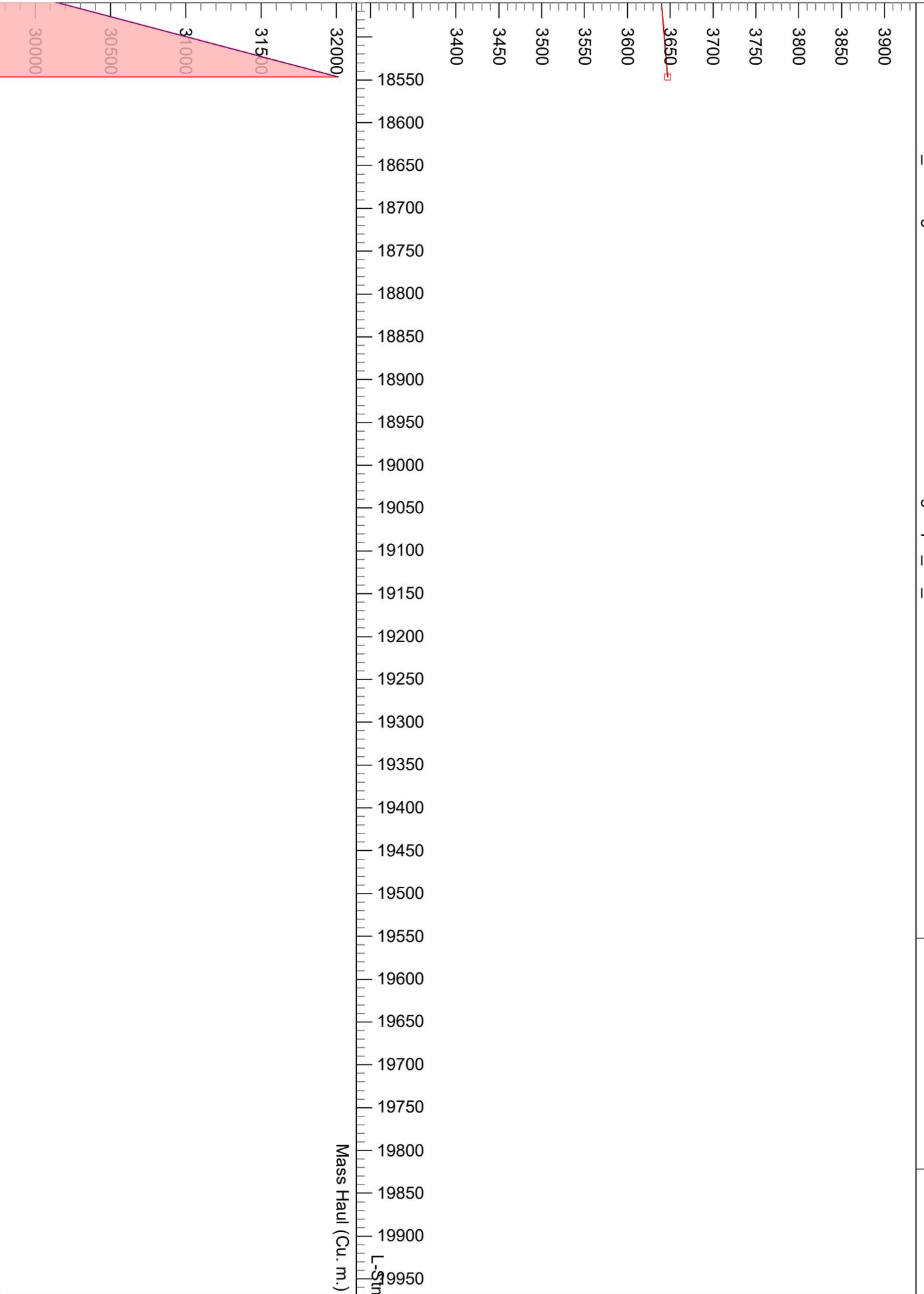
L-Stn : 11859.4 L-Ssl: -24 CL Elev: 3359.9  
 Cut Dp: -3.5 L-Ssr: 17 H. Offset: 0.0  
 Grd.Nxt.: n/a F Slope L: -50  
 Grd.Lst: -11 F Slope R: -50

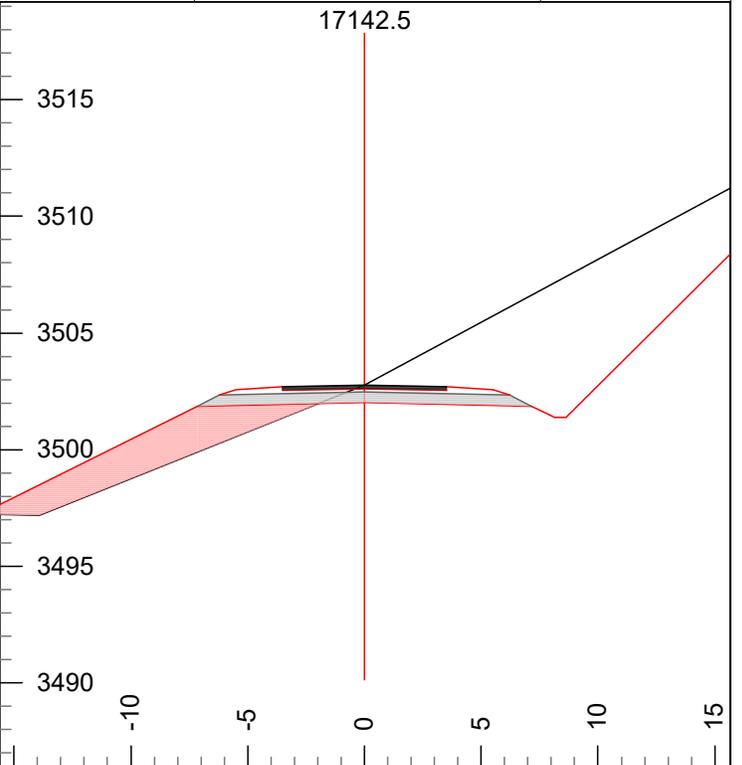
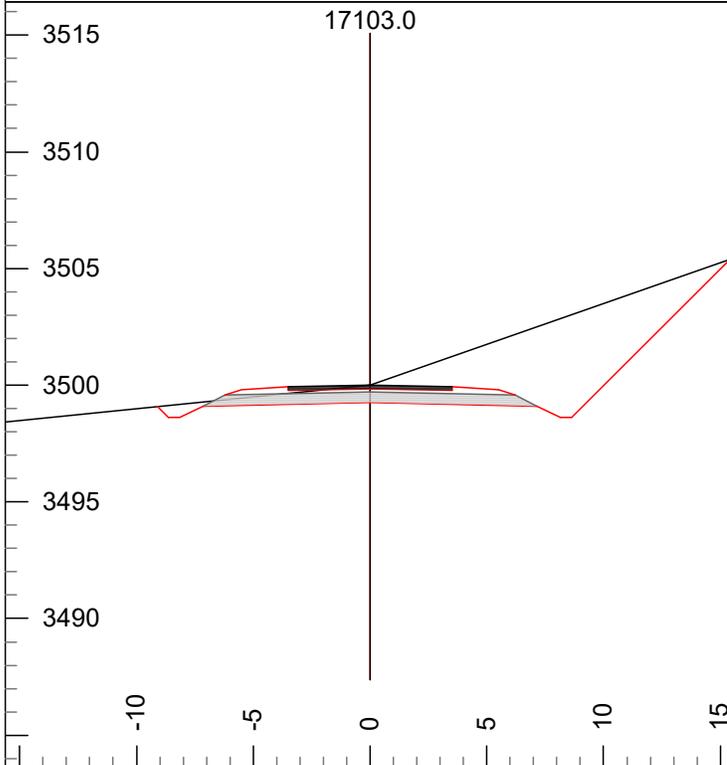




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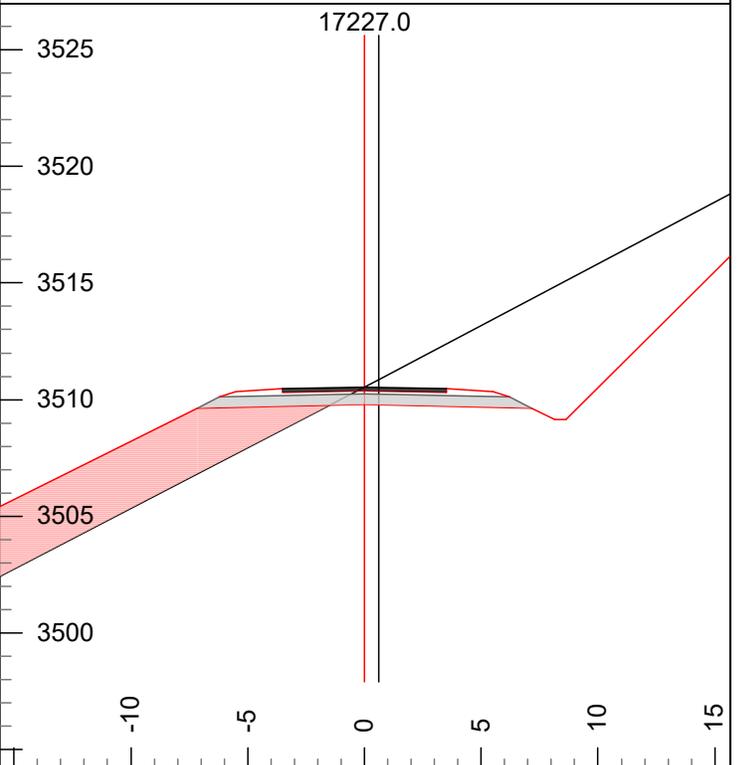
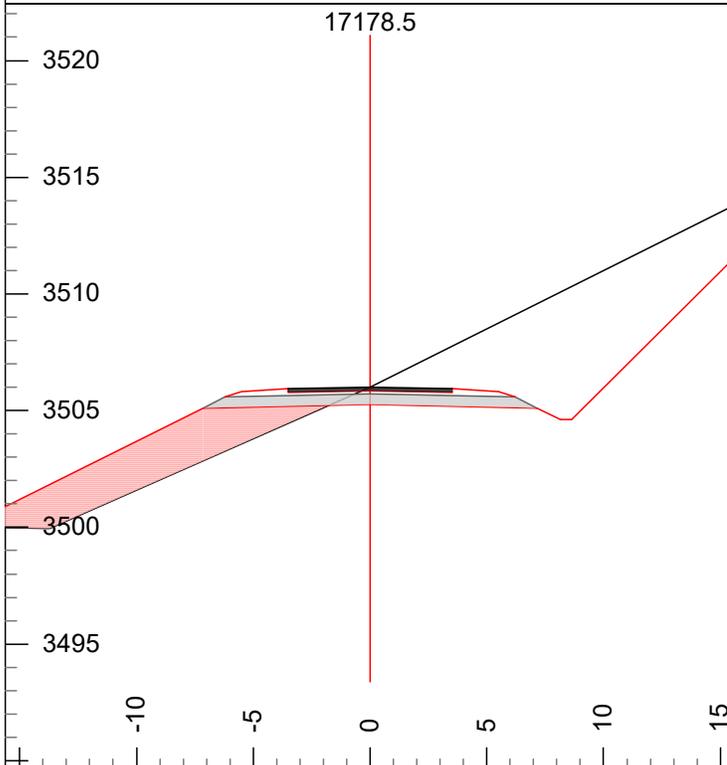
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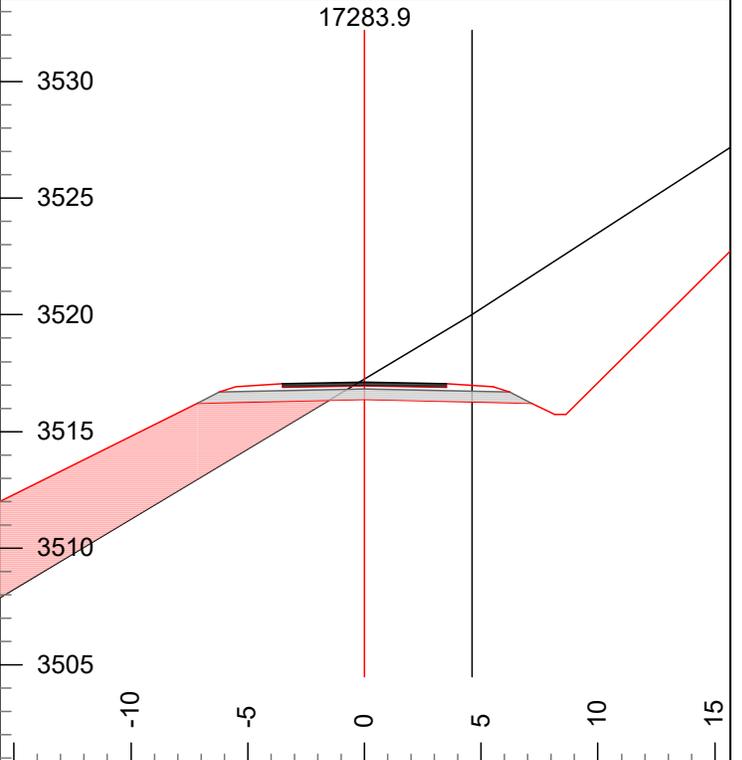
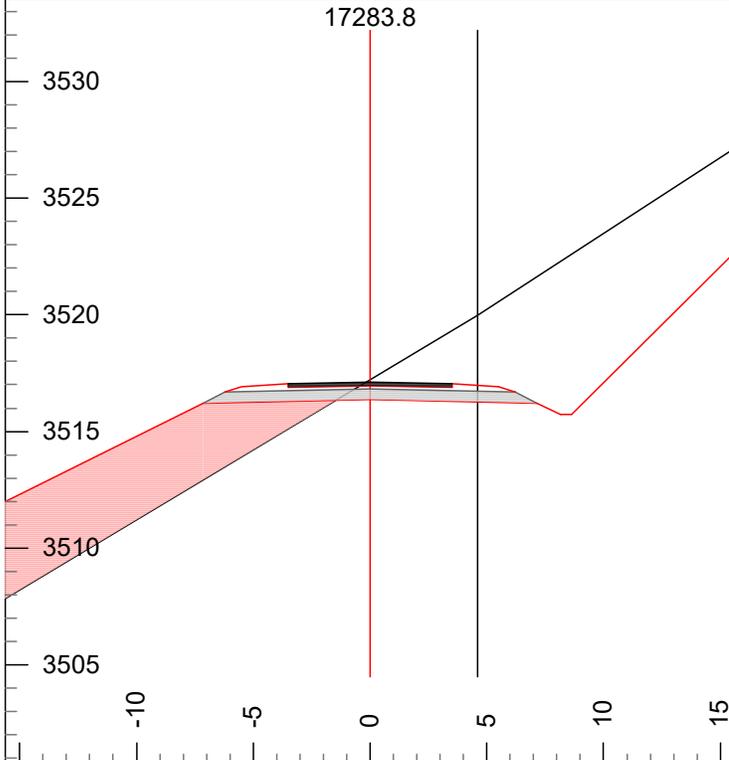
L-Stn : 17103.0 L-Ssl: -10 CL Elev: 3500.0  
 Cut Dp: 0.0 L-Ssr: 35 H. Offset: 0.0  
 Grd.Nxt.: 7 F Slope L: 100  
 Grd.Lst: n/a F Slope R: 100

L-Stn : 17142.5 L-Ssl: -40 CL Elev: 3502.8  
 Cut Dp: 0.0 L-Ssr: 54 H. Offset: 0.0  
 Grd.Nxt.: 9 F Slope L: -50  
 Grd.Lst: 7 F Slope R: 100



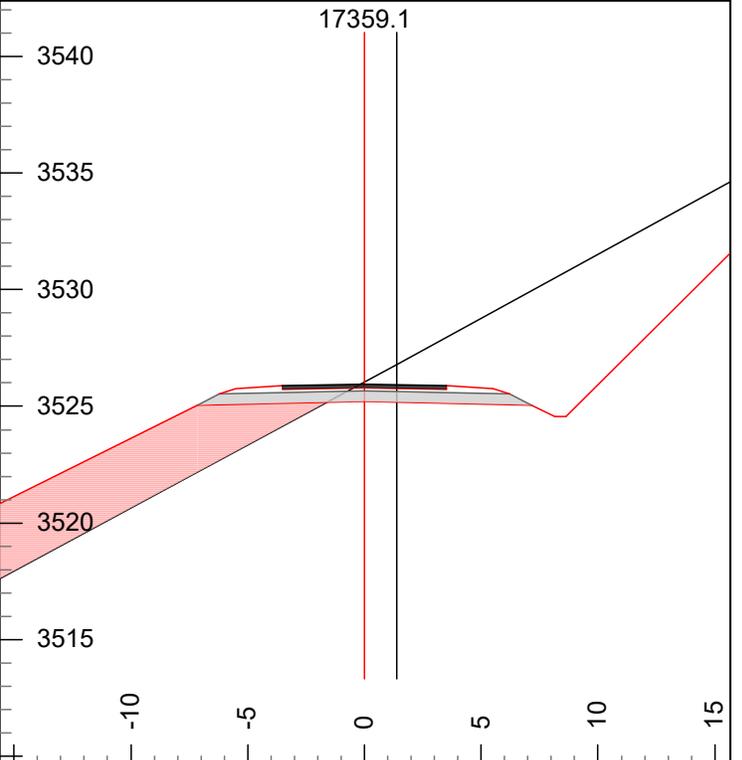
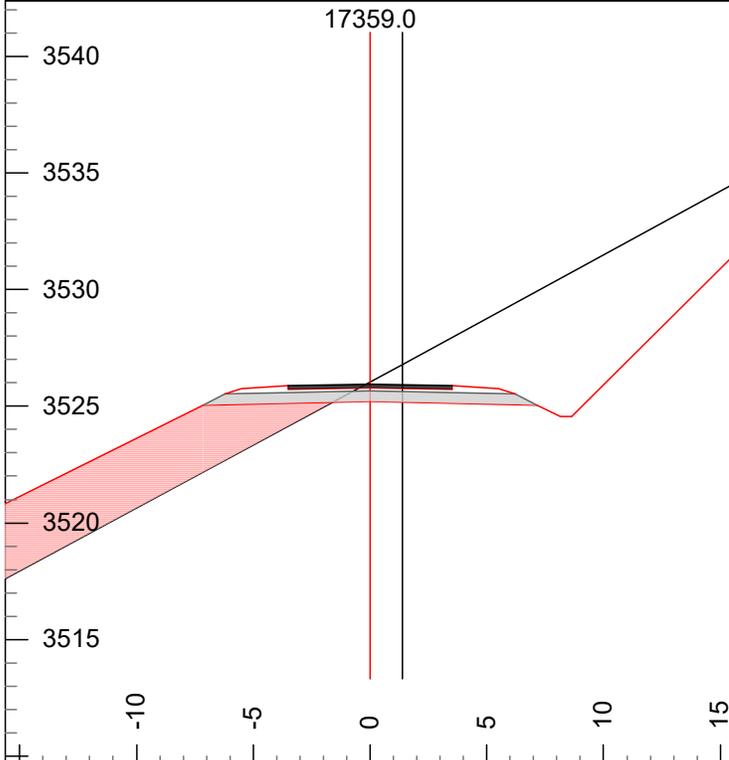
L-Stn : 17178.5 L-Ssl: -44 CL Elev: 3506.0  
 Cut Dp: 0.0 L-Ssr: 50 H. Offset: 0.0  
 Grd.Nxt.: 9 F Slope L: -50  
 Grd.Lst: 9 F Slope R: 100

L-Stn : 17227.0 L-Ssl: -52 CL Elev: 3510.5  
 Cut Dp: 0.0 L-Ssr: 53 H. Offset: -0.6  
 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 9 F Slope R: 100



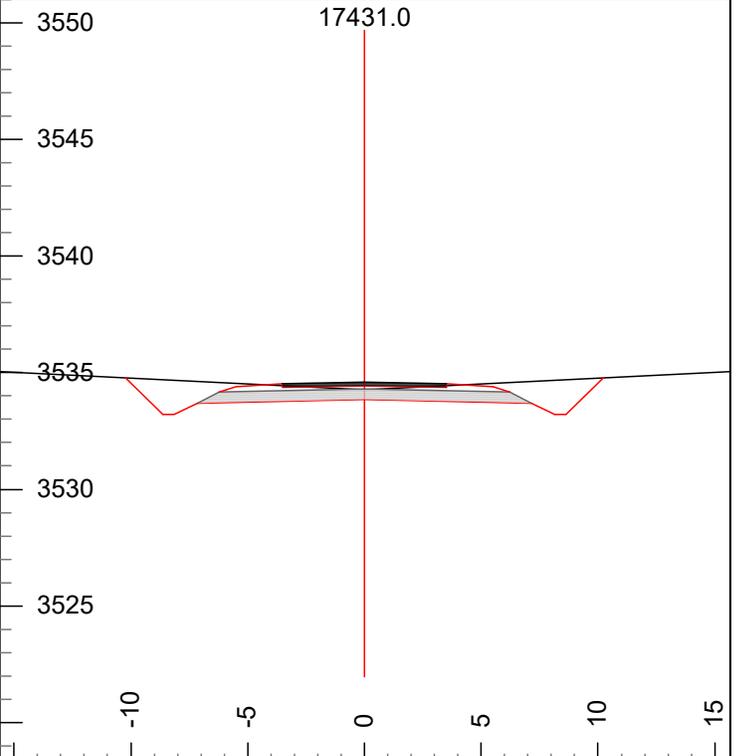
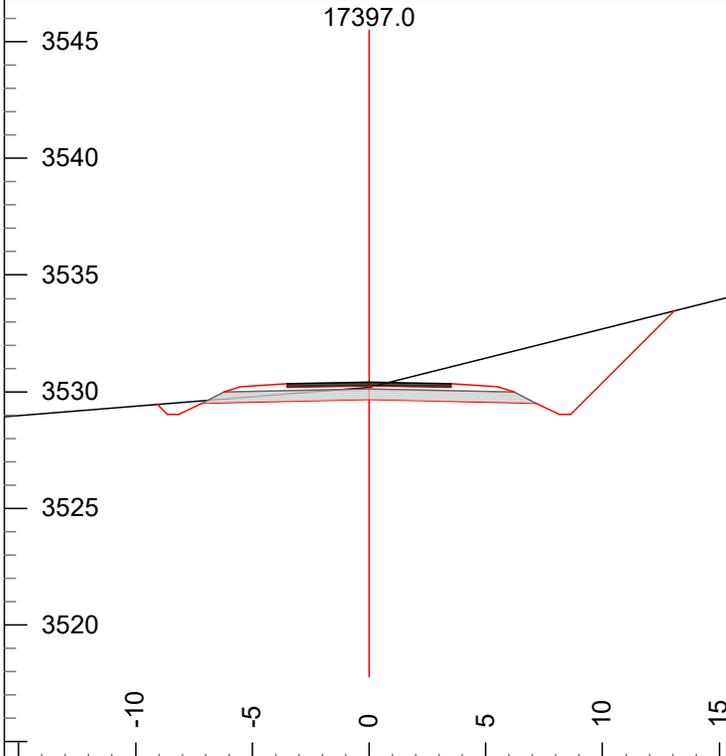
L-Stn : 17283.8 L-Ssl: -60 CL Elev: 3517.1  
 Cut Dp: 0.1 L-Ssr: 63 H. Offset: -4.6  
 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 17283.9 L-Ssl: -60 CL Elev: 3517.1  
 Cut Dp: 0.1 L-Ssr: 63 H. Offset: -4.6  
 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 12 F Slope R: 100



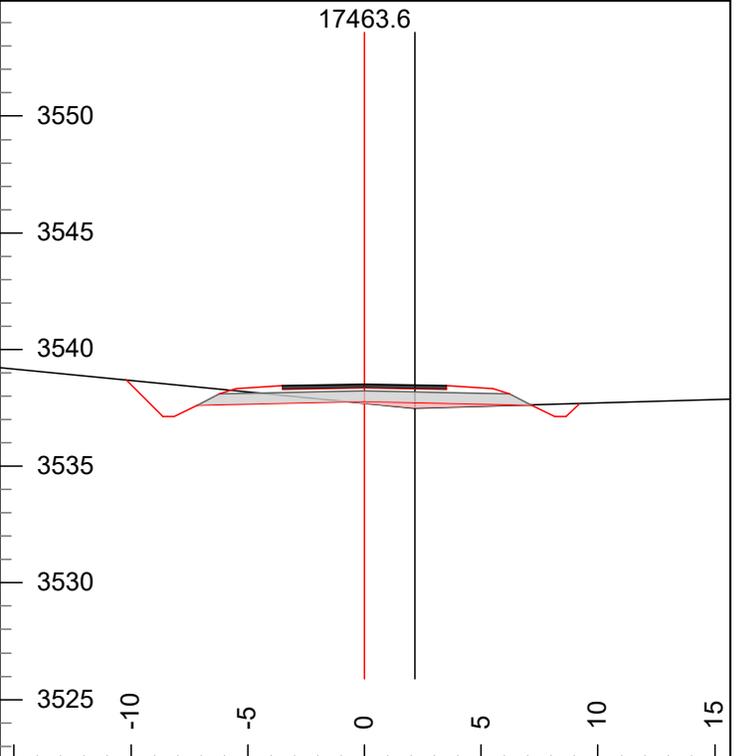
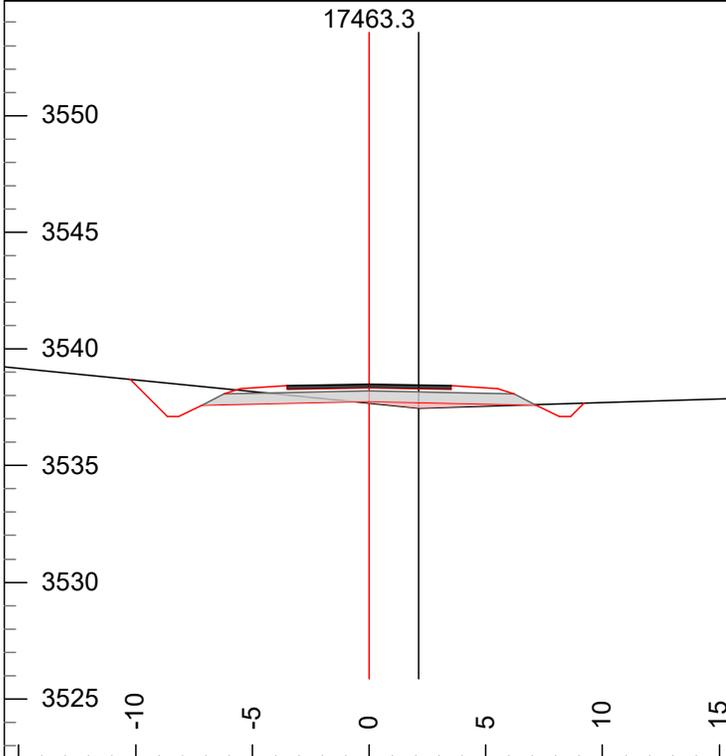
L-Stn : 17359.0 L-Ssl: -54 CL Elev: 3525.9  
 Cut Dp: 0.1 L-Ssr: 55 H. Offset: -1.4  
 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 17359.1 L-Ssl: -54 CL Elev: 3525.9  
 Cut Dp: 0.1 L-Ssr: 55 H. Offset: -1.4  
 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 12 F Slope R: 100



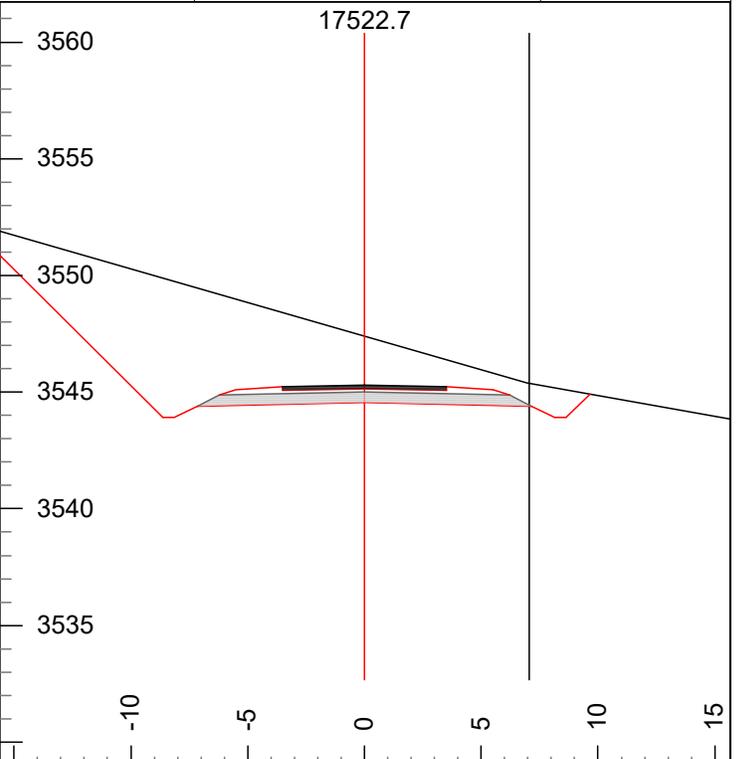
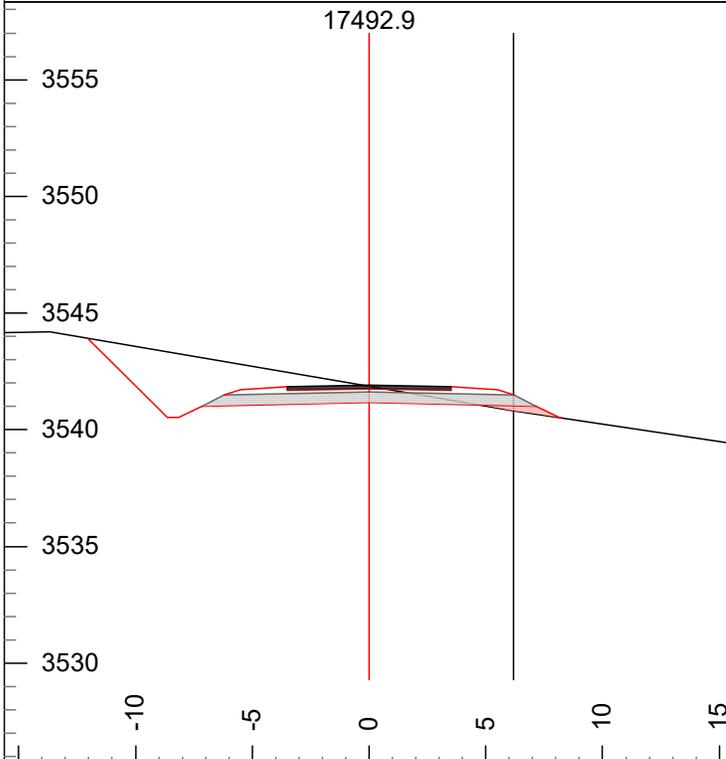
L-Stn : 17397.0 L-Ssl: -8 CL Elev: 3530.4  
 Cut Dp: -0.2 L-Ssr: 25 H. Offset: 0.0  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 17431.0 L-Ssl: 5 CL Elev: 3534.6  
 Cut Dp: -0.3 L-Ssr: 5 H. Offset: 0.0  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100



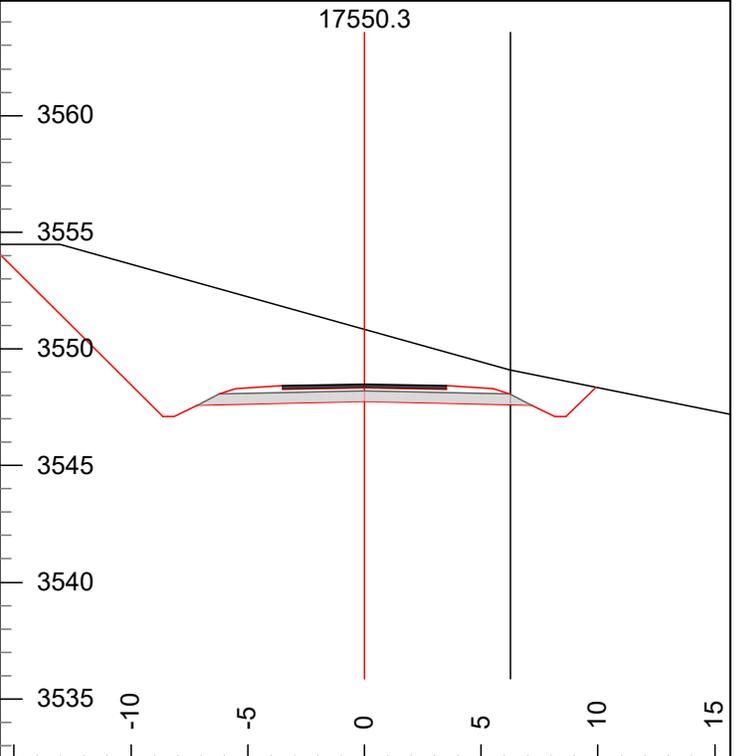
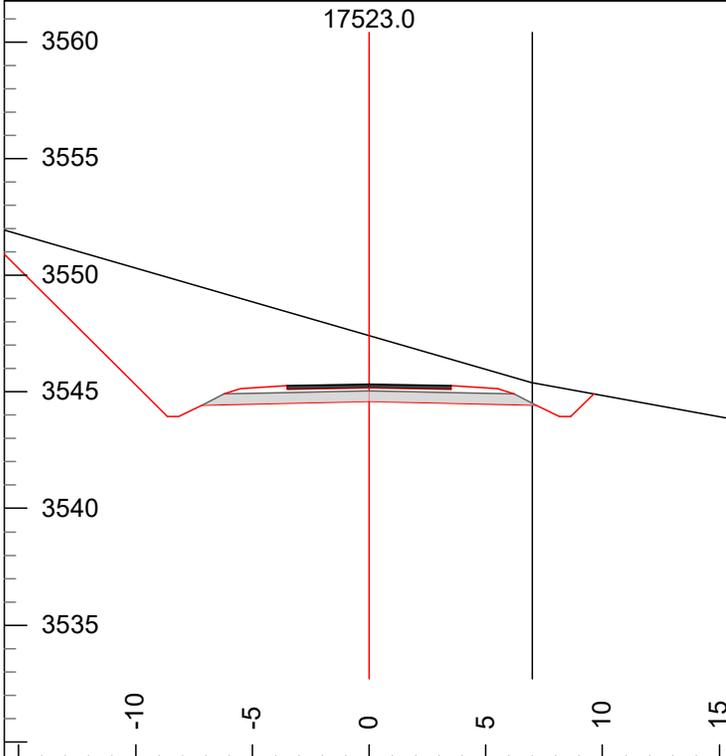
L-Stn : 17463.3 L-Ssl: 10 CL Elev: 3538.5  
 Cut Dp: -0.8 L-Ssr: 0 H. Offset: -2.1  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 17463.6 L-Ssl: 10 CL Elev: 3538.5  
 Cut Dp: -0.8 L-Ssr: 0 H. Offset: -2.1  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100



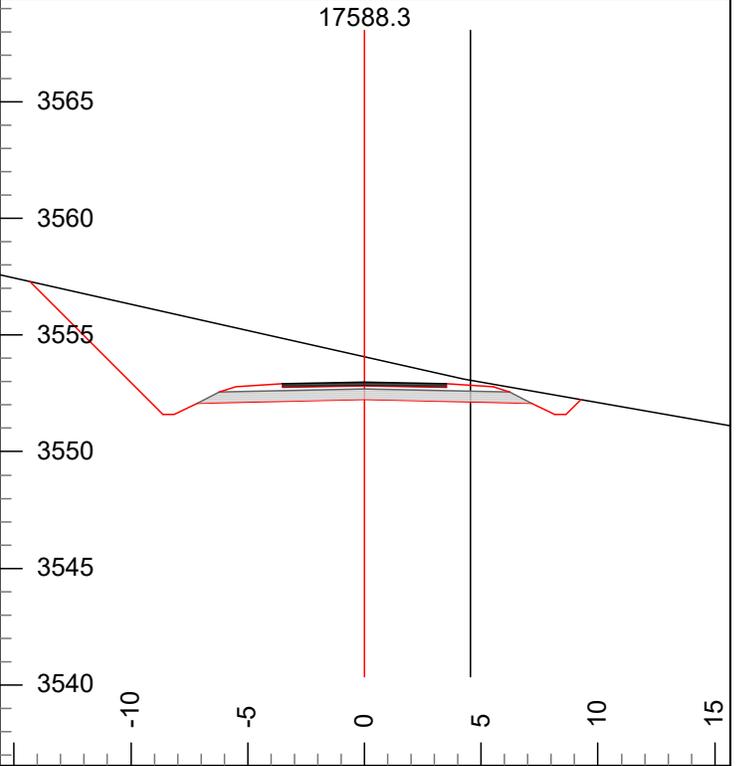
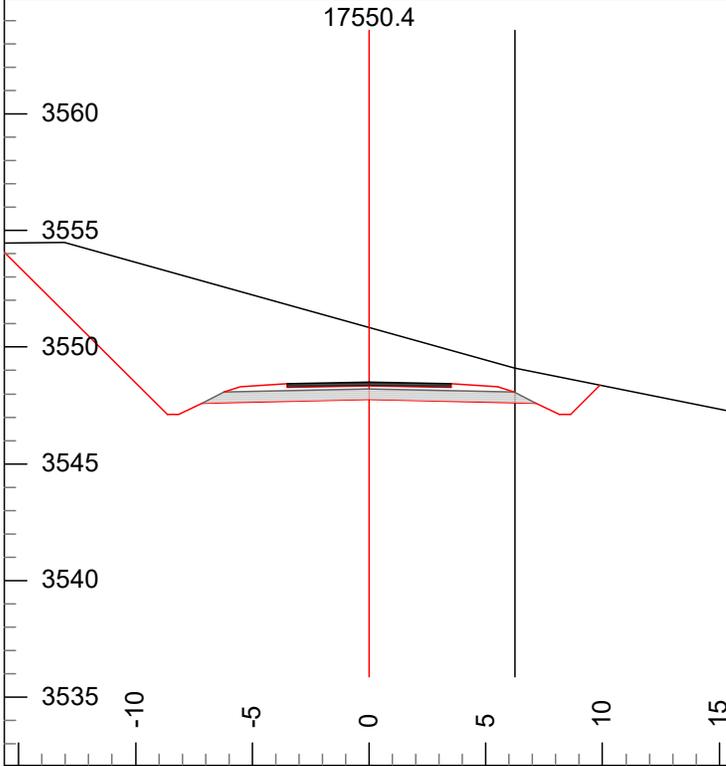
L-Stn : 17492.9 L-Ssl: 17 CL Elev: 3541.9  
 Cut Dp: 0.0 L-Ssr: -16 H. Offset: -6.1  
 Grd.Nxt.: 11 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 0

L-Stn : 17522.7 L-Ssl: 29 CL Elev: 3545.3  
 Cut Dp: 2.1 L-Ssr: -25 H. Offset: -6.9  
 Grd.Nxt.: 11 F Slope L: 100  
 Grd.Lst: 11 F Slope R: 100



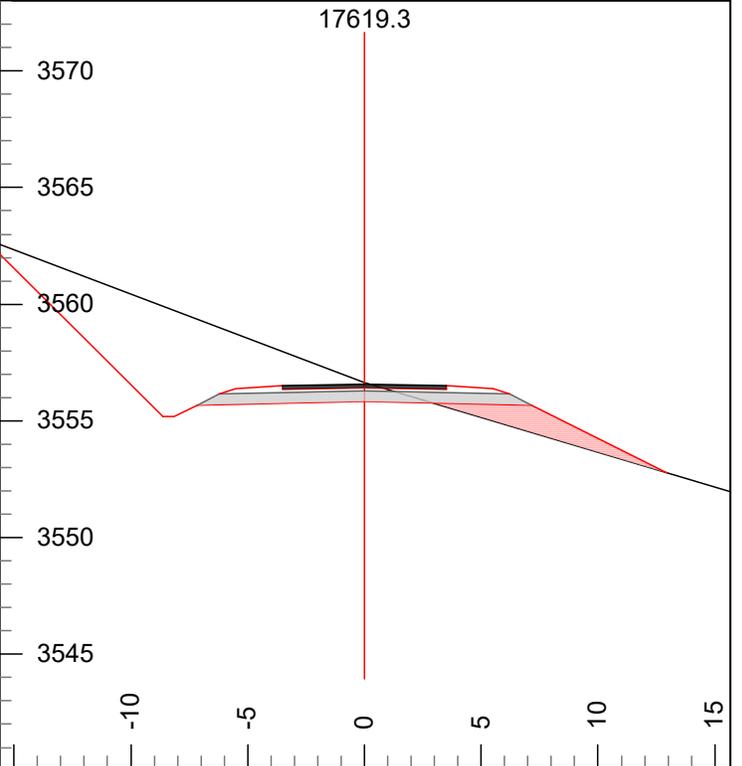
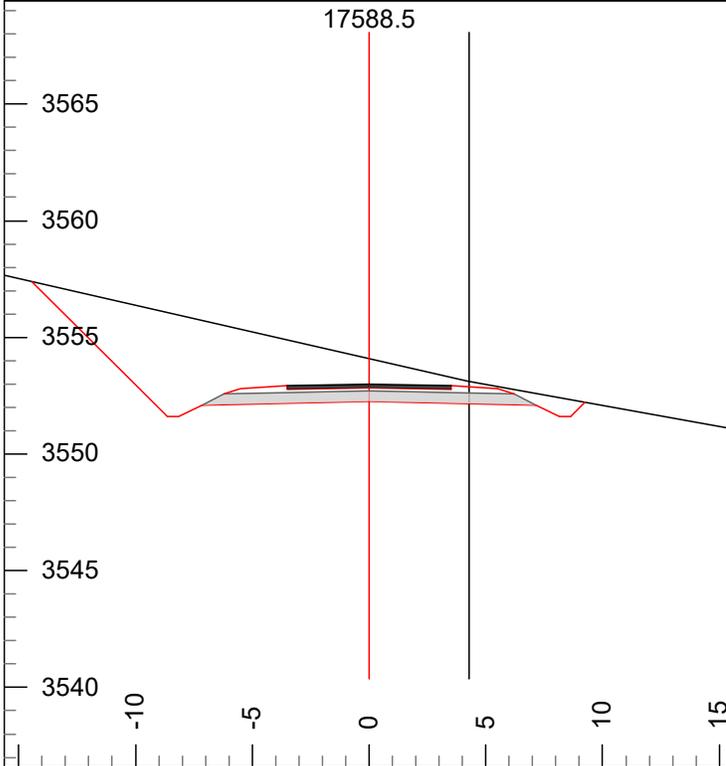
L-Stn : 17523.0 L-Ssl: 29 CL Elev: 3545.3  
 Cut Dp: 2.1 L-Ssr: -26 H. Offset: -7.0  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 11 F Slope R: 100

L-Stn : 17550.3 L-Ssl: 28 CL Elev: 3548.5  
 Cut Dp: 2.4 L-Ssr: -25 H. Offset: -6.2  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100



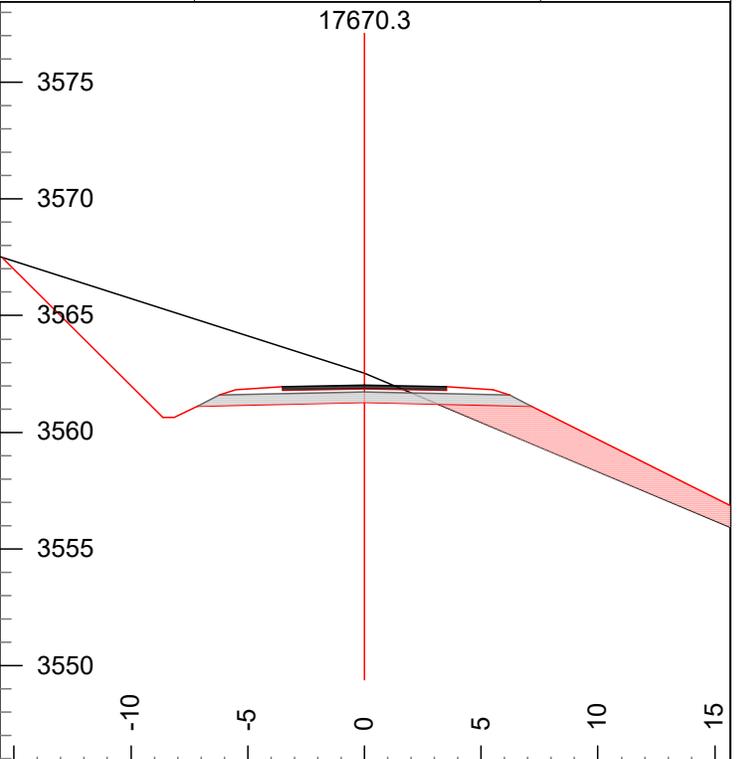
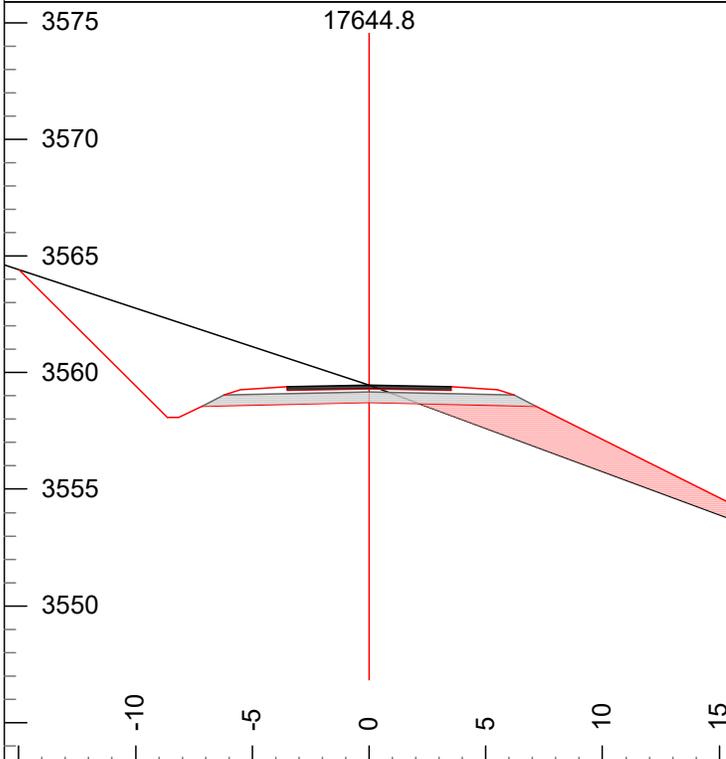
L-Stn : 17550.4 L-Ssl: 28 CL Elev: 3548.5  
 Cut Dp: 2.3 L-Ssr: -25 H. Offset: -6.2  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 17588.3 L-Ssl: 22 CL Elev: 3553.0  
 Cut Dp: 1.1 L-Ssr: -20 H. Offset: -4.2  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100



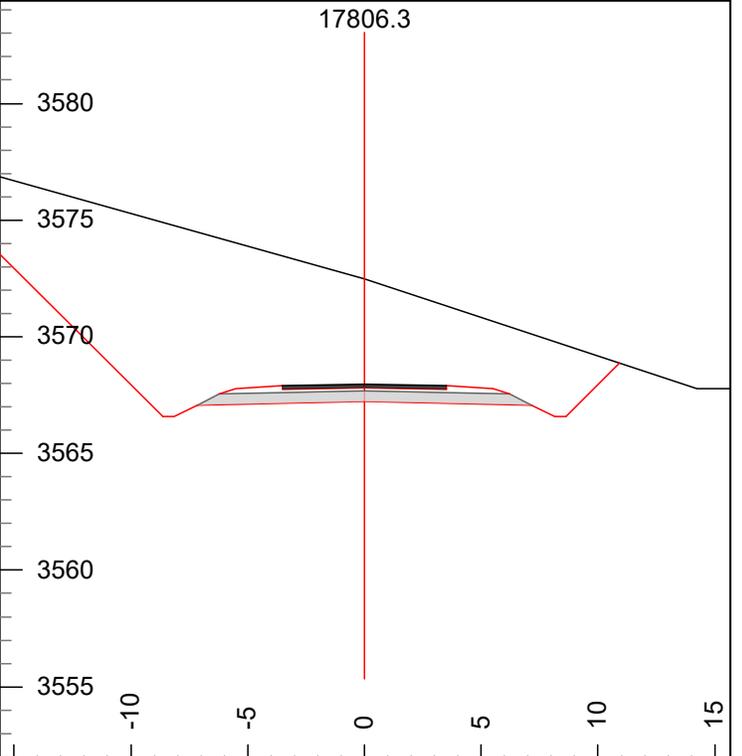
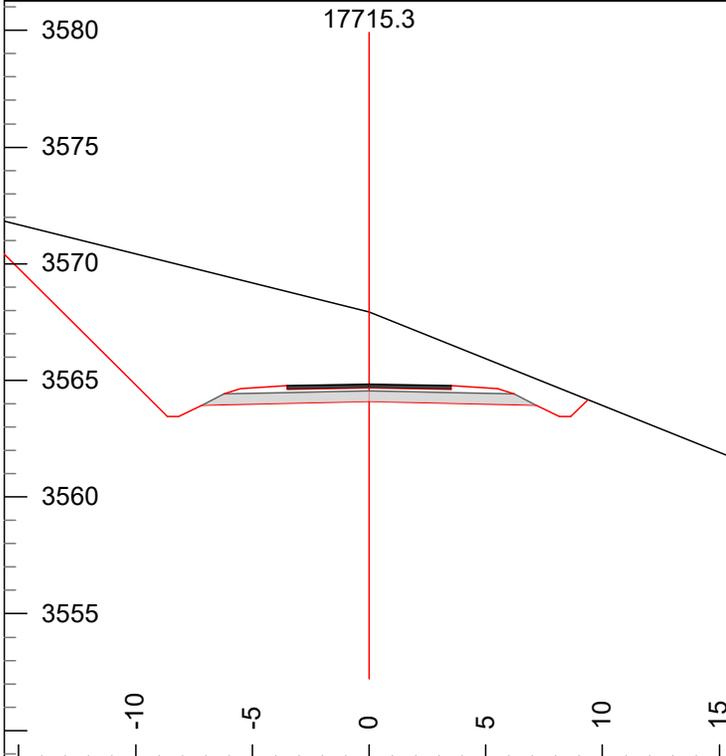
L-Stn : 17588.5 L-Ssl: 23 CL Elev: 3553.0  
 Cut Dp: 1.1 L-Ssr: -20 H. Offset: -4.2  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 17619.3 L-Ssl: 38 CL Elev: 3556.6  
 Cut Dp: 0.1 L-Ssr: -30 H. Offset: 0.0  
 Grd.Nxt.: 11 F Slope L: 100  
 Grd.Lst: 12 F Slope R: -50



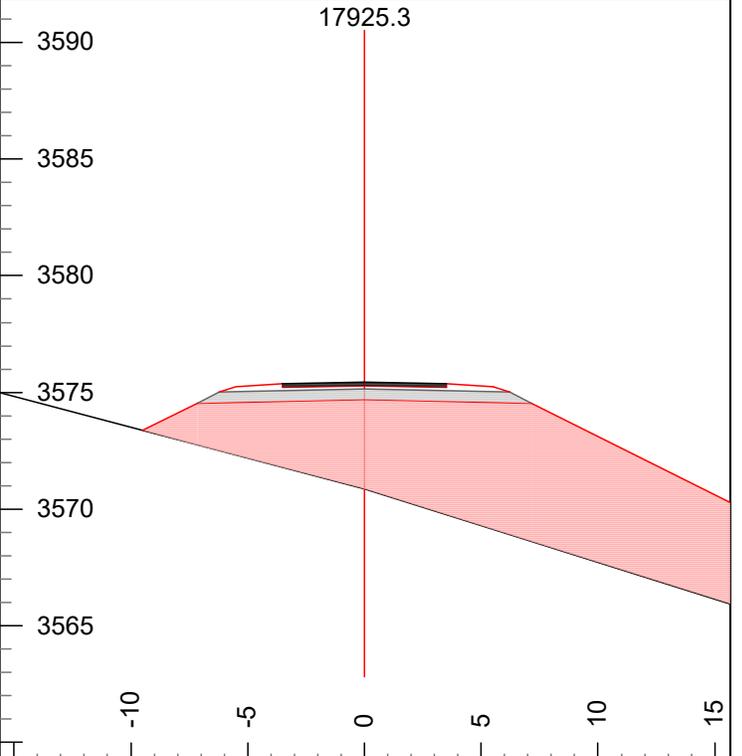
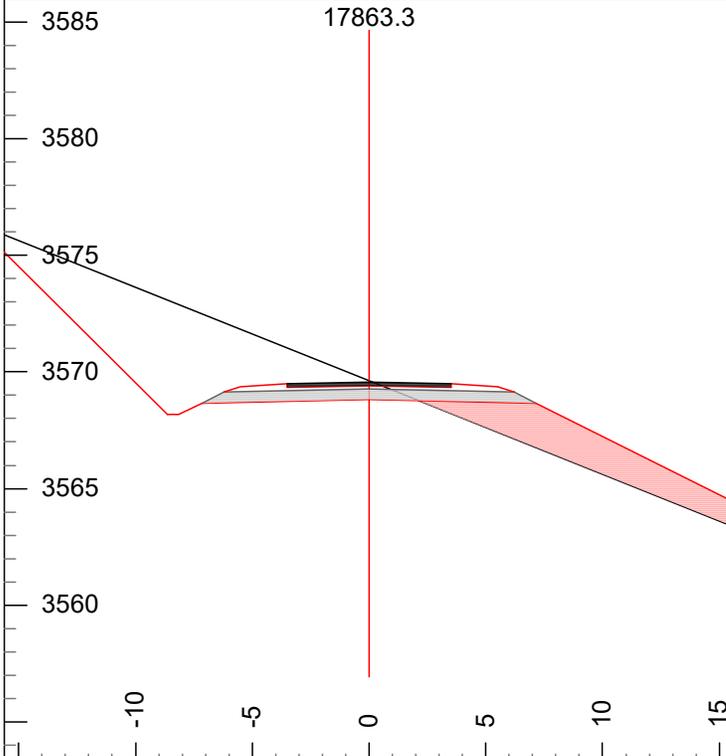
L-Stn : 17644.8 L-Ssl: 33 CL Elev: 3559.5  
 Cut Dp: 0.0 L-Ssr: -37 H. Offset: 0.0  
 Grd.Nxt.: 10 F Slope L: 100  
 Grd.Lst: 11 F Slope R: -50

L-Stn : 17670.3 L-Ssl: 32 CL Elev: 3562.0  
 Cut Dp: 0.5 L-Ssr: -42 H. Offset: 0.0  
 Grd.Nxt.: 6 F Slope L: 100  
 Grd.Lst: 10 F Slope R: -50



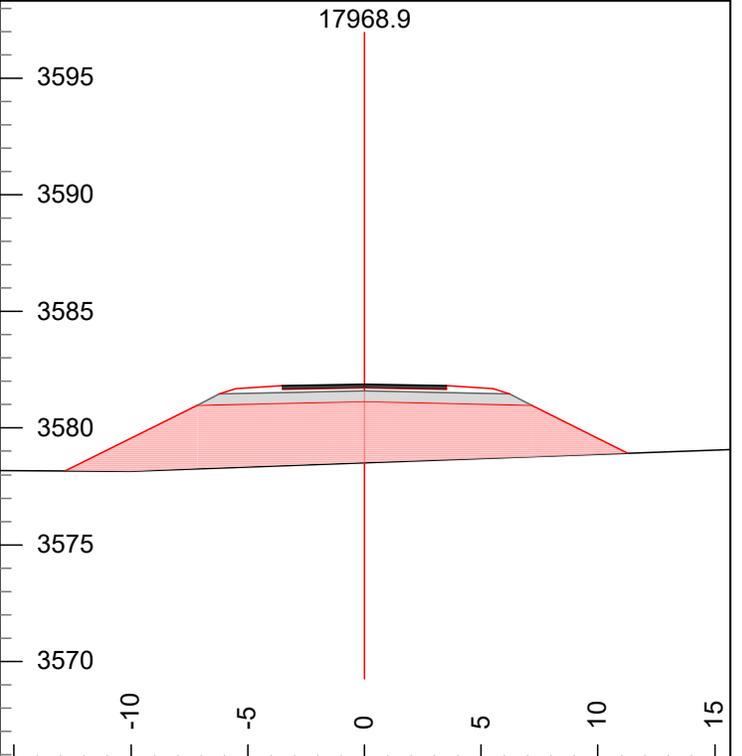
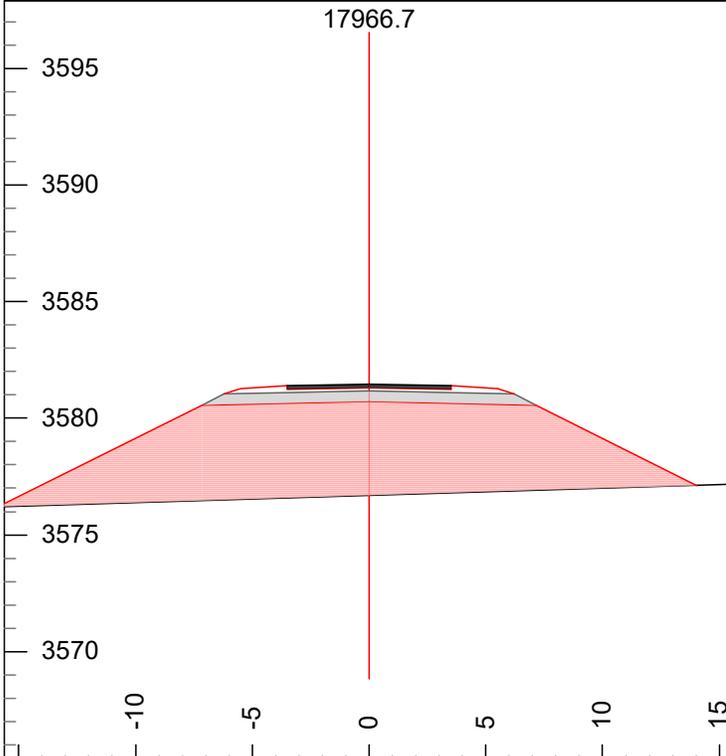
L-Stn : 17715.3 L-Ssl: 25 CL Elev: 3564.8  
 Cut Dp: 3.1 L-Ssr: -40 H. Offset: 0.0  
 Grd.Nxt.: 3 F Slope L: 100  
 Grd.Lst: 6 F Slope R: 100

L-Stn : 17806.3 L-Ssl: 28 CL Elev: 3568.0  
 Cut Dp: 4.5 L-Ssr: -33 H. Offset: 0.0  
 Grd.Nxt.: 3 F Slope L: 100  
 Grd.Lst: 3 F Slope R: 100



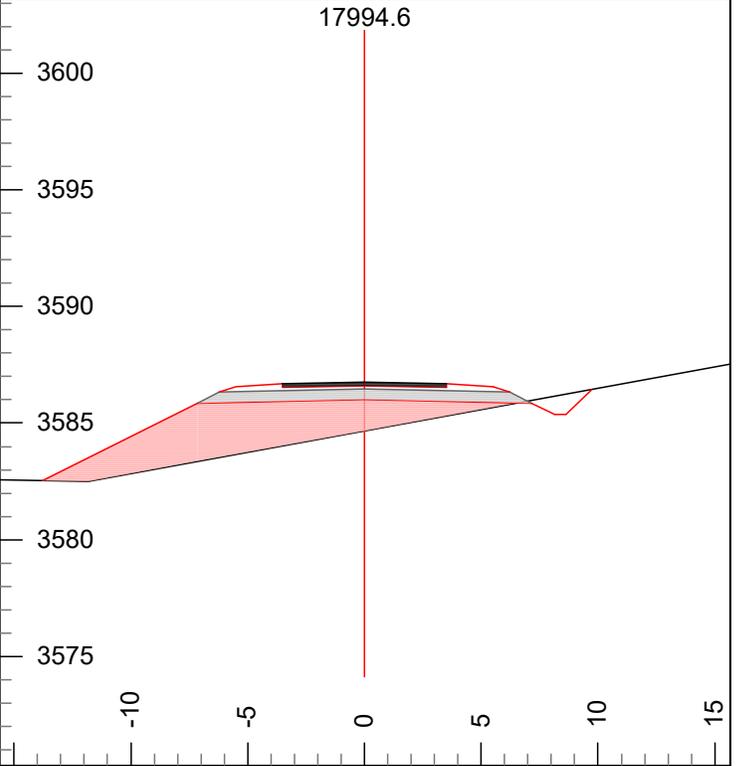
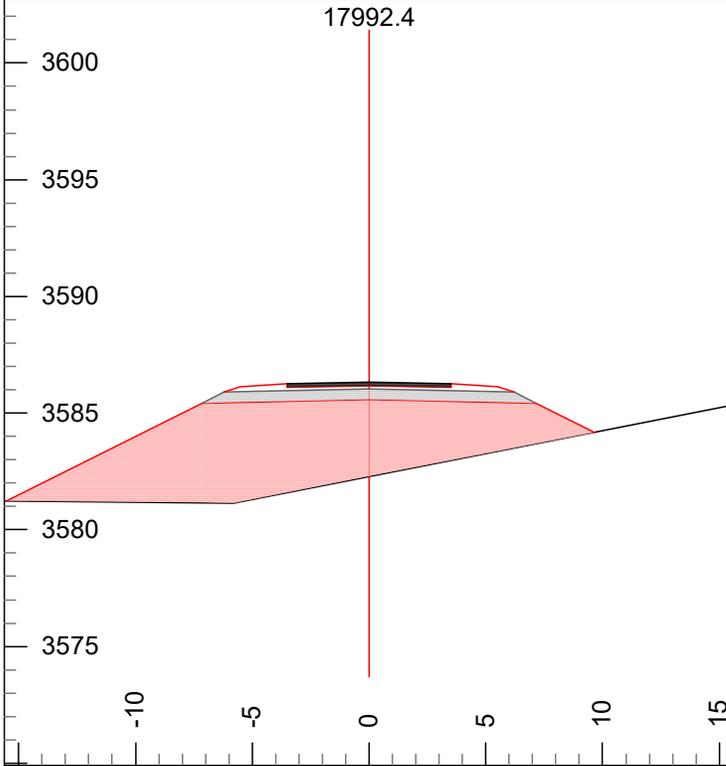
L-Stn : 17863.3 L-Ssl: 40 CL Elev: 3569.6  
 Cut Dp: 0.1 L-Ssr: -40 H. Offset: 0.0  
 Grd.Nxt.: 9 F Slope L: 100  
 Grd.Lst: 3 F Slope R: -50

L-Stn : 17925.3 L-Ssl: 26 CL Elev: 3575.4  
 Cut Dp: -4.6 L-Ssr: -31 H. Offset: 0.0  
 Grd.Nxt.: 15 F Slope L: -50  
 Grd.Lst: 9 F Slope R: -50



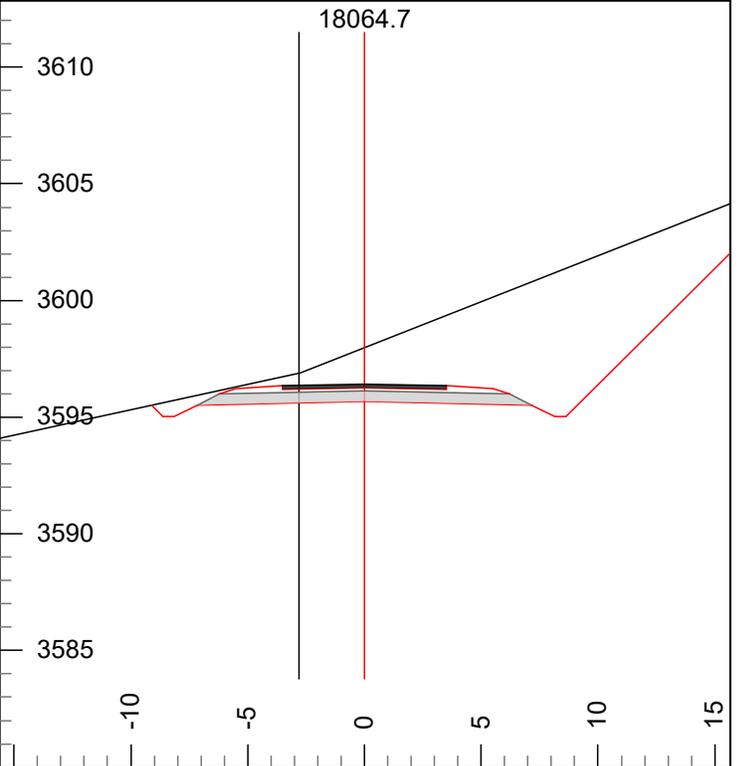
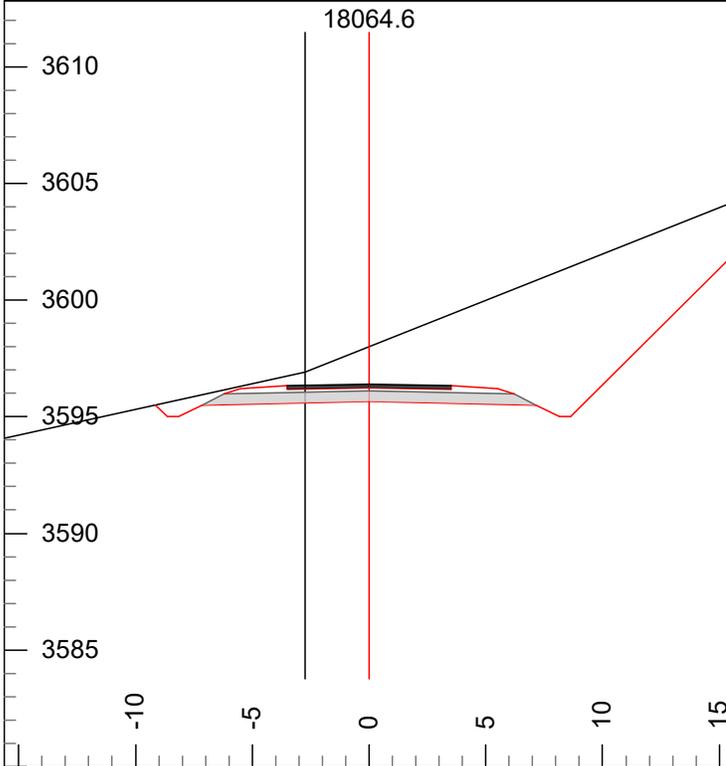
L-Stn : 17966.7 L-Ssl: -3 CL Elev: 3581.5  
 Cut Dp: -4.8 L-Ssr: 3 H. Offset: -16.3  
 Grd.Nxt.: 19 F Slope L: -50  
 Grd.Lst: 15 F Slope R: -50

L-Stn : 17968.9 L-Ssl: -4 CL Elev: 3581.9  
 Cut Dp: -3.4 L-Ssr: 4 H. Offset: -21.1  
 Grd.Nxt.: 19 F Slope L: -50  
 Grd.Lst: 19 F Slope R: -50



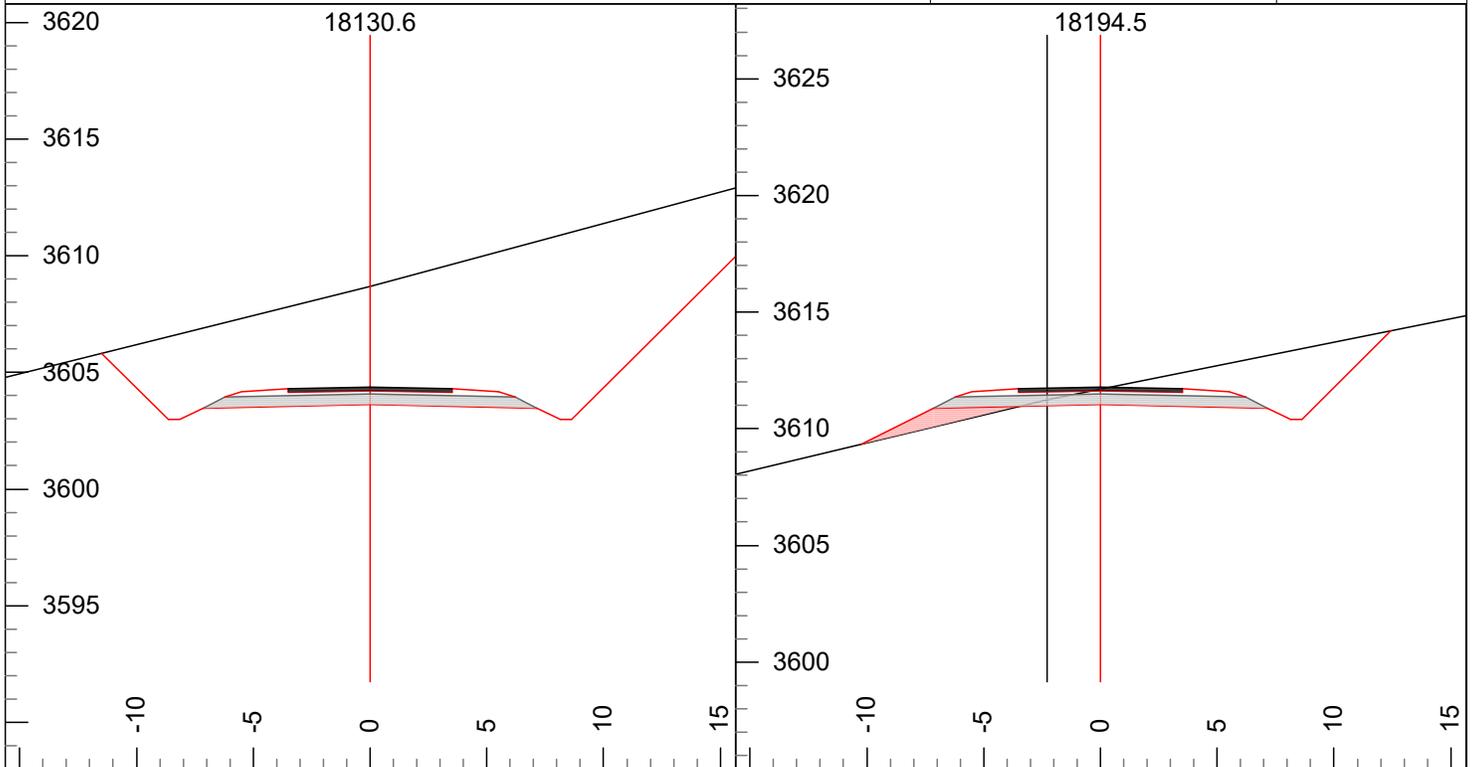
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 Grd.Lst: 19 F Slope R: -50

L-Stn : 17994.6 L-Ssl: -18 CL Elev: 3586.8  
 Cut Dp: -2.1 L-Ssr: 18 H. Offset: -15.0  
 Grd.Nxt.: 14 F Slope L: -50  
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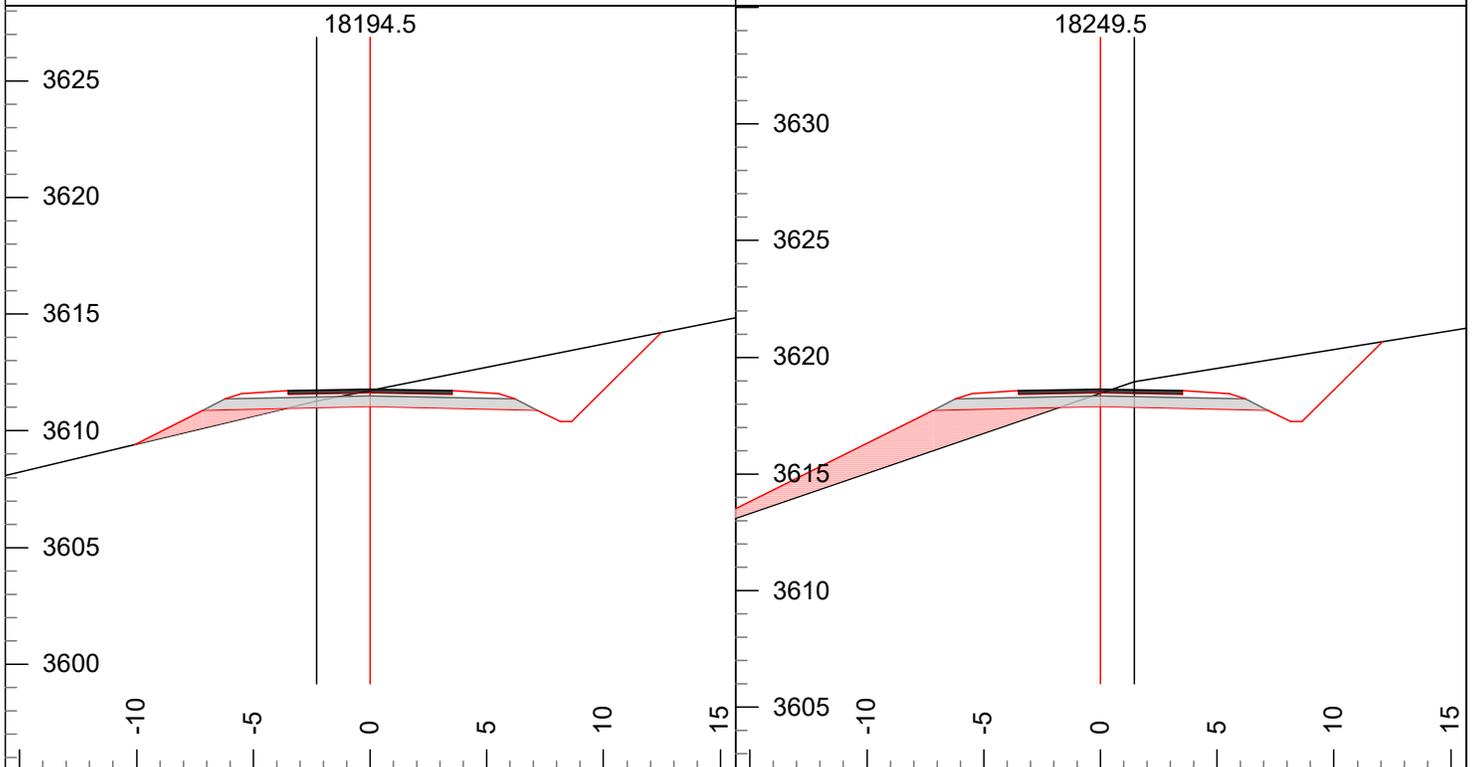
L-Stn : 18064.6 L-Ssl: -27 CL Elev: 3596.4  
 Cut Dp: 1.6 L-Ssr: 40 H. Offset: 2.7  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 14 F Slope R: 100

L-Stn : 18064.7 L-Ssl: -27 CL Elev: 3596.4  
 Cut Dp: 1.6 L-Ssr: 39 H. Offset: 2.7  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100



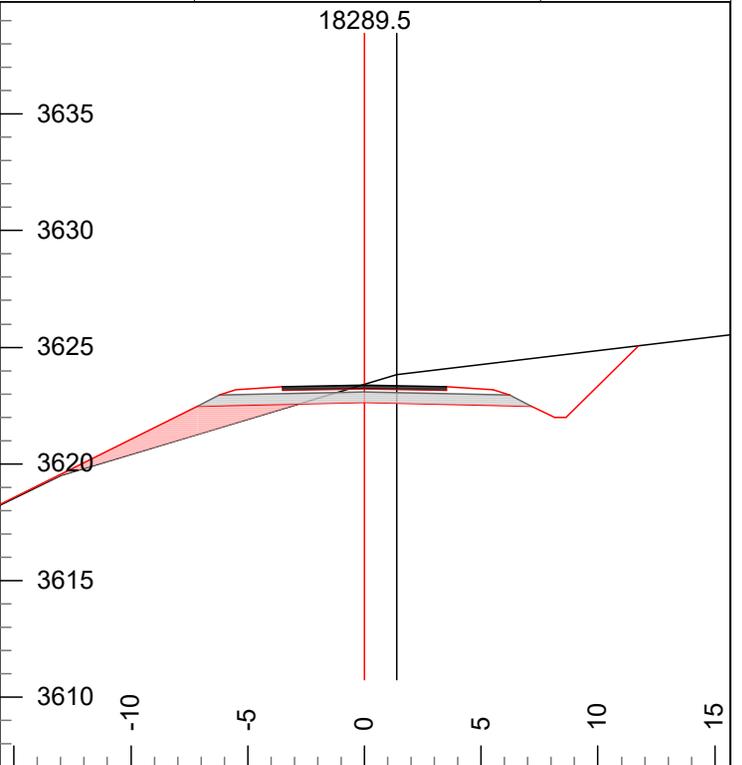
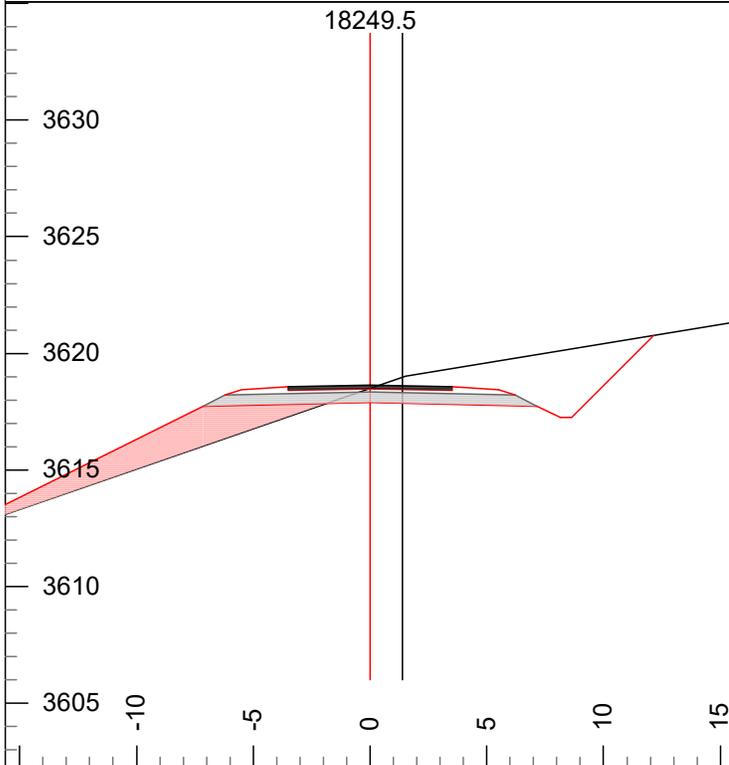
L-Stn : 18130.6 L-Ssl: -25 CL Elev: 3604.4  
 Cut Dp: 4.3 L-Ssr: 27 H. Offset: 0.0  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 18194.5 L-Ssl: -23 CL Elev: 3611.8  
 Cut Dp: -0.1 L-Ssr: 20 H. Offset: 2.3  
 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 12 F Slope R: 100



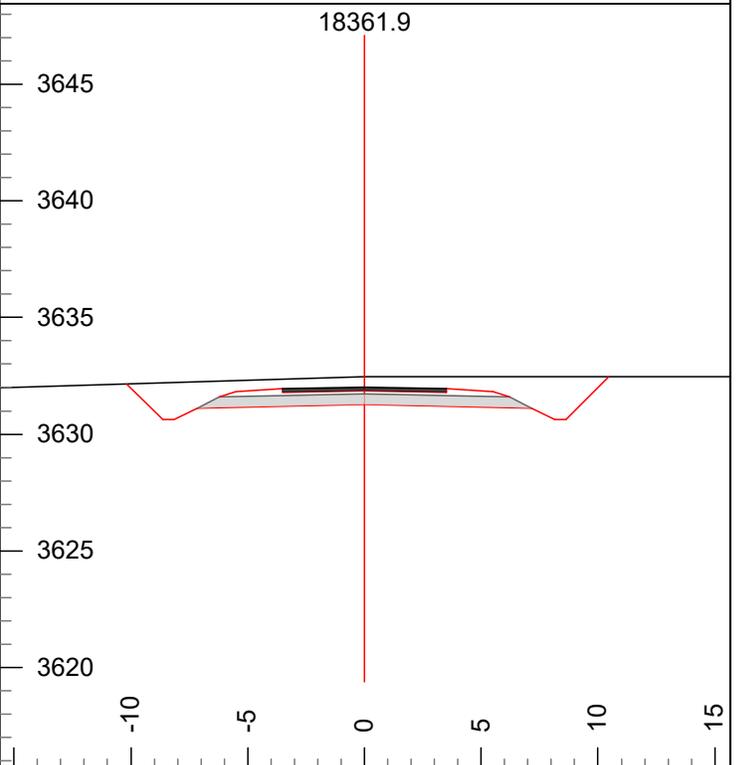
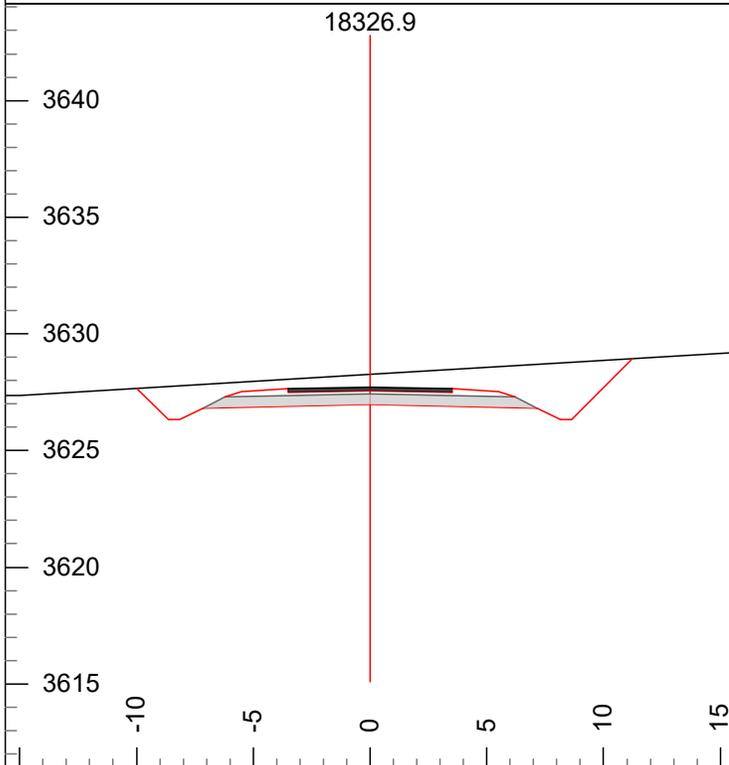
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 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 18249.5 L-Ssl: -34 CL Elev: 3618.6  
 Cut Dp: -0.2 L-Ssr: 19 H. Offset: -1.4  
 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 12 F Slope R: 100



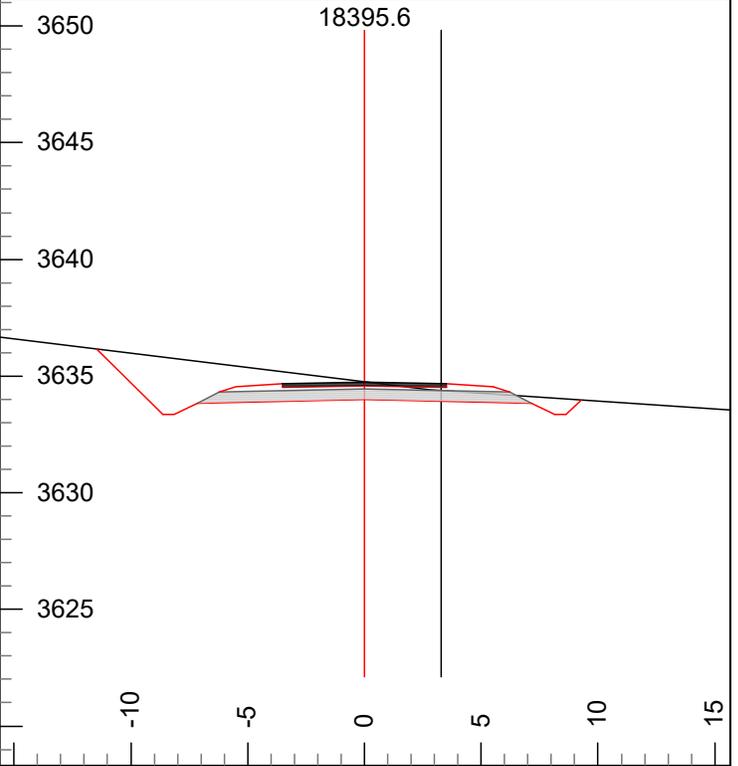
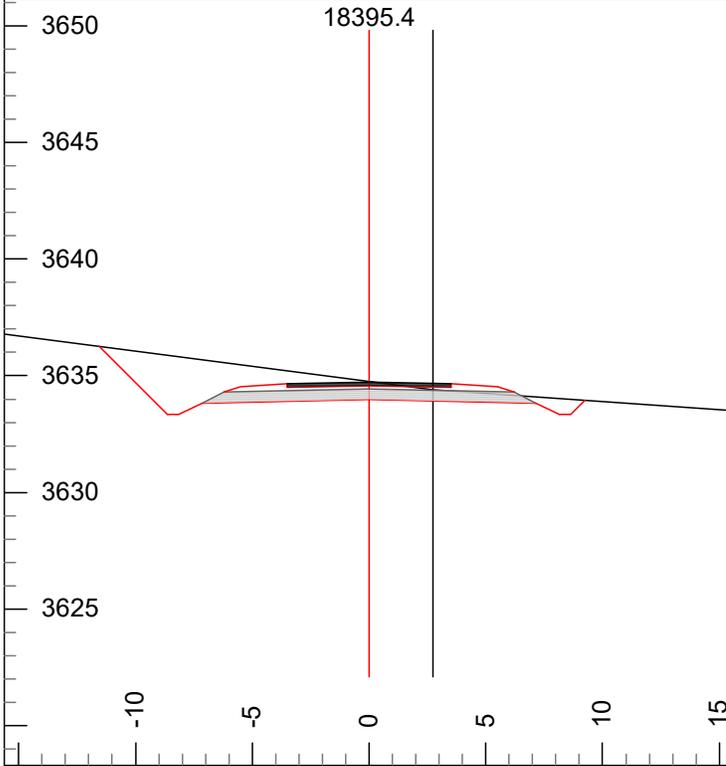
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 Grd.Lst: 12 F Slope R: 100

L-Stn : 18289.5 L-Ssl: -30 CL Elev: 3623.4  
 Cut Dp: 0.0 L-Ssr: 14 H. Offset: -1.4  
 Grd.Nxt.: 12 F Slope L: -50  
 Grd.Lst: 12 F Slope R: 100



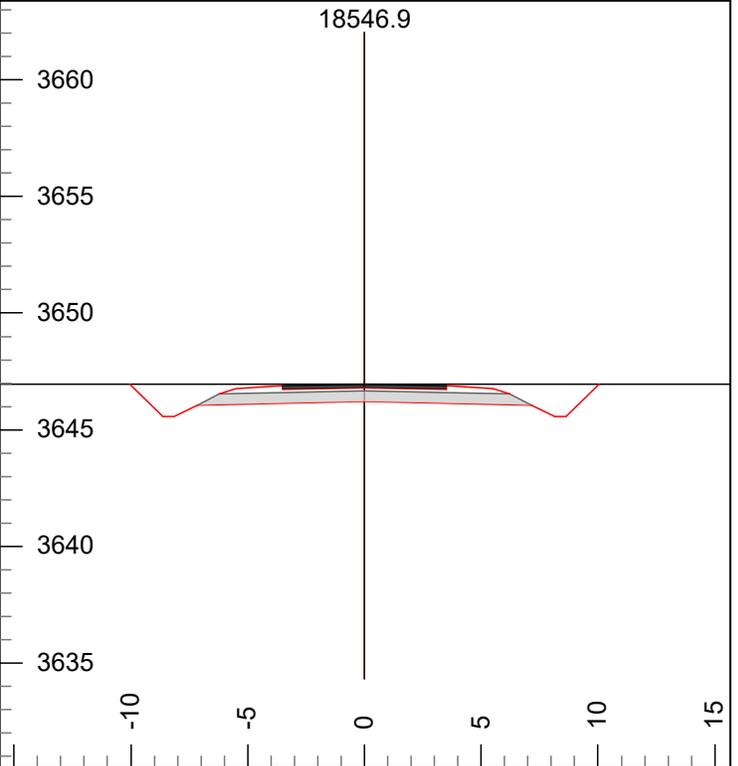
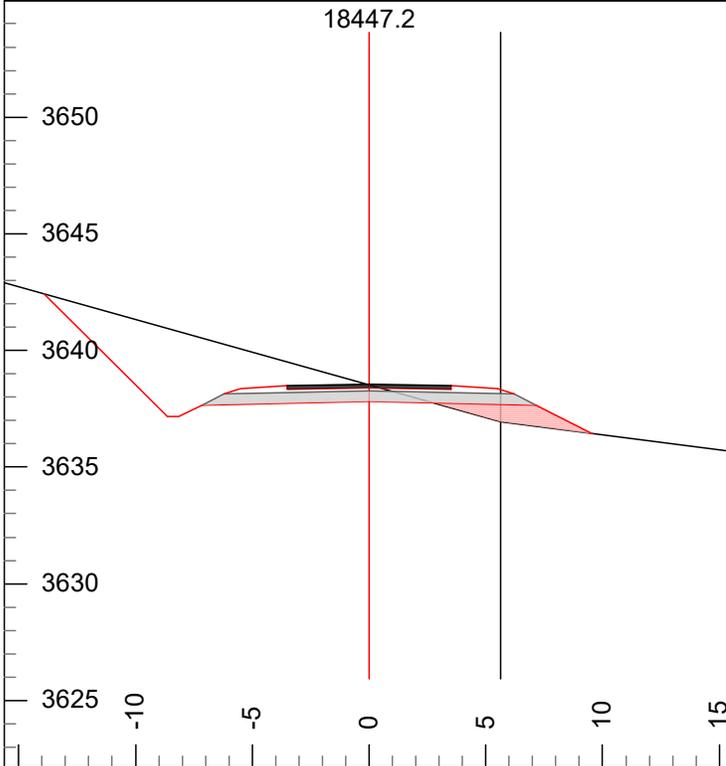
L-Stn : 18326.9 L-Ssl: -6 CL Elev: 3627.7  
 Cut Dp: 0.5 L-Ssr: 6 H. Offset: 0.0  
 Grd.Nxt.: 12 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100

L-Stn : 18361.9 L-Ssl: -3 CL Elev: 3632.0  
 Cut Dp: 0.4 L-Ssr: 0 H. Offset: 0.0  
 Grd.Nxt.: 8 F Slope L: 100  
 Grd.Lst: 12 F Slope R: 100



L-Stn : 18395.4 L-Ssl: 13 CL Elev: 3634.7  
 Cut Dp: 0.0 L-Ssr: -9 H. Offset: -2.7  
 Grd.Nxt.: 7 F Slope L: 100  
 Grd.Lst: 8 F Slope R: 100

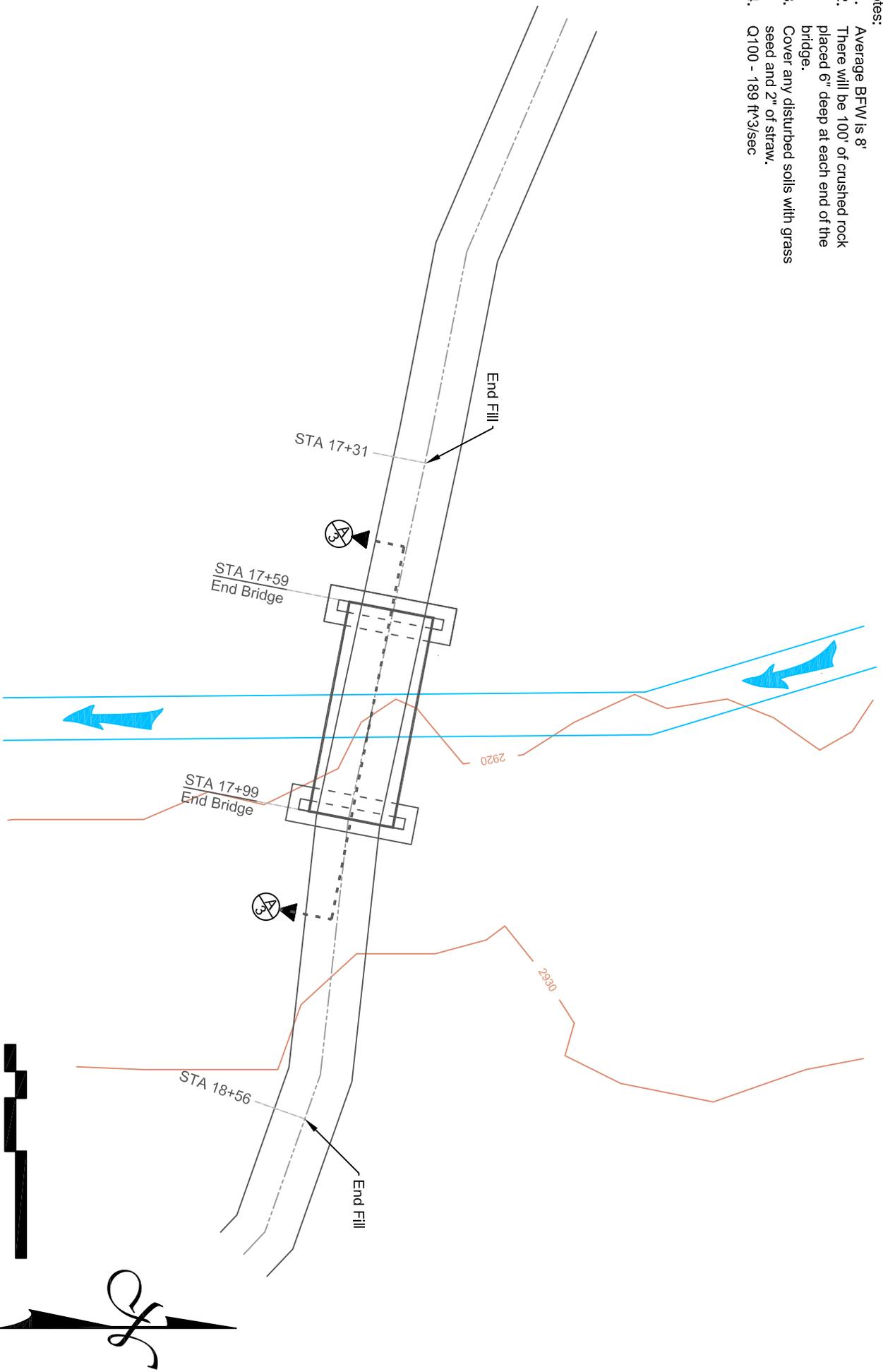
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 Cut Dp: 0.0 L-Ssr: -8 H. Offset: -2.7  
 Grd.Nxt.: 7 F Slope L: 100  
 Grd.Lst: 7 F Slope R: 100



L-Stn : 18447.2 L-Ssl: 28 CL Elev: 3638.6  
 Cut Dp: 0.0 L-Ssr: -21 H. Offset: -5.6  
 Grd.Nxt.: 8 F Slope L: 100  
 Grd.Lst: 7 F Slope R: -50

L-Stn : 18546.9 L-Ssl: 0 CL Elev: 3647.0  
 Cut Dp: 0.0 L-Ssr: 0 H. Offset: 0.0  
 Grd.Nxt.: n/a F Slope L: 100  
 Grd.Lst: 8 F Slope R: 100

- Notes:
1. Average BFW is 8'
  2. There will be 100' of crushed rock placed 6" deep at each end of the bridge.
  3. Cover any disturbed soils with grass seed and 2" of straw.
  4. Q100 - 189 ft<sup>3</sup>/sec



County: *Okanogan*

District: Highlands  
 Contract Administrator: Skylar Goodrich  
 Bridge Compliance: Eric Anderson



**Steel Bridge Crossing on Road E392504G**

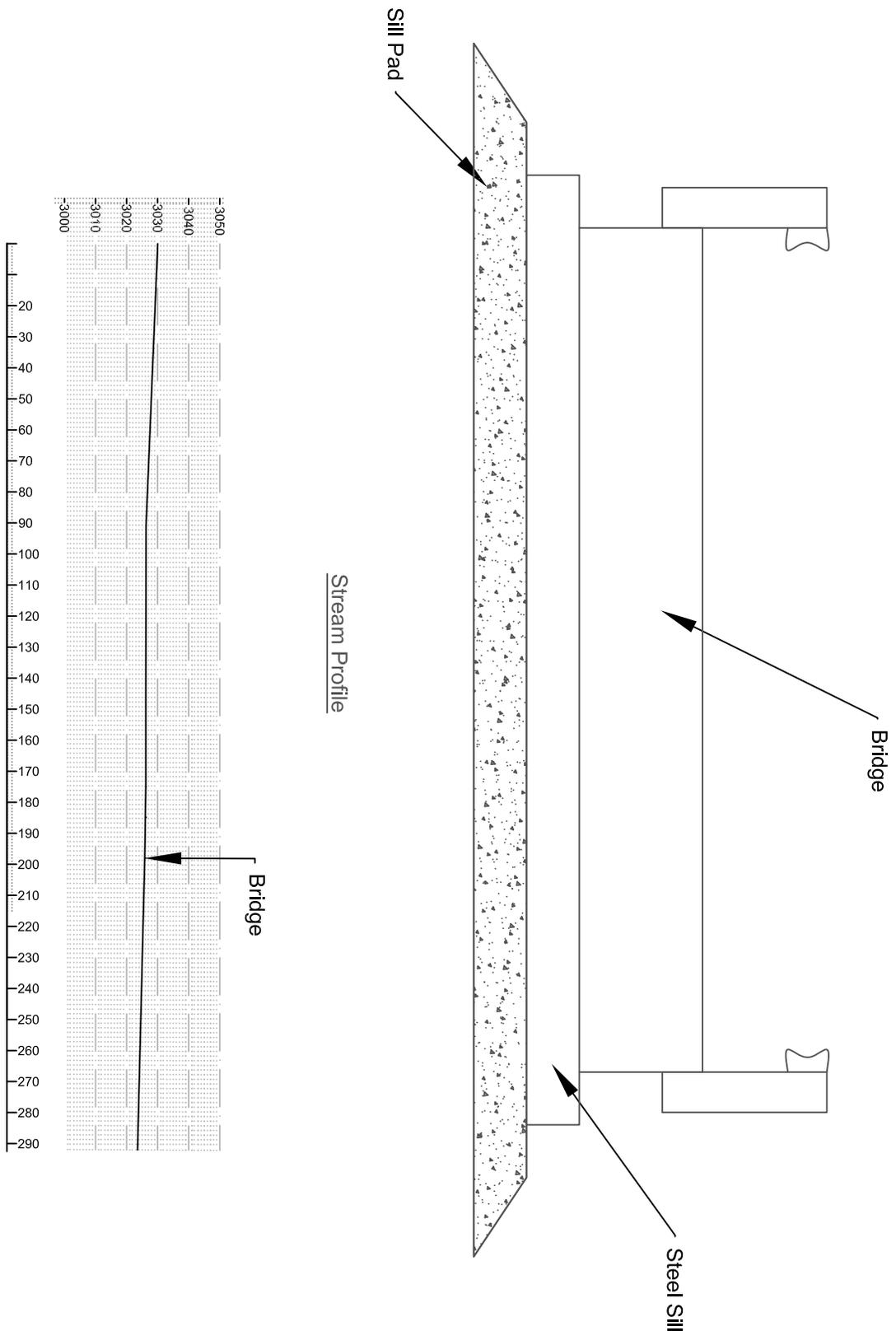
Revisions	By	Date

Legal Description:  
 T 39N R 25E Section 09



Drawn: JBB	Project: Grandview Mt
Designed: JBB	View: Plan View
Checked: [blank]	Date: 04/15/19
<b>B2</b>	
Sheet: 1 of 3	

- Notes:
1. Average BFW is 5'
  2. There will be 100' of crushed rock placed 6" deep at each end of the bridge.
  3. All disturbed soils with grass seed and 2" of straw.



Stream Profile

County: *Okanogan*

District: Highlands  
 Contract Administrator: Skylar Goodrich  
 Bridge Installation Compliance: Eric Anderson



Steel Bridge Crossing on Road E392504G

Revisions	By	Date

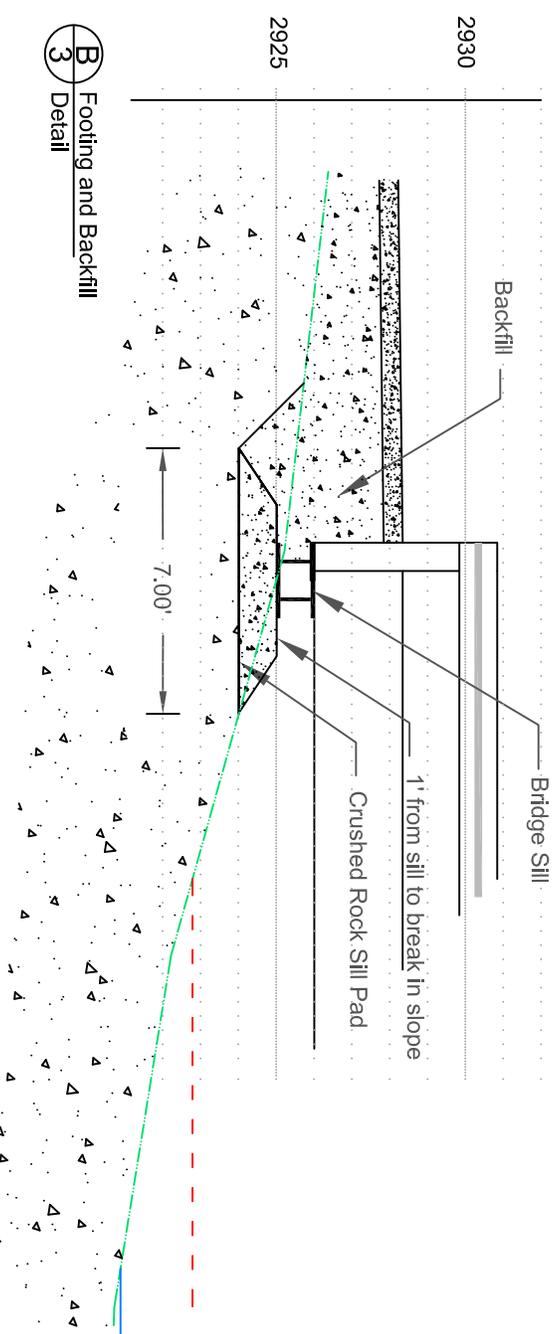
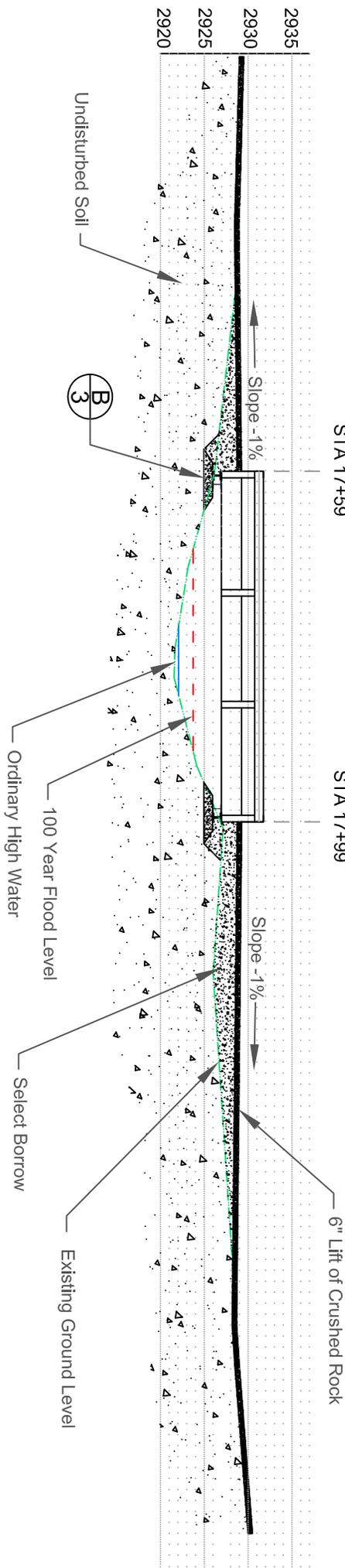
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 T 39N R 25E Section 09

Drawn: JBB	Project: Grandview MT TS
Designed: JBB	View: Profile View
Checked:	Date: 04/15/19
<b>B2</b>	
Sheet: 2 of 3	

# Cross Section A-A

STA 17+59

STA 17+99



**B** Footing and Backfill  
3 Detail

**NOTES:**

1. TEMPORARY BRIDGE
2. BRIDGE DIMENSIONS 40'Lx16'Wx28"H.
3. Q100-189 ft<sup>3</sup>/s
4. CRUSHED ROCK IS 1 1/2 MINUS
5. SILL PAD IS 1' THICK.
6. SILL PAD AND FOOTING MATERIALS SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT DEVICE.
7. BRIDGE SILL IS STEEL AND 2.0' W x 1.0' H ELEVATION AT BOTTOM OF SILL 2925'
8. BACKFILL IS SELECT BORROW
9. 5.1' OF CLEAR SPACE BETWEEN BOTTOM OF BRIDGE AND ORDINARY HIGH WATER LEVEL
- 10.

County: *Okanogan*

District: Highlands  
Contract Administrator: Skylar Goodrich  
Installation Compliance: Eric Anderson



## Steel Bridge Crossing on Road E392504G

Revisions	By	Date

Legal Description:  
T 39N R 25E Section 09

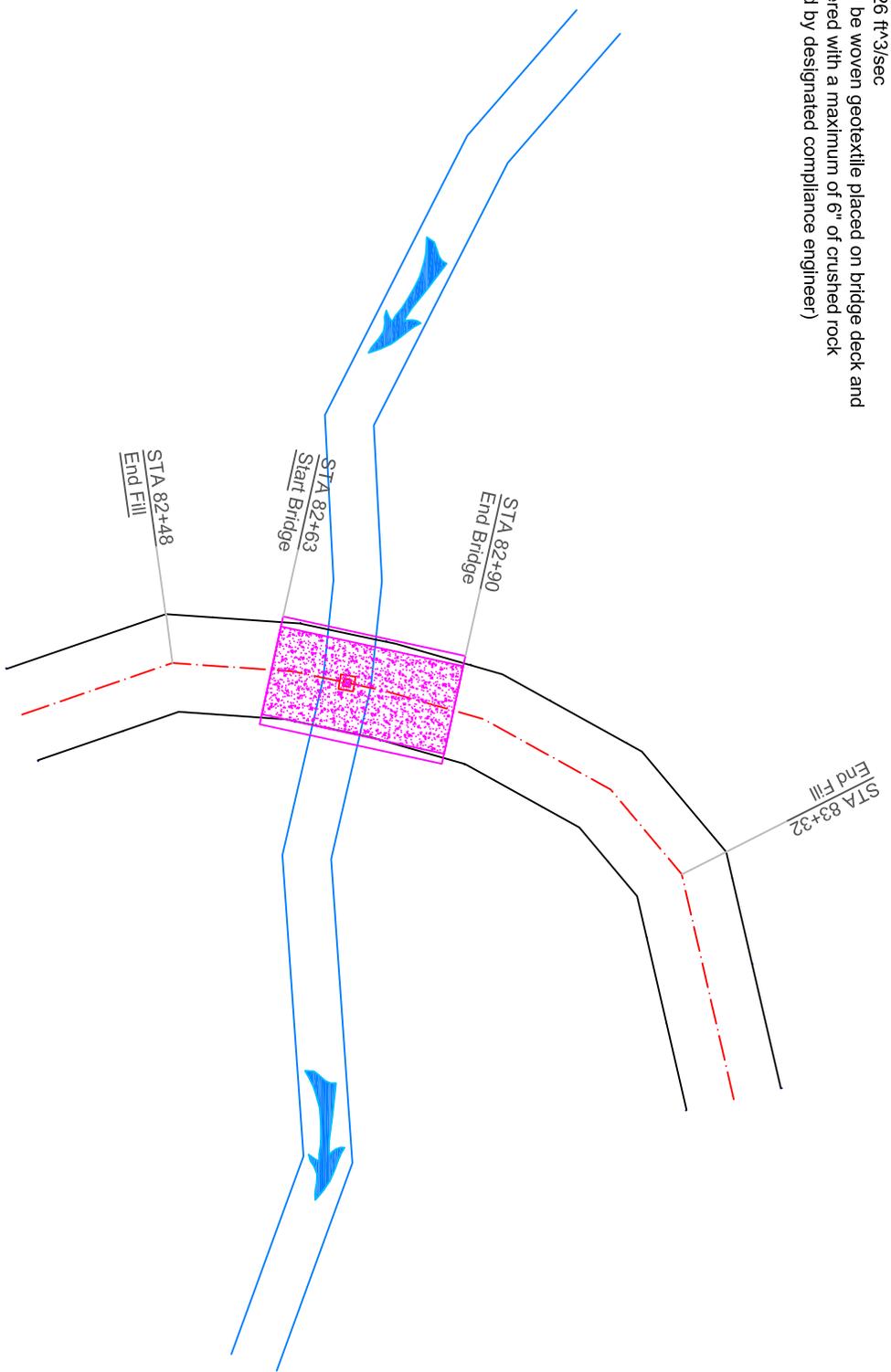
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Designed: JBB	View: Cross Section
Checked:	Date: 04/15/19

**B2**

Sheet: 3 of 3

# Log Bridge Crossing

- Notes:
1. Average BFW is 7'
  2. There will be 100' of crushed rock placed 6" deep at each end of the bridge.
  3. Cover any disturbed soils with grass seed and 2" of straw.
  4. Q100 - 126 ft<sup>3</sup>/sec
  5. There will be woven geotextile placed on bridge deck and then covered with a maximum of 6" of crushed rock (approved by designated compliance engineer)



County: *Okanogan*

District: Highlands  
 Contract Administrator: Skylar Goodrich  
 Bridge Compliance: Eric Anderson



## Log Bridge Crossing on Road E392515B

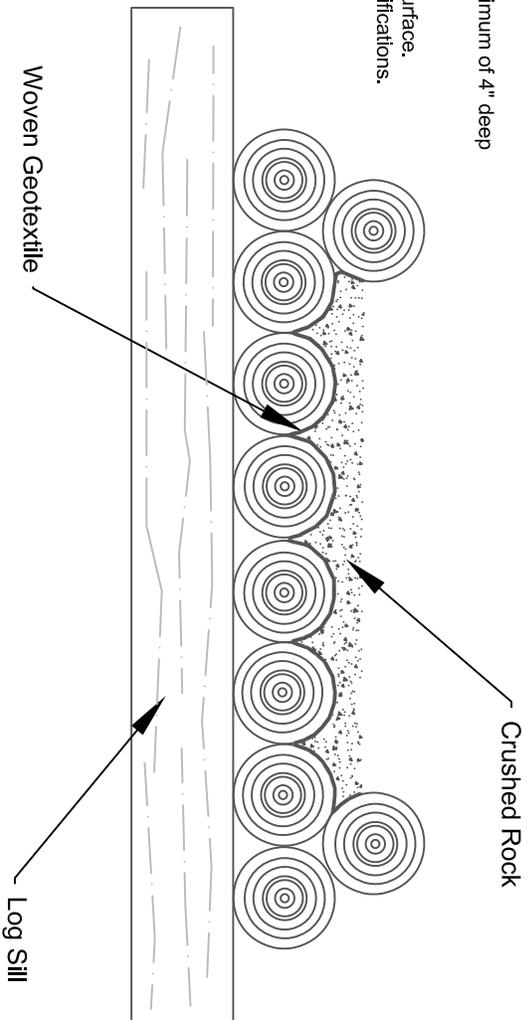
Revisions	By	Date

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 T 39N R 25E Section 04

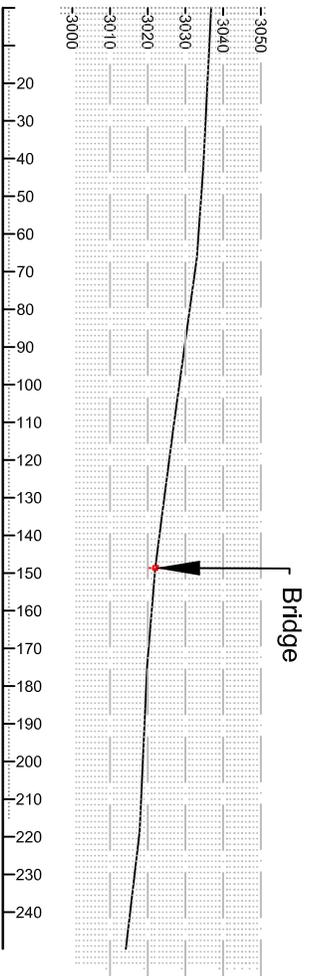
Drawn: JBB	Project: Grandview Mt
Designed: JBB	View: Plan View
Checked:	Date: 04/15/19
<b>B1</b>	
Sheet: 1 of 3	

Notes:

1. Average BFW is 7'
2. There will be crushed rock placed a maximum of 6" deep and a minimum of 4" deep as surfacing for the bridge.
3. All disturbed soils with grass seed and 2" of straw.
4. Woven geotextile must be placed under the crushed rock running surface.
5. See "Log Stringer Bridge Detail" for log sizes and construction specifications.



Stream Profile



*County: Okanogan*

District: Highlands  
 Contract Administrator: Skylar Goodrich  
 Bridge Installation Compliance: Eric Anderson



**Log Bridge Crossing on Road E392515B**

Revisions

By

Date

Legal Description:

T 39N R 25E Section 04

Drawn: JBB Project: Grandview MT TS

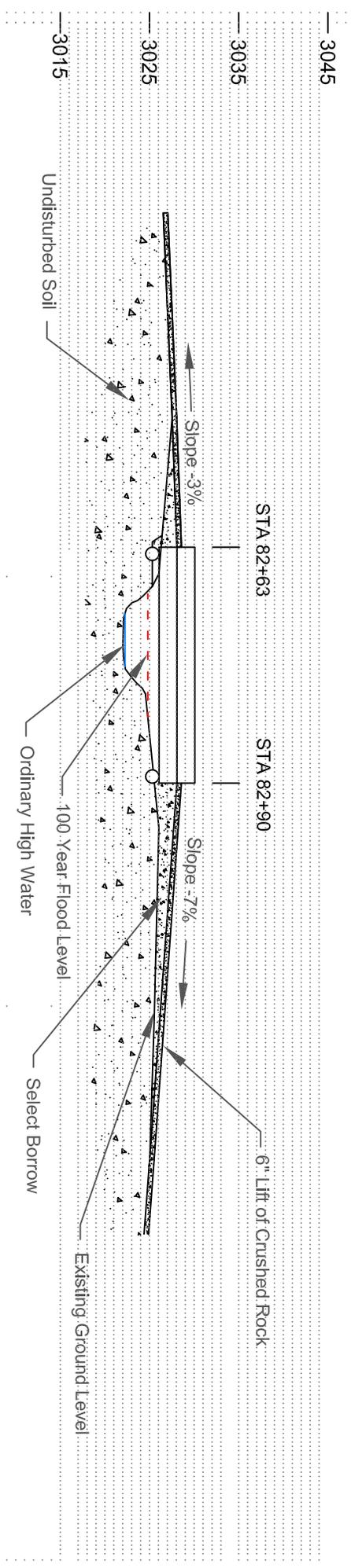
Designed: JBB View: Profile View

Checked: Date: 04/15/19

**B1**

Sheet: 2 of 3

Cross Section A-A



- NOTES:
1. TEMPORARY BRIDGE
  2. BRIDGE DIMENSIONS 27'Lx16'W
  3. Q100-126 ft<sup>v</sup>3/s
  4. CRUSHED ROCK IS 1 1/2' MINUS
  5. ELEVATION AT BOTTOM OF SILL 2925'
  6. BACKFILL IS SELECT BORROW
  7. 4' OF CLEAR SPACE BETWEEN BOTTOM OF BRIDGE AND ORDINARY HIGH WATER LEVEL
  8. 7' BFW

*County: Okanogan*

District: Highlands  
 Contract Administrator: Skylar Goodrich  
 Installation Compliance: Eric Anderson



**Log Bridge Crossing on Road E392515B**

**Legal Description:  
 T 39N R 25E Section 04**

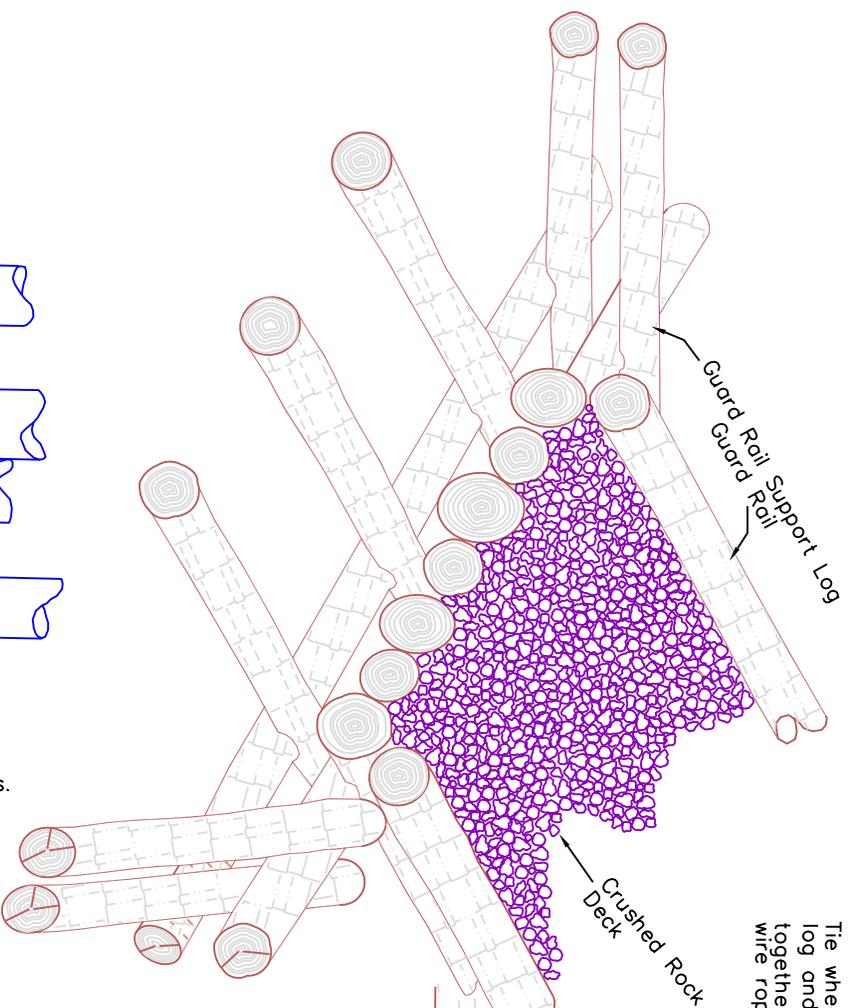
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Revisions	By	Date

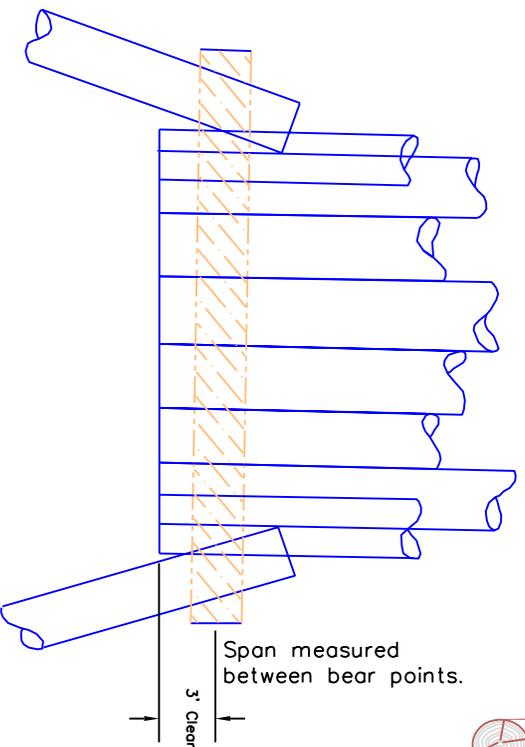
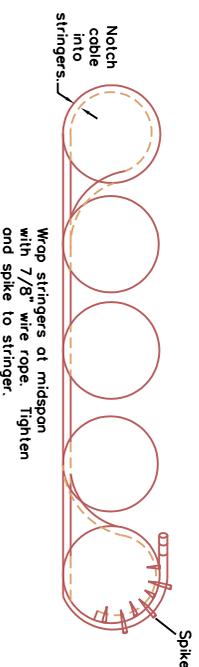
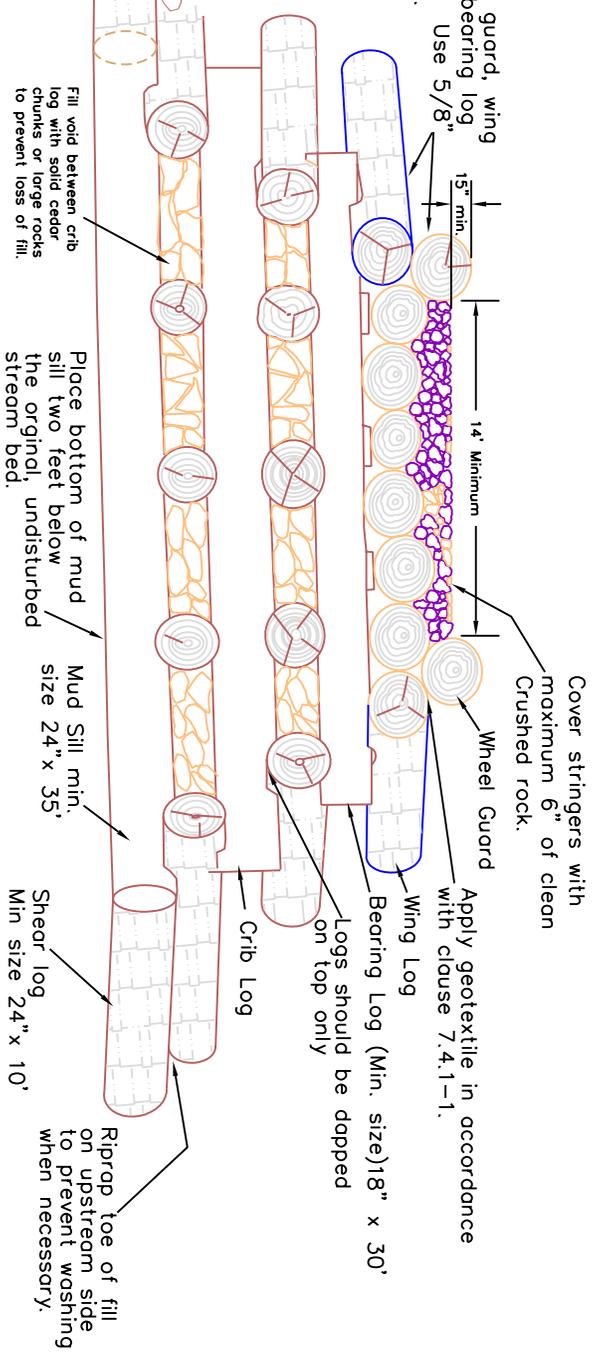
Drawn: JBB Project: Grandview Mt TS  
 Designed: JBB View: Cross Section  
 Checked: Date: 04/15/19

**B1**  
 Sheet: 3 of 3

# Log Stringer Bridge Detail



Tie the wheel guard, wing log and bearing log together. Use 5/8" wire rope.



- 1) Dap all larger diameter logs 4" @ bearing points on top only. Pin all smaller diameter logs with 3/4" drift pins @ bearing points.
- 2) Peel all exposed material.
- 3) All materials to be douglas fir, larch, or cedar.
- 4) All materials are to be approved by the State, prior to installation.
- 5) Number of tiers in crib abutment may be varied to give adequate stream clearance and plan grade.
- 6) Maximum span is 40 feet on gravel covered bridges.
- 7) Logs for bridge shall be provided from State timber near the construction site.

50 TON LOADING			
Span Feet	Minimum Cedar	Stringer D. Fir	Diameter Larch
≤10	22"	18"	20"
15	24"	20"	22"
20	26"	22"	24"
25	28"	24"	26"
30	32"	26"	28"
35	34"	28"	30"
40	36"	30"	32"

Diameters are measured at midspan

# GRANDVIEW TIMBER SALE

REGION: Northeast

CONTRACT #: 30-098554 ENGINEER: Eric Anderson

DISTRICT: Highlands

DATE:03/18/2019

	<i>Construction</i>	<i>Reconstruction</i>	<i>Maintenance</i>	<i>Abandonment</i>
<b>ROAD NUMBERS:</b>	E392504G	E392509J	E392509F	
Comments:	E392503E		E392515B	
	E392510H			
	E392510J			
	E392511E			
	E392511F			
	E392515B			
<b>ROAD STANDARD:</b>	<i>Construction</i>	<i>Reconstruction</i>	<i>Maintenance</i>	<i>Abandonment</i>
<b>NUMBER OF STATIONS:</b>	<b>249.01</b>	<b>4.55</b>	<b>77.99</b>	
<b>CLEARING &amp; GRUBBING:</b>			\$0	0
<b>EXCAVATION AND FILL:</b>	\$138,430	\$965		\$0
<b>MISC. MAINTENANCE:</b>	\$2,988	\$0	\$4,835	\$0
<b>ROAD ROCK:</b>	\$4,200	\$0	\$0	\$0
<b>ADDITIONAL ROCK:</b>			\$0	\$0
<b>CULVERTS AND FLUMES:</b>		\$0		\$0
<b>STRUCTURES/MATERIALS:</b>	\$19,500			\$0

<b>TOTAL COSTS:</b>	\$165,118	\$965	\$4,835	\$0
<i>COST PER STATION:</i>	\$663	\$212	\$62	\$0

	\$/per move	# of moves	Total
<b>MOBILIZATION:</b>			

Excavation

Extra Rock

Total for Extras

\$0

Extras are not in total

**TOTAL (All Roads) = \$170,918.00**  
**SALE VOLUME mbf = 2,166**  
**TOTAL \$/MBF = \$78.91**