WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

TIMBER NOTICE OF SALE

***SALE NAME**: HURDLE* ***AGREEMENT NO**: 30-097377*

AUCTION: March 24, 2020 starting at 10:00 a.m., South Puget Sound Region Office, Enumclaw, WA **COUNTY:** Mason

SALE LOCATION: Sale located approximately 6 miles west of Belfair.

PRODUCTS SOLD AND SALE AREA: All timber, except trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white timber sale boundary tags, timber type change marked with pink flagging, private property marked with pink flagging and white Carsonite posts in Unit #1; white timber sale boundary tags, timber type change marked with pink flagging, private property marked with white Carsonite posts, and the H-1000 Road in Unit #2; white timber sale boundary tags, private property marked with pink flagging and white Carsonite posts in Unit #3; white timber sale boundary tags, and private property marked with pink flagging and white Carsonite posts in Unit #4; white timber sale boundary tags, timber type change marked with pink flagging and H-1200 and H-1251 roads in Unit #5;

All timber bounded by orange right of way tags, except that title to the timber within the right of way tags is not conveyed to the Purchaser unless the H-1560 and H-1560 Ext. roads are actually constructed in Unit #6;

All timber marked with a single band of orange paint along the H-1510 Road in Unit #7;

All forest products above located on part(s) of Sections 13 all in Township 22 North, Range 3 West, Sections 3, 4, 7, 8 and 18 all in Township 22 North, Range 2 West, W.M., containing 290 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: PwC-SFIFM-513) and FSC 100% raw materials under the Forest Stewardship Council® Standard (cert no: BV-FM/COC-080501).

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	14.8	8	5,507						2,066	2,335	1,104	2
Hemlock	13.1	10	83						14	32	37	
White pine	14.2		78						21	38	17	2
Red alder	15.3		16							13	3	
Sale Total			5,684									

MINIMUM BID: $1,842,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: October 31, 2022 **ALLOCATION:** Export Restricted

BID DEPOSIT: $184,200.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

TIMBER NOTICE OF SALE

HARVEST METHOD: Harvest activities are estimated to be 25 percent uphill cable, and 75 percent ground based harvest. Cable or ground based equipment, with cable-tethered equipment limited to sustained slopes 75 percent or less, self-leveling equipment limited to sustained slopes 65 percent or less, and all other ground based equipment limited to sustained slopes 45 percent or less. Yarding may be restricted during wet weather if rutting becomes excessive, per clause H-017.

Falling, yarding and timber haul will not be permitted weekdays from 7:00 pm to 7:00 am, weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator, except for hauling on Spur 12, which is restricted per contract clause H-141. Also, the use of compression brakes will not be permitted on Spur 12.

ROADS: 76.66 stations of required reconstruction. 147.80 stations of optional construction. 11.36 stations of optional reconstruction. 440.16 stations of required prehaul maintenance. 85.16 stations of abandonment, if constructed. Purchaser maintenance on all roads used.

Rock for this proposal may be obtained from the State owned Sandhill or Shoofly Pits at no cost to the Purchaser or any commercial rock source at the Purchaser's expense. If Purchaser elects to use Sandhill or Shoofly Pits, rock source development work is required per Section in the Road Plan.

Road construction and rock haul in all units, except Spur 12, will not be permitted on weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate during the closure period, a maintenance plan is required per Road Plan clause 1-26.

Road construction and rock haul on the H-1000 Road from station 297+27 to 319+41 and Spur 11 from station 0+00 to 8+39 will not be permitted weekdays from 7:00 pm to 7:00 am, weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate during the closure period, a maintenance plan is required per Road Plan clause 1-26.

Road construction and rock haul on Spur 12 from station 0+00 to 19+25 will not be permitted weekdays from 7:00 pm to 7:00 am, weekends or State recognized holidays, unless authority to do so is granted in writing by the State.

Reconstruction of the H-1550 Road from station 58+00 to 59+00 must be completed between July 15 and September 30.

ACREAGE DETERMINATION

CRUISE METHOD: Units #1 - #5 acreage was determined by traversing boundaries by GPS. Units #6 and #7 acreage was determined by GIS. GPS data files are available at DNR's website for timber sale auction packets. See cruise narrative for cruise method.

FEES: $96,628.00 is due on day of sale. $9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale contains Douglas fir high quality and poles logs, see Cruise for details.

Yellow painted trees within the sale boundary are marked for future silviculture activities and are to be considered take trees for the timber sale.

The last cut tree along the private property boundary within Units #2, #3, and #4 are marked with an "X" in pink paint. It is the Purchaser's responsibility to verify location of the sale boundary as defined by the Product Sold and Sale Area description.

Unit #7 is a daylighting unit along the 1510 Road. All trees marked with a double band of orange paint are to be felled and left onsite.

Road Use Permit (RUP) Numbers 55-100077 and 55-100078 has been obtained for the construction of Spur 12. See the RUP for additional details.

Purchaser shall cut all vine maple within the harvest units, leaving a stump no more than 12 inches in height.

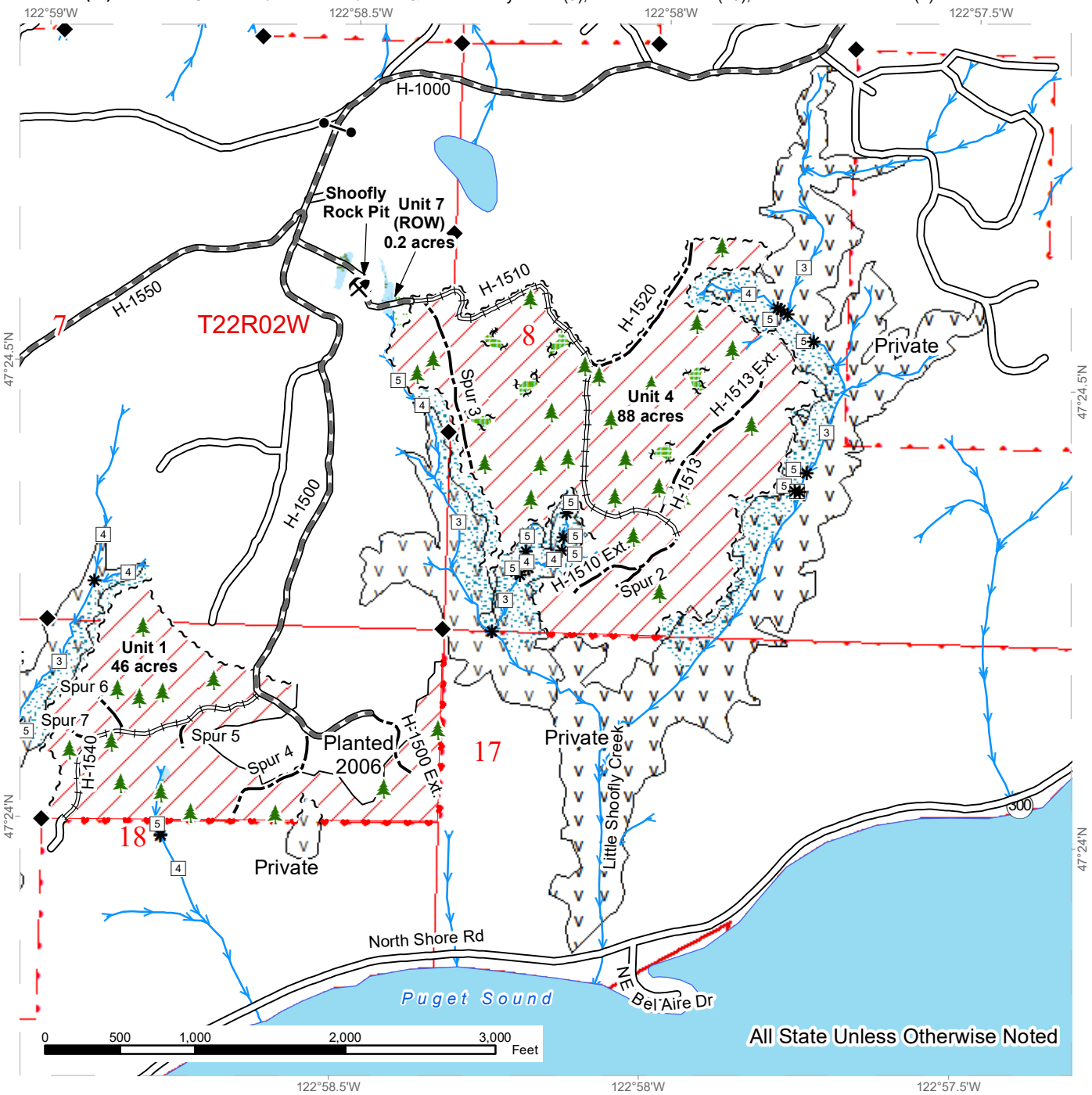
Purchaser must provide a written Extreme Hazard Abatement Plan, which meets the requirements of contract clause S-020. Hazard Abatement is required within 200 feet from structures adjacent to Units #2 and #3 and 100 feet from the H-1000 Road. Piling brush with the expectation of burning, and creating a 4 foot wide firebreak around piles is an acceptable option.

See map for gate locations. Gate keys may be obtained by contacting the South Puget Sound Region Office at 360-825-1631 or by contacting Roger Hart at 360-277-8008.

TIMBER SALE MAP

SALE NAME: HURDLE
AGREEMENT #: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Scientific School (10), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 160-480



Variable Retention Harvest
Leave Tree Area
Riparian Mgt Zone
Wetlands
Wetland Mgt Zone
Tailhold Restriction Area
Sale Boundary Tags
Leave Tree Tags
Property Line
Timber Type Change
Public Land Survey Townships
Streams
Stream Type
Stream Type Break
Survey Monument
Gate
Leave Tree Area (<1/4 acre)
Rock Pit
Existing Roads
Required Pre-Haul Maintenance
Required Reconstruction
Optional Construction
Optional Reconstruction

N

Prepared By: RHRT490

Modification Date: nchi490 1/22/2020

TIMBER SALE MAP

SALE NAME: HURDLE
AGREEMENT #: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Scientific School (10), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Mason
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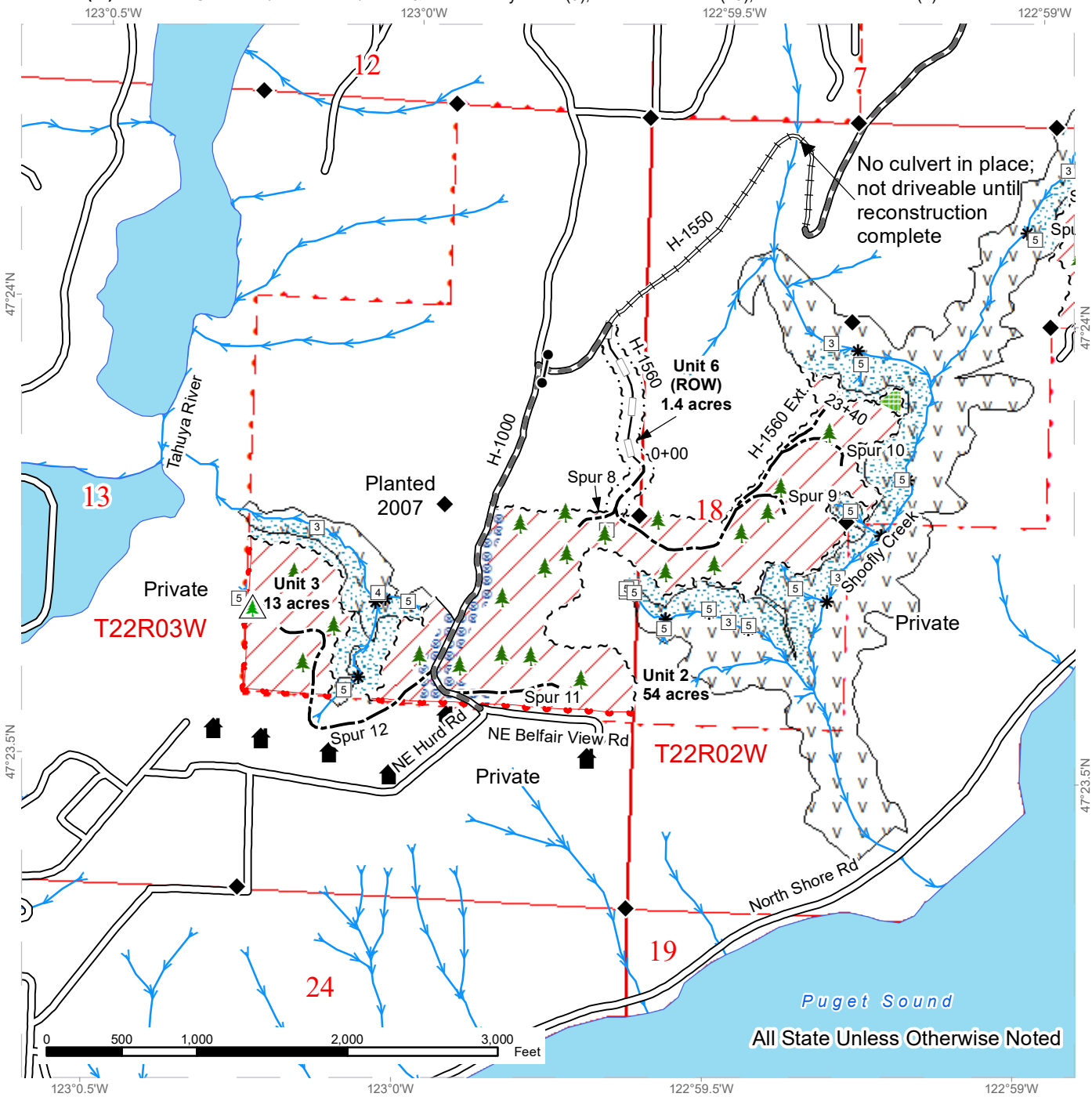

Variable Retention Harvest
Leave Tree Area
Riparian Mgt Zone
Tailhold Restriction Area
Hazard Abatement Area
Sale Boundary Tags
Leave Tree Tags
Right of Way Tags
Property Line
Timber Type Change
Public Land Survey Townships
Streams
Stream Type
Stream Type Break
Survey Monument
Gate
Leave Tree Area (<1/4 acre)
Non-Tradeable Leave Trees
Structure
Existing Roads
Required Pre-Haul Maintenance
Required Reconstruction
Optional Construction
Optional Reconstruction

N

TIMBER SALE MAP

SALE NAME: HURDLE
AGREEMENT #: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
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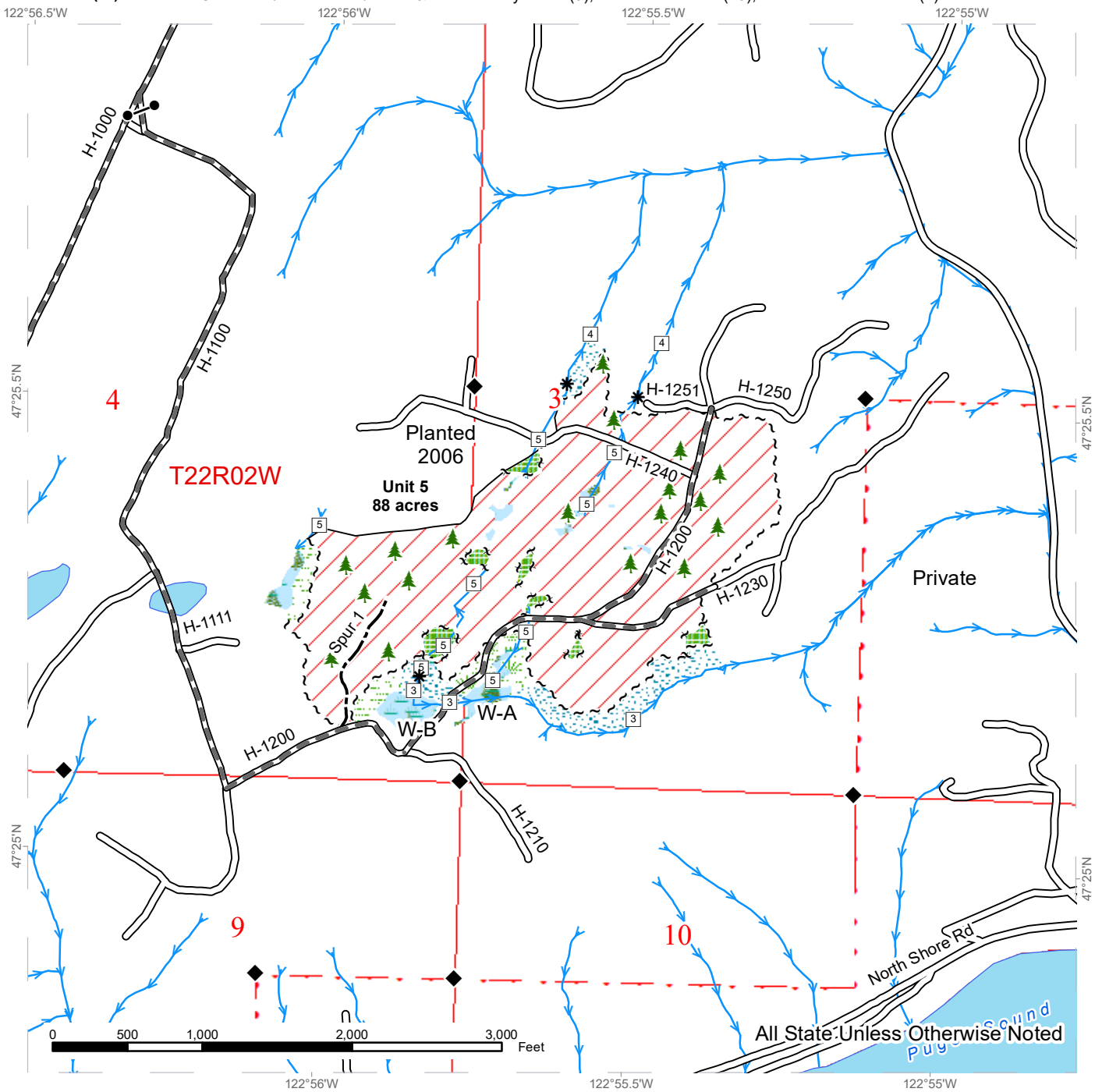


Variable Retention Harvest
Leave Tree Area
Riparian Mgt Zone
Wetlands
Wetland Mgt Zone
Sale Boundary Tags
Leave Tree Tags
Timber Type Change
Public Land Survey Townships
Streams
Stream Type
Stream Type Break
Survey Monument
Gate
Leave Tree Area (<1/4 acre)
Existing Roads
Required Pre-Haul Maintenance
Optional Construction

N

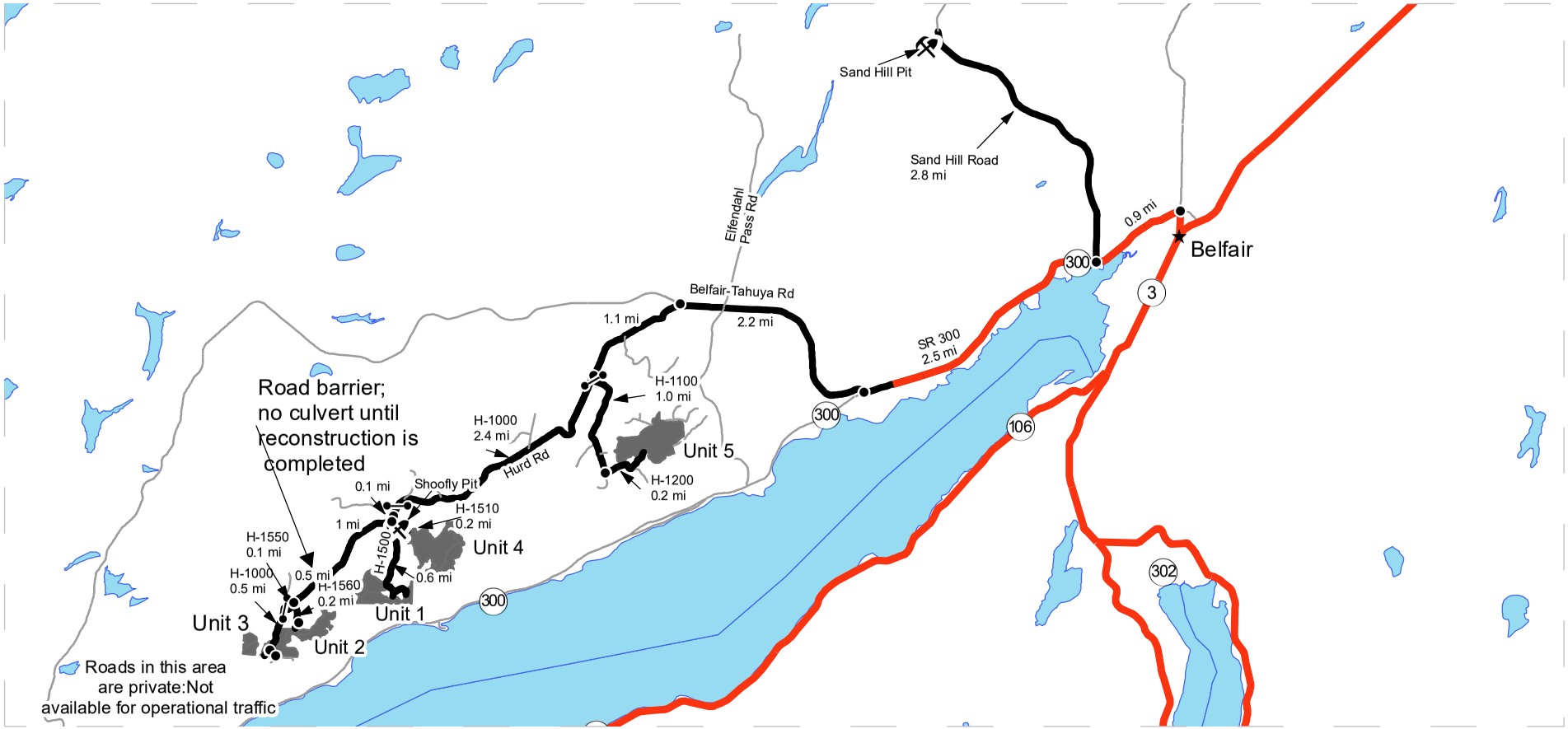
Prepared By: RHRT490

Modification Date: nchi490 1/22/2020

DRIVING MAP

SALE NAME: HURDLE
AGREEMENT#: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Scientific School (10), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 160-480



Map may not be to scale

Timber Sale Unit
Haul Route
Other Road
Highway
Distance Indicator
Gate (Master 383)
Rock Pit
Town

N

DRIVING DIRECTIONS:

Unit 5: From Belfair travel west on SR 300 for 3.4 miles. Turn right onto NE Belfair Tahuya Rd. and follow for 2.2 miles. Turn left onto Hurd Rd (H-1000) and follow for 1.1 miles. Turn left through gate onto H-1100 and follow for 1.0 miles. Turn left onto the H-1200 road and follow for 0.2 miles to Unit 5 on the left.

Unit 4: From gate at start of H-1100 Road, continue on the H-1000 Road for 2.4 miles. Turn left onto H-1500 Road and proceed through gate. After 0.2 miles turn left onto H-1510 Road and travel through Shoofly rock pit 0.2 miles to start of Unit 4.

Unit 1:From the H-1500 gate continue on the H-1500 Road for 0.8 miles until you are at Unit 1.

Unit 2: From gate at start of H-1500 travel for 0.1 miles and turn right onto H-1550. Follow for 1 mile to road barrier. Continue to walk on H-1550 road for 0.5 miles and turn left onto H-1560. Continue on H-1560 for 0.2 miles to end of road. Continue on p-line of H-1560 extension for 360ft to start of Unit 2.

Unit 3: From junction of H-1550 and H-1560 roads, continue on H-1550 for 0.1 miles to H-1000 junction at gate. Turn left onto H-1000 and follow for 0.4 miles to start of Spur 12. Follow p-line for Spur 12 west for 0.2 miles to unit boundary.

Shoofly Rock Pit: Follow directions for Unit 4.

Sand Hill Rock Pit: From Belfair travel west on SR 300 for 0.9 miles. Turn right onto Sand Hill Road and follow for 2.8 miles. Pit is on left.

Prepared By: RHRT490

Modification Date: astu490 10/9/2019

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-097377

SALE NAME: HURDLE

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 March 24, 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 timber, except trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white timber sale boundary tags, timber type change marked with pink flagging, private property marked with pink flagging and white Carsonite posts in Unit #1; white timber sale boundary tags, timber type change marked with pink flagging, private property marked with white Carsonite posts, and the H-1000 Road in Unit #2; white timber sale boundary tags, private property marked with pink flagging and white Carsonite posts in Unit #3; white timber sale boundary tags, and private property marked with pink flagging and white Carsonite posts in Unit #4; white timber sale boundary tags, timber type change marked with pink flagging and H-1200 and H-1251 roads in Unit #5;

All timber bounded by orange right of way tags, except that title to the timber within the right of way tags is not conveyed to the Purchaser unless the H-1560 and H-1560 Ext. roads are actually constructed in Unit #6;

All timber marked with a single band of orange paint along the H-1510 Road in Unit #7;

All forest products above located, located on approximately 290 acres on part(s) of Section 13 in Township 22 North, Range 3 West, Sections 3, 4, 7, 8, and 18 all in Township 22 North, Range 2 West W.M. in Mason County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 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 $761.00 per acre per annum for the acres on which an operating release has not been issued within the harvest units.

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-062 Habitat Conservation Plan

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

By signing this contract, Purchaser agrees to comply with the terms and conditions of the ITP, and the HCP, which shall become terms of this contract. The State agrees to authorize the lawful activities of the Purchaser carried out pursuant to this contract, PROVIDED the Purchaser remains in compliance with the terms and conditions of both the HCP and ITP. The requirements set forth in this contract are intended to comply with the terms and conditions of the HCP and ITP. Accordingly, non-compliance with the terms and conditions of the HCP and ITP will render the authorization provided in this paragraph void, be deemed a breach of the contract and may subject Purchaser to liability for violation of the Endangered Species Act.

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

G-063 Incidental Take Permit Notification Requirements

a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.

b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.

c. Purchaser shall refer to a specific ITP number, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.

d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

The State shall adjust the total contract price by subtracting from the total contract price an amount determined in the following manner: The State shall cause the timber sale area subject to governmental regulation or order to be measured. The State shall calculate the percentage of the total sale area subject to the governmental regulation or order. The State shall reduce the total contract price by that calculated percentage. However, variations in species, value, costs, or other items pertaining to the affected sale area will be analyzed and included in the adjustment if deemed appropriate by the State. The State will further reduce the total contract price by the reasonable cost of unamortized roads Purchaser constructed but was unable to fully use for removing timber. A reduction in total contract price terminates all of the Purchaser's rights to purchase and remove the timber and all other interest in the affected sale area.

G-070 Limitation on Damage

In the event of a breach of any provision of this contract by the State, the exclusive remedy available to Purchaser will be limited to a return of the initial deposit, unapplied payments, and credit for unamortized improvements made by Purchaser.

The State shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

Any forest products not designated for removal, which must be removed in the course of operations authorized by the State, shall be approved and designated by the Contract Administrator. Added forest products become a part of this contract and the Scribner log scale volume, as defined by the Northwest Log Rules Advisory Group, shall be determined by the Contract Administrator. Added forest products shall be paid for at the following contract payment rates per Mbf Scribner log scale.

The pricing schedule has not been set for the sale.

G-111 Title and Risk of Loss

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

G-115 Forest Stewardship Council® (FSC®) Certification

Forest products purchased under this contract are FSC 100% certified as being in conformance with the Forest Stewardship Council Standard under certificate number: BV-FM/COC-080501.

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: BV-SFIS-US09000572.

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.

Road is defined as the road bed, including but not limited to its component parts, such as 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. 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.

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 Enumclaw, 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; the H-1000, H-1100, H-1200, H-1230, H-1240, H-1500, H-1500 Ext., H-1510, H-1510 Ext., H-1513, H-1513 Ext., H-1520, H-1540, H-1550, H-1560, and H-1560 Ext. roads and Spurs 1 - 12. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

Purchaser shall arrange with the Contract Administrator to review this contract and to examine the sale area before beginning any operations. A plan of operations shall be developed and agreed upon by the Contract Administrator and Purchaser before beginning any operations. To the extent that the plan of operations is inconsistent with the contract, the terms of the contract shall prevail. State's acceptance and approval of Purchaser's plan of operations shall not be construed as any statement or warranty that the plan of operations is adequate for Purchaser's purposes or complies with applicable laws.

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the H-1000 Road, 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:

Road Use Permit No. 55-100077 and 55-100078 entered into with the State of Washington, Department of Natural Resources and Eric Trammell and Dean and Stephanie Livengood, dated July 12, 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:

To be determined approximately one month prior to the day of sale.

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 $147,784.00. The total contract price consists of a $0.00 contract bid price plus $147,784.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of $100,000.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 5. Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the issuance and rating requirements in clause G-150. The State shall retain the performance security pursuant to RCW 79.15.100. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State decides that the security document or amount has become unsatisfactory, Purchaser agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-013 Reserve Tree Damage Definition

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

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

a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 square inches.

b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.

c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

H-017 Preventing Excessive Soil Disturbance

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

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for the road work and timber harvest. The plan shall address the H-1550 culvert installation, RUP requirements for Spur 12, trees to be left in daylighting Unit #7, extreme hazard abatement, hauling safety plan, tailhold locations, tailhold restriction areas and timing restrictions, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-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-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-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using cable or ground based equipment, with cable-tethered equipment limited to sustained slopes 75 percent or less, self-leveling equipment limited to sustained slopes 65 percent or less, and all other ground based equipment limited to sustained slopes 45 percent or less. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-127 Tailholds on Private Land

If Purchaser chooses to tailhold on private property, Purchaser shall obtain permit(s) and assumes responsibility for all costs and damages associated with the permit(s). Purchaser must provide the State with a copy of the executed permit(s) or a letter from the landowner indicating that a satisfactory tailhold permit(s) has been consummated between Purchaser and the landowner.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

General

a. Falling, yarding and timber haul will not be permitted weekdays from 7:00 pm to 7:00 am, weekends or State recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator, except for hauling on Spur 12, which is restricted per contract clause H-141. Also, the use of compression brakes will not be permitted on Spur 12.

b. Any existing downed trees or logs yarded to the landing will be returned to their original locations.

c. No equipment shall operate, or trees felled or damaged, outside the timber sale boundary.

d. Purchaser shall cut all vine maple within the harvest units, leaving a stump no more than 12 inches in height.

Safety

a. Provide a plan to ensure public safety during harvest operations immediately adjacent to H-1000 and NE Belfair View roads, and hauling on the H-1000 Road.

b. Fell all snags inside the harvest boundary within 150 feet of the H-1000 and NE Belfair View roads, and property lines.

c. Notify all employees and contractors working on this sale that any danger tree marked or unmarked may be felled. Any marked danger tree will be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.

d. Provide a written Extreme Hazard Abatement Plan, which meets the requirements of contract clause S-020. Hazard Abatement is required within 200 feet from structures adjacent to Units #2 and #3 and 100 feet from the H-1000 Road. Piling brush with the expectation of burning, and creating a 4 foot wide firebreak around piles is an acceptable option.

Stream Protection

a. Equipment limitation zones are required within 30 feet of Type 5 streams.

b. Crossing of Type 5 streams may be allowed at locations approved in writing by the Contract Administrator. Purchaser shall place a culvert or log puncheon at crossing locations, when water is present, to protect the stream bank and prevent sedimentation. All materials placed in and/or over the stream at these crossings shall be removed immediately upon completion of yarding on that skid trail.

c. Any and all operations associated with this sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the potential for delivery to typed water.

Skid Trail Requirements

a. Within shovel logging areas, and when yarding and loading operations are occurring simultaneously, an additional shovel will be required for loading to avoid extra trips to the landing. No more than one round trip per shovel road is allowed.

b. Take measures throughout operations to control soil erosion, water channelization, and prevent sediment delivery to streams or wetlands. Methods may include construction of water bars, "sweeping" with logs, silt traps, or other measures on skid trails, yarding corridors and haul roads.

c. No more than two skid trails open to active skidding at any one time.

d. Skid trail closure shall occur immediately upon completion of yarding all tributary timber. Closure shall consist of creating plantable spots at approximately 11 foot by 11 foot spacing to facilitate reforestation and creating water bars or other methods as directed by the Contract Administrator to prevent water accumulation and sediment movement.

e. In the event operations become inactive for long periods of time, skid trails shall be water barred prior to completion of yarding tributary timber to prevent water accumulation and sediment movement, if required by the Contract Administrator.

f. Once a skid trail is closed, the Purchaser shall not reopen the skid trail unless approved in writing by the Contract Administrator.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

a. Leave 2 down logs per acre. A log is defined as having a minimum diameter of 12 inches on the small end of the log and a minimum length of 20 feet or at least 100 board feet.

b. Timber haul on Spur 12 will not be permitted weekdays from 7:00 pm to 7:00 am, weekends or State recognized holidays, unless authority to do so is granted, in writing, by the State. Also, the use of compression brakes will not be permitted on Spur 12.

c. Areas restricting operations due to protection of potentially unstable slopes are located within and outside the sale boundary.

Locations inside the sale boundary are identified as Non-Tradeable Leave Trees marked with yellow Leave Tree Area tags as shown on the Timber Sale and Logging Plan Maps inside which no trees may be used as tailholds and no equipment may operate within, nor logs yarded through or over.

Locations outside the sale boundary are identified as Tailhold Restriction Areas on the Timber Sale and Logging Plan Maps. Trees within these areas shall not be used as tailholds. Cables will be allowed to be strung through and over these areas. Corridors must be approved in writing by the Contract Administrator.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 9/10/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on all roads used. All work shall be completed to the specifications detailed in the Road Plan.

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-020 Extreme Hazard Abatement

Purchaser shall provide a written Extreme Hazard Abatement plan that meets the requirements of WAC 332-24 prior to the beginning of logging operations. The plan must be acceptable to the Contract Administrator. The plan will identify how Purchaser will accomplish abatement. Purchaser shall also provide, and keep current, a written timetable for completion of all specified work in the plan. The Contract Administrator's acceptance and approval of Purchaser's hazard abatement plan shall not be construed as any statement or warranty that the hazard abatement plan is adequate for Purchaser's purposes or complies with applicable laws.

S-030 Landing Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-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-110 Resource Protection

No equipment may operate within the Riparian or Wetland Management Zones, Type 5 Equipment Limitation Zones, or tagged leave tree clumps unless authority is granted in writing by the Contract Administrator.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

Purchaser is responsible for understanding and complying with all applicable local, state, and federal hazardous material/waste laws and regulations for

operations conducted under this contract. Such regulations pertain to, but may not be limited to, hazardous material storage, handling and transport, personnel protection, release notification and emergency response, cleanup and waste disposal. Purchaser shall be responsible for restoring the site in the event of a spill.

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, the Purchaser is responsible for notifying the following:

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

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

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

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

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

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-041 Reserve Tree Excessive Damage

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

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

	STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES
_____ Purchaser	_____ Scott Sargent South Puget Sound Region Manager
_____ Print Name	
Date: _____ Address:	Date: _____

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

STATE OF _____)
)
COUNTY OF _____)

On this _____ day of _____, 20___, before me personally appeared _____
_____ to me known to be the _____ of the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of the corporation, for the uses and purposes therein mentioned, and on oath stated that (he/she was) (they were) authorized to execute said instrument.

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: South Puget Sound

Timber Sale Name: Hurdle

Application Number: 30-097377

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 6,264 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 8,802 **linear feet**
Road to be reconstructed (optional and required) but not abandoned

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

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

Pre-Haul Maintenance: 44,016 **linear feet**
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Construction: 8,516 **linear feet**
Roads to be constructed (optional and required) and then abandoned

Temporary Reconstruction: **linear feet**

Roads to be reconstructed (optional and required) andthen abandoned

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contact. 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: **Hurdle**	Region: **South Puget Sound**
Agreement #: **30-097377**	District: **Hood Canal**
Contact Forester: **Roger Hart**	Phone/ Location: **(360)-277-8008** Ext: /
Alternate Contact: **Nathan McReynolds**	Phone/ Location: **(360)-381-2015** Ext: /

Type of Sale (lump sum, mbf scale, tonnage scale or contract harvest): Lump Sum
Required or Optional removal of utility as pulp: Optional
Evaluated for RFRS Implementation?: Not viable for RFRS
Percentage cable (specify downhill vs uphill): Uphill – 25%, Downhill – 0%
Percentage ground based: 75%
Species Onsite: ☒RC, ☒DF, ☒WH, ☒RA, ☐BC, ☒BLM, ☐NF, ☐SF, ☐SS, ☒ Other:(White Pine, Madrone)

UNIT ACREAGES* AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description Sec/Twp/Rng	Grant	Gross Traversed Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method, dimensions and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (MM, Geo)		
1	Sec 18/ T 22 N/ R 2 W	1	47.7	0	1.3	0.5	0	45.9	Garmin 64s
2	Sec 13/ T 22 N/ R 3 W	1,6	57.4	0	1.7	1.6	0	54.2	Garmin 64s
3	Sec 13/ T 22 N/ R 3 W	6	13.1	0	0.3	0	0	12.8	Garmin 64s
4	Sec 8/ T 22 N/ R 2 W	1, 10	93.9	0	3.9	1.7	0	88.3	Garmin 64s
5	Sec 3/ T 22 N/ R 2 W	1	95.4	0	5.2	2.5	0	87.7	Garmin 64s
6 (ROW)	Sec 13/ T 22 N/ R 3 W	1	1.9	0	0	0.4	0	1.4	GIS
7 (Daylight)	Sec 7/ T 22 N/ R 2 W	1	0.3	0	0	0.1	0	0.2	GIS
TOTAL ACRES			309.7	0	12.4	6.8	0	290.5	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Mark leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps. Blue paint banded around individual leave trees.	N/A	389 Leave Trees (344 trees in 13 clumps. Also 45 individual trees)
2	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink paint with "X" on tree for last take tree near property boundary. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps. Blue paint banded around individual	N/A	458 Leave Trees (417 trees in 19 clumps. Also 41 individual trees)

	leave trees.		
3	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink paint with "X" on tree for last take tree near property boundary. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps. Blue paint banded around individual leave trees.	N/A	458 Leave Trees (102 trees in 4 clumps. Also 3 individual trees)
4	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink paint with "X" on tree for last take tree near property boundary. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps. Blue paint banded around individual leave trees.	N/A	721 Leave Trees (690 trees in 27 clumps. Also 40 individual trees)
5	Pink flagging and white "TIMBER SALE BOUNDARY" tags. Pink flagging and yellow "LEAVE TREE AREA" tags for clumps. Blue paint banded around individual leave trees.	N/A	724 Leave Trees (716 trees in 25 clumps. Also 36 individual trees)
6 (ROW)	Orange "RIGHT OF WAY" tags and orange flagging	N/A	0 Leave Trees
7 (Daylight)	Individual tree banded with orange paint. Single band will be cut and removed, double banded will be felled and left.	N/A	20 trees

OTHER PRE-CRUISE INFORMATION:

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	See Cruise	Gate #148, Lock 383	Available at Belfair Office
2	See Cruise	Gate #149, Lock 383	Available at Belfair Office
3	See Cruise	no gate	Available at Belfair Office
4	See Cruise	Gate #148, Lock 383	Available at Belfair Office
5	See Cruise	Gate #146, Lock 383	Available at Belfair Office
6 (ROW)	See Cruise	Gate #149, Lock 383	Available at Belfair Office
7 (Daylight)	See Cruise	Gate #148, Lock 383	Available at Belfair Office

REMARKS:

Caution: Poison Oak found near drainages of Shoofly Creek and Little Shoofly Creek

Prepared By: Roger Hart **Date: 8/21/2019**	**Title: State Lands Forester**	**CC:**

Revised 2/23/2007 (PSLD)

Cruise Narrative

Sale Name: Hurdle	**Region: South Puget Sound**
App. #: 30-097377	**District: Hood Canal**
Lead Cruiser: Aaron Coleman	**Completion Date: 11/25/2019** ***revised: 1/22/2020 - AC**
Other Cruisers: n/a	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
VRH U1	45.9	Yes	
VRH U2	54.2	Yes	
VRH U3	12.8	Yes	
VRH U4	88.3	Yes	
VRH U5	87.7	Yes	
R/W U6	1.4	Yes	
R/W U7	0.2	Yes	
Total	**290.5**	**Yes**	

Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (Cru./Tally)	Total number of plots
VRH U1	VP	27.78	4.5 ft	330’ x 330’	1:1	18
VRH U2	VP	27.78	4.5 ft	330’ x 330’	1:1	20
VRH U3	VP	27.78	4.5 ft	330’ x 330’	1:1	5
VRH U4	VP	27.78	4.5 ft	330’ x 330’	1:1	34
VRH U5	VP	27.78	4.5 ft	330’ x 330’	1:1	34
R/W U6	VP	27.78	4.5 ft	2 plots along CL	Cruise All	2
R/W U7	ITS	DF – 1:1	n/a	n/a	n/a	n/a
						113

Sale/Cruise Description:

Minor species cruise intensity:	Cruised on appropriate plots.					
Minimum cruise spec:	40% of Form-Factor at 16 feet D.O.B or 5 inch Top, and merchantable top.					
Avg. ring count by sp:	**DF** =	8	**WH** =	10		
Leave/take tree description:	VRH units contain leave tree areas bound with yellow “Leave Tree Area” tags and pink flashers/flagging, as well as a single band of blue paint on individual leave trees. R/W unit 7 contains take trees marked with a single band of orange paint, as well as double banded orange painted trees which are to be fell and left.					
Sort Description:	**HA** - Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 1/2" in diameter, numbering not more than an average of one per foot of log length. May					

	include logs with not more than two larger knots. Knots and knot indicators 1/2" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (High Quality sort. Grades SM, 2S, 3S. Lengths 16ft-40ft, 2ft multiples min TDIB 8". Max butt 27") **HB -** Logs meeting the following criteria: Surface characteristics for an Intermediate B sort will have sound tight knots not to exceed 11/2" in diameter. May include logs with not more than two larger knots up to 2 1/2" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (Intermediate sort. Grades 2S, 3S. Lengths 16ft-40ft, 2ft multiples min TDIB 8". Max butt 27"). **D** - Domestic quality logs that do not meet high quality or intermediate definitions. (Domestic sort. Grades 2S, 3S, 4S and utility. Lengths 16ft-40ft, min TDIB 5".) **R** - Logs meeting the following criteria: Surface characteristics for a rough log sort will not meet the requirements for a domestic 2S, but still be in limitations for a domestic 3S. Meaning logs will contain excessive knots in excess of 2 1/2" and not exceeding 3" with a recovery of less than 65% of the net scale and greater that 33% of the gross scale. (Rough oversize sort. Grade 3S. Lengths 16ft-40ft, 2ft multiples TDIB 12"+)
Status Descripion:	**P –** Logs classified as pole volume.*****

Field observations:

This sale consists of 5 variable retention harvest (VRH) units and 2 right-of-way (R/W) units off Hurd road in the Tahuya State Forest.

The primary species breakdown for this sale is as follows:
Douglas-fir (DF): **97%**
Western Hemlock (WH): **1%**
White Pine (WP): **1%**

***Although pole volume is included, a specific pole cruise was not done on this sale. Pole volume was captured on the same VP plots as the saw log volume.**

The DF throughout this sale averages 14" diameter with 77' bole height, the WH averages 13" diameter with 56' bole height and the WP averages 14" diameter with 82' bole height.

This is mostly shovel ground, with pockets of uphill cable. Some rock was observed through the oppressive brush layer, along with some broken ground. Common defect consisted of broken/forked tops and spike knots.

All roads to this sale are in good condition and there are good access points into all units. A 383 key is needed to access the units through gates #146, #148 and #149.

Grant(s):01, 06, 10 **Prepared by: Aaron Coleman** **Title: Forest Check Cruiser**

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T22N R03W S13 Ty00U1
THRU
T22N R03W S13 Ty00U7

Project: **HURDLE**

Acres **290.50**

Page **1**
Date **1/22/2020**
Time **11:16:54AM**

Spp	S T	So Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU CU		100.0	7											2	6		0.00	29.8
DF		HB 2S	5	2.6	988	963	280			77	23			65	35	34	13	209	1.44	4.6
DF		HB 3S	3	1.8	573	563	163		100					22	78	37	9	119	0.79	4.7
DF		D 2S	32	4.5	5,953	5,682	1,651			61	39		3	23	74	36	14	267	1.74	21.2
DF		D 3S	39	2.5	7,160	6,982	2,028	11	89				2	22	76	37	9	107	0.74	65.0
DF		D 4S	20	1.2	3,701	3,657	1,062	94	6			7	29	18	47	31	5	36	0.32	101.0
DF		D UT	1		6	6	2	100							100	40	5	40	0.40	.2
DF	**Totals**		91	2.9	18,389	17,853	5,186	23	39	24	14	1	8	24	67	29	7	79	0.67	226.5
DF	P	CU CU															6		0.00	.8
DF	P	HB 2S	17	2.9	204	198	58			100				47	53	35	12	180	1.32	1.1
DF	P	HB 3S	10	4.3	113	108	31		100					80	20	33	9	95	0.67	1.1
DF	P	D 2S	24	2.7	273	266	77			100				38	62	36	13	204	1.38	1.3
DF	P	D 3S	35	3.3	403	389	113	4	96					19	81	38	9	116	0.76	3.4
DF	P	D 4S	14		146	146	42	95	5			7	45	16	32	29	5	33	0.32	4.4
DF	**Totals**		6	2.8	1,138	1,107	322	14	44	42		1	6	34	59	31	8	91	0.73	12.1
WH		CU CU		100.0	96											6	8		0.00	1.5
WH		HB 2S	17		50	50	14			100				100		32	13	190	1.39	.3
WH		HB 3S	11		31	31	9		100					100		32	10	120	0.73	.3
WH		D 3S	27	2.5	80	78	23		100						100	39	10	140	0.93	.6
WH		D 4S	45	.0	127	127	37	100					6	47	46	36	5	39	0.36	3.3
WH	**Totals**		1	25.5	383	286	83	44	38	17			3	49	48	28	7	49	0.49	5.8
RA		D 3S	80		44	44	13		100				36		64	34	10	114	0.93	.4
RA		D 4S	20		11	11	3	100				42		58		25	6	28	0.36	.4
RA	**Totals**		0		55	55	16	20	80			8	29	11	51	29	8	71	0.69	.8
WP		CU CU														6	6		0.00	1.0
WP		HB 2S	16		45	45	13			31	69			100		32	16	310	2.04	.1
WP		HB 3S	19		50	50	14		100						100	40	10	150	1.01	.3
WP		D 2S	10	7.7	29	27	8			100					100	36	14	240	1.63	.1
WP		D 3S	30	10.4	90	81	23	20	80			18		20	62	32	8	68	0.66	1.2
WP		D 4S	22		57	57	17	100				15	14	26	44	29	5	31	0.32	1.8
WP		D UT	3		7	7	2	100					100			25	5	30	0.24	.2
WP	**Totals**		1	4.2	279	267	78	30	43	15	12	9	6	29	57	26	7	55	0.58	4.9
Totals				3.3	20,244	19,568	5,684	23	40	24	13	1	8	25	66	29	8	78	0.67	250.1

TC PSTATS

PROJECT STATISTICS

PROJECT HURDLE

DATE 1/22/2020

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
22N	03	13	HURDLE	00U1	THR	290.50	114	559	S	W
22N	03W	13	HURDLE	00U7						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	114	559	4.9		
CRUISE	65	299	4.6	33,322	.9
DBH COUNT					
REFOREST COUNT	49	248	5.1		
BLANKS					
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	251	104.3	14.8	77	32.4	124.4	18,389	17,853	4,452	4,451
DOUG FIR-P	29	4.5	17.1	88	1.7	7.2	1,138	1,107	278	278
WHEMLOCK	8	3.5	13.1	56	0.9	3.2	383	286	100	81
W PINE	9	2.1	14.2	82	0.6	2.3	279	267	73	73
R ALDER	2	.4	15.3	61	0.1	.5	55	55	16	16
TOTAL	*299*	*114.7*	*14.8*	*77*	*35.7*	*137.6*	*20,244*	*19,568*	*4,919*	*4,899*

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	7	10
DOUG FIR	95.1	6.1	261	278	295			
DOUG FIR-P	35.1	6.6	246	264	281			
WHEMLOCK	81.6	30.7	113	163	212			
W PINE	98.5	34.7	131	201	271			
R ALDER	59.3	55.5	69	155	241			
TOTAL	*91.7*	*5.3*	*256*	*270*	*284*	*336*	*171*	*84*

CL 68.1	COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	83.8	5.3	64	68	71			
DOUG FIR-P	31.4	5.9	62	66	70			
WHEMLOCK	72.0	27.2	30	41	52			
W PINE	83.0	29.3	37	52	67			
R ALDER	49.1	46.0	24	44	64			
TOTAL	*80.5*	*4.7*	*63*	*66*	*69*	*259*	*132*	*65*

CL 68.1	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	53.2	5.0	99	104	109			
DOUG FIR-P	263.0	24.6	3	5	6			
WHEMLOCK	592.2	55.4	2	3	5			
W PINE	583.0	54.6	1	2	3			
R ALDER	765.6	71.6	0	0	1			
TOTAL	*49.7*	*4.6*	*109*	*115*	*120*	*98*	*50*	*25*

CL 68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	43.4	4.1	119	124	129			
DOUG FIR-P	250.0	23.4	5	7	9			
WHEMLOCK	540.0	50.5	2	3	5			
W PINE	457.0	42.8	1	2	3			
R ALDER	751.6	70.3	0	0	1			
TOTAL	*39.3*	*3.7*	*133*	*138*	*143*	*62*	*31*	*15*

PROJECT STATISTICS

PROJECT **HURDLE**

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
22N	03	13	HURDLE	00U1	THR	290.50	114	559	S	W
22N	03W	13	HURDLE	00U7						

CL 68.1	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	46.3	4.3	17,081	17,853	18,626			
DOUG FIR-P	247.6	23.2	850	1,107	1,363			
WHEMLOCK	741.5	69.4	87	286	484			
W PINE	420.2	39.3	162	267	372			
R ALDER	774.7	72.5	15	55	94			
TOTAL	*44.0*	*4.1*	*18,762*	*19,568*	*20,373*	*77*	*39*	*19*

CL 68.1	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	44.9	4.2	4,264	4,451	4,638			
DOUG FIR-P	248.8	23.3	214	278	343			
WHEMLOCK	690.8	64.6	29	81	133			
W PINE	418.2	39.1	44	73	102			
R ALDER	762.2	71.3	4	16	27			
TOTAL	*42.2*	*3.9*	*4,705*	*4,899*	*5,092*	*71*	*36*	*18*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: HURDLE

Date 1/22/2020

Time 11:16:54AM

T22N R03W S13 T00U1 **T22N R03W S13 T00U1**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
22N	03W	13	HURDLE	00U1	45.90	18	46	S	W

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU														2	8		0.00	15.7
DF		HB	2S	3	.0	620	620	28			100				100		32	12	173	1.30	3.6
DF		HB	3S	3		515	515	24		100					35	65	36	10	122	0.82	4.2
DF		DM	2S	40	2.8	7,138	6,937	318			39	61		4	24	72	36	15	323	1.98	21.5
DF		DM	3S	37	.6	6,620	6,579	302	14	86				4	30	67	35	9	101	0.68	65.3
DF		DM	4S	17		2,813	2,813	129	88	12			5	41	9	45	29	5	37	0.32	76.9
DF Totals				88	1.4	17,706	17,463	802	19	37	19	24	1	10	27	63	30	8	93	0.72	187.2
DF	P	HB	2S	39		289	289	13			100				100		32	12	174	1.36	1.7
DF	P	HB	3S	24		173	173	8		100					100		32	9	104	0.67	1.7
DF	P	DM	3S	23	.0	166	166	8		100						100	40	10	150	0.89	1.1
DF	P	DM	4S	14		102	102	5	100					57		43	34	5	37	0.33	2.8
DF P Totals				4		729	729	33	14	46	40			8	63	29	34	9	101	0.73	7.2
WH		HB	2S	26		315	315	14			100				100		32	13	190	1.39	1.7
WH		HB	3S	17		199	199	9		100					100		32	10	120	0.73	1.7
WH		DM	3S	42	2.5	503	491	23		100						100	39	10	140	0.93	3.5
WH		DM	4S	15		177	177	8	100					28	21	51	32	5	34	0.34	5.2
WH Totals				6	1.1	1,194	1,181	54	15	58	27			4	47	49	34	8	99	0.73	12.0
RA		DM	3S	80		277	277	13		100				36		64	34	10	114	0.93	2.4
RA		DM	4S	20		68	68	3	100				42		58		25	6	28	0.36	2.4
RA Totals				2		345	345	16	20	80			8	29	11	51	29	8	71	0.69	4.8
WP		HB	3S	78		147	147	7		100						100	40	10	150	1.06	1.0
WP		DM	4S	22	.0	39	39	2	100							100	37	5	40	0.34	1.0
WP Totals				1	.0	186	186	9	21	79						100	39	8	95	0.71	2.0
Type Totals					1.3	20,160	19,905	914	19	40	20	21	1	9	29	61	30	8	93	0.72	213.1

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: HURDLE

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T22N R03W S13 T00U2 **T22N R03W S13 T00U2**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
22N	03W	13	HURDLE	00U2	54.20	20	48	S	W

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU														2	7		0.00	22.2
DF		HB	2S	7	1.4	1,299	1,280	69			100				22	78	37	12	199	1.34	6.4
DF		HB	3S	3		684	684	37		100					24	76	37	9	106	0.65	6.4
DF		DM	2S	27	5.6	5,037	4,755	258			67	33		10	27	63	35	13	236	1.65	20.1
DF		DM	3S	43	1.9	7,912	7,758	421	11	89				6	24	70	36	9	106	0.75	73.2
DF		DM	4S	20	2.9	3,727	3,618	196	100				8	27	39	25	30	5	34	0.30	104.9
DF	**Totals**			98	3.0	18,659	18,095	981	25	42	25	9	2	11	28	60	30	8	78	0.65	233.3
WP		CU	CU														6	6		0.00	5.6
WP		DM	3S	46	9.6	184	166	9	53	47			47		53		26	8	54	0.61	3.1
WP		DM	4S	54		189	189	10	100				19		27	54	31	5	34	0.30	5.6
WP	**Totals**			2	4.7	373	356	19	78	22			32		39	29	20	6	25	0.35	14.3
WH		CU	CU		100.0	513											26	17		0.00	1.8
WH	**Totals**				100.0	513											26	17		0.00	1.8
Type Totals					5.6	19,545	18,451	1,000	26	42	24	9	2	10	28	60	29	8	74	0.64	249.3

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: HURDLE

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T22N R03W S13 T00U3 **T22N R03W S13 T00U3**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
22N	03W	13	HURDLE	00U3	12.80	5	20	S	W

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU														2	5		0.00	55.1
DF		HB	2S	4	5.6	566	534	7			100					100	36	12	170	1.28	3.1
DF		HB	3S	6	5.7	795	750	10		100						100	38	9	98	0.68	7.7
DF		DM	2S	5	7.7	601	554	7			100					100	36	14	240	1.74	2.3
DF		DM	3S	39	4.2	5,001	4,793	61	19	81						100	38	9	102	0.78	46.8
DF		DM	4S	44		5,319	5,319	68	100				4	17	13	67	34	5	37	0.30	143.6
DF		DM	UT	2		141	141	2	100							100	40	5	40	0.40	3.5
DF	**Totals**			100	2.7	12,422	12,091	155	53	38	9		2	7	6	85	28	6	46	0.46	262.2
Type Totals					2.7	12,422	12,091	155	53	38	9		2	7	6	85	28	6	46	0.46	262.2

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: HURDLE

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T22N R03W S13 T00U4

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
22N	03W	13	HURDLE	00U4	88.30	34	80	S	W

T22N R03W S13 T00U4

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU														2	6		0.00	31.4
DF		HB	2S	5	3.7	1,086	1,046	92			32	68			76	24	33	16	311	2.03	3.4
DF		DM	2S	37	5.1	7,492	7,112	628			65	35		1	22	77	36	14	261	1.71	27.3
DF		DM	3S	39	3.5	7,811	7,534	665	8	92				0	24	75	37	9	106	0.73	71.1
DF		DM	4S	19	.5	3,572	3,554	314	96	4			6	30	17	47	32	5	35	0.31	100.3
DF Totals				93	3.6	19,962	19,247	1,700	21	37	26	17	1	6	25	68	30	8	82	0.69	233.4
DF	P	CU	CU															5		0.00	1.1
DF	P	HB	2S	11	5.6	166	157	14			100					100	36	12	170	1.28	.9
DF	P	HB	3S	6	11.1	83	74	7		100					100		32	9	80	0.61	.9
DF	P	DM	2S	25	2.2	347	340	30			100				49	51	34	13	198	1.41	1.7
DF	P	DM	3S	43	5.9	626	589	52		100					19	81	37	10	122	0.80	4.8
DF	P	DM	4S	15		198	198	18	100					35	25	39	31	5	34	0.33	5.8
DF P Totals				7	4.4	1,421	1,358	120	15	49	37			5	30	65	31	8	89	0.72	15.3
WP		HB	2S	93		149	149	13			31	69			100		32	16	310	2.04	.5
WP		DM	4S	7		10	10	1	100					100			26	7	40	0.59	.2
WP Totals				1		158	158	14	6		29	65		6	94		30	13	220	1.62	.7
Type Totals					3.6	21,541	20,764	1,833	20	37	26	16	1	6	26	67	30	8	83	0.70	249.4

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: HURDLE

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T22N R03W S13 T00U5 **T22N R03W S13 T00U5**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
22N	03W	13	HURDLE	00U5	87.70	34	97	S	W

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	24											3	6		0.00	37.1
DF		HB	2S	5	2.9	971	943	83			100				83	17	33	12	170	1.24	5.5
DF		HB	3S	6	2.6	1,090	1,062	93		100					19	81	36	10	126	0.86	8.4
DF		DM	2S	28	4.3	5,238	5,012	440			67	33		2	21	77	36	14	265	1.70	18.9
DF		DM	3S	38	2.4	6,682	6,521	572	11	89					16	84	38	9	115	0.78	56.5
DF		DM	4S	23	1.5	4,076	4,016	352	89	11			7	28	10	55	31	5	38	0.34	105.9
DF		**Totals**		87	2.9	18,081	17,554	1,539	25	42	25	9	2	7	20	72	29	7	76	0.67	232.3
DF	P	CU	CU															6		0.00	1.5
DF	P	HB	2S	18	2.9	357	346	30			100				45	55	35	12	188	1.33	1.8
DF	P	HB	3S	10	3.3	200	193	17		100					62	38	35	9	97	0.69	2.0
DF	P	DM	2S	28	3.0	555	538	47			100				32	68	37	13	207	1.35	2.6
DF	P	DM	3S	32	1.1	617	610	53	9	91					21	79	38	9	107	0.72	5.7
DF	P	DM	4S	12		229	229	20	90	10			14	51	12	24	27	5	31	0.30	7.4
DF	**P**	**Totals**		9	2.1	1,958	1,917	168	14	40	46		2	6	31	61	31	8	91	0.74	21.0
WH		CU	CU															5		0.00	3.7
WH		DM	4S	100		328	328	29	100						55	45	37	5	40	0.37	8.2
WH		**Totals**		2		328	328	29	100						55	45	26	5	28	0.37	11.9
WP		HB	3S	21		88	88	8		100						100	40	10	150	0.97	.6
WP		DM	2S	22	7.7	97	90	8			100					100	36	14	240	1.63	.4
WP		DM	3S	40	11.0	185	164	14		100						100	38	8	81	0.69	2.0
WP		DM	4S	11		43	43	4	100				18	41	41		24	5	23	0.29	1.8
WP		DM	UT	6		23	23	2	100					100			25	5	30	0.24	.8
WP		**Totals**		2	6.4	435	408	36	16	62	22		2	10	4	84	32	7	73	0.65	5.6
Type Totals					2.9	20,802	20,207	1,772	25	41	26	8	2	7	21	71	29	7	75	0.66	270.8

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: HURDLE

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T22N R03W S13 T00U6

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
22N	03W	13	HURDLE	00U6	1.40	2	6	S	W

T22N R03W S13 T00U6

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		DM	3S	69	5.6	5,335	5,034	7		100						100	40	8	95	0.85	53.0
DF		DM	4S	31		2,199	2,199	3	100				78	22			19	5	21	0.22	105.0
DF	**Totals**			100	4.0	7,534	7,233	10	30	70			24	7		70	26	6	46	0.54	158.0
Type Totals					4.0	7,534	7,233	10	30	70			24	7		70	26	6	46	0.54	158.0

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: HURDLE

Date 1/22/2020

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T22N R03W S13 T00U7 **T22N R03W S13 T00U7**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
22N	03W	13	HURDLE	00U7	.20	1	2	S	W

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		DM	3S	80		850	850	0		100					41	59	34	9	85	0.80	10.0
DF		DM	4S	20		200	200	0	100				100				18	5	20	0.27	10.0
DF		**Totals**		100		1,050	1,050	0	19	81			19		33	48	26	7	53	0.62	20.0
Type Totals						1,050	1,050	0	19	81			19		33	48	26	7	53	0.62	20.0

TC TSTATS

STATISTICS

PROJECT HURDLE

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	03W	13	HURDLE	00U1	45.90	18	82	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	18	82	4.6		
CRUISE	11	46	4.2	4,176	1.1
DBH COUNT					
REFOREST COUNT	7	36	5.1		
BLANKS					
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	35	79.7	15.9	80	27.5	109.6	17,706	17,463	4,059	4,059
DOUG FIR-P	3	2.8	17.5	91	1.1	4.6	729	729	178	178
WHEMLOCK	5	5.2	16.6	82	1.9	7.7	1,194	1,181	296	296
R ALDER	2	2.4	15.3	61	0.8	3.1	345	345	98	98
W PINE	1	1.0	17.0	79	0.4	1.5	186	186	54	54
TOTAL	*46*	*91.0*	*16.0*	*80*	*31.7*	*126.6*	*20,160*	*19,905*	*4,685*	*4,685*

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	7	10
DOUG FIR	83.1	14.5	329	384	440			
DOUG FIR-P	29.3	20.3	218	273	329			
WHEMLOCK	37.4	18.6	199	244	289			
R ALDER	59.3	55.5	69	155	241			
W PINE								
TOTAL	*82.8*	*12.5*	*303*	*346*	*389*	*274*	*140*	*69*

CL: 68.1 %	COEFF		**SAMPLE TREES - CF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	76.2	13.2	76	87	99			
DOUG FIR-P	24.2	16.7	55	66	77			
WHEMLOCK	28.0	13.9	52	60	69			
R ALDER	49.1	46.0	24	44	64			
W PINE								
TOTAL	*74.0*	*11.1*	*71*	*80*	*89*	*219*	*112*	*55*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	60.9	14.7	68	80	91			
DOUG FIR-P	233.1	56.5	1	3	4			
WHEMLOCK	424.3	102.8		5	10			
R ALDER	297.0	72.0	1	2	4			
W PINE	424.3	102.8		1	2			
TOTAL	*50.4*	*12.2*	*80*	*91*	*102*	*107*	*55*	*27*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	51.8	12.5	96	110	123			
DOUG FIR-P	230.1	55.8	2	5	7			
WHEMLOCK	424.3	102.8		8	16			
R ALDER	291.0	70.5	1	3	5			
W PINE	424.3	102.8		2	3			
TOTAL	*42.7*	*10.4*	*113*	*127*	*140*	*77*	*39*	*19*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10

TC TSTATS

STATISTICS

PROJECT HURDLE

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	03W	13	HURDLE	00U1	45.90	18	82	S	W

CL: 68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	51.1	12.4	15,300	17,463	19,626			
DOUG FIR-P	231.7	56.1	320	729	1,138			
WHEMLOCK	424.3	102.8		1,181	2,396			
R ALDER	300.9	72.9	94	345	597			
W PINE	424.3	102.8		186	377			
TOTAL	*43.8*	*10.6*	*17,794*	*19,905*	*22,016*	*81*	*41*	*20*

CL: 68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	50.5	12.2	3,562	4,059	4,556			
DOUG FIR-P	230.7	55.9	79	178	278			
WHEMLOCK	424.3	102.8		296	600			
R ALDER	295.6	71.6	28	98	169			
W PINE	424.3	102.8		54	109			
TOTAL	*43.3*	*10.5*	*4,193*	*4,685*	*5,177*	*79*	*41*	*20*

TC TSTATS

STATISTICS

PROJECT HURDLE

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	03W	13	HURDLE	00U2	54.20	20	97	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	20	97	4.8		
CRUISE	10	48	4.8	6,231	.8
DBH COUNT					
REFOREST COUNT	10	48	4.8		
BLANKS					
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	44	108.5	14.7	78	33.3	127.8	18,659	18,095	4,562	4,562
W PINE	3	5.6	11.7	81	1.2	4.2	373	356	102	102
WHEMLOCK	1	.9	24.0	53	0.6	2.8	513		104	
TOTAL	*48*	*115.0*	*14.7*	*78*	*35.2*	*134.7*	*19,545*	*18,451*	*4,768*	*4,665*

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	7	10
DOUG FIR	104.0	15.7	226	268	310			
W PINE	42.9	29.7	49	70	91			
WHEMLOCK								
TOTAL	*109.4*	*15.8*	*211*	*250*	*290*	*478*	*244*	*120*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	96.8	14.6	57	66	76			
W PINE	27.3	18.9	16	19	23			
WHEMLOCK								
TOTAL	*101.8*	*14.7*	*53*	*62*	*71*	*414*	*211*	*103*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	41.1	9.4	98	108	119			
W PINE	447.2	102.5		6	11			
WHEMLOCK	307.8	70.6	0	1	2			
TOTAL	*43.2*	*9.9*	*104*	*115*	*126*	*78*	*40*	*20*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	34.1	7.8	118	128	138			
W PINE	447.2	102.5		4	8			
WHEMLOCK	307.8	70.6	1	3	5			
TOTAL	*29.4*	*6.7*	*126*	*135*	*144*	*36*	*19*	*9*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	42.8	9.8	16,319	18,095	19,872			
W PINE	447.2	102.5		356	720			
WHEMLOCK								
TOTAL	*40.8*	*9.4*	*16,725*	*18,451*	*20,177*	*70*	*36*	*17*

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	40.0	9.2	4,144	4,562	4,980			
W PINE	447.2	102.5		102	207			
WHEMLOCK								
TOTAL	*37.9*	*8.7*	*4,260*	*4,665*	*5,070*	*60*	*31*	*15*

TC TSTATS

STATISTICS

PROJECT HURDLE

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	03W	13	HURDLE	00U3	12.80	5	20	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	5	20	4.0		
CRUISE	5	20	4.0	1,883	1.1
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
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	20	147.1	11.8	75	32.4	111.1	12,422	12,091	3,393	3,394
TOTAL	*20*	*147.1*	*11.8*	*75*	*32.4*	*111.1*	*12,422*	*12,091*	*3,393*	*3,394*

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	7	10
DOUG FIR	77.5	17.8	99	121	143			
TOTAL	*77.5*	*17.8*	*99*	*121*	*143*	*253*	*129*	*63*

CL: 68.1 %	COEFF		**SAMPLE TREES - CF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	72.2	16.6	28	34	39			
TOTAL	*72.2*	*16.6*	*28*	*34*	*39*	*219*	*112*	*55*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	75.7	37.6	92	147	202			
TOTAL	*75.7*	*37.6*	*92*	*147*	*202*	*283*	*144*	*71*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	53.0	26.4	82	111	140			
TOTAL	*53.0*	*26.4*	*82*	*111*	*140*	*139*	*71*	*35*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	47.2	23.5	9,255	12,091	14,926			
TOTAL	*47.2*	*23.5*	*9,255*	*12,091*	*14,926*	*110*	*56*	*27*

CL: 68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	47.8	23.7	2,588	3,394	4,200			
TOTAL	*47.8*	*23.7*	*2,588*	*3,394*	*4,200*	*113*	*58*	*28*

TC TSTATS

STATISTICS

PROJECT HURDLE

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	03W	13	HURDLE	00U4	88.30	34	177	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	34	177	5.2		
CRUISE	16	80	5.0	10,120	.8
DBH COUNT					
REFOREST COUNT	18	97	5.4		
BLANKS					
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	68	108.6	15.1	75	34.7	134.8	19,962	19,247	4,817	4,818
DOUG FIR-P	11	5.8	16.9	87	2.2	9.0	1,421	1,358	347	347
W PINE	1	.2	25.0	93	0.2	.8	158	158	35	35
TOTAL	*80*	*114.6*	*15.2*	*75*	*37.1*	*144.6*	*21,541*	*20,764*	*5,199*	*5,200*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % SD: 1.0

SAMPLE TREES - BF	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
DOUG FIR	86.0	10.4	268	299	330			
DOUG FIR-P	32.2	10.2	225	251	276			
W PINE								
TOTAL	*81.7*	*9.1*	*270*	*297*	*324*	*267*	*136*	*67*

CL: 68.1 % SD: 1.0

SAMPLE TREES - CF	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
DOUG FIR	80.2	9.7	66	73	80			
DOUG FIR-P	29.0	9.2	58	64	70			
W PINE								
TOTAL	*75.8*	*8.5*	*66*	*73*	*79*	*229*	*117*	*57*

CL: 68.1 % SD: 1.0

TREES/ACRE	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	50.7	8.7	99	109	118			
DOUG FIR-P	224.2	38.4	4	6	8			
W PINE	583.1	99.9	0	0	0			
TOTAL	*48.3*	*8.3*	*105*	*115*	*124*	*93*	*48*	*23*

CL: 68.1 % SD: 1.0

BASAL AREA/ACRE	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	38.7	6.6	126	135	144			
DOUG FIR-P	224.7	38.5	6	9	12			
W PINE	583.1	99.9	0	1	2			
TOTAL	*36.3*	*6.2*	*136*	*145*	*154*	*52*	*27*	*13*

CL: 68.1 % SD: 1.0

NET BF/ACRE	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	38.4	6.6	17,980	19,247	20,514			
DOUG FIR-P	228.5	39.2	827	1,358	1,890			
W PINE	583.1	99.9	0	158	316			
TOTAL	*36.7*	*6.3*	*19,458*	*20,764*	*22,069*	*54*	*27*	*13*

CL: 68.1 % SD: 1.0

NET CUFT FT/ACRE	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	37.8	6.5	4,506	4,818	5,130			
DOUG FIR-P	227.3	39.0	212	347	482			
W PINE	583.1	99.9	0	35	70			
TOTAL	*35.9*	*6.2*	*4,879*	*5,200*	*5,520*	*52*	*26*	*13*

TC TSTATS

STATISTICS

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PROJECT HURDLE

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	03W	13	HURDLE	00U5	87.70	34	175	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	34	175	5.1		
CRUISE	20	97	4.8	10,762	.9
DBH COUNT					
REFOREST COUNT	14	67	4.8		
BLANKS					
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	76	104.2	14.7	79	32.0	122.6	18,081	17,554	4,422	4,417
DOUG FIR-P	15	7.7	17.1	88	3.0	12.3	1,958	1,917	480	480
WHEMLOCK	2	8.2	10.5	48	1.5	4.9	328	328	113	113
W PINE	4	2.6	15.2	83	0.8	3.3	435	408	115	115
TOTAL	*97*	*122.7*	*14.6*	*78*	*37.4*	*143.0*	*20,802*	*20,207*	*5,130*	*5,125*

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	7	10
DOUG FIR	92.4	10.8	248	278	308			
DOUG FIR-P	39.3	10.5	243	271	300			
WHEMLOCK			40	40	40			
W PINE	68.1	38.9	115	188	260			
TOTAL	*87.4*	*9.0*	*244*	*268*	*292*	*305*	*155*	*76*

CL: 68.1 %	COEFF		**SAMPLE TREES - CF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	73.8	8.6	62	67	73			
DOUG FIR-P	35.4	9.5	61	67	74			
WHEMLOCK	20.3	19.0	11	14	17			
W PINE	57.7	32.9	34	51	68			
TOTAL	*69.8*	*7.2*	*61*	*66*	*70*	*195*	*99*	*49*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	41.8	7.2	97	104	112			
DOUG FIR-P	205.2	35.2	5	8	10			
WHEMLOCK	406.2	69.6	2	8	14			
W PINE	291.4	49.9	1	3	4			
TOTAL	*38.2*	*6.5*	*115*	*123*	*131*	*58*	*30*	*15*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	39.1	6.7	114	123	131			
DOUG FIR-P	186.7	32.0	8	12	16			
WHEMLOCK	406.0	69.6	1	5	8			
W PINE	278.0	47.6	2	3	5			
TOTAL	*34.5*	*5.9*	*135*	*143*	*151*	*48*	*24*	*12*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	42.9	7.4	16,262	17,554	18,846			
DOUG FIR-P	180.9	31.0	1,323	1,917	2,511			
WHEMLOCK	406.2	69.6	100	328	557			
W PINE	286.1	49.0	208	408	608			
TOTAL	*41.4*	*7.1*	*18,775*	*20,207*	*21,639*	*68*	*35*	*17*

TC TSTATS

STATISTICS

PROJECT **HURDLE**

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	**03W**	**13**	**HURDLE**	**00U5**	87.70	34	175	S	W

CL:	68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10

CL:	68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR		41.8	7.2	4,101	4,417	4,734			
DOUG FIR-P		182.9	31.3	329	480	630			
WHEMLOCK		406.1	69.6	34	113	191			
W PINE		280.9	48.1	60	115	171			
TOTAL		*38.9*	*6.7*	*4,783*	*5,125*	*5,467*	*60*	*31*	*15*

TC TSTATS

STATISTICS

PROJECT HURDLE

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	03W	13	HURDLE	00U6	1.40	2	6	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	6	3.0		
CRUISE	2	6	3.0	147	4.1
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
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	6	105.0	12.1	62	24.0	83.3	7,534	7,233	2,224	2,224
TOTAL	*6*	*105.0*	*12.1*	*62*	*24.0*	*83.3*	*7,534*	*7,233*	*2,224*	*2,224*

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	7	10
DOUG FIR	41.9	18.7	83	102	121			
TOTAL	*41.9*	*18.7*	*83*	*102*	*121*	*84*	*43*	*21*

CL: 68.1 %	COEFF		**SAMPLE TREES - CF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	47.1	21.0	27	34	41			
TOTAL	*47.1*	*21.0*	*27*	*34*	*41*	*106*	*54*	*26*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	90.9	85.1	16	105	194			
TOTAL	*90.9*	*85.1*	*16*	*105*	*194*	*579*	*296*	*145*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	47.1	44.1	47	83	120			
TOTAL	*47.1*	*44.1*	*47*	*83*	*120*	*156*	*80*	*39*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	53.8	50.4	3,587	7,233	10,879			
TOTAL	*53.8*	*50.4*	*3,587*	*7,233*	*10,879*	*203*	*104*	*51*

CL: 68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	39.7	37.2	1,398	2,224	3,051			
TOTAL	*39.7*	*37.2*	*1,398*	*2,224*	*3,051*	*110*	*56*	*28*

TC TSTATS

STATISTICS

PROJECT **HURDLE**

DATE 1/22/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
22N	03W	13	HURDLE	00U7	0.20	1	2	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	1	2	2.0		
CRUISE	1	2	2.0	2	100.0
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
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	2	10.0	15.1	62	3.2	12.5	1,050	1,050	319	319
TOTAL	*2*	*10.0*	*15.1*	*62*	*3.2*	*12.5*	*1,050*	*1,050*	*319*	*319*

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	7	10
DOUG FIR	20.2	18.9	85	105	125			
TOTAL	*20.2*	*18.9*	*85*	*105*	*125*	*29*	*15*	*7*

CL: 68.1 %	COEFF		**SAMPLE TREES - CF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	42.7	40.0	19	32	45			
TOTAL	*42.7*	*40.0*	*19*	*32*	*45*	*128*	*65*	*32*

TC PSPCTLTCM

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

T22N R03W S13 Ty00U	45.9
T22N R03W S13 Ty00U	54.2
T22N R03W S13 Ty00U	.2

Project **HURDLE**
Acres **290.50**

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Date: **1/22/2020**
Time **11:16:53AM**

Species	S T	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
DOUG FIR		30,296	57,147	36,862	42.68	22.63	0.66	12,934	12,930	5,342	5,186
DOUG FIR	P	1,311	3,289	2,304	61.70	24.58	0.72	809	809	331	322
WHEMLOCK		1,004	1,269	932	23.38	18.50	0.52	291	235	111	83
W PINE		599	1,115	509	35.38	19.02	0.62	212	212	81	78
R ALDER		111	222	124	40.63	20.32	0.70	45	45	16	16
Totals		33,322	63,042	40,731	42.71	22.57	0.66	14,291	14,231	5,881	5,684

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	33,210	62,819	40,607	42.71	22.58	0.66	14,246	14,186	5,865	5,669
H	111	222	124	40.63	20.32	0.70	45	45	16	16
Totals	33,322	63,042	40,731	42.71	22.57	0.66	14,291	14,231	5,881	5,684

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

FPA/N No: 2421338
Date of Service: 1/24/2020
Reference: Hurdle #30-097377

Request to Amend
Forest Practices Application/Notification

DNR's Decision

Decision

☒ **Approved** This Forest Practices Application is subject to the conditions listed below.

☐ **Disapproved** This Forest Practices Application is disapproved for the reasons listed below.

Conditions on Approval / Reasons for Disapproval

Appeal Information (RCW 76.09.090(3), WAC 222-46-030(4), and WAC 332-08-215(3)
The Landowner, Timber Owner, or Operator has 15 calendar days from the Date of Service to request a Brief Adjudicative Proceeding for this **amendment which is a Notice to Comply for an authorized deviation.** Appeal requests must:

- Be in writing
- Include signature(s)
- Include factual basis for the appeal and the issue to be adjudicated
- Sent to the Region Office at: 950 Farman Ave North Enumclaw, WA 98022
- With a copy sent to the Department of Natural Resources, Forest Practices Division, PO Box 47012, Olympia, WA 98504-7012

Issued By: Jason Sharp **Region:** South Puget Sound

Copies Sent to: *Landowner (via US Mail), Timber Owner (via US Mail), Operator (via US mail), WDFW, DOE, Affected Indian Tribes, LGE, other*

AEM
1-27-20

DNR affidavit of mailing:

hand delivered

On this day 1/24/2020, ~~I placed in the United States mail~~ at ~~Olympia~~ Enumclaw, WA, postage paid, a true and accurate copy of this document. Notice of Decision FPA #**2421338**

Betty Burton

Betty Burton

FPA/N No: 2421338
Effective Date: 1/2/2020
Expiration Date: 1/2/2023
Shut Down Zone: 654
EARR Tax Credit: ☒ Eligible ☐ Non-eligible
Reference: Hurdle #30-097377

Forest Practices Application/Notification
Notice of Decision

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 approved FPA/N

FPA/N Classification

☐ Class II ☒ Class III ☐ Class IVG ☐ Class IVS

Number of Years Granted on Multi-Year Request

☐ 4 yrs ☐ 5 yrs

Conditions on Approval / Reasons for Disapproval

Stream crossing at station 26+83 on forest road H-1200 needs to be cleaned out prior to haul.

Issued By: Nathan McReynolds **Region:** South Puget Sound

Title: Resource Protection Forester **Date:** 1/2/2020

Copies to: ☒ Landowner, Timber Owner and Operator.

Issued in person: ☒ Landowner ☒Timber Owner ☒ Operator By: mi Jessens

AEM 1-6-20

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 South Puget Sound Region 950 Farman Ave N Enumclaw, WA 98022

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.

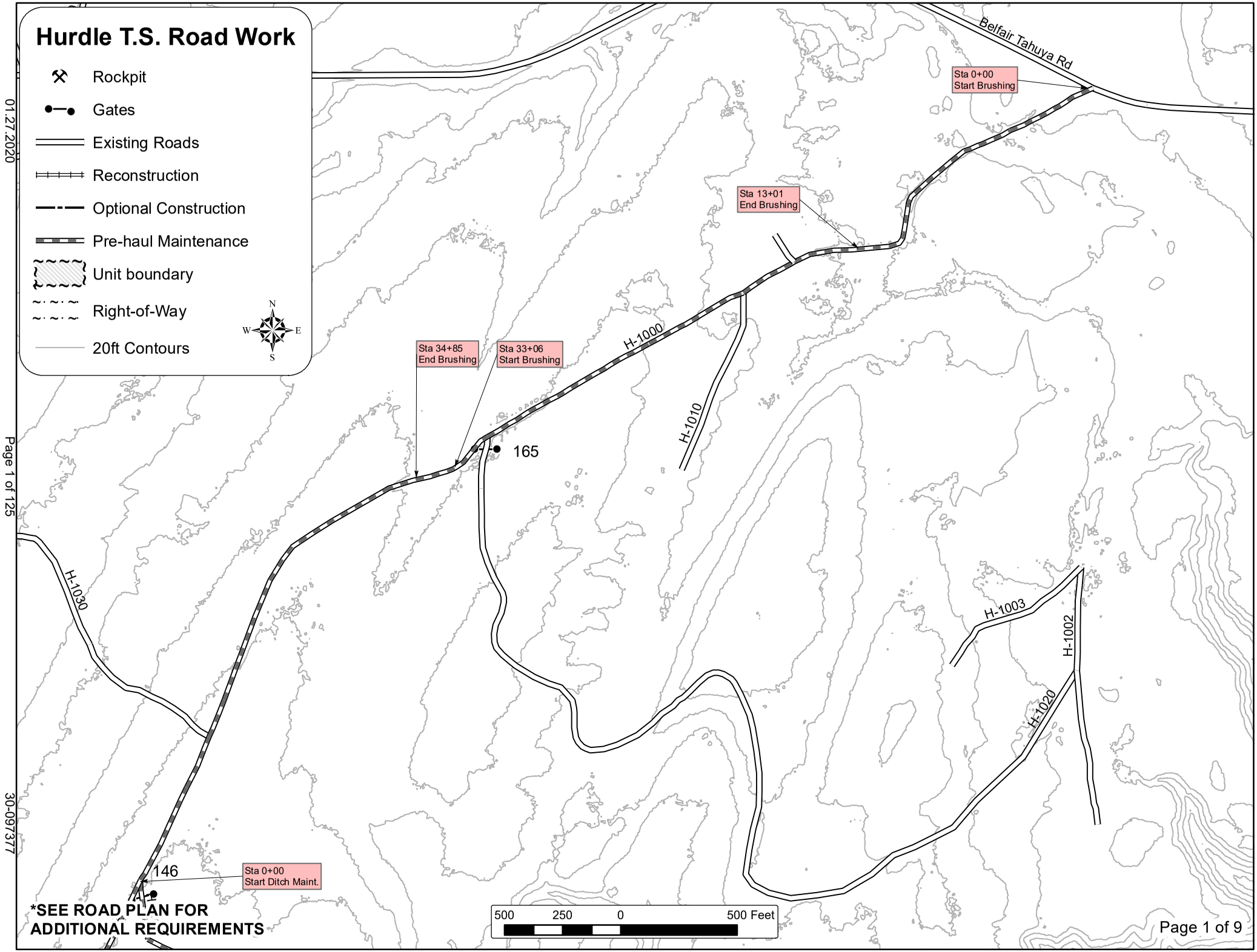
If the seller fails to notify the buyer about the continuing forest land obligation, the seller must pay the buyer's costs related to continuing forest land obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forest land obligation against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

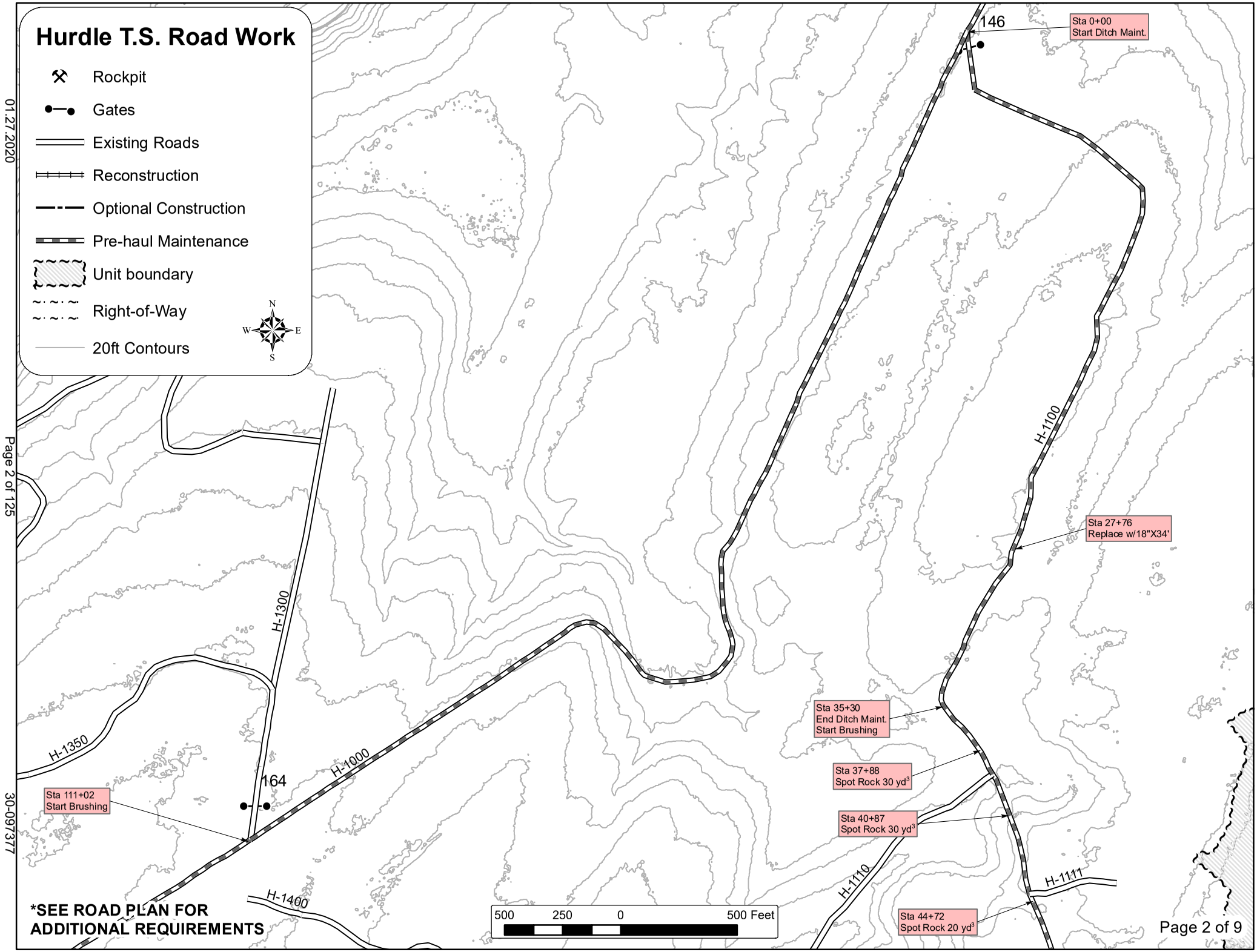
Failure by the seller to send the required notice to the DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forest land obligation prior to sale.

DNR affidavit of mailing:

On this day 1/2/2020, I placed in the United States mail at Enumclaw, WA,
(date mm/dd/yyyy) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA #2421338

Meredith Dessens _____
(Printed name) (Signature)


Hurdle T.S. Road Work
Rockpit
Gates
Existing Roads
Reconstruction
Optional Construction
Pre-haul Maintenance
Unit boundary
Right-of-Way
20ft Contours
N
W
E
S
Belfair Tahuya Rd
Sta 0+00
Start Brushing
Sta 13+01
End Brushing
Sta 34+85
End Brushing
Sta 33+06
Start Brushing
H-1000
H-1010
165
H-1030
H-1003
H-1002
H-1020
146
Sta 0+00
Start Ditch Maint.
*SEE ROAD PLAN FOR
ADDITIONAL REQUIREMENTS
500
250
0
500 Feet


Hurdle T.S. Road Work
Rockpit
Gates
Existing Roads
Reconstruction
Optional Construction
Pre-haul Maintenance
Unit boundary
Right-of-Way
20ft Contours
N
W
E
S
146
Sta 0+00
Start Ditch Maint.
H-1100
Sta 27+76
Replace w/18"X34'
Sta 35+30
End Ditch Maint.
Start Brushing
Sta 37+88
Spot Rock 30 yd3
Sta 40+87
Spot Rock 30 yd3
Sta 44+72
Spot Rock 20 yd3
H-1110
H-1111
H-1300
H-1350
H-1000
H-1400
164
Sta 111+02
Start Brushing
500 250 0 500 Feet
*SEE ROAD PLAN FOR
ADDITIONAL REQUIREMENTS

Hurdle T.S. Road Work

- Rockpit
- Gates
- Existing Roads
- Reconstruction
- Optional Construction
- Pre-haul Maintenance
- Unit boundary
- Right-of-Way
- 20ft Contours

N W E S

UNIT 5

Spur 1

H-1100
H-1110
H-1111
H-1200
H-1210
H-1230
H-1240
H-1241
H-1250
H-1251
H-1231

Sta 27+76
Replace w/18"X34'

Sta 35+30
End Ditch Maint.
Start Brushing

Sta 37+88
Spot Rock 30 yd^3

Sta 40+87
Spot Rock 30 yd^3

Sta 44+72
Spot Rock 20 yd^3

Sta 48+07
Start Rock

Sta 50+07
End Rock

Sta 54+14/0+00

Sta 0+47
Start Ditch Maint.

Sta 0+00

Sta 10+73
Culvert Maint.

Sta 11+02

Sta 21+28
End Ditch Maint.

Sta 23+30
End Brushing

Sta 31+73
Ditch Out Right
Start Ditch Maint.

Sta 43+10/0+00

Sta 47+73
End Ditch Maint.

Sta 0+95
Start Ditch Maint.

Sta 9+63
End Ditch Maint.

500 250 0 500 Feet

***SEE ROAD PLAN FOR ADDITIONAL REQUIREMENTS**

Hurdle T.S. Road Work

- Rockpit
- Gates
- Existing Roads
- Reconstruction
- Optional Construction
- Pre-haul Maintenance
- Unit boundary
- Right-of-Way
- 20ft Contours

N
W E
S

H-1355
H-1350
H-1300
H-1000
H-1480
H-1482
H-1481
H-1484
H-1483
H-1450
H-1471
H-1470
H-1460
H-1461
H-1460

Sta 111+02
Start Brushing

Sta 12+61
Install 18"X30'

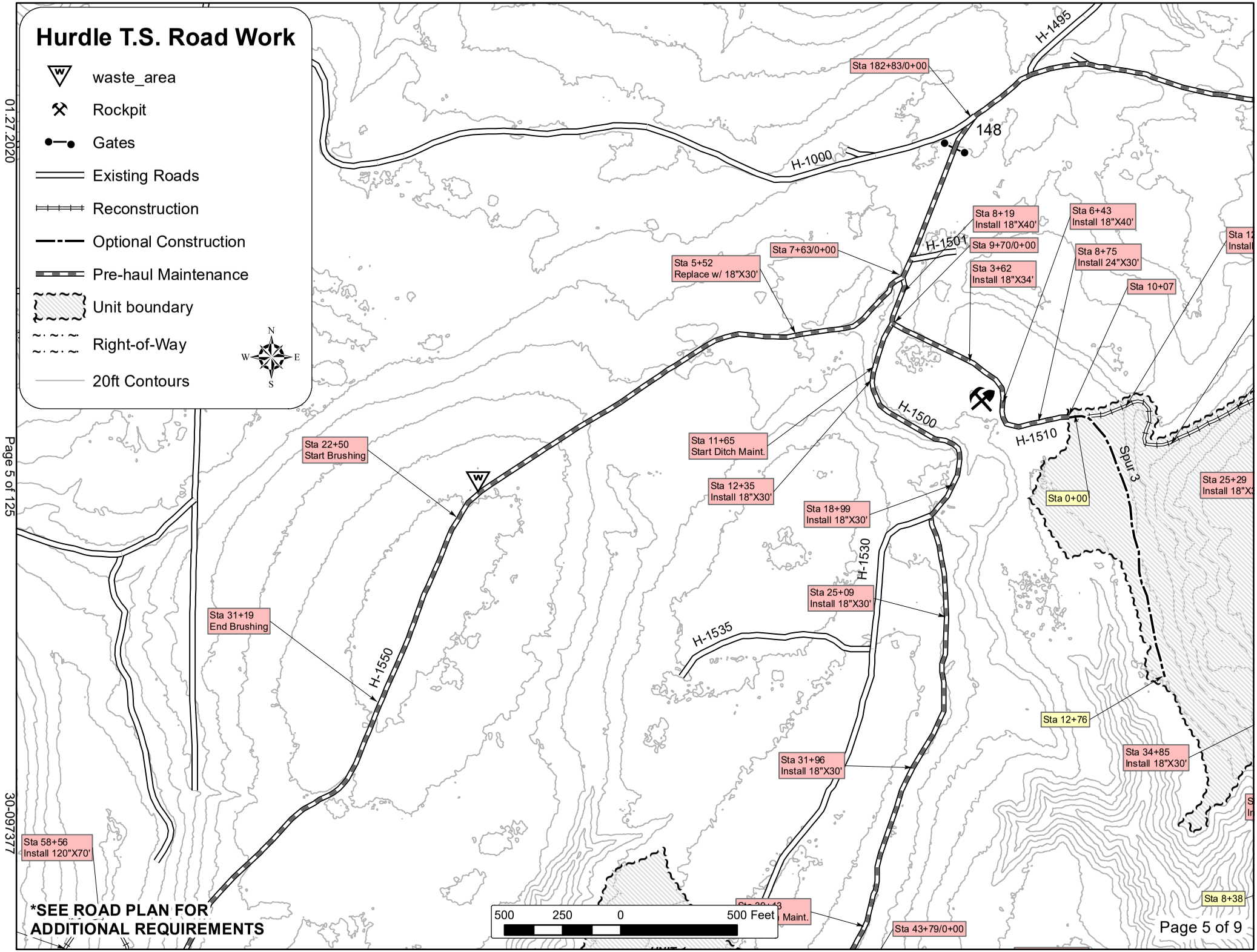
Sta 16+54
Install 18"X30'

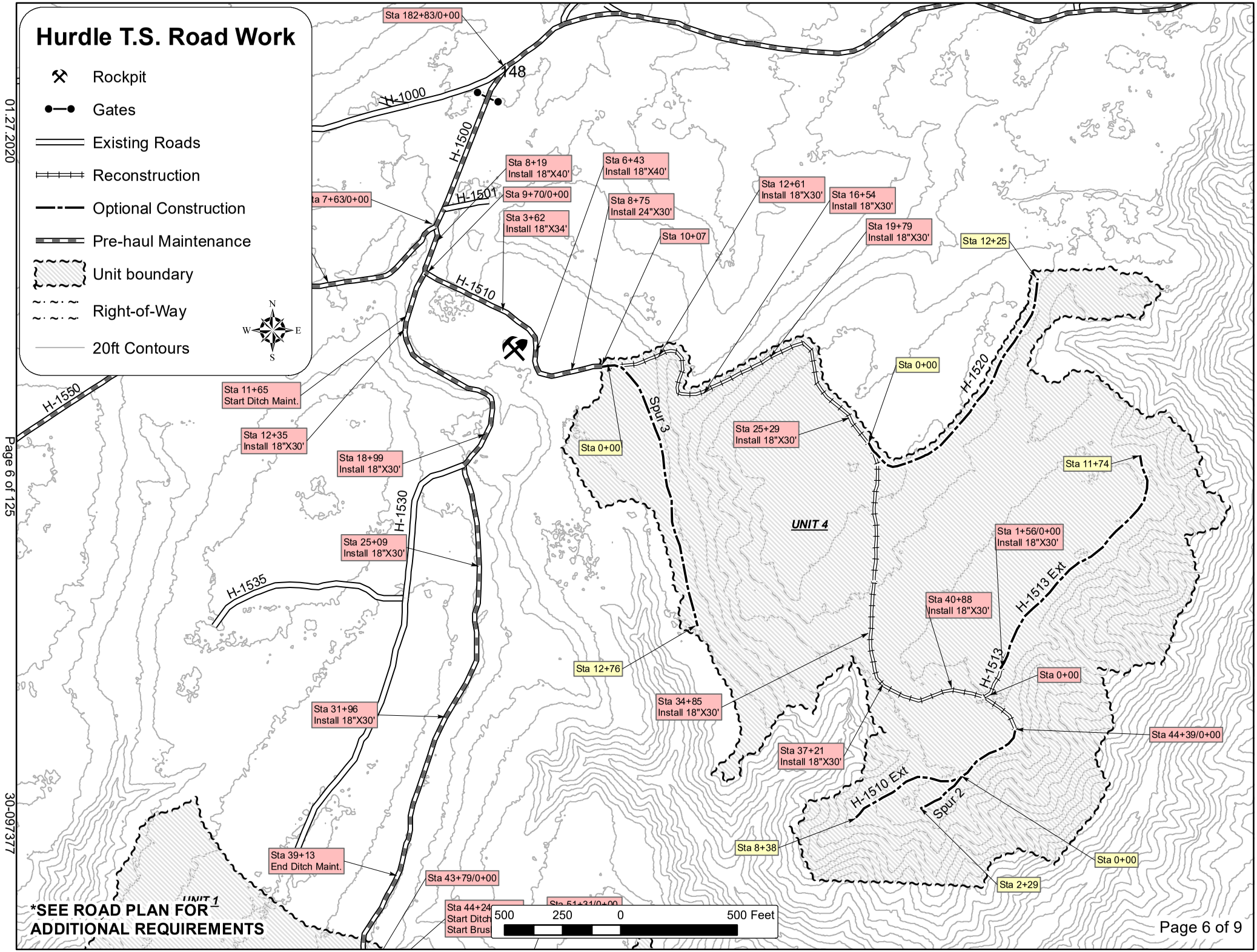
Sta 19+79
"X30'

Sta 12+25

***SEE ROAD PLAN FOR ADDITIONAL REQUIREMENTS**

500 250 0 500 Feet


Hurdle T.S. Road Work
waste_area
Rockpit
Gates
Existing Roads
Reconstruction
Optional Construction
Pre-haul Maintenance
Unit boundary
Right-of-Way
20ft Contours
N
S
E
W
H-1495
H-1000
H-1501
H-1500
H-1510
H-1530
H-1535
H-1550
Spur 3
148
Sta 182+83/0+00
Sta 8+19
Install 18"X40'
Sta 6+43
Install 18"X40'
Sta 9+70/0+00
Sta 8+75
Install 24"X30'
Sta 7+63/0+00
Sta 3+62
Install 18"X34'
Sta 10+07
Sta 5+52
Replace w/ 18"X30'
Sta 22+50
Start Brushing
Sta 11+65
Start Ditch Maint.
Sta 12+35
Install 18"X30'
Sta 18+99
Install 18"X30'
Sta 0+00
Sta 25+29
Sta 25+09
Install 18"X30'
Sta 31+19
End Brushing
Sta 12+76
Sta 34+85
Install 18"X30'
Sta 31+96
Install 18"X30'
Sta 58+56
Install 120"X70'
Sta 8+38
Sta 43+79/0+00
500 250 0 500 Feet
*SEE ROAD PLAN FOR
ADDITIONAL REQUIREMENTS



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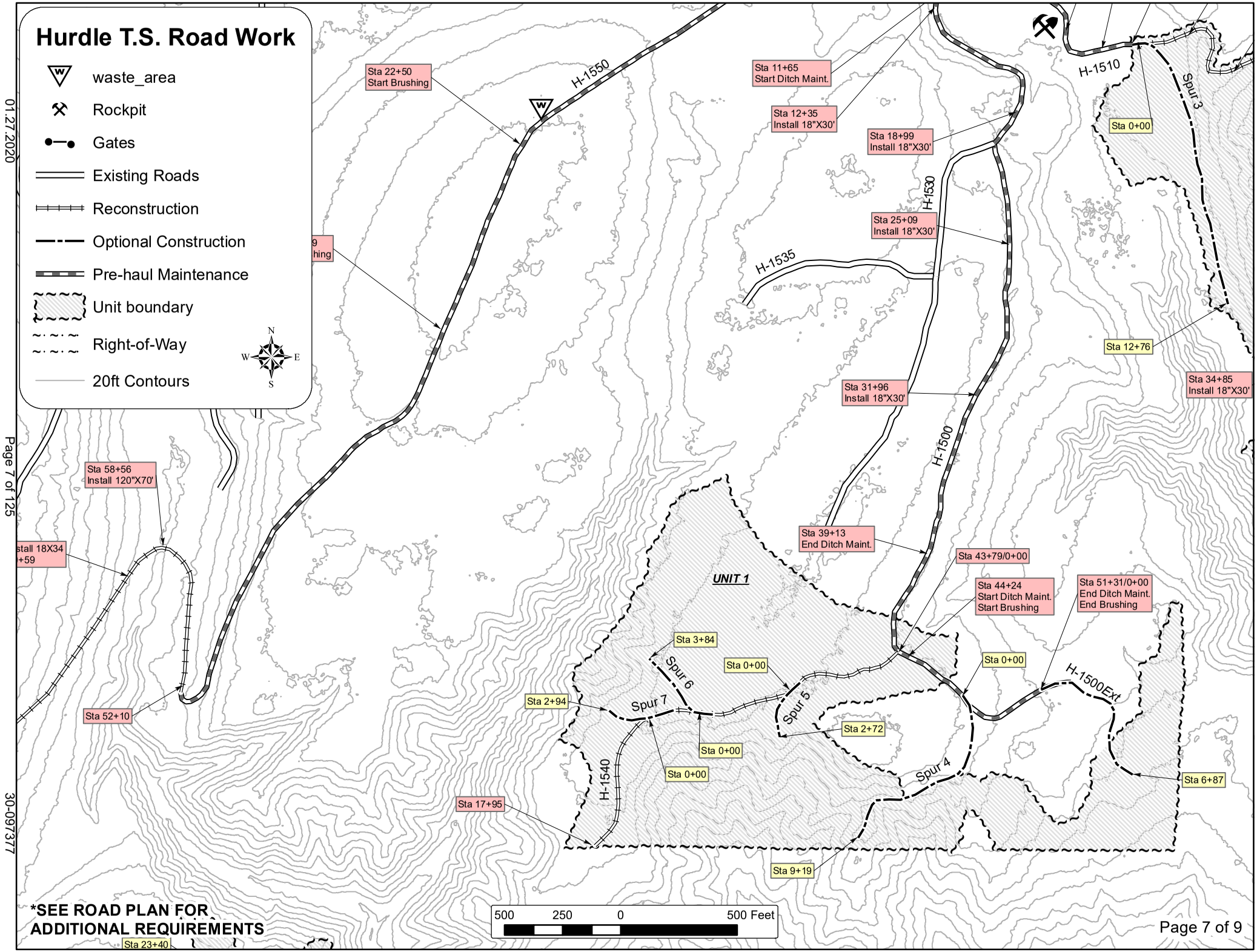
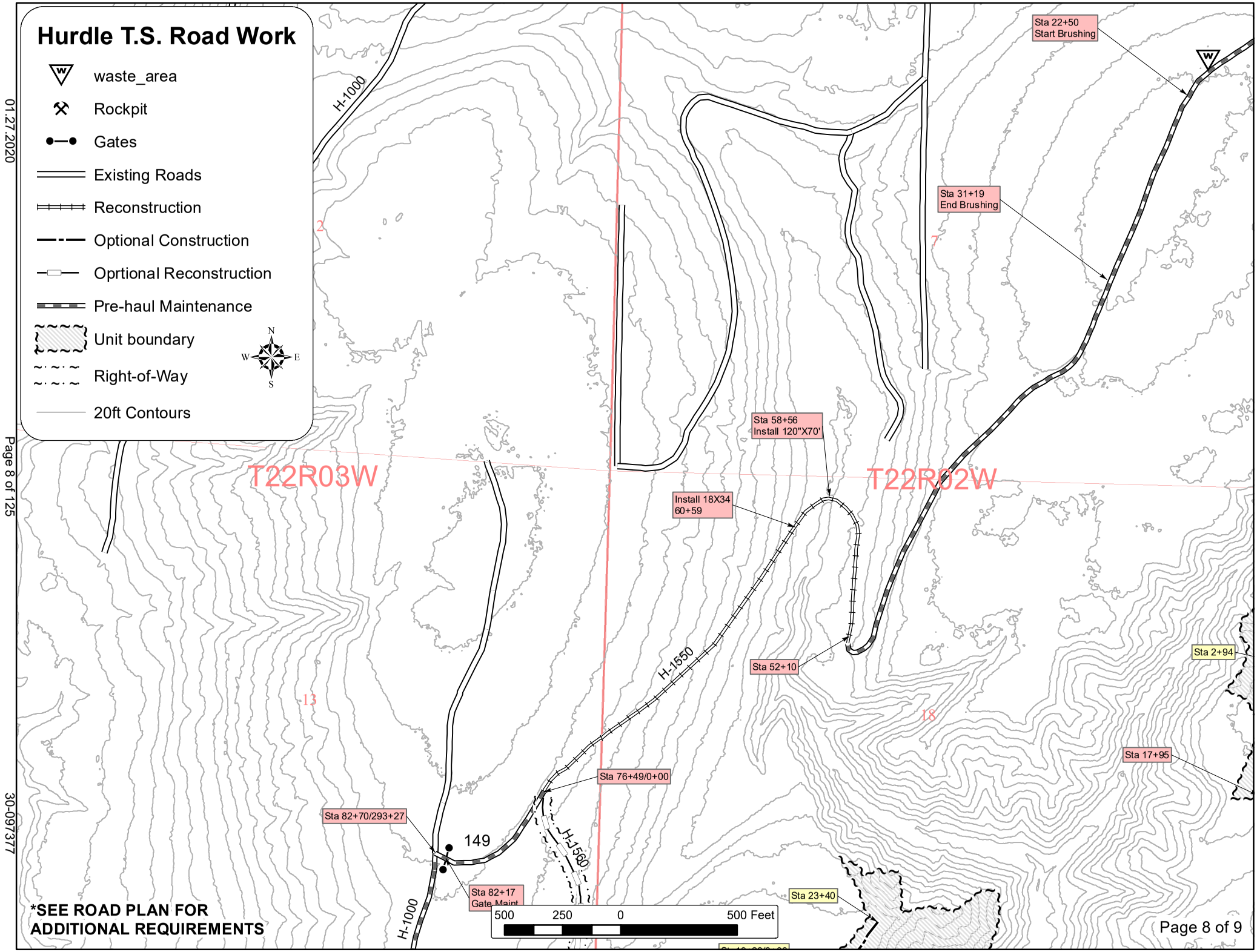
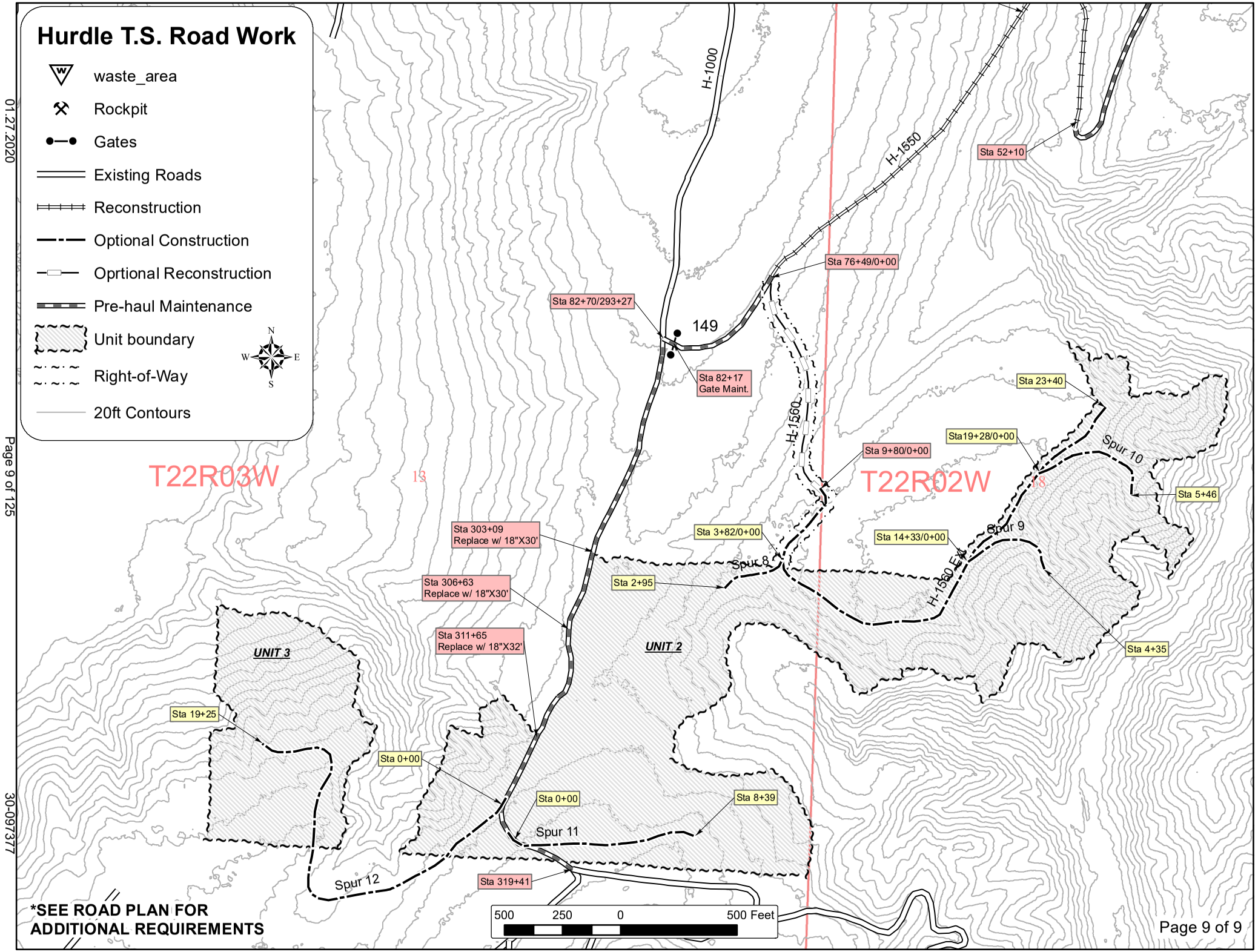

Hurdle T.S. Road Work
waste_area
Rockpit
Gates
Existing Roads
Reconstruction
Optional Construction
Pre-haul Maintenance
Unit boundary
Right-of-Way
20ft Contours
N
S
E
W
H-1550
H-1510
H-1530
H-1535
H-1500
H-1500Ext
H-1540
Spur 3
Spur 4
Spur 5
Spur 6
Spur 7
UNIT 1
Sta 22+50
Start Brushing
Sta 11+65
Start Ditch Maint.
Sta 12+35
Install 18"X30'
Sta 18+99
Install 18"X30'
Sta 25+09
Install 18"X30'
Sta 31+96
Install 18"X30'
Sta 39+13
End Ditch Maint.
Sta 43+79/0+00
Sta 44+24
Start Ditch Maint.
Start Brushing
Sta 51+31/0+00
End Ditch Maint.
End Brushing
Sta 34+85
Install 18"X30'
Sta 12+76
Sta 0+00
Sta 58+56
Install 120"X70'
Sta 52+10
Sta 3+84
Sta 2+94
Sta 2+72
Sta 17+95
Sta 9+19
Sta 6+87
Sta 23+40
*SEE ROAD PLAN FOR
ADDITIONAL REQUIREMENTS
500 250 0 500 Feet


Hurdle T.S. Road Work
waste_area
Rockpit
Gates
Existing Roads
Reconstruction
Optional Construction
Oprtional Reconstruction
Pre-haul Maintenance
Unit boundary
Right-of-Way
20ft Contours
N
S
E
W
T22R03W
T22R02W
H-1000
H-1550
H-1560
Sta 22+50
Start Brushing
Sta 31+19
End Brushing
Sta 58+56
Install 120"X70'
Install 18X34
60+59
Sta 52+10
Sta 2+94
Sta 17+95
Sta 76+49/0+00
Sta 82+70/293+27
Sta 82+17
Gate Maint
Sta 23+40
149
2
7
13
18
500 250 0 500 Feet
*SEE ROAD PLAN FOR
ADDITIONAL REQUIREMENTS

Hurdle T.S. Road Work

- waste_area
- Rockpit
- Gates
- Existing Roads
- Reconstruction
- Optional Construction
- Oprtional Reconstruction
- Pre-haul Maintenance
- Unit boundary
- Right-of-Way
- 20ft Contours



*SEE ROAD PLAN FOR ADDITIONAL REQUIREMENTS

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

HURDLE TIMBER SALE ROAD PLAN
MASON COUNTY
HOOD CANAL DISTRICT
SOUTH PUGET SOUND REGION

AGREEMENT NO.: 30-097377 STAFF ENGINEER: Heymann
DATE: 9/10/19

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.

Road	Stations	Type
H-1000	0+00 to 182+83	Pre-haul Maintenance
H-1000	293+27 to 319+41	Pre-haul Maintenance
H-1100	0+00 to 54+14	Pre-haul Maintenance
H-1200	0+00 to 47+73	Pre-haul Maintenance
H-1230	0+00 to 9+63	Pre-haul Maintenance
H-1500	0+00 to 51+31	Pre-haul Maintenance
H-1510	0+00 to 10+07	Pre-haul Maintenance
H-1510	10+07 to 44+39	Reconstruction
H-1540	0+00 to 17+95	Reconstruction
H-1550	0+00 to 52+10	Pre-haul Maintenance
H-1550	52+10 to 76+49	Reconstruction
H-1550	76+49 to 82+70	Pre-haul Maintenance
Spur 1	0+00 to 11+02	Abandon, if built
Spur 2	0+00 to 2+29	Abandon, if built
Spur 3	0+00 to 12+76	Abandon, if built
Spur 4	0+00 to 9+19	Abandon, if built
Spur 5	0+00 to 2+72	Abandon, if built
Spur 6	0+00 to 3+84	Abandon, if built
Spur 7	0+00 to 2+94	Abandon, if built
Spur 8	0+00 to 2+95	Abandon, if built
Spur 9	0+00 to 4+35	Abandon, if built
Spur 10	0+00 to 5+46	Abandon, if built
Spur 11	0+00 to 8+39	Abandon, if built
Spur 12	0+00 to 19+25	Abandon, if built

0-3 OPTIONAL ROADS

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

Road	Stations	Type
H-1500 Ext	0+00 to 6+87	Construction
H-1510 Ext	0+00 to 8+38	Construction
H-1513	0+00 to 1+56	Reconstruction
H-1513 Ext	0+00 to 11+74	Construction
H-1520	0+00 to 12+25	Construction
H-1560	0+00 to 9+80	Reconstruction
H-1560 Ext	0+00 to 23+40	Construction
Spur 1	0+00 to 11+02	Construction
Spur 2	0+00 to 2+29	Construction
Spur 3	0+00 to 12+76	Construction
Spur 4	0+00 to 9+19	Construction
Spur 5	0+00 to 2+72	Construction
Spur 6	0+00 to 3+84	Construction
Spur 7	0+00 to 2+94	Construction
Spur 8	0+00 to 2+95	Construction
Spur 9	0+00 to 4+35	Construction
Spur 10	0+00 to 5+46	Construction
Spur 11	0+00 to 8+39	Construction
Spur 12	0+00 to 19+25	Construction

0-4 CONSTRUCTION

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

clearing;
grubbing;
right-of-way debris disposal;
excavation and/or embankment to subgrade;
landing construction;
acquisition and installation of drainage structures;
acquisition, manufacture, and application of rock;
road abandonment.

0-5 RECONSTRUCTION

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

brushing right-of-way;
clearing existing excavation and embankment slopes;
grubbing existing excavation and embankment slopes;
right-of-way debris disposal;
landing construction;
pulling ditches;
cleaning ditches;
constructing ditches;

acquisition and installation of additional drainage structures;
realigning road segments;
widening road segments;
grading and shaping existing road surface and turnouts;
constructing additional turnouts;
compaction of road surface;
acquisition, manufacture, and application of rock; including existing turnouts.

0-6 PRE-HAUL MAINTENANCE

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

brushing right-of-way;
removing fallen right-of-way debris;
pulling ditches;
cleaning ditches;
constructing catch basin and headwall;
cleaning culvert inlets and outlets;
cross drain culvert replacement;
grading and shaping existing road surface and turnouts;
compaction of road surface;
acquisition, manufacture, and application of rock.

0-7 POST-HAUL MAINTENANCE

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

0-10 ABANDONMENT

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

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

0-13 STRUCTURES

Purchaser shall provide and install 120 inch diameter by 70 foot long Alumminized Steel 12 gauge culvert. Requirements for these structures are listed in Section 7 STRUCTURES.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer’s recommendation, and may not begin without written approval from the Contract Administrator.

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

Purchaser shall perform road work in accordance with the state's marked location.

1-16 CONSTRUCTION STAKES SET BY STATE

Purchaser shall perform work on the following road(s) in accordance with the construction stakes and/or 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.

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.

1-20 COMPLETE BY DATE

On the following road(s), Purchaser shall complete road work within the specified period.

Road	Stations	Date
H-1550	58+00 to 59+00	The reconstruction of this road shall occur between July 15 and September 30.

1-21 HAUL APPROVAL

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

1-23 ROAD WORK PHASE APPROVAL

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

- Drainage installation & Subgrade compaction
- Rock compaction

1-25 ACTIVITY TIMING RESTRICTION

The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the State . Restrictions for hauling forest products are specified in Contract Clause H-140 SPECIAL HARVEST REQUIREMENTS.

Road	Stations	Activity	Closure Period
Spur 12	0+00 to 19+25	Road Construction & Rock Haul	weekdays from 7 p.m. to 7 a.m., nor weekends or state recognized holidays

The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator. Restrictions for hauling forest products are specified in Contract Clause H-140 SPECIAL HARVEST REQUIREMENTS.

Road	Stations	Activity	Closure Period
All	All	Road Construction & Rock Haul	weekends or state recognized holidays
H-1000	297+27 to 319+41	Road Construction & Rock Haul	weekdays from 7 p.m. to 7 a.m., nor weekends or state recognized holidays
Spur 11	0+00 to 8+39	Road Construction & Rock Haul	weekdays from 7 p.m. to 7 a.m., nor weekends or state recognized holidays

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION, Purchaser is required to maintain all haul roads at their own expense. 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:

- 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.

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), Purchaser shall use a grader to shape the existing surface before spot rocking and/or timber haul. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

Road	Stations
H-1000	0+00 to 182+83
H-1000	293+27 to 319+41
H-1100	0+00 to 54+14
H-1200	0+00 to 47+73
H-1230	0+00 to 9+63
H-1500	0+00 to 51+31
H-1510	0+00 to 10+07
H-1550	0+00 to 52+10
H-1550	76+49 to 82+70

2-6 CLEANING CULVERTS

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

Road	Stations
H-1200	10+73

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before grading, rock application and/or timber haul.

Road	Stations
H-1100	0+00 to 35+30
H-1200	0+47 to 21+28
H-1200	31+37 to 47+73
H-1230	0+95 to 9+63
H-1500	11+65 to 39+13
H-1500	44+24 to 51+31

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following road(s), 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.

Road	Stations
H-1000	0+00 to 13+01
H-1000	33+06 to 34+85
H-1000	111+02 to 182+83
H-1100	35+40 to 54+14
H-1200	0+00 to 23+30
H-1500	44+24 to 51+31
H-1550	22+50 to 31+19
H-1550	81+98 to 82+70

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 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.

3-6 CLEARING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING

At the following stream crossing location(s), Purchaser shall place a log, with length equal to two (2) times the width of the ordinary high water, from the largest diameter class conifer tree cut from within the Inner Zone (25 feet either side of the stream) in the stream in accordance with the TYPICAL RIPARIAN STRATEGY STREAM CROSSING PLAN.

Road	Stations
H-1550	58+56

3-8 PROHIBITED DECKING AREAS

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

- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing trees unless approved by the Contract Administrator.

3-10 GRUBBING

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

3-11 GRUBBING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING

Purchaser shall retain all grubbed stumps (root wads) within the Inner Zone (25 feet either side of the stream) for placement in accordance with the TYPICAL RIPARIAN STRATEGY STREAM CROSSING PLAN. Three root wads must be placed in or adjacent to the stream channel. The remaining stumps grubbed from the Inner Zone must be placed at least 50 feet from the roadway in the Middle (25 feet to 100 feet from the stream) or the Outer Zones (remaining portion of RMZ).

Road	Stations
H-1550	58+56

3-20 ORGANIC DEBRIS DEFINITION

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

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, before subgrade compaction, rock application and/or timber haul.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

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

Road	Disposal Location	Comments
Spur 12	2+38	Disposal of grubbed material and excess spoils

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 locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris in natural openings unless otherwise detailed in this road plan. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

3-32 END HAULING ORGANIC DEBRIS

On the following road(s), 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.

Road	Stations
Spur 12	3+66 to 11+86

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Purchaser shall use a track mounted hydraulic excavator for construction work involving pioneering, clearing and grubbing, 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. In addition, the following actions must be taken as pioneering progresses:

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment 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.

4-5 CUT SLOPE RATIO

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

Material Type	Excavation Slope Ratio	Excavation Slope Percent
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:

Material Type	Embankment Slope Ratio	Embankment Slope Percent
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.

4-21 TURNOUTS

Purchaser shall construct turnouts intervisible with a maximum distance of 1,000 feet between turnouts unless otherwise shown on drawings. Locations may be adjusted to fit the final subgrade alignment and sight distances. Minimum dimensions are shown on the TYPICAL SECTION SHEET.

4-22 TURNAROUNDS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

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

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.

4-37 WASTE AREA LOCATION

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

Road	Waste Area Location	Comments
H-1550	20+80	Right side - inbound

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- Within a riparian management zone.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.

4-47 BORROW MATERIAL

Borrow material may not contain more than 5% clay, organic debris, or trash by volume.

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.

4-55 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 grader with a minimum of 175 horsepower.

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application and/or timber haul.

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

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

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-15 through 10-23.

5-7 USED CULVERT MATERIAL

On the following road(s), Purchaser may install used culverts. All other culverts must have new culverts installed.

Road	Stations
Spur 1	0+00 to 11+02
Spur 3	0+00 to 12+76
Spur 4	0+00 to 9+19
Spur 8	0+00 to 2+95
Spur 11	0+00 to 8+39
Spur 12	0+00 to 19+25

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT LIST that are not installed will become the property of the state. Purchaser shall stockpile materials in the Shoofly Pit.

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures" and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings". Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer's recommendations.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Purchaser shall obtain written approval from the Contract Administrator 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

Cross drain culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover specified in the Engineer's design.

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT LIST. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts. 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. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culvert(s), Purchaser shall place Quarry Spalls in conjunction with or immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the CULVERT LIST and attached culvert design(s). Rock may not restrict the flow of water into culvert inlets or catch basins. Rock must be set in place by machine. No placement by end dumping or dropping of rock is allowed. Quarry Spalls must meet the specifications in Clause 6-43 QUARRY SPALLS.

Road	Stations	Rock Type
H-1550	58+56	Quarry Spalls

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be waterbarred by November 1 and remain until March 31. 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 the following source(s) on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. 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.

Source	Location	Rock Type
Sandhill Pit	NW, NE & NE, NW Sec 24 T23N R02W	Pit Run
Shoofly Pit	NE, SE Sec 7 T22N R02W	Pit Run

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from any commercial source at the Purchaser's expense.

Rock Type
Quarry Spalls
2 ½" Minus Crushed Rock

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator.

Source	Rock Type
Sandhill Pit	Pit Run
Shoofly Pit	Pit Run

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources must be in accordance with the following specifications, unless otherwise specified in the ROCK SOURCE DEVELOPMENT PLAN:

- Pit walls may not be undermined or over steepened. The maximum slope of the walls must be consistent with recognized engineering standards for the type of material being excavated in accordance with the following table:

Material	Maximum Slope Ratio (Horiz. :Vert.)	Maximum Slope Percent
Sand	2:1	50
Gravel	1.5:1	67
Common Earth	1:1	100
Fractured Rock	0.5:1	200
Solid Rock	0:1	vertical

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used.

- The surface of pit floors and benches must be uniform and free-draining at a minimum 2% outslope gradient.
- All operations must be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.

6-23 ROCK GRADATION TYPES

Purchaser shall provide and/or manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-32 2 ½-INCH MINUS CRUSHED ROCK

% Passing 2 ½" square sieve	100%
% Passing 2" square sieve	60 - 100%
% Passing 1" square sieve	50 - 70%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	16% maximum
% Passing U.S. #200 sieve	5% maximum

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.

6-41 PIT RUN ROCK

No more than 50 percent of the rock may be larger than 6 inches in any dimension and no rock may be larger than 8 inches in any dimension. Pit Run rock may not contain more than 5 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

6-43 QUARRY SPALLS

% Passing 8" square sieve	100%
% Passing 3" square sieve	40% maximum
% Passing 3/4" square sieve	10% maximum

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

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

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

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade, drainage installation and ditch construction 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.

SECTION 7 – STRUCTURES

7-6 STREAM CROSSING INSTALLATION

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

7-16 STRUCTURE ACCEPTANCE

The Region Engineer or designee will inspect the structure upon delivery. Acceptance will be issued if the structure meets all specifications and certifications. Structures that are not accepted may not be installed.

7-55 LARGE CULVERT INSTALLATION

Purchaser shall provide and install large culverts in accordance with the SHOOFLY CREEK DESIGN. Culvert designs must meet or exceed the following specifications:

Road	H-1550
Station	58+56
Type	CMP
Material and Coating Type*	Aluminized Steel Type 2
Diameter (in.)	120”
Length (ft.)	70
Depth of Cover Material	Per Design
Corrugations	3”X1”
Gauge	12

* See Clause 10-15 CORRUGATED STEEL CULVERT for culvert specifications.

7-56 STEEL PIPE, PIPE ARCH, AND STRUCTURAL PLATE INSTALLATION

Purchaser shall install steel pipe, pipe arches, and structural plate culverts in accordance with the National Corrugated Steel Pipe Association "Installation Manual for Corrugated Steel Pipe, Pipe Arches, and Structural Plate.” Installation is subject to the inspection and approval of the Contract Administrator before placement and backfill. The latest edition of the NCSPA Installation Manual can be found at www.ncspa.org.

7-57 CULVERT SHAPE CONTROL

Purchaser shall monitor the culvert shape during backfill and compaction. Special attention must be paid to maintaining the structure's rise dimensions, concentricity, and smooth uniform curvature. If compaction methods are resulting in peaking or deflection of the culvert, Purchaser shall modify the compaction method to achieve the appropriate end result.

7-58 MATERIAL INSIDE CULVERT

Purchaser shall install Pit Run rock inside the following culvert(s) as specified in the Shoofly Creek design. Pit Run must meet the specifications in Clause 6-41 PIT RUN ROCK and quantities in the ROCK LIST.

Road	Stations	Comments
H-1550	58+56	Compact Thalweg

7-70 GATE CLOSURE

Purchaser shall keep gates closed and locked except during periods of haul. All gates that remain open during haul must be locked or securely fastened in the open position. All gates must be closed at termination of use.

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a layer of straw to all exposed soils at culvert installations within 25 feet of a stream.

8-15 REVEGETATION

On the following road(s), Purchaser shall spread grass seed and straw on all exposed soils resulting from road work activities.

Road	Location	Qty (lbs)	Type	Comments
Spur 12	3+66 to 11+86	70 lbs/acre	Pasture Mix	Seed and straw upon abandonment

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

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

Road	Stations
Spur 1	0+25
Spur 2	0+25
Spur 3	0+25
Spur 4	0+25

Spur 5	0+25
Spur 6	0+25
Spur 7	0+25
Spur 8	0+25
Spur 9	0+25
Spur 10	0+25
Spur 11	0+25
Spur 12	0+91 & 12+01

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 POST-HAUL MAINTENANCE

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads before the termination of this contract.

Road	Stations	Type
Spur 1	0+00 to 11+02	Light
Spur 2	0+00 to 2+29	Light
Spur 3	0+00 to 12+76	Light
Spur 4	0+00 to 9+19	Light
Spur 5	0+00 to 2+72	Light
Spur 6	0+00 to 3+84	Light
Spur 7	0+00 to 2+94	Light
Spur 8	0+00 to 2+95	Light
Spur 9	0+00 to 4+35	Light
Spur 10	0+00 to 5+46	Light
Spur 11	0+00 to 8+39	Light
Spur 12	0+00 to 3+66	Light
Spur 12	3+66 to 11+86	Medium
Spur 12	11+86 to 19+25	Light

9-22 LIGHT ABANDONMENT

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.

- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with barricades in accordance with the attached BARRICADE DETAIL.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Scatter woody debris onto abandoned road surfaces.

9-23 MEDIUM ABANDONMENT

- End haul ballast and surfacing on to State Land and spread from Station 1+79 to 3+66 on Spur 12.
- Remove culverts.
- Fill in ditches.
- Rip the surface to a minimum depth of 10 inches.
- Remove road shoulder berms except as directed.
- Remove embankments, sidecast fill, and place material into cut-banks and shape banks to conform to the natural ground.
- Slope all trench walls and approach embankments no steeper than 2:1.
- Apply grass seed and straw concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.

SECTION 10 MATERIALS

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts must meet AASHTO M-36 (ASTM A-760) specifications. Culverts must be aluminized (aluminum type 2 coated meeting AASHTO M-274).

10-17 CORRUGATED PLASTIC CULVERT

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

10-21 METAL BAND

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

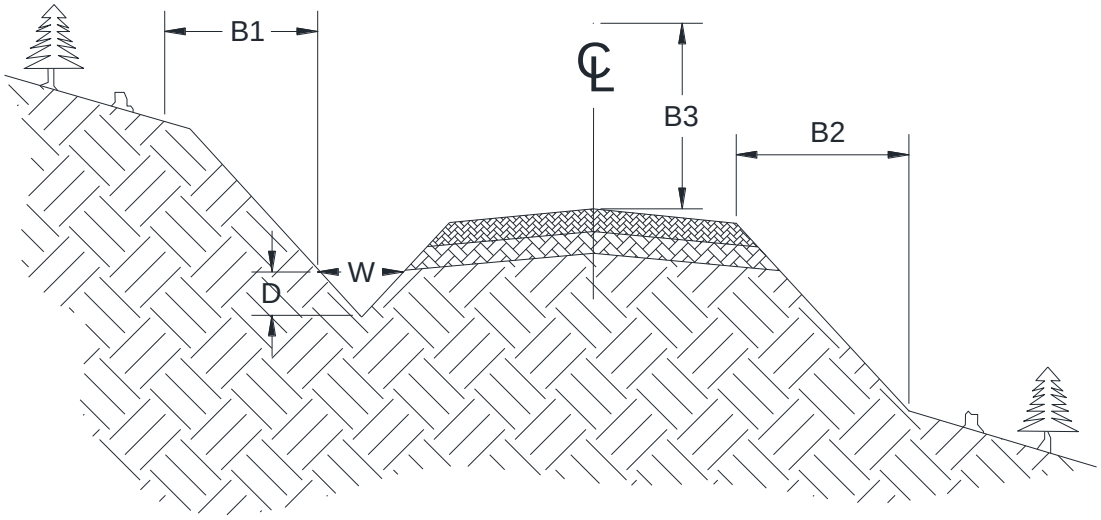
10-22 PLASTIC BAND

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

COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
I-3020	0+00	36+08	Embankment Subgrade Rock Waste Culvert Install	12	Vibratory Smooth Drum	14,000	4	3
Spur 1	0+00	13+87						
Spur 2	0+00	8+83						
Spur 3	0+00	4+97						
Spur 4	0+00	7+81						
Spur 5	0+00	7+07						
I-1000	0+64	146+15						
Spur 6	0+00	7+36						

BRUSHING DETAIL
(not to scale)



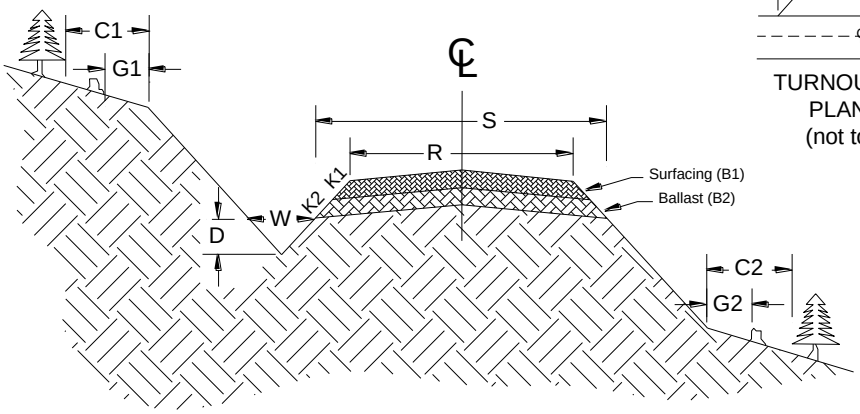
BRUSHING LIST

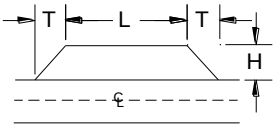
Road Number	From station	To station	Road Width (feet)	Ditch Width (feet)	Ditch Depth (feet)	Brushing Limits (feet)			Remarks In addition to brushing…
				W	D	B1	B2	B3	
H-1000	0+00	13+01	22	2	1	10	10	14	
H-1000	33+06	34+85	22	2	1	10	10	14	
H-1000	111+02	182+83	18	2	1	10	10	14	
H-1200	0+00	23+30	12	2	1	10	10	14	
H-1500	44+24	51+31	12	2	1	10	10	14	
H-1550	22+50	31+19	12	2	1	10	10	14	
H-1550	81+98	82+70	12	2	1	10	10	14	

B1 extends horizontally the specified distance in feet from the back of the ditch. B2 extends horizontally the specified distance in feet from the outside edge of the running surface. Brush is defined as all non-merchantable vegetative material found within the specified limits. Brush that is cut shall be removed to the downhill side of the road and placed such that it will not block ditches, ditch-outs, or drainage structures. Signs, culvert location markers, culverts or any other identification features damaged by brushing shall be replaced at the Purchasers expense.

TYPICAL SECTION SHEET
(Page 1 of 2)

ROAD CROSS-SECTION
(not to scale)





TURNOUT DETAIL
PLAN VIEW
(not to scale)

Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch Width (feet)	Ditch Depth (feet)	Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
				S	R	W	D		G1	G2	C1	C2	%	%
H-1000	0+00	145+53	A	26	24	2.5	1	4	0	0	0	0	100	67
H-1000	145+53	182+83	A	18	14	2.5	1	4	0	0	0	0	100	67
H-1000	293+27	319+41	A	18	14	2.5	1	4	0	0	0	0	100	67
H-1100	0+00	54+14	C	16	12	2.5	1	4	0	0	0	0	100	67
H-1200	0+00	47+73	C	16	12	2.5	1	4	0	0	0	0	100	67
H-1230	0+00	9+63	C	16	12	2.5	1	4	0	0	0	0	100	67
H-1500	0+00	51+31	C	16	12	2.5	1	4	0	0	0	0	100	67
H-1500ext	0+00	6+87	C	16	12	2.5	1	4	5	5	10	10	100	67
H-1510	0+00	44+39	C	16	12	2.5	1	4	5	5	10	10	100	67
H-1510ext	0+00	8+38	C	16	12	2.5	1	4	5	5	10	10	100	67
H-1513	0+00	1+56	C	16	12	2.5	1	4	5	5	10	10	100	67
H-1513ext	0+00	11+74	C	16	12	2.5	1	4	5	5	10	10	100	67
H-1520	0+00	12+25	C	16	12	2.5	1	4	5	5	10	10	100	67
H-1540	0+00	17+95	C	16	12	2.5	1	4	5	5	10	10	100	67
H-1550	0+00	57+56	C	16	12	2.5	1	4	0	0	0	0	100	67
H-1550	57+56	59+56	A	20	18	2.5	1	4	0	0	0	0	100	67
H-1550	59+56	82+70	C	16	12	2.5	1	4	0	0	0	0	100	67
H-1560	0+00	9+80	C	16	12	2.5	1	4	5	5	Tags	Tags	100	67
H-1560ext	0+00	4+11	C	16	12	2.5	1	4	5	5	Tags	Tags	100	67
H-1560ext	4+11	23+40	C	16	12	2.5	1	4	5	5	10	10	100	67
Spur 1	0+00	11+02	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 2	0+00	2+29	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 3	0+00	12+76	C	16	12	2.5	1	4	0	0	0	0	100	67

TYPICAL SECTION SHEET
(Page 2 of 2)

Spur 4	0+00	9+19	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 5	0+00	2+72	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 6	0+00	3+84	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 7	0+00	2+94	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 8	0+00	0+31	C	16	12	2.5	1	4	0	0	Tags	Tags	100	67
Spur 8	0+31	2+95	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 9	0+00	4+35	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 10	0+00	5+46	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 11	0+00	8+39	C	16	12	2.5	1	4	0	0	0	0	100	67
Spur 12	0+00	19+25	C	16	12	2.5	1	4	0	0	0	0	100	67

ROCK LIST

BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y. Station	# of Stations	C.Y. Subtotal	Rock Source
			K2	B2				Pit Run
H-1100	37+88		2 : 1	Spot Rock			30	Sandhill Pit/Shoofly Pit
H-1100	40+87		2 : 1	Spot Rock			30	Sandhill Pit/Shoofly Pit
H-1100	44+72		2 : 1	Spot Rock			20	Sandhill Pit/Shoofly Pit
H-1100	48+07	50+07	2 : 1	8”	32	2.00	64	Sandhill Pit/Shoofly Pit
*H-1500ext	0+00	6+87	2 : 1	8”	32	6.87	220	Sandhill Pit/Shoofly Pit*
*H-1510	10+07	44+39	2 : 1	8”	32	34.32	1098	Sandhill Pit/Shoofly Pit*
*H-1510ext	0+00	8+38	2 : 1	8”	32	8.38	268	Sandhill Pit/Shoofly Pit*
*H-1513	0+00	1+56	2 : 1	8”	32	1.56	50	Sandhill Pit/Shoofly Pit*
*H-1513ext	0+00	11+74	2 : 1	8”	32	11.74	376	Sandhill Pit/Shoofly Pit*
*H-1520	0+00	12+25	2 : 1	8”	32	12.25	392	Sandhill Pit/Shoofly Pit*
*H-1540	0+00	17+95	2 : 1	8”	32	17.59	563	Sandhill Pit/Shoofly Pit*
*H-1550	52+10	57+76	2 : 1	8”	32	5.66	181	Sandhill Pit/Shoofly Pit*
*H-1550	59+56	76+49	2 : 1	8”	32	16.93	542	Sandhill Pit/Shoofly Pit*
*H-1560	0+00	9+80	2 : 1	8”	32	9.80	314	Sandhill Pit/Shoofly Pit*
*Spurs 1	0+00	11+02	2 : 1	8”	32	11.02	353	Sandhill Pit/Shoofly Pit*
*Spur 2	0+00	2+29	2 : 1	8”	32	2.29	73	Sandhill Pit/Shoofly Pit*
*Spur 3	0+00	12+76	2 : 1	8”	32	12.76	408	Sandhill Pit/Shoofly Pit*
*Spur 4	0+00	9+19	2 : 1	8”	32	9.19	294	Sandhill Pit/Shoofly Pit*
*Spur 5	0+00	2+72	2 : 1	8”	32	2.72	87	Sandhill Pit/Shoofly Pit*
*Spur 6	0+00	3+84	2 : 1	8”	32	3.84	123	Sandhill Pit/Shoofly Pit*
*Spur 7	0+00	2+94	2 : 1	8”	32	2.94	94	Sandhill Pit/Shoofly Pit*
*Spur 8	0+00	2+95	2 : 1	8”	32	2.95	94	Sandhill Pit/Shoofly Pit*
*Spur 9	0+00	4+35	2 : 1	8”	32	4.35	139	Sandhill Pit/Shoofly Pit*
*Spur 10	0+00	5+46	2 : 1	8”	32	5.46	175	Sandhill Pit/Shoofly Pit*
*Spur 11	0+00	8+39	2 : 1	8”	32	8.39	268	Sandhill Pit/Shoofly Pit*
*Spur 12	0+00	19+25	2 : 1	8”	32	19.25	616	Sandhill Pit/Shoofly Pit*
			Quarry Spalls for culvert headwalls/energy dissipaters and stream culvert armoring				64	Commercial
			Culvert Stream Bed Material				160	Shoofly Pit

OPTIONAL ROCK 6,728 Cubic Yards
REQUIRED ROCK 368 Cubic Yards
TOTAL ROCK 7,108 Cubic Yards

SURFACE

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y. Station	# of Stations	C.Y. Total	Rock Source
			K1	B1				2 ½ “ Minus Crushed Rock
H-1550	57+56	59+56	1 ½ : 1	6”	40	2.00	80	Commercial
			Culvert Bedding – 2 1/2” Minus Crushed Rock				12	

SURFACE TOTAL 92 Cubic Yards

*Optional Rock: If Purchaser elects to haul on optional rock roads in wet weather, the depth listed above is recommended but not required.

NOTE: Yardages are estimated on a compacted (In-Place) basis. Compliance of required rock will be based on compacted depth measurement.

CULVERT LIST

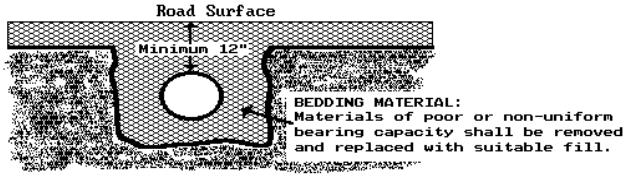
Road Number	Location	Culvert Dia.	Culvert Type	Length (ft) Culvert	Length (ft) Downspt	Length (ft) Flume	Riprap (C.Y.) Inlet	Riprap (C.Y.) Outlet	Riprap (C.Y.) Type	Backfill Material	Placement Method	Const. Staked	Remarks
H-1000	303+09	18	PD	30			0.5	0.5	QS				Replace Existing
	306+63	18	PD	30			0.5	0.5	QS				Replace Existing
	311+65	18	PD	32			0.5	0.5	QS				Replace Existing
H-1100	27+76	18	PD	34			0.5	0.5	QS				Replace Existing
H-1500	8+19	18	PD	40			0.5	0.5	QS				
	12+35	18	PD	30			0.5	0.5	QS				
	18+99	18	PD	30			0.5	0.5	QS				
	25+09	18	PD	30			0.5	0.5	QS				
	31+96	18	PD	30			0.5	0.5	QS				
H-1500ext	4+60	18	PD	40			0.5	0.5	QS				
H-1510	3+62	18	PD	34			0.5	0.5	QS				
	6+43	18	PD	40			0.5	0.5	QS				
	8+75	24	PD	30			1	1	QS				
	12+61	18	PD	30			0.5	0.5	QS				
	16+54	18	PD	30			0.5	0.5	QS				
	19+79	18	PD	30			0.5	0.5	QS				
	25+29	18	PD	30			0.5	0.5	QS				
	34+85	18	PD	30			0.5	0.5	QS				
	37+21	18	PD	30			0.5	0.5	QS				
	40+88	18	PD	30			0.5	0.5	QS				
H-1510ext	2+86	18	PD	30			0.5	0.5	QS				
	7+80	18	PD	30			0.5	0.5	QS				
H-1513	1+56	18	PD	30			0.5	0.5	QS				
H-1520	3+10	18	PD	30			0.5	0.5	QS				
	6+72	18	PD	30			0.5	0.5	QS				
	9+28	18	PD	30			0.5	0.5	QS				
	11+10	18	PD	30			0.5	0.5	QS				
H-1550	5+52	18	PD	30			0.5	0.5	QS				
	58+56	120	AS12	70			15	15	QS				
	60+59	18	PD	34			0.5	0.5	QS				
H-1560ext	4+26	18	PD	36			0.5	0.5	QS				
	6+11	18	PD	30			0.5	0.5	QS				
	9+55	18	PD	40			0.5	0.5	QS				
	18+10	18	PD	36			0.5	0.5	QS				
Spur 1	1+83	18	TEMP	30									
	8+17	18	TEMP	30									
Spur 3	3+49	18	TEMP	30									
	5+27	18	TEMP	30									
Spur 4	7+36	18	TEMP	34									
Spur 8	0+73	18	TEMP	30									
	1+76	18	TEMP	40									
Spur 11	1+67	18	TEMP	40									
	4+97	18	TEMP	30									
Spur 12	1+23	18	TEMP	34									
	6+44	18	TEMP	34									
	9+90	18	TEMP	32									
	14+20	18	TEMP	34									
	17+26	18	TEMP	38									

PD = Polyethylene Pipe Dual Wall AASHTO No. M294 Type S or ASTM F2648
AS12 = Aluminized Steel AASHTO No. M274, 12 Gauge
TEMP = Temporary Culvert

Key:

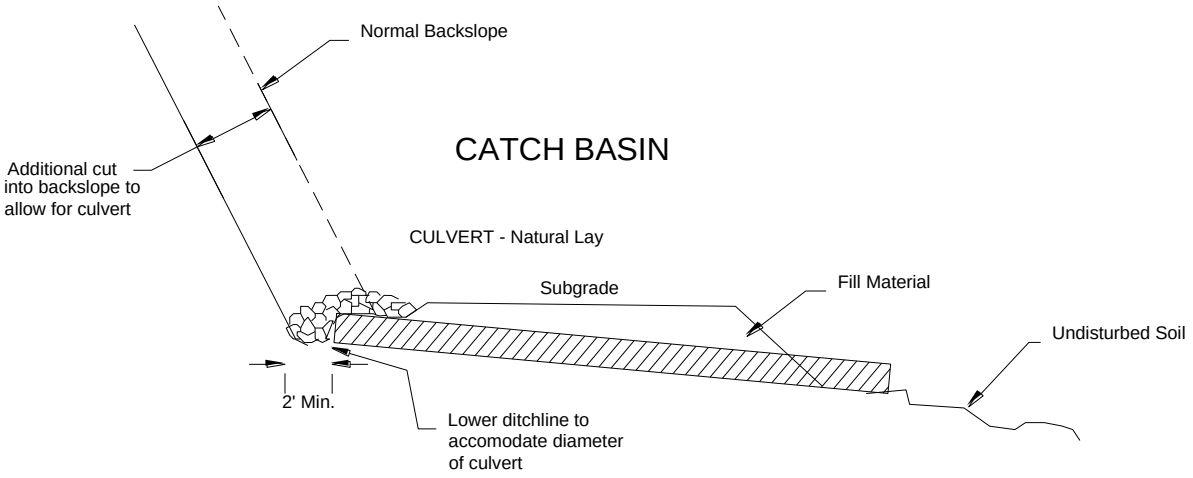
QS - Quarry Spalls
SR - Shot Rock
NT - Native (bank run)
SL - Select Fill
HL - Heavy Loose Riprap
LL - Light Loose Riprap
Flume - Half round pipe
Downspout - Full round pipe

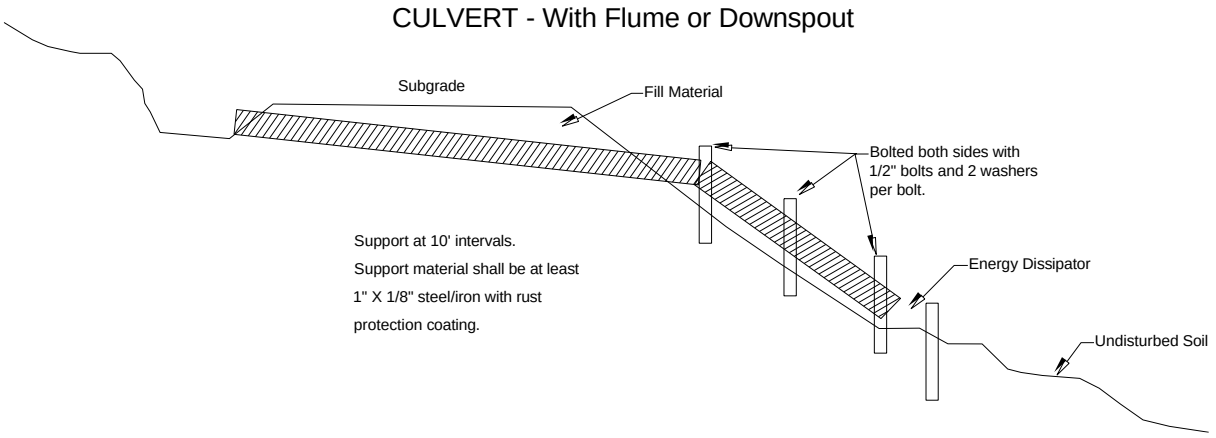
CULVERT BACKFILL AND BASE PREPARATION
(For culverts less than 36")



CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 1 of 3)



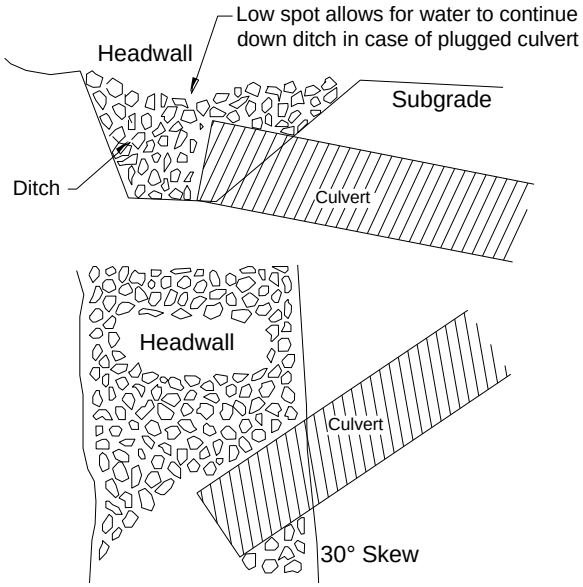


CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 of 3)

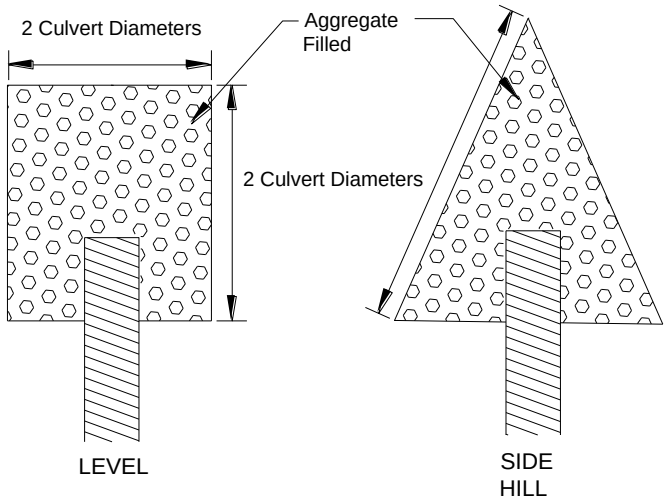
Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed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

HEADWALLS



Headwalls to be constructed of material that will resist erosion.

ENERGY DISSIPATORS



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

CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 3 of 3)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

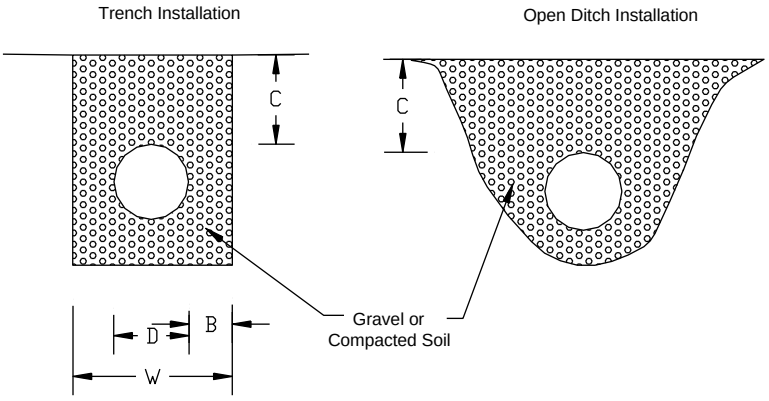
1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.

2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.

3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.

4. Site conditions and availability of bedding materials often dictate the type of installation method used.

5. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.



MINIMUM DIMENSIONS
Trench or Open Ditch Installation

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

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

Surface

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

Drainage

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

Preventative Maintenance

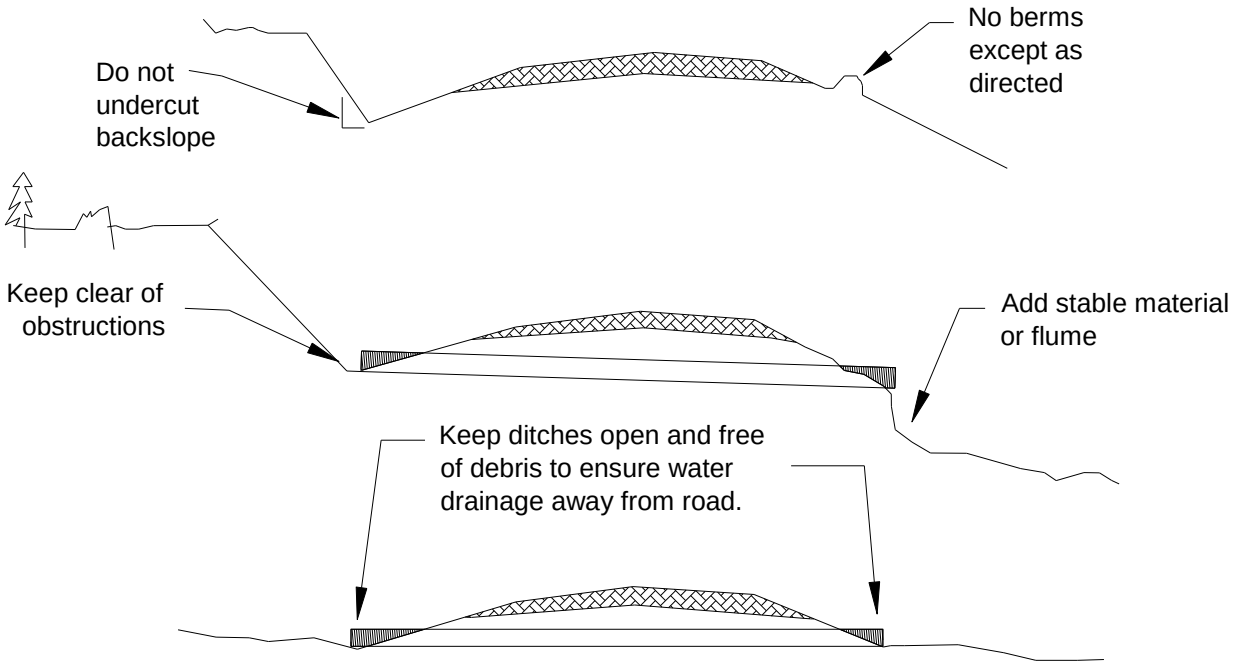
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

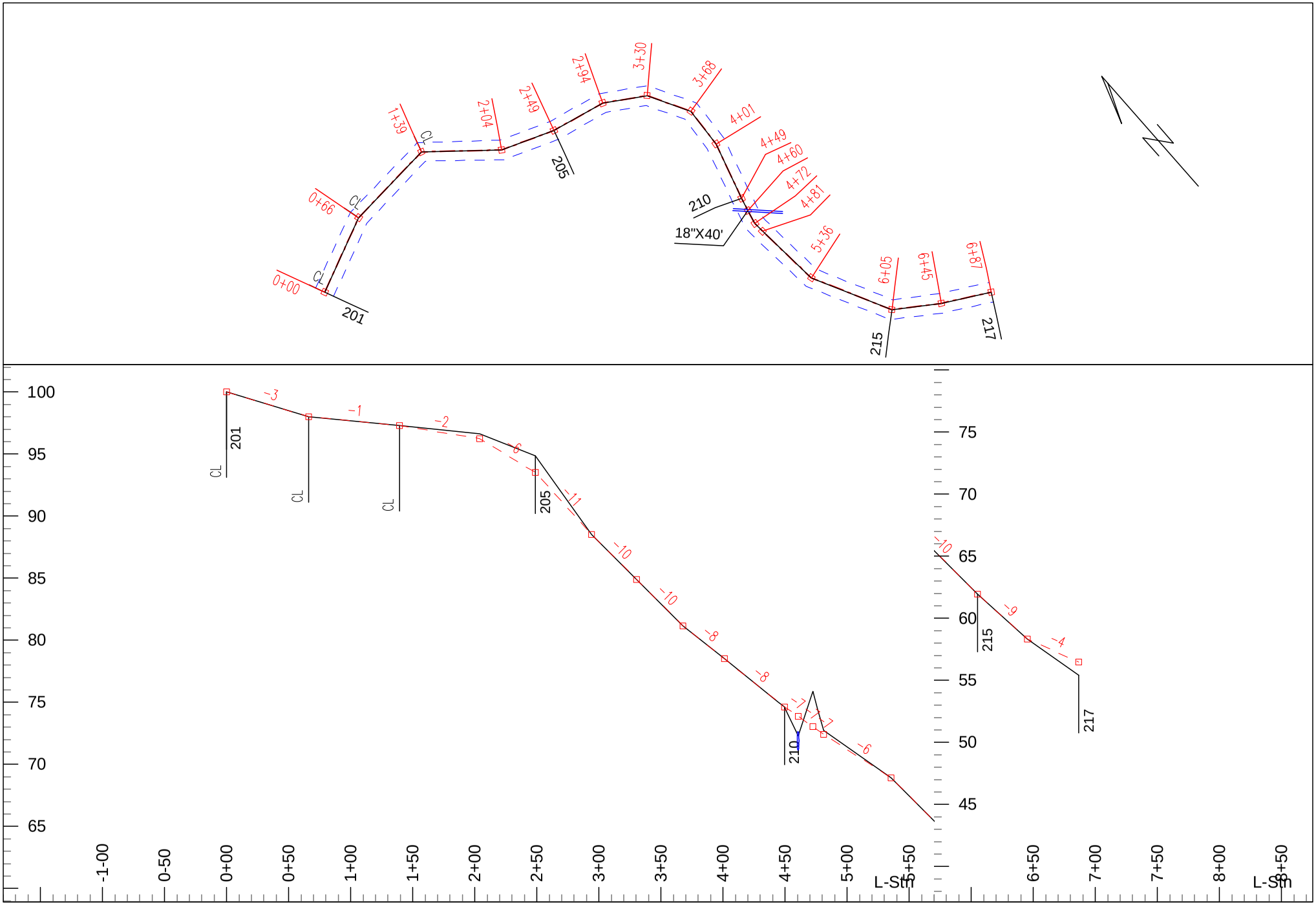
Termination of Use or End of Season

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

Debris

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


No berms
except as
directed
Do not
undercut
backslope
Keep clear of
obstructions
Add stable material
or flume
Keep ditches open and free
of debris to ensure water
drainage away from road.



Hurdle Timber Sale
H-1500ext
Contract #: 30-097377

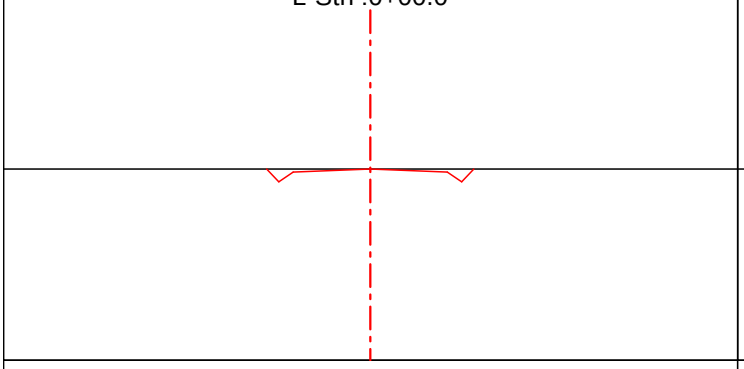
WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

Engineer: Heymann
19/08/21
Page 1 of 1

Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\1500ext		19/08/21

L-Stn :0+00.0



P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
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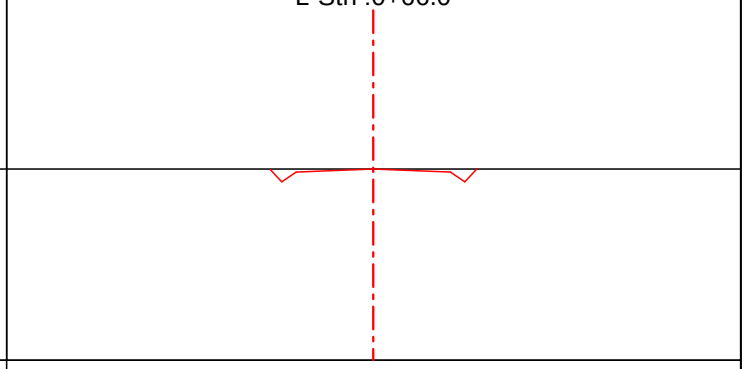
L-Stn :0+66.0



P-Stn :	0+66.0	Cut Dp:	0.0	CL Elev:	98.0
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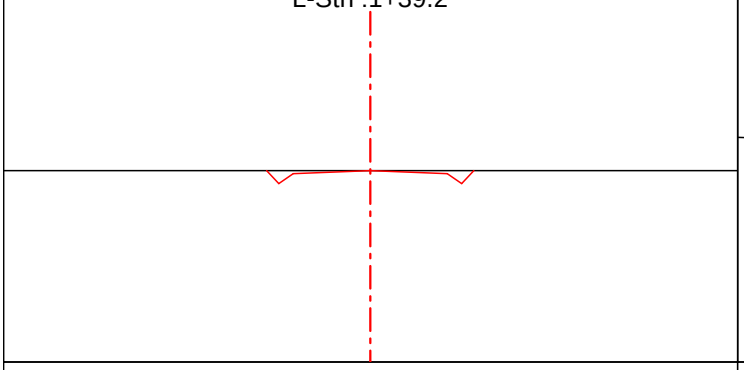
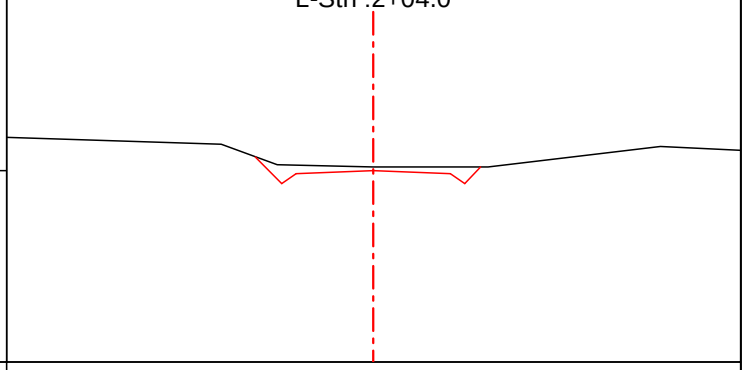
L-Stn :1+39.2



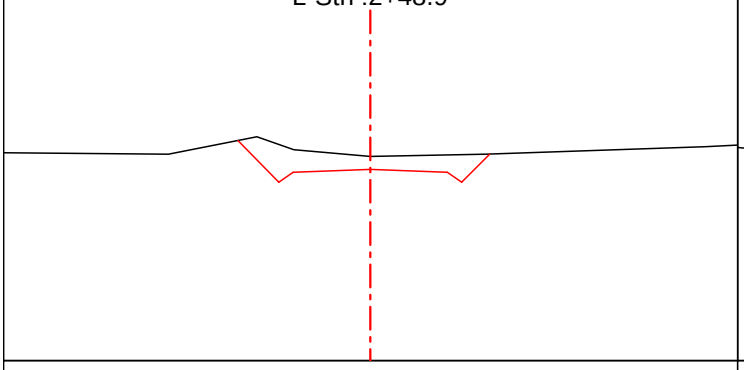
P-Stn :	1+39.2	Cut Dp:	0.0	CL Elev:	97.3
V.Offset:	0.0	H. Offset:	0.0	Index:	203

L-Stn :2+04.0



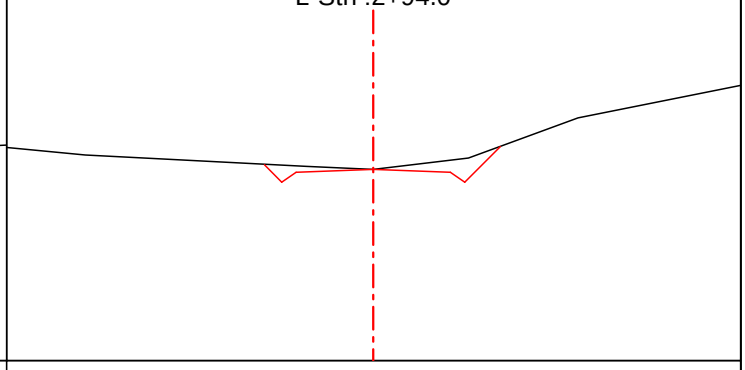
P-Stn :	2+04.0	Cut Dp:	0.4	CL Elev:	96.2
V.Offset:	-0.4	H. Offset:	0.0	Index:	204

L-Stn :2+48.9



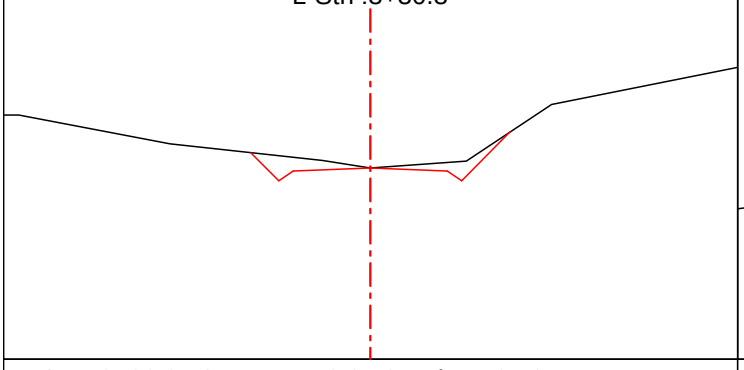
P-Stn :	2+48.9	Cut Dp:	1.3	CL Elev:	93.5
V.Offset:	-1.3	H. Offset:	0.0	Index:	205

L-Stn :2+94.0



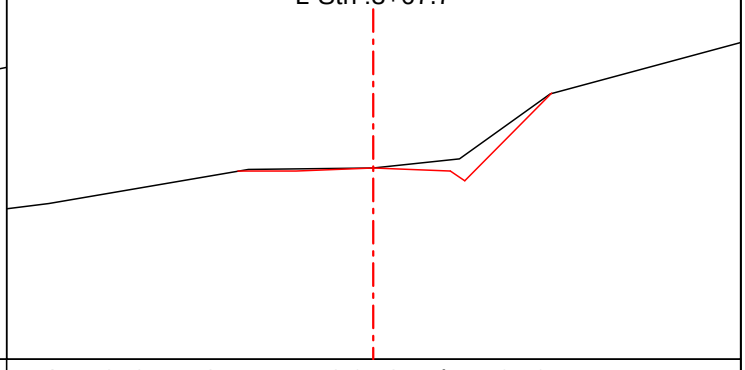
P-Stn :	2+94.0	Cut Dp:	0.0	CL Elev:	88.5
V.Offset:	0.0	H. Offset:	0.0	Index:	206

L-Stn :3+30.3



P-Stn :	3+30.3	Cut Dp:	0.0	CL Elev:	84.9
V.Offset:	0.0	H. Offset:	0.0	Index:	207

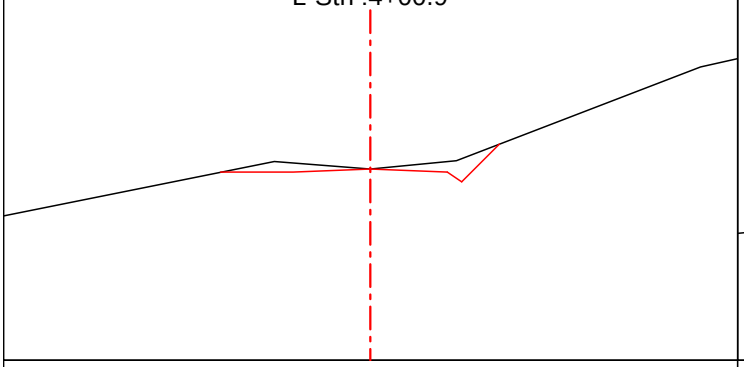
L-Stn :3+67.7



P-Stn :	3+67.7	Cut Dp:	0.0	CL Elev:	81.2
V.Offset:	0.0	H. Offset:	0.0	Index:	208

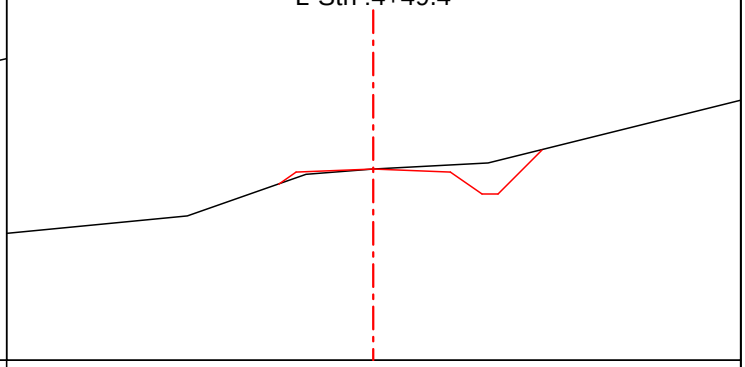
Softree Section	Scale 1:240	P. 2
C:\ProgramData\Softree\Data\hurdle\prelim\1500ext		19/08/21

L-Stn :4+00.9



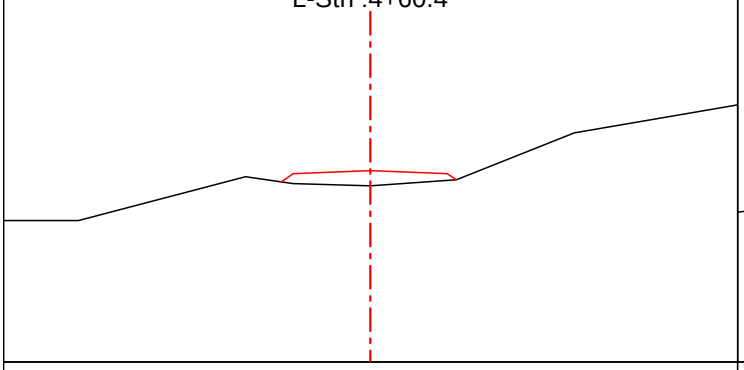
P-Stn : 4+00.9 Cut Dp: 0.0 CL Elev: 78.5
V.Offset: 0.0 H. Offset: 0.0 Index: 209

L-Stn :4+49.4



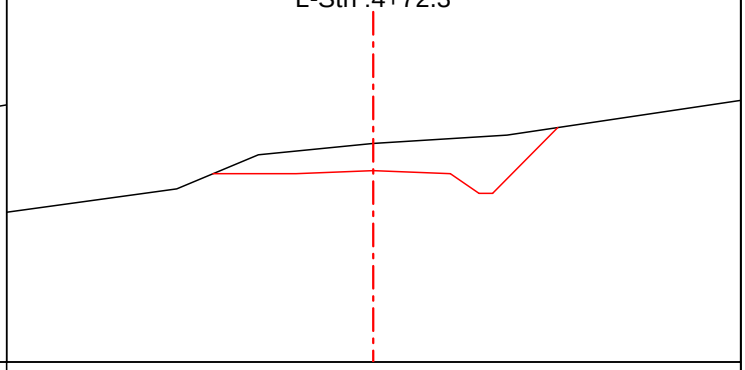
P-Stn : 4+49.4 Cut Dp: 0.0 CL Elev: 74.6
V.Offset: 0.0 H. Offset: 0.0 Index: 210

L-Stn :4+60.4



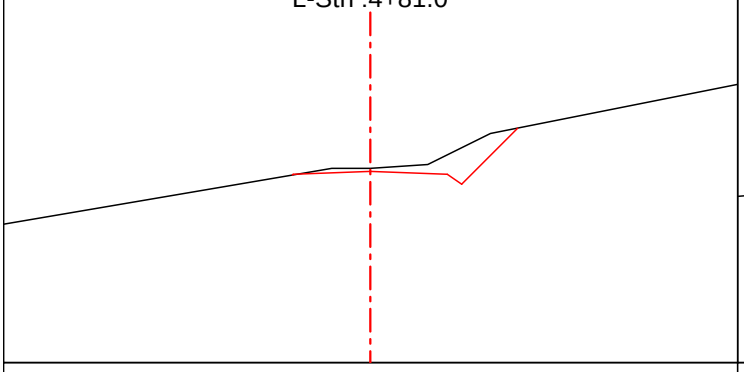
P-Stn : 4+60.4 Cut Dp: -1.6 CL Elev: 73.9
V.Offset: 1.6 H. Offset: 0.0 Index: 211

L-Stn :4+72.3



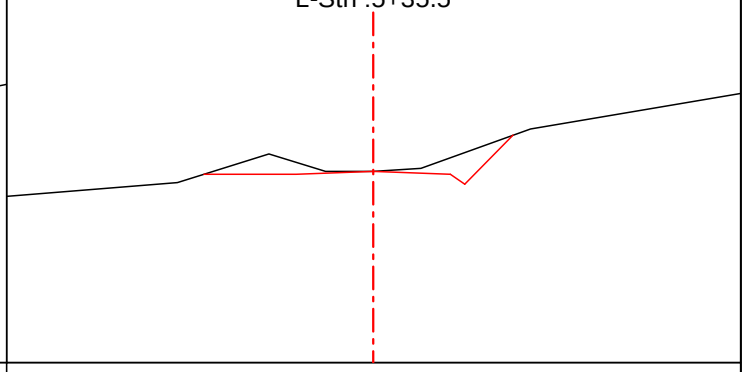
P-Stn : 4+72.3 Cut Dp: 2.8 CL Elev: 73.0
V.Offset: -2.8 H. Offset: 0.0 Index: 212

L-Stn :4+81.0



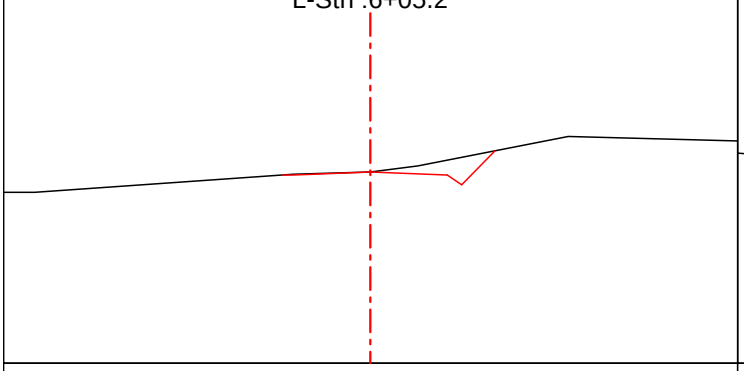
P-Stn : 4+81.0 Cut Dp: 0.3 CL Elev: 72.4
V.Offset: -0.3 H. Offset: 0.0 Index: 213

L-Stn :5+35.5



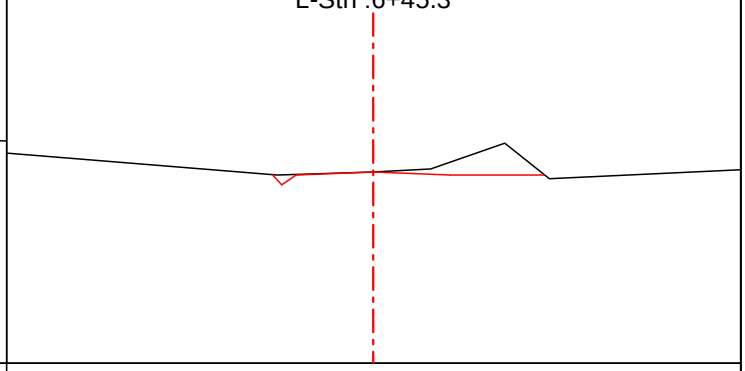
P-Stn : 5+35.5 Cut Dp: 0.0 CL Elev: 68.9
V.Offset: 0.0 H. Offset: 0.0 Index: 214

L-Stn :6+05.2



P-Stn : 6+05.2 Cut Dp: 0.0 CL Elev: 61.9
V.Offset: 0.0 H. Offset: 0.0 Index: 215

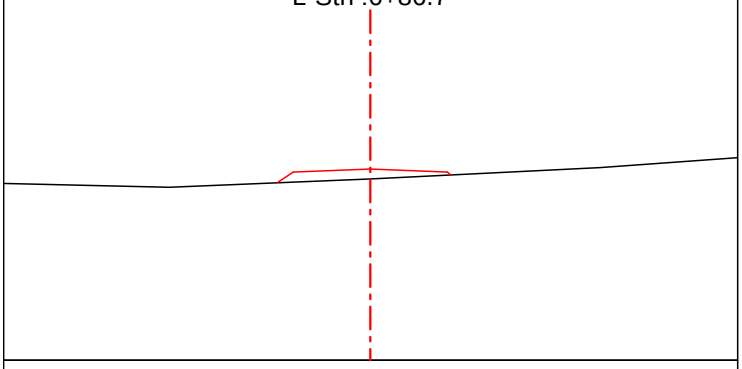
L-Stn :6+45.3



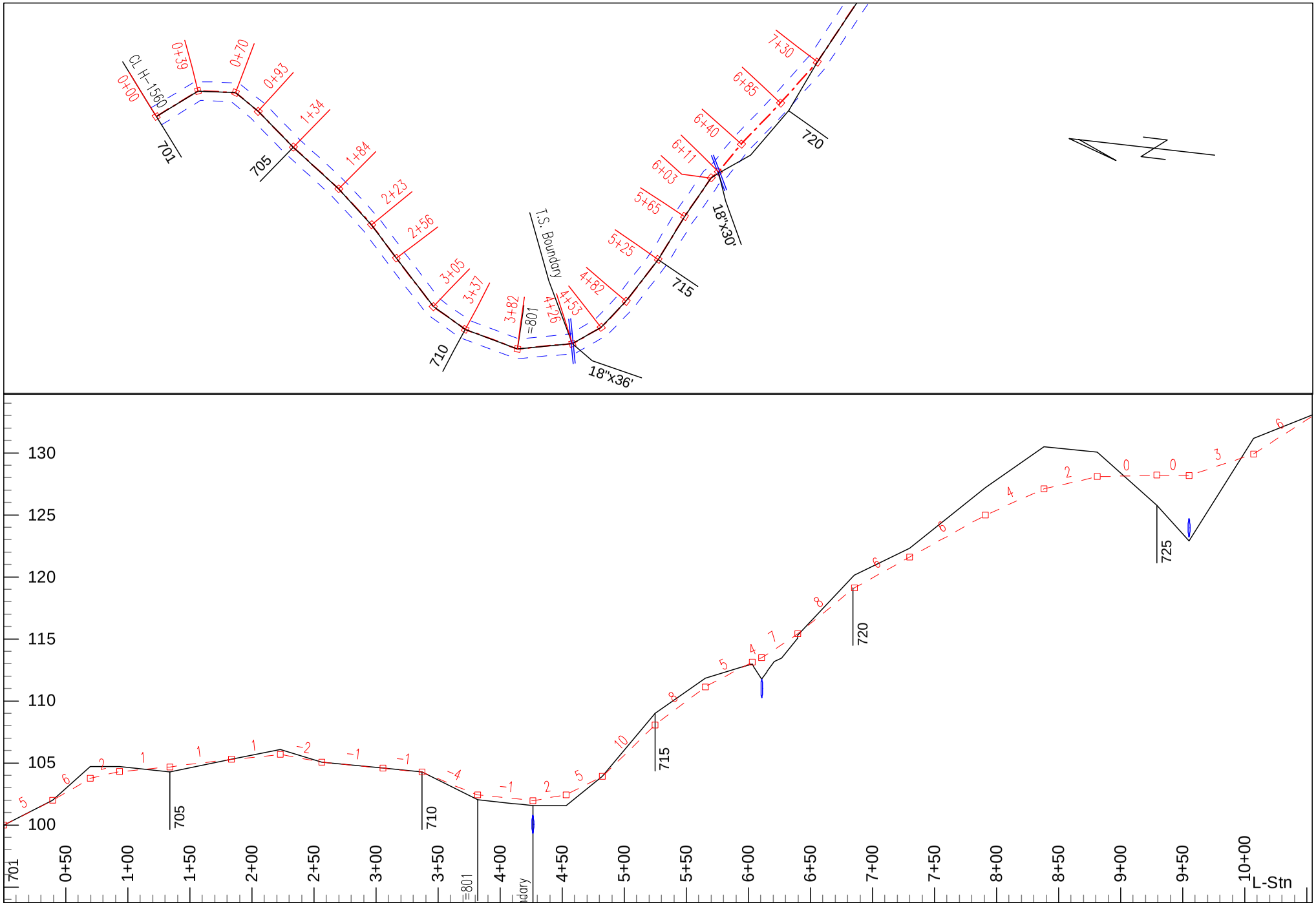
P-Stn : 6+45.3 Cut Dp: 0.0 CL Elev: 58.3
V.Offset: 0.0 H. Offset: 0.0 Index: 216

Softree Section	Scale 1:240	P. 3
C:\ProgramData\Softree\Data\hurdle\prelim\1500ext		19/08/21

L-Stn :6+86.7



P-Stn : 6+86.7	Cut Dp:	-1.0	CL Elev:	56.5	
V.Offset: 1.0	H. Offset:	0.0	Index:	217	



Hurdle Timber Sale
1560ext
Contract #: 30-097377

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

Engineer: Heymann
19/08/26
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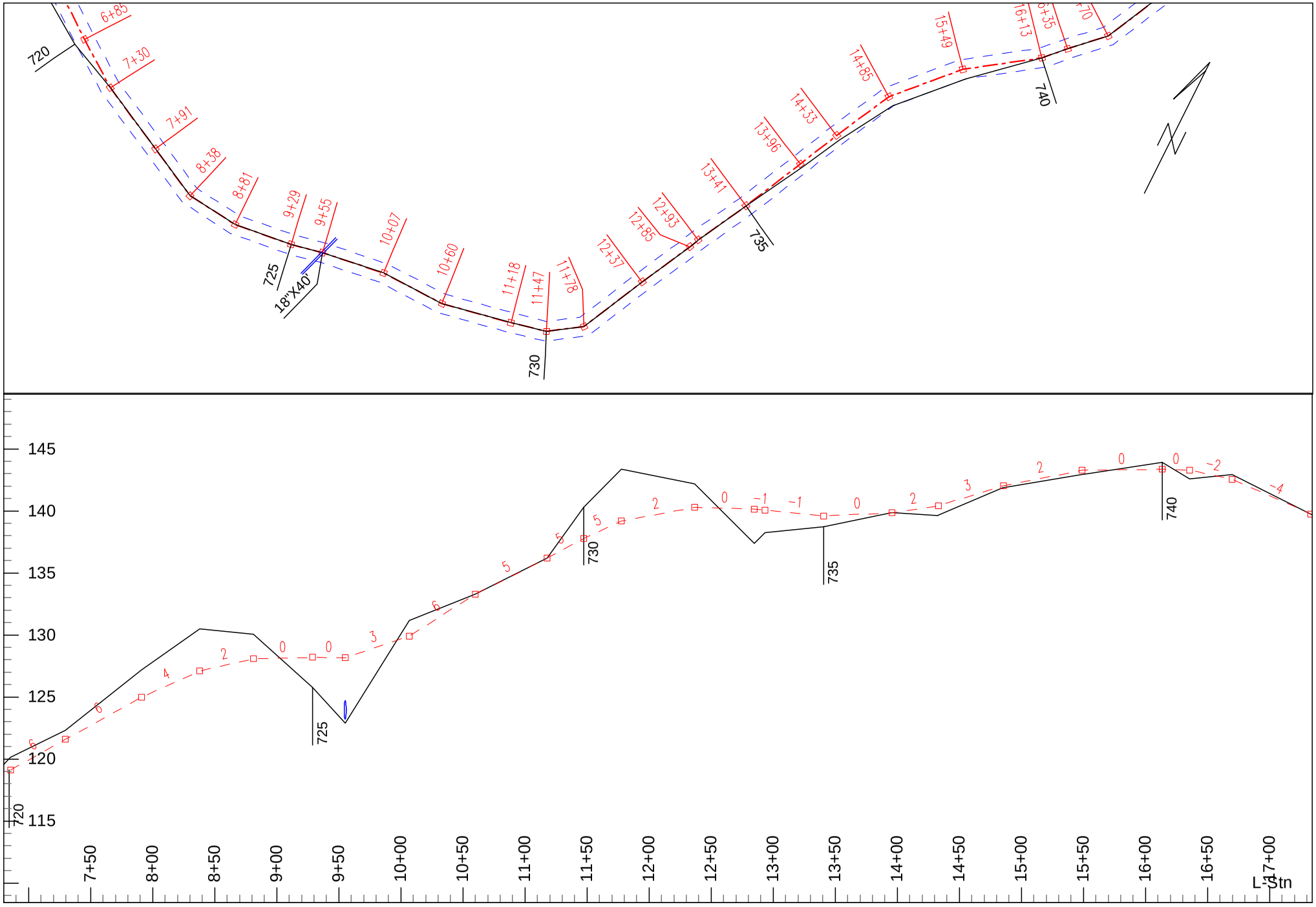

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Plan Scale 1:1200

Profile Vert Scale 1:120
Profile Horz Scale 1:1200

Engineer: Heymann

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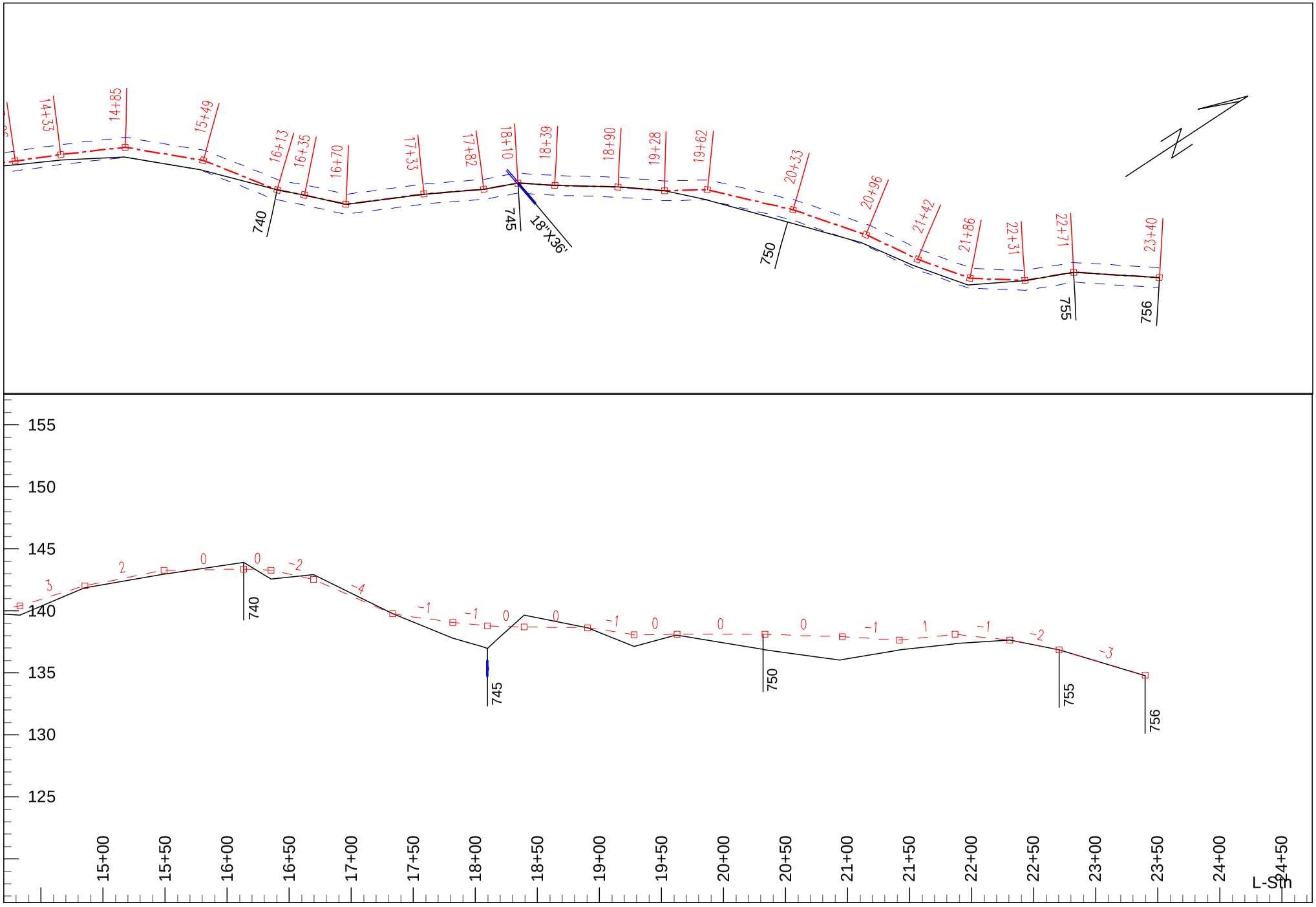

Hurdle Timber Sale
1560ext
Contract #: 30-097377

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

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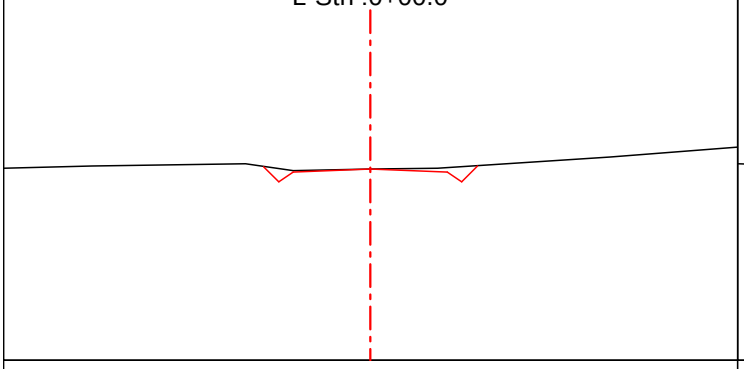
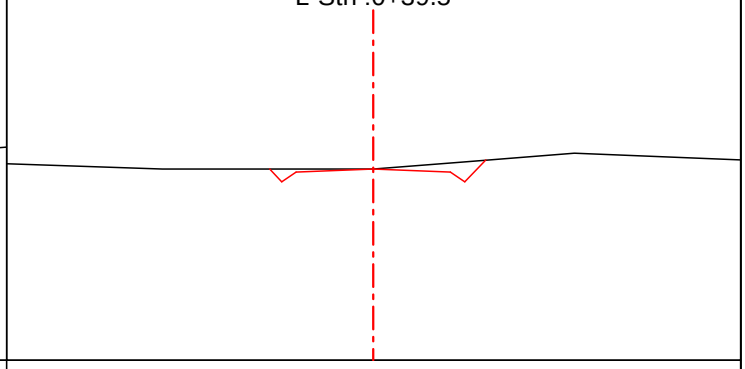
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\1560ext		19/08/26

L-Stn :0+00.0



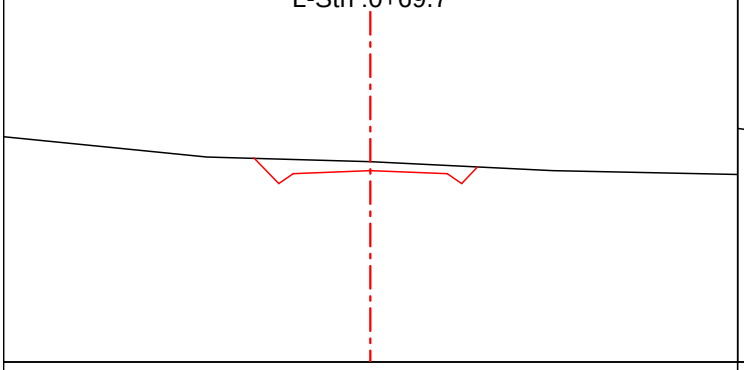
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	701

L-Stn :0+39.5



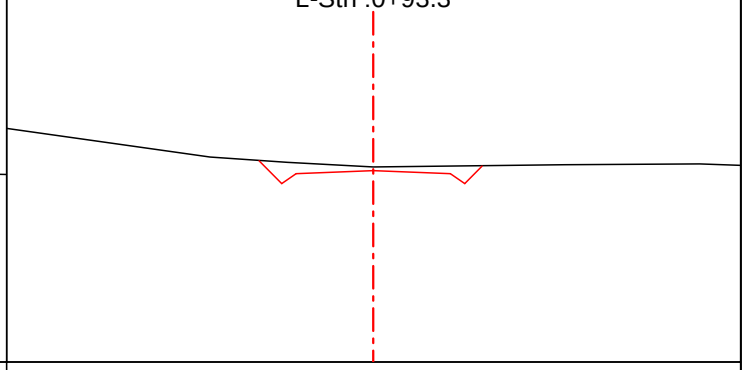
P-Stn :	0+39.5	Cut Dp:	0.0	CL Elev:	102.0
V.Offset:	0.0	H. Offset:	0.0	Index:	702

L-Stn :0+69.7



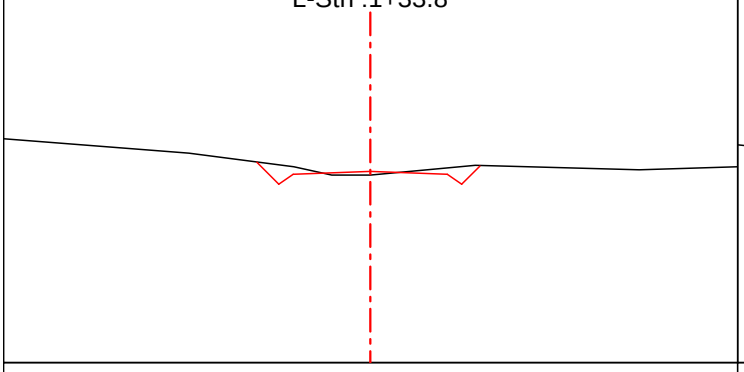
P-Stn :	0+69.7	Cut Dp:	0.9	CL Elev:	103.8
V.Offset:	-0.9	H. Offset:	0.0	Index:	703

L-Stn :0+93.3



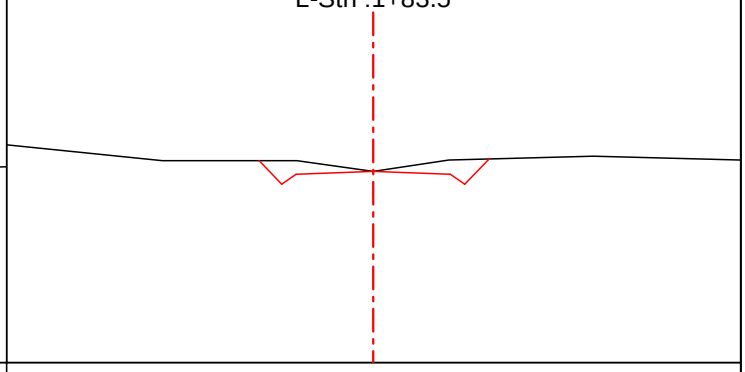
P-Stn :	0+93.3	Cut Dp:	0.4	CL Elev:	104.3
V.Offset:	-0.4	H. Offset:	0.0	Index:	704

L-Stn :1+33.8



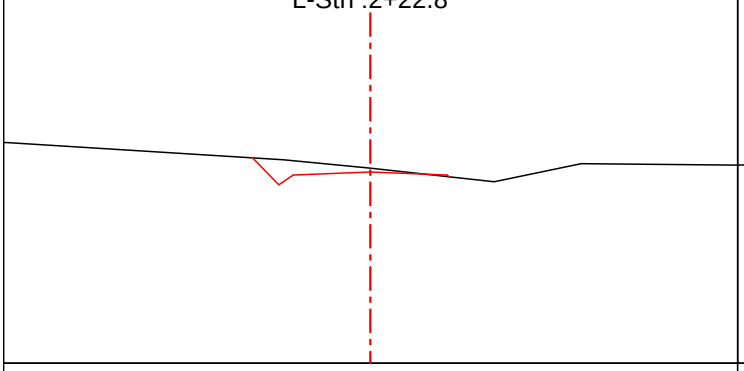
P-Stn :	1+33.8	Cut Dp:	-0.4	CL Elev:	104.7
V.Offset:	0.4	H. Offset:	0.0	Index:	705

L-Stn :1+83.5



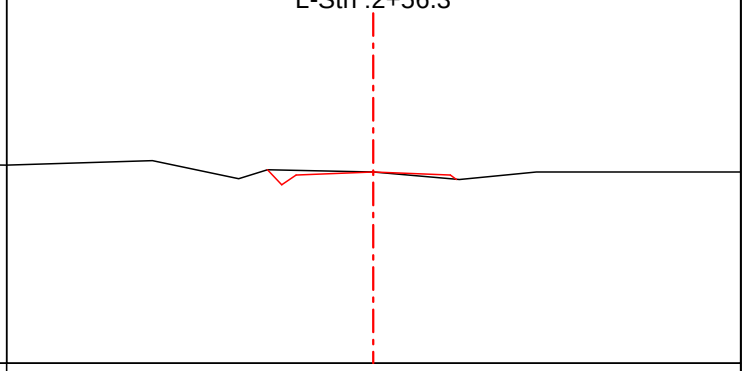
P-Stn :	1+83.5	Cut Dp:	0.0	CL Elev:	105.3
V.Offset:	0.0	H. Offset:	0.0	Index:	706

L-Stn :2+22.8



P-Stn :	2+22.8	Cut Dp:	0.4	CL Elev:	105.7
V.Offset:	-0.4	H. Offset:	0.0	Index:	707

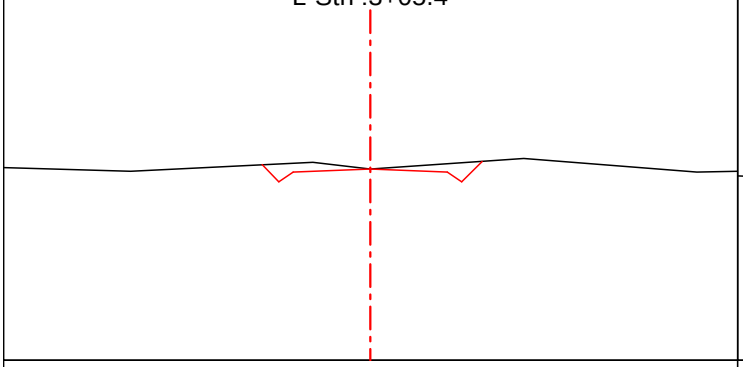
L-Stn :2+56.3



P-Stn :	2+56.3	Cut Dp:	0.0	CL Elev:	105.1
V.Offset:	0.0	H. Offset:	0.0	Index:	708

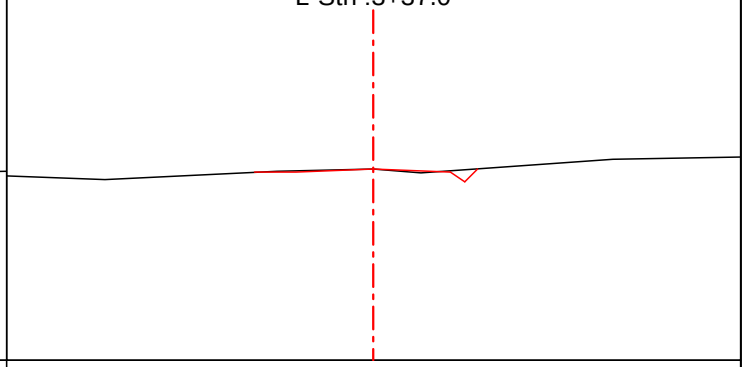
Softree Section	Scale 1:240	P. 2
C:\ProgramData\Softree\Data\hurdle\prelim\1560ext		19/08/26

L-Stn :3+05.4



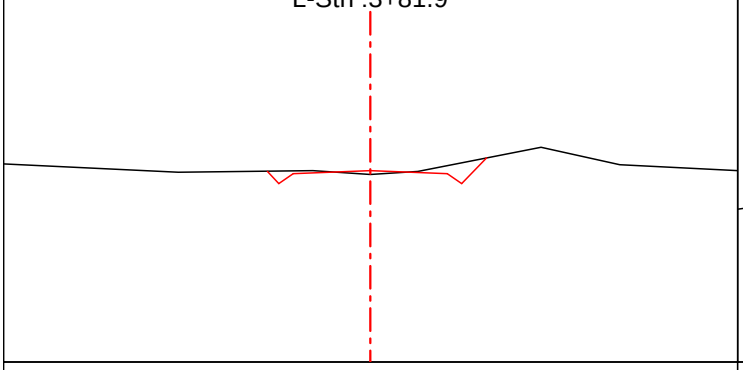
P-Stn :	3+05.4	Cut Dp:	0.0	CL Elev:	104.6
V.Offset:	0.0	H. Offset:	0.0	Index:	709

L-Stn :3+37.0



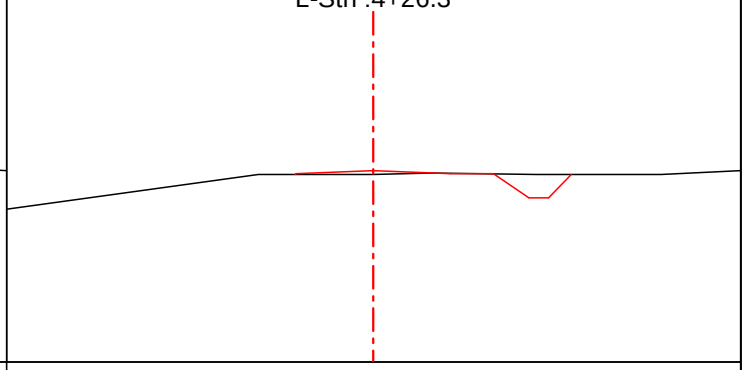
P-Stn :	3+37.0	Cut Dp:	0.0	CL Elev:	104.3
V.Offset:	0.0	H. Offset:	0.0	Index:	710

L-Stn :3+81.9



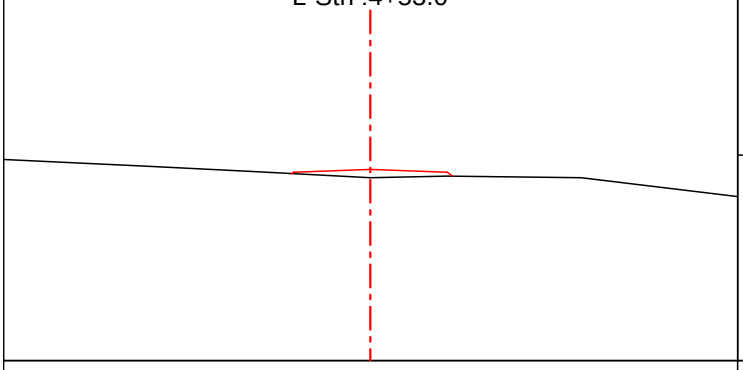
P-Stn :	3+81.9	Cut Dp:	-0.4	CL Elev:	102.4
V.Offset:	0.4	H. Offset:	0.0	Index:	711

L-Stn :4+26.3



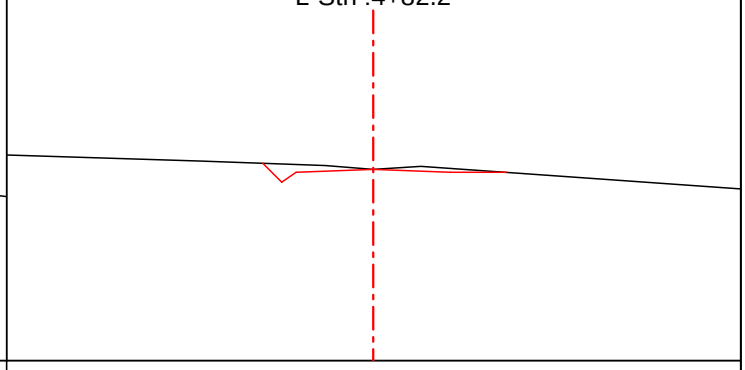
P-Stn :	4+26.3	Cut Dp:	-0.4	CL Elev:	102.0
V.Offset:	0.4	H. Offset:	0.0	Index:	712

L-Stn :4+53.0



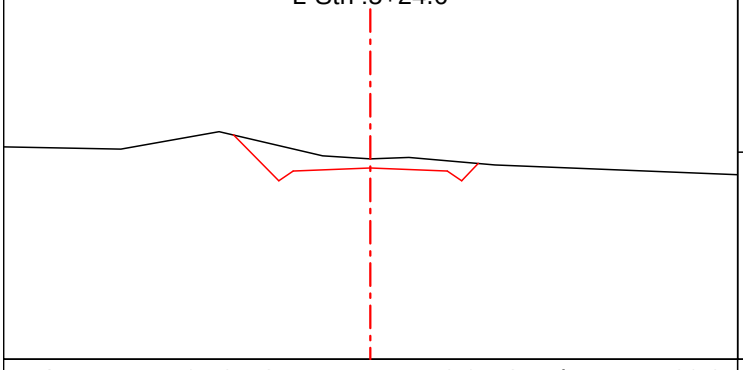
P-Stn :	4+53.0	Cut Dp:	-0.9	CL Elev:	102.4
V.Offset:	0.9	H. Offset:	0.0	Index:	713

L-Stn :4+82.2



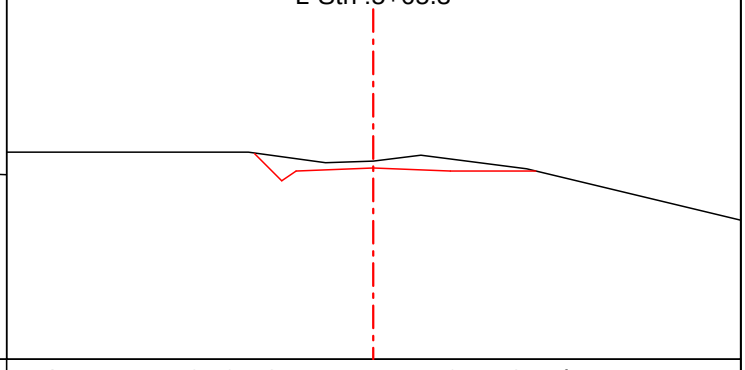
P-Stn :	4+82.2	Cut Dp:	0.0	CL Elev:	103.9
V.Offset:	0.0	H. Offset:	0.0	Index:	714

L-Stn :5+24.6



P-Stn :	5+24.6	Cut Dp:	0.9	CL Elev:	108.0
V.Offset:	-0.9	H. Offset:	0.0	Index:	715

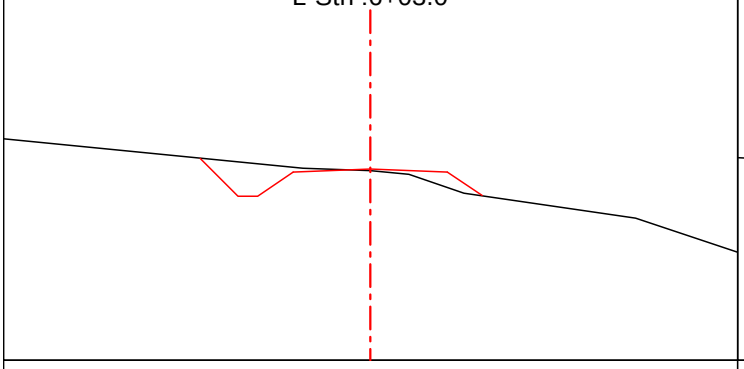
L-Stn :5+65.3



P-Stn :	5+65.3	Cut Dp:	0.7	CL Elev:	111.1
V.Offset:	-0.7	H. Offset:	0.0	Index:	716

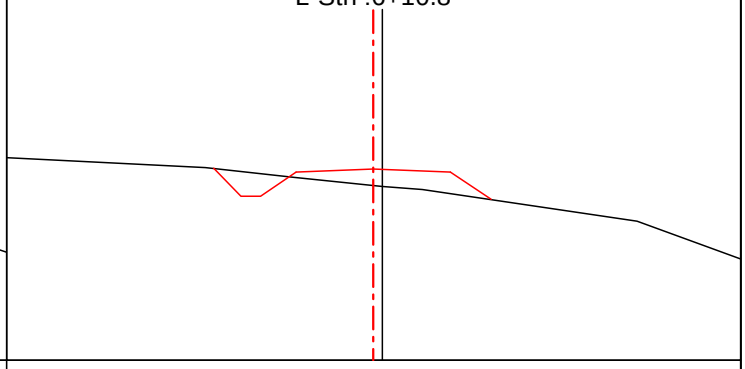
Softree Section	Scale 1:240	P. 3
C:\ProgramData\Softree\Data\hurdle\prelim\1560ext		19/08/26

L-Stn :6+03.0



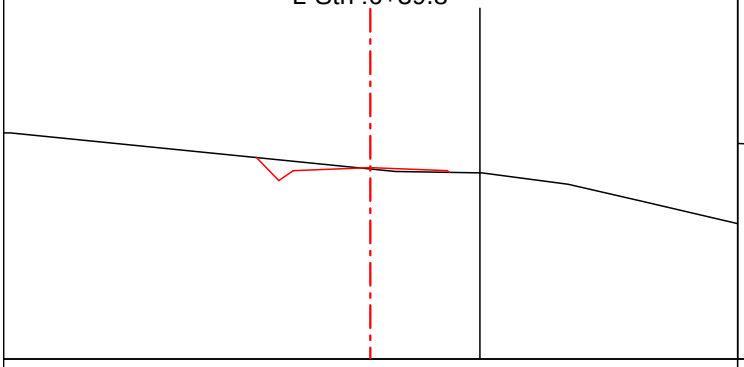
P-Stn :	6+03.0	Cut Dp:	-0.2	CL Elev:	113.1
V.Offset:	0.2	H. Offset:	0.0	Index:	717

L-Stn :6+10.8



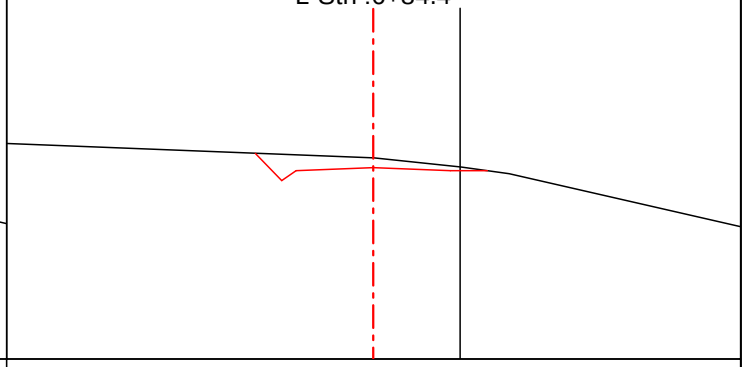
P-Stn :	6+10.7	Cut Dp:	-1.7	CL Elev:	113.5
V.Offset:	1.8	H. Offset:	-0.9	Index:	718

L-Stn :6+39.8



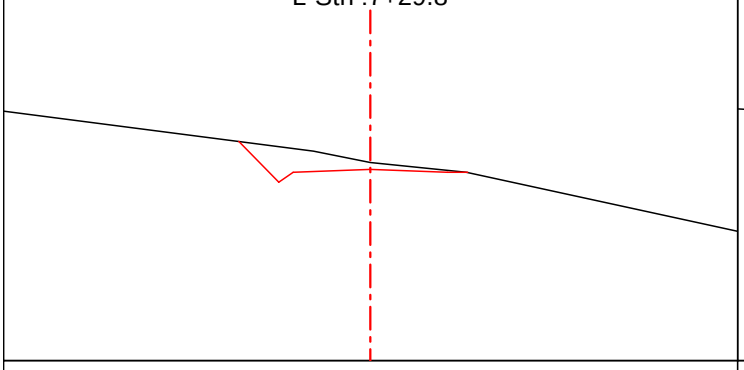
P-Stn :	6+39.7	Cut Dp:	-0.1	CL Elev:	115.4
V.Offset:	0.6	H. Offset:	-11.6	Index:	719

L-Stn :6+84.4



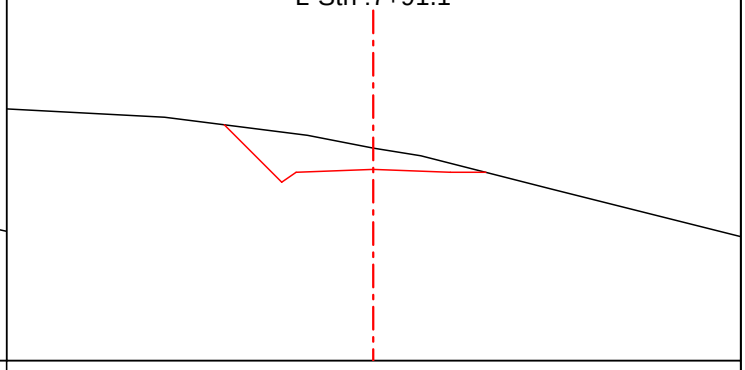
P-Stn :	6+87.0	Cut Dp:	1.0	CL Elev:	119.0
V.Offset:	-0.1	H. Offset:	-9.1	Index:	720

L-Stn :7+29.8



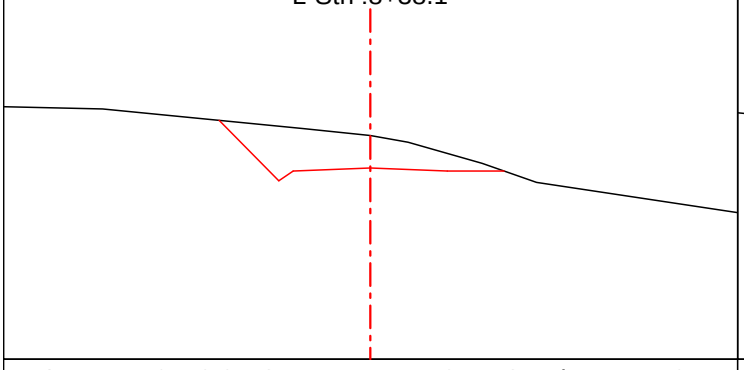
P-Stn :	7+32.3	Cut Dp:	0.7	CL Elev:	121.6
V.Offset:	-0.7	H. Offset:	0.0	Index:	721

L-Stn :7+91.1



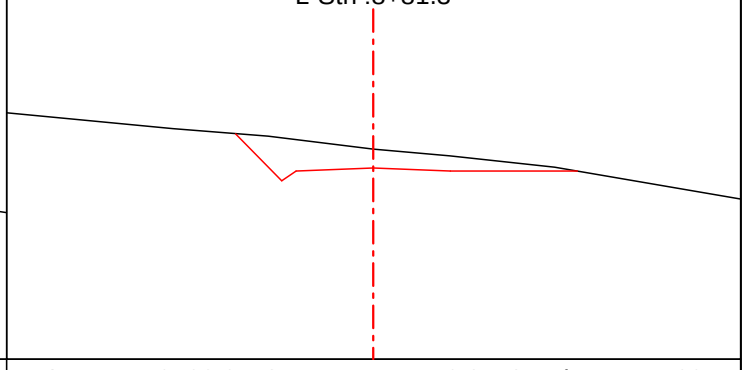
P-Stn :	7+93.6	Cut Dp:	2.2	CL Elev:	125.0
V.Offset:	-2.2	H. Offset:	0.0	Index:	722

L-Stn :8+38.1



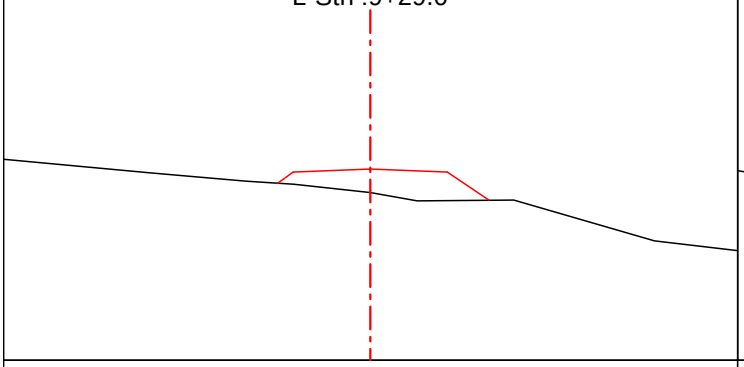
P-Stn :	8+40.6	Cut Dp:	3.4	CL Elev:	127.1
V.Offset:	-3.4	H. Offset:	0.0	Index:	723

L-Stn :8+81.3



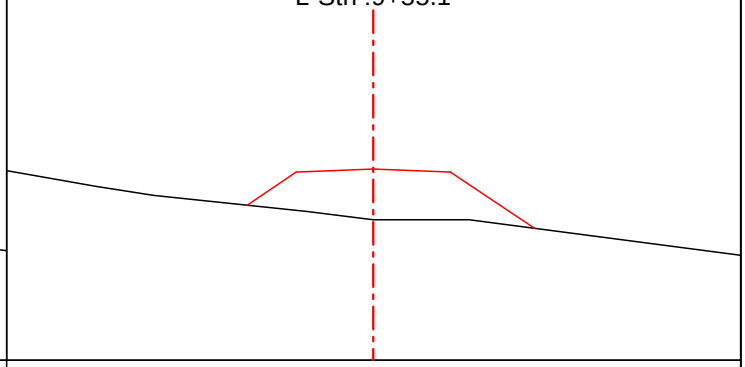
P-Stn :	8+83.8	Cut Dp:	2.0	CL Elev:	128.1
V.Offset:	-2.0	H. Offset:	0.0	Index:	724

L-Stn :9+29.0



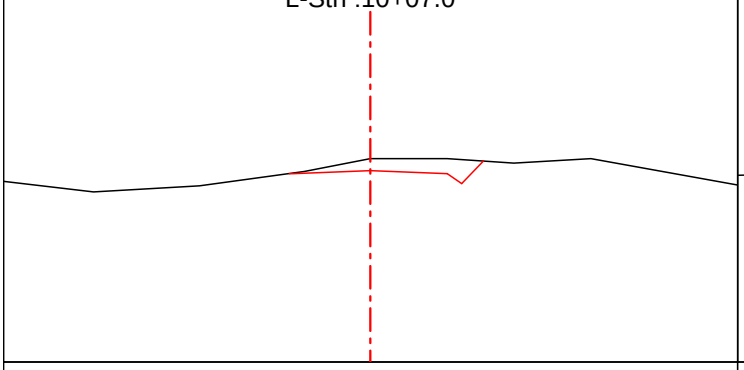
P-Stn :	9+31.5	Cut Dp:	-2.4	CL Elev:	128.2
V.Offset:	2.4	H. Offset:	0.0	Index:	725

L-Stn :9+55.1



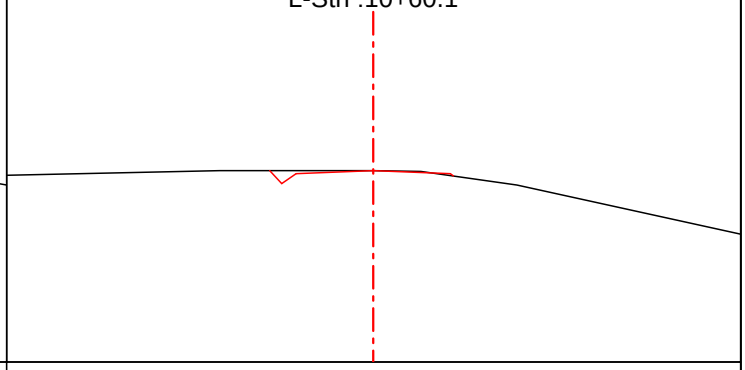
P-Stn :	9+57.7	Cut Dp:	-5.3	CL Elev:	128.2
V.Offset:	5.3	H. Offset:	0.0	Index:	726

L-Stn :10+07.0



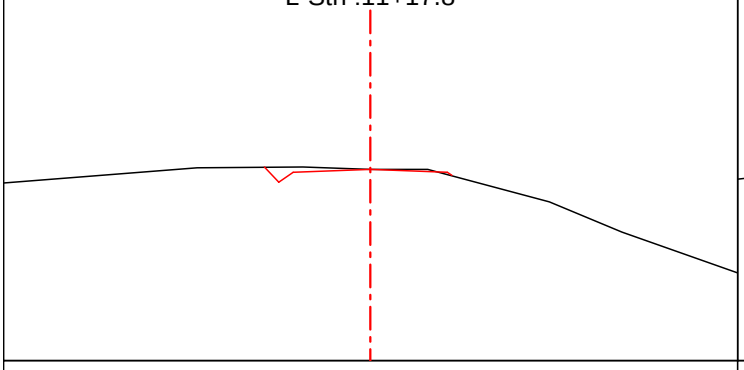
P-Stn :	10+09.5	Cut Dp:	1.3	CL Elev:	129.9
V.Offset:	-1.3	H. Offset:	0.0	Index:	727

L-Stn :10+60.1



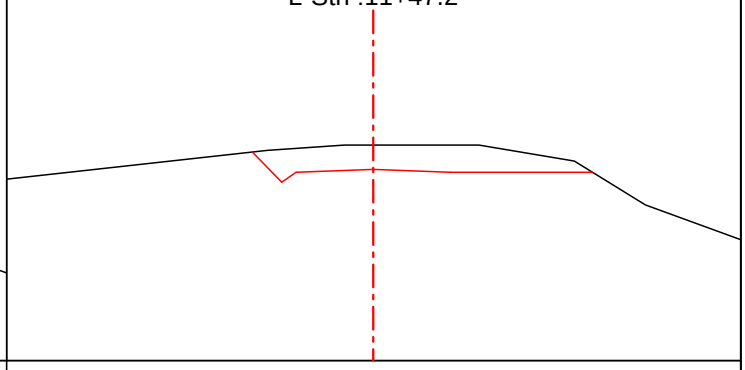
P-Stn :	10+62.7	Cut Dp:	0.0	CL Elev:	133.3
V.Offset:	0.0	H. Offset:	0.0	Index:	728

L-Stn :11+17.8



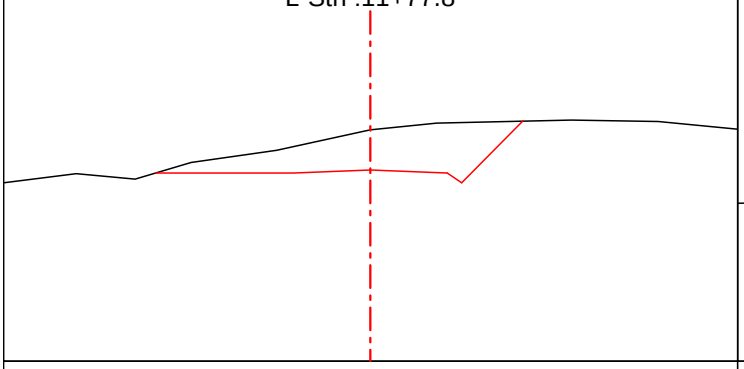
P-Stn :	11+20.4	Cut Dp:	0.0	CL Elev:	136.2
V.Offset:	0.0	H. Offset:	0.0	Index:	729

L-Stn :11+47.2



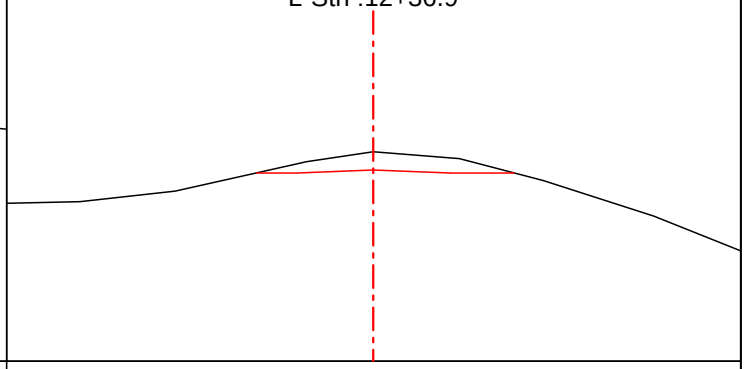
P-Stn :	11+49.8	Cut Dp:	2.5	CL Elev:	137.8
V.Offset:	-2.5	H. Offset:	0.0	Index:	730

L-Stn :11+77.8



P-Stn :	11+80.4	Cut Dp:	4.2	CL Elev:	139.2
V.Offset:	-4.2	H. Offset:	0.0	Index:	731

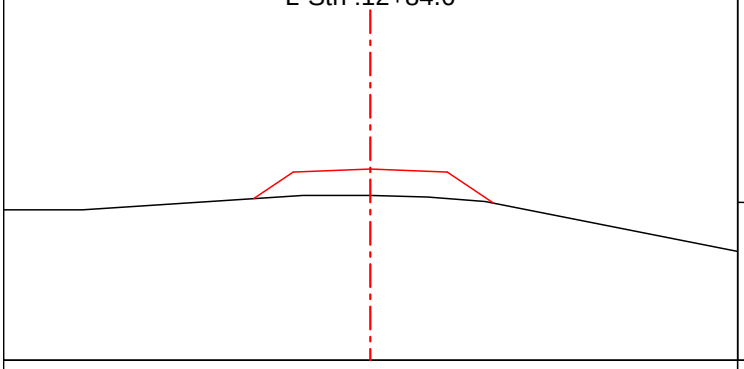
L-Stn :12+36.9



P-Stn :	12+39.4	Cut Dp:	1.9	CL Elev:	140.3
V.Offset:	-1.9	H. Offset:	0.0	Index:	732

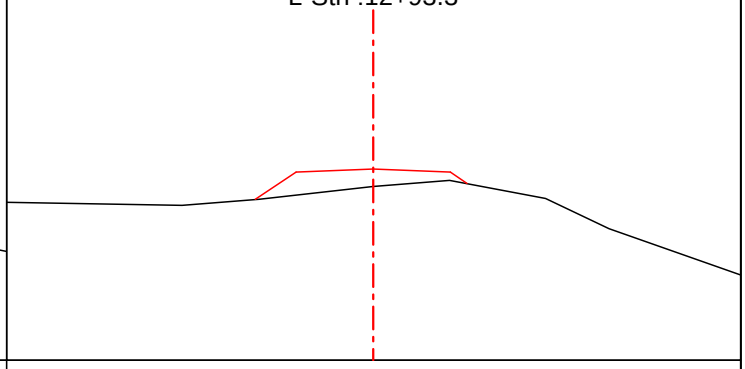
Softree Section	Scale 1:240	P. 5
C:\ProgramData\Softree\Data\hurdle\prelim\1560ext		19/08/26

L-Stn :12+84.6



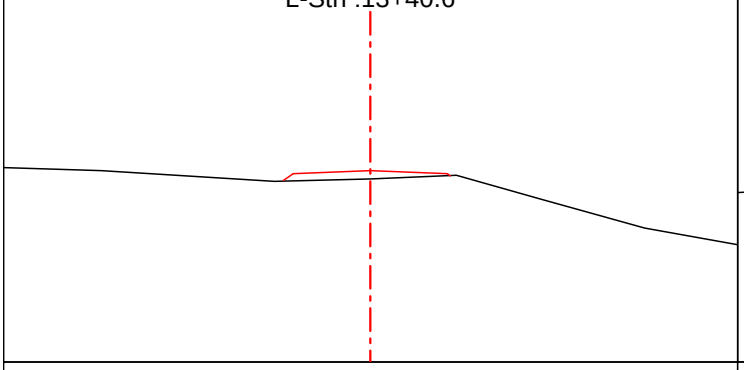
P-Stn :	12+87.2	Cut Dp:	-2.8	CL Elev:	140.2
V.Offset:	2.8	H. Offset:	0.0	Index:	733

L-Stn :12+93.3



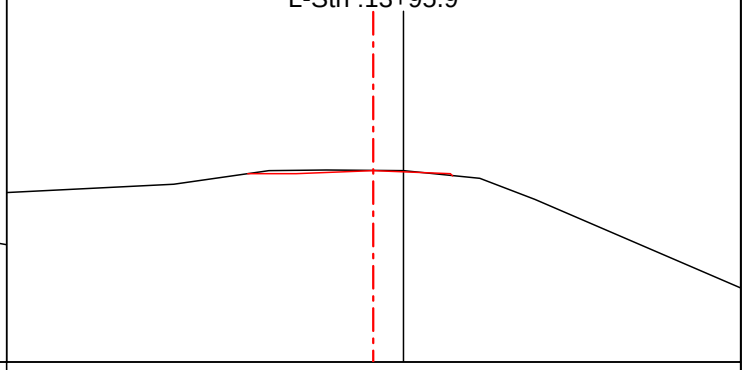
P-Stn :	12+95.9	Cut Dp:	-1.8	CL Elev:	140.1
V.Offset:	1.8	H. Offset:	0.0	Index:	734

L-Stn :13+40.6



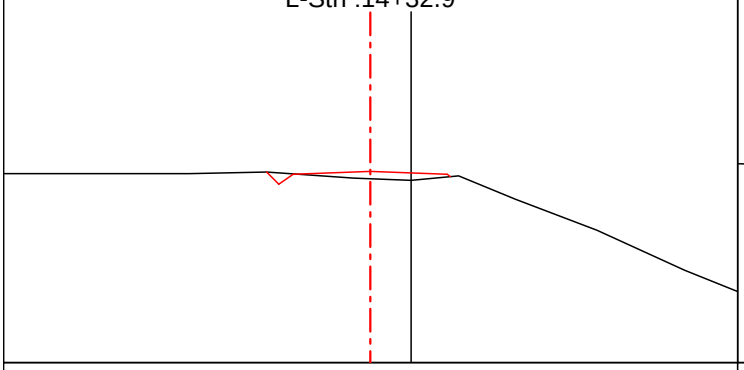
P-Stn :	13+43.2	Cut Dp:	-0.9	CL Elev:	139.6
V.Offset:	0.9	H. Offset:	0.0	Index:	735

L-Stn :13+95.9



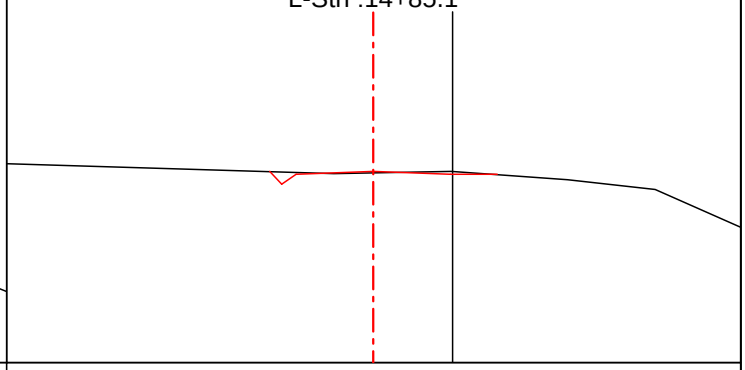
P-Stn :	13+98.4	Cut Dp:	0.0	CL Elev:	139.8
V.Offset:	0.0	H. Offset:	-3.1	Index:	736

L-Stn :14+32.9



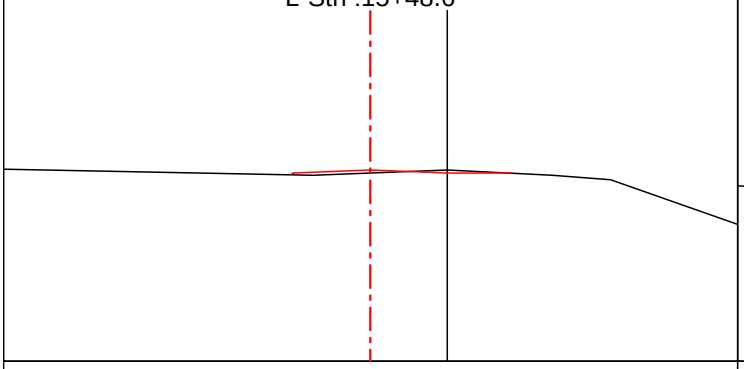
P-Stn :	14+35.3	Cut Dp:	-0.8	CL Elev:	140.4
V.Offset:	0.9	H. Offset:	-4.2	Index:	737

L-Stn :14+85.1



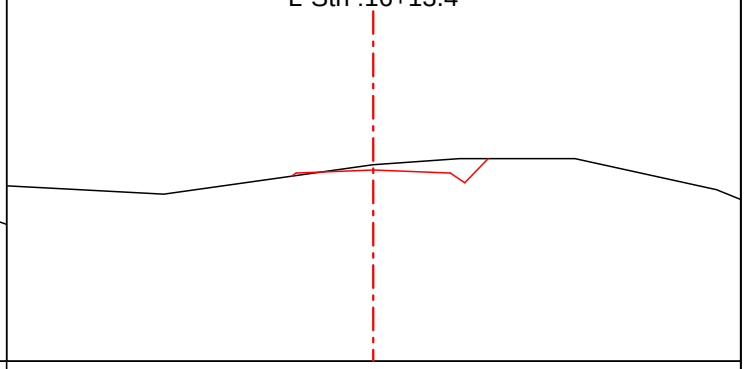
P-Stn :	14+86.4	Cut Dp:	-0.1	CL Elev:	142.0
V.Offset:	0.0	H. Offset:	-8.0	Index:	738

L-Stn :15+48.6



P-Stn :	15+48.7	Cut Dp:	-0.3	CL Elev:	143.3
V.Offset:	0.0	H. Offset:	-8.0	Index:	739

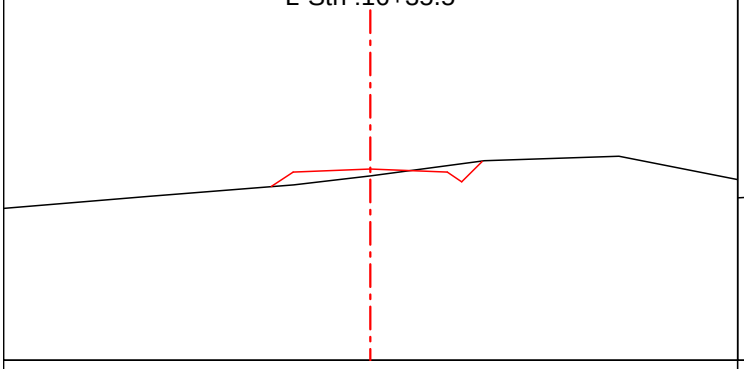
L-Stn :16+13.4



P-Stn :	16+12.7	Cut Dp:	0.6	CL Elev:	143.4
V.Offset:	-0.6	H. Offset:	0.0	Index:	740

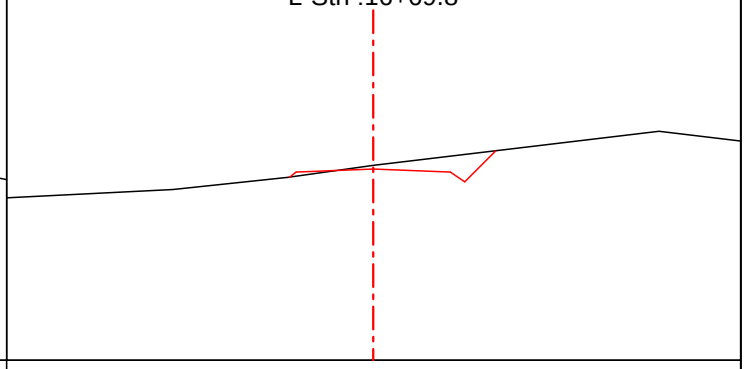
Softree Section	Scale 1:240	P. 6
C:\ProgramData\Softree\Data\hurdle\prelim\1560ext		19/08/26

L-Stn :16+35.5



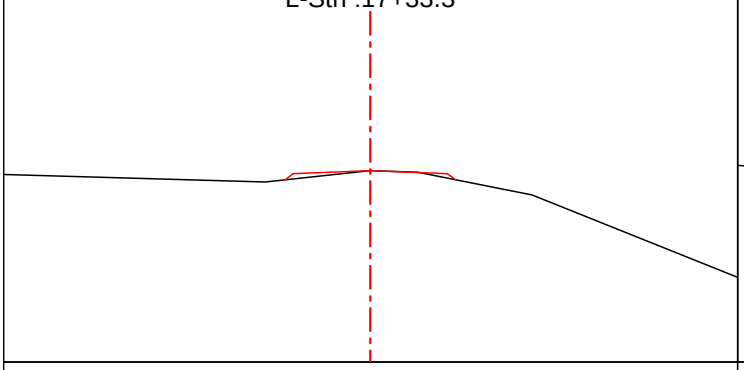
P-Stn :	16+34.7	Cut Dp:	-0.7	CL Elev:	143.3
V.Offset:	0.7	H. Offset:	0.0	Index:	741

L-Stn :16+69.8



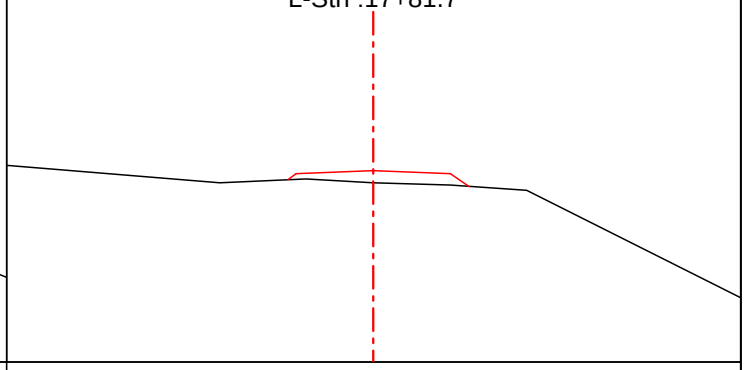
P-Stn :	16+69.0	Cut Dp:	0.4	CL Elev:	142.5
V.Offset:	-0.4	H. Offset:	0.0	Index:	742

L-Stn :17+33.3



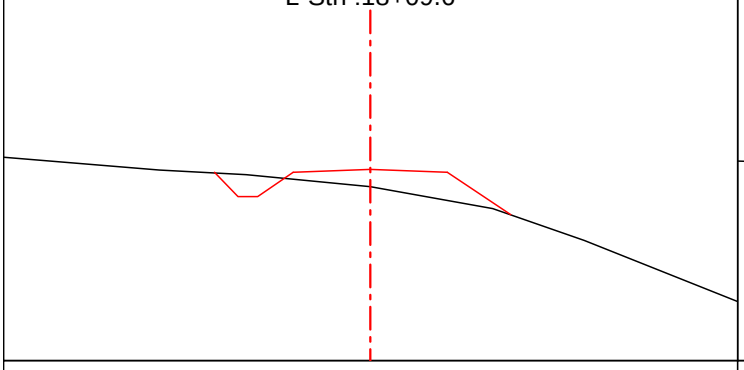
P-Stn :	17+32.5	Cut Dp:	0.0	CL Elev:	139.8
V.Offset:	0.0	H. Offset:	0.0	Index:	743

L-Stn :17+81.7



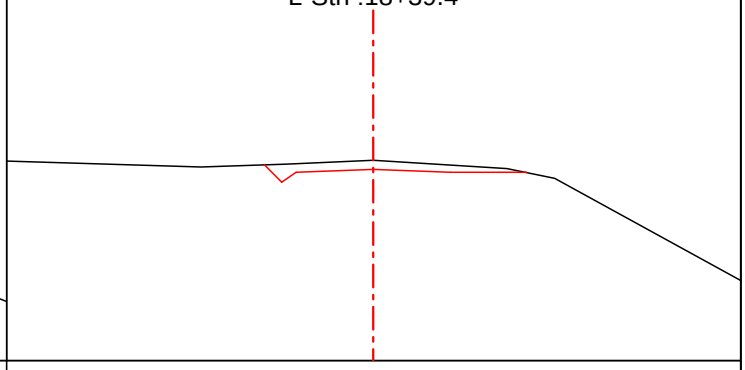
P-Stn :	17+80.9	Cut Dp:	-1.3	CL Elev:	139.1
V.Offset:	1.3	H. Offset:	0.0	Index:	744

L-Stn :18+09.6



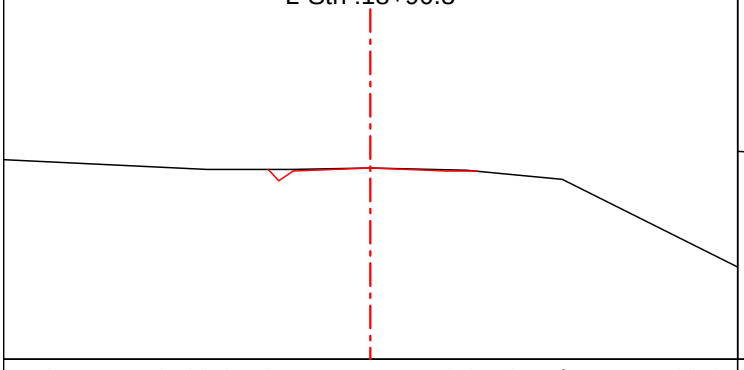
P-Stn :	18+08.9	Cut Dp:	-1.8	CL Elev:	138.8
V.Offset:	1.8	H. Offset:	0.0	Index:	745

L-Stn :18+39.4



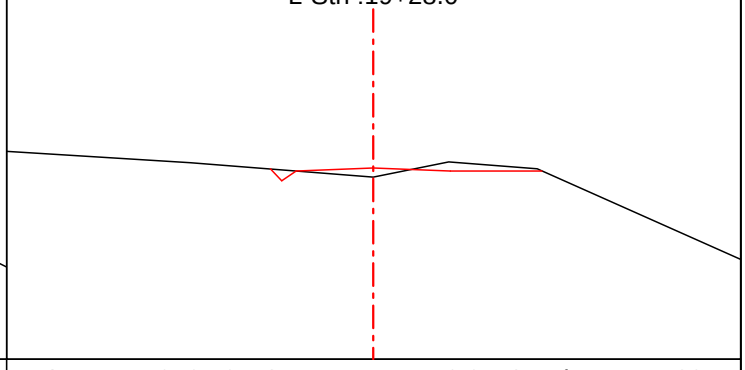
P-Stn :	18+38.7	Cut Dp:	0.9	CL Elev:	138.7
V.Offset:	-0.9	H. Offset:	0.0	Index:	746

L-Stn :18+90.3



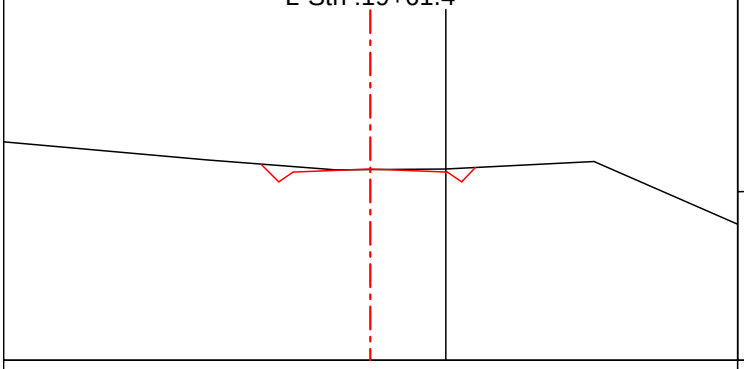
P-Stn :	18+89.6	Cut Dp:	0.0	CL Elev:	138.6
V.Offset:	0.0	H. Offset:	0.0	Index:	747

L-Stn :19+28.0



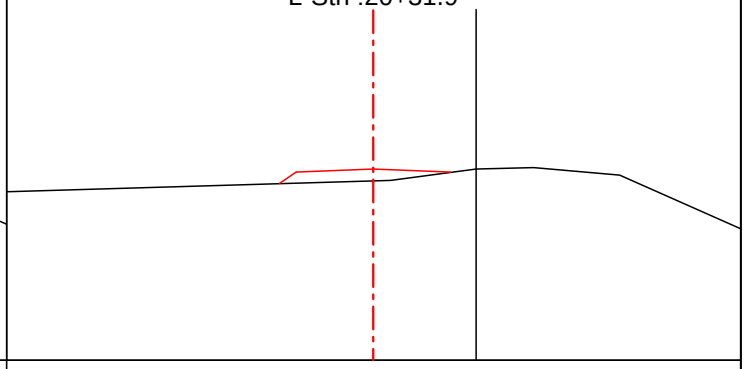
P-Stn :	19+27.2	Cut Dp:	-0.9	CL Elev:	138.1
V.Offset:	0.9	H. Offset:	0.0	Index:	748

L-Stn :19+61.4



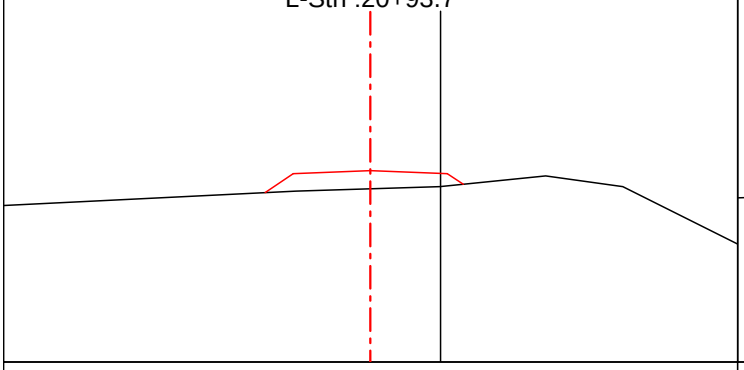
P-Stn :	19+59.5	Cut Dp:	-0.1	CL Elev:	138.1
V.Offset:	0.0	H. Offset:	-7.5	Index:	749

L-Stn :20+31.9



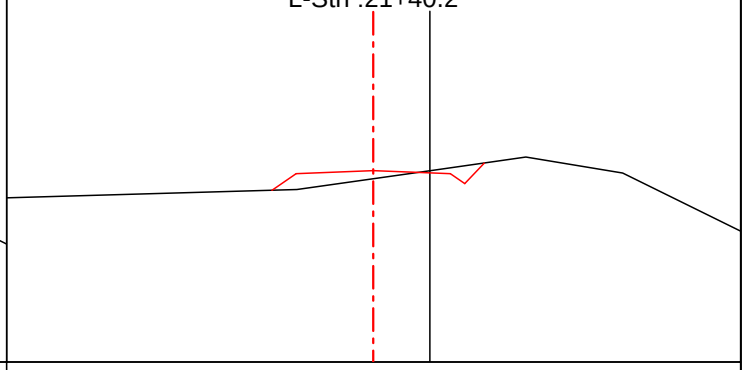
P-Stn :	20+29.6	Cut Dp:	-1.2	CL Elev:	138.1
V.Offset:	0.0	H. Offset:	-10.7	Index:	750

L-Stn :20+93.7



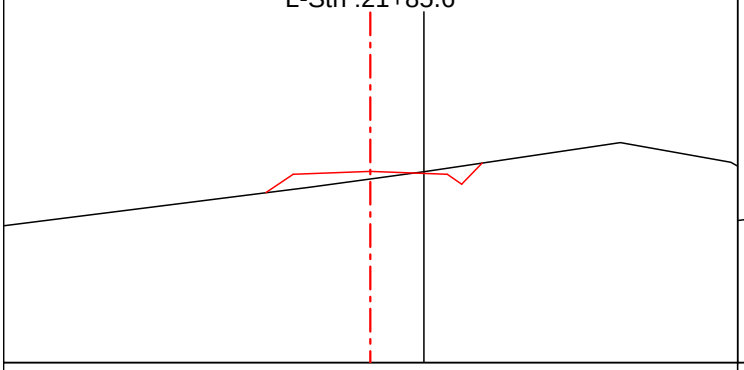
P-Stn :	20+90.9	Cut Dp:	-1.9	CL Elev:	137.9
V.Offset:	1.7	H. Offset:	-7.3	Index:	751

L-Stn :21+40.2



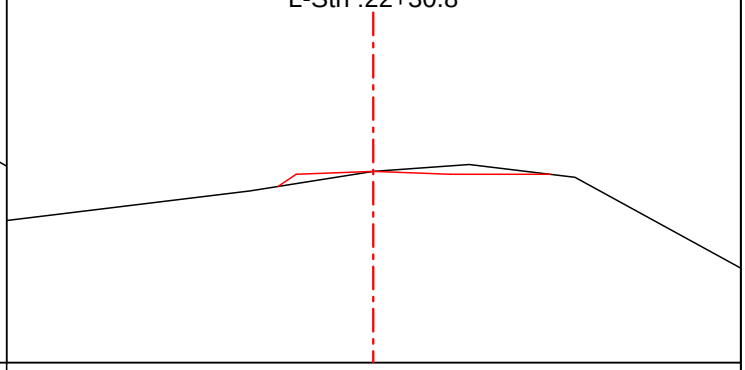
P-Stn :	21+37.0	Cut Dp:	-0.8	CL Elev:	137.7
V.Offset:	0.0	H. Offset:	-5.9	Index:	752

L-Stn :21+85.6



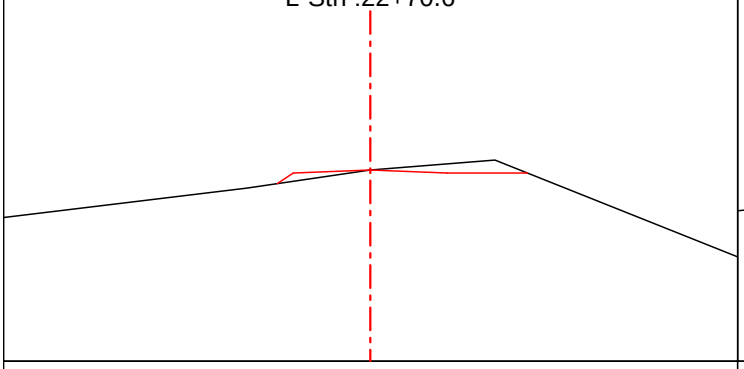
P-Stn :	21+83.8	Cut Dp:	-0.8	CL Elev:	138.1
V.Offset:	0.0	H. Offset:	-5.7	Index:	753

L-Stn :22+30.8



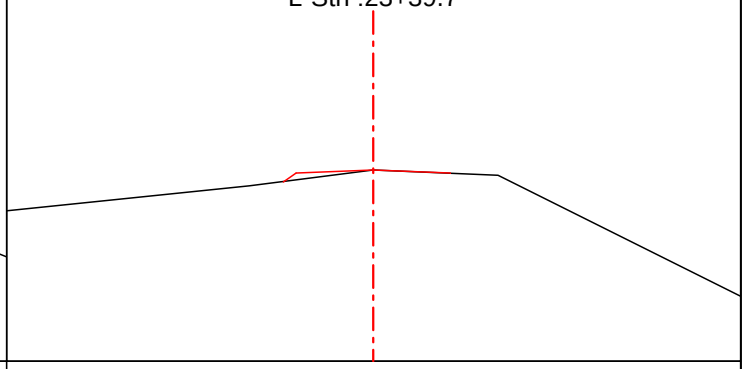
P-Stn :	22+29.8	Cut Dp:	0.0	CL Elev:	137.7
V.Offset:	0.0	H. Offset:	0.0	Index:	754

L-Stn :22+70.6

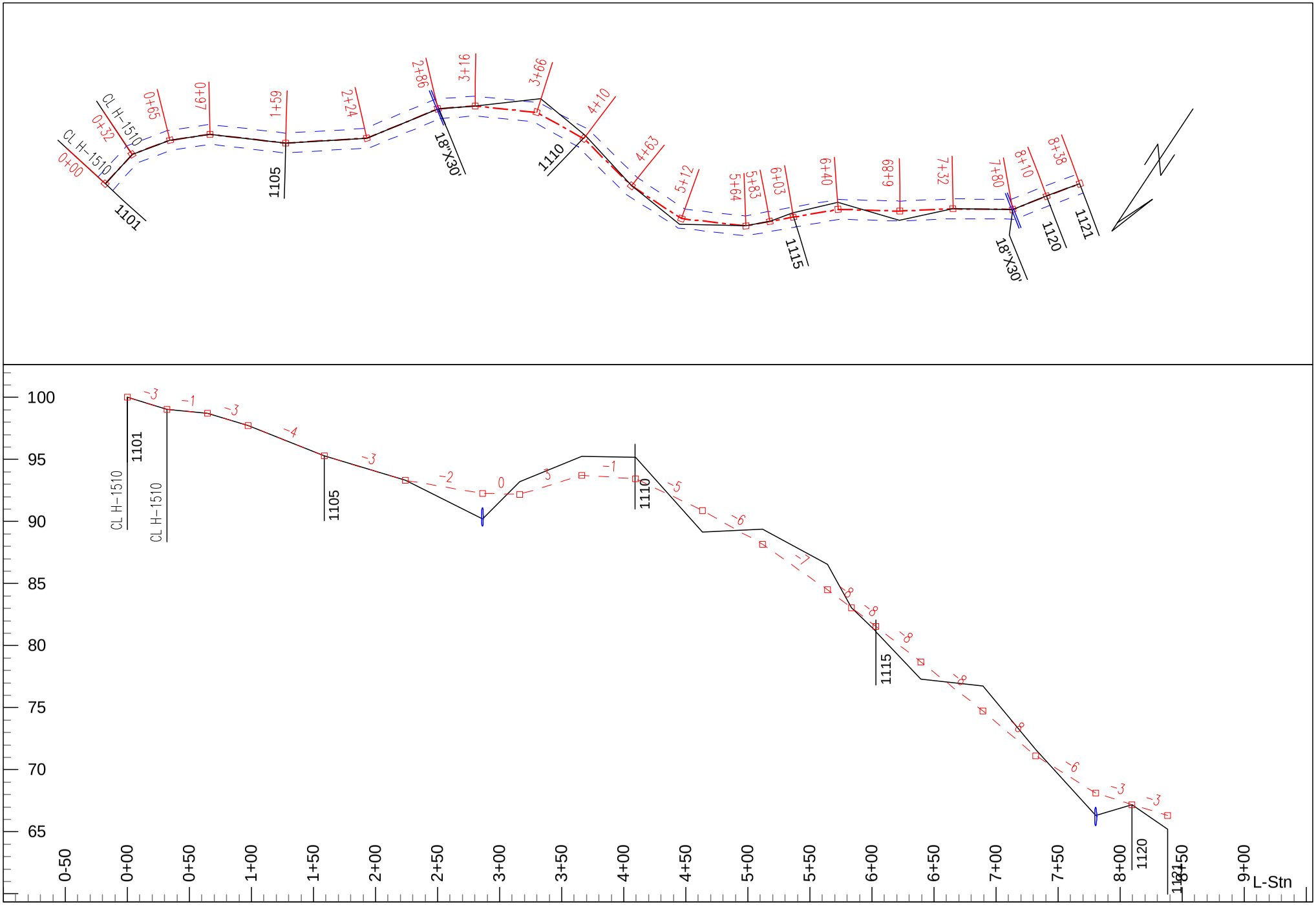


P-Stn :	22+69.6	Cut Dp:	0.0	CL Elev:	136.9
V.Offset:	0.0	H. Offset:	0.0	Index:	755

L-Stn :23+39.7



P-Stn :	23+38.7	Cut Dp:	0.0	CL Elev:	134.8
V.Offset:	0.0	H. Offset:	0.0	Index:	756



Hurdle Timber Sale
H-1510ext
Contract #: 30-097377

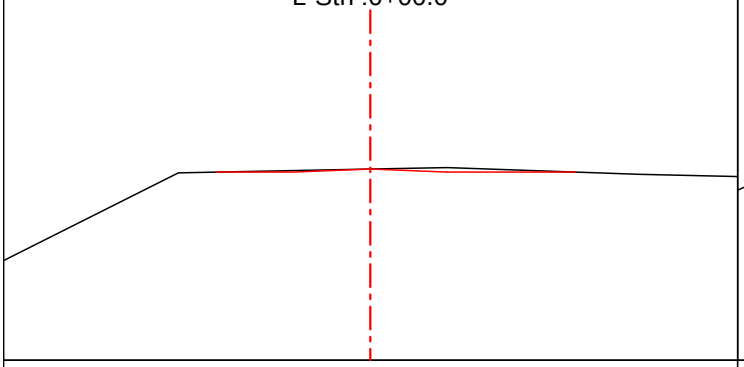
WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

Engineer: Heymann
19/08/21
Page 1 of 1

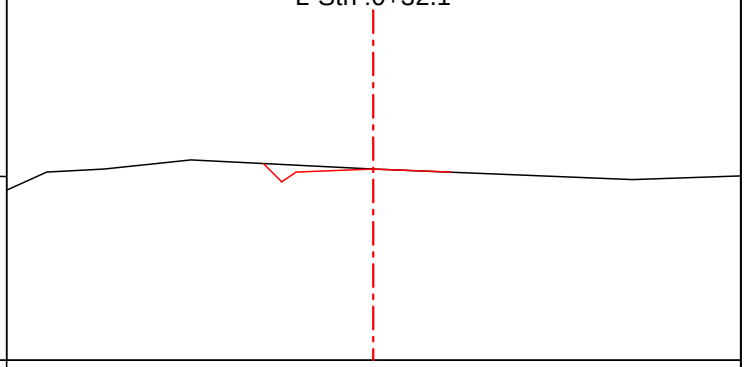
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\H-1510ext		19/08/21

L-Stn :0+00.0



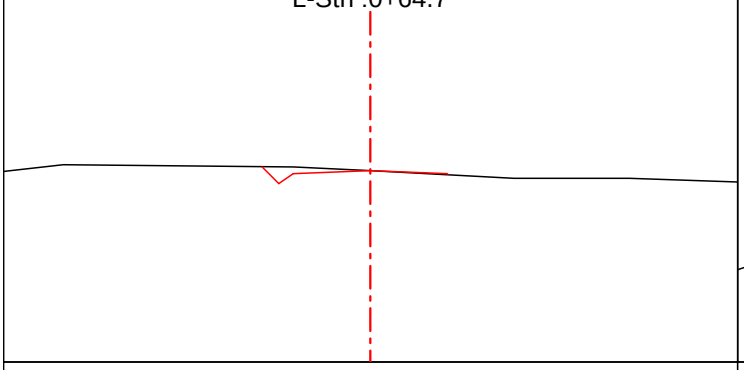
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	1101

L-Stn :0+32.1



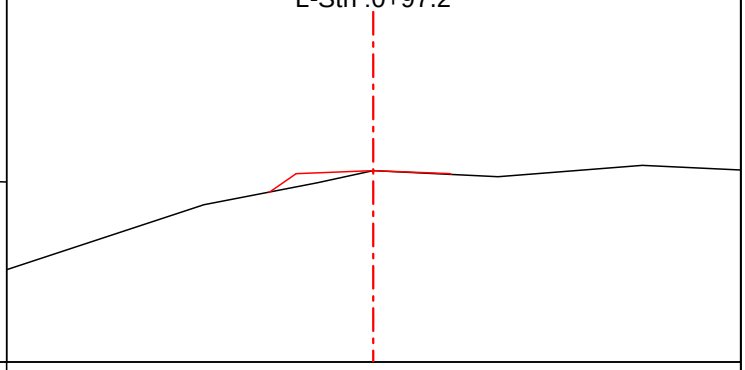
P-Stn :	0+32.1	Cut Dp:	0.0	CL Elev:	99.0
V.Offset:	0.0	H. Offset:	0.0	Index:	1102

L-Stn :0+64.7



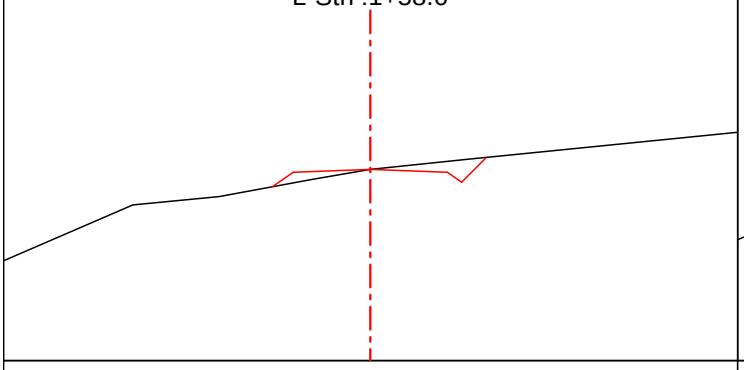
P-Stn :	0+64.7	Cut Dp:	0.0	CL Elev:	98.7
V.Offset:	0.0	H. Offset:	0.0	Index:	1103

L-Stn :0+97.2



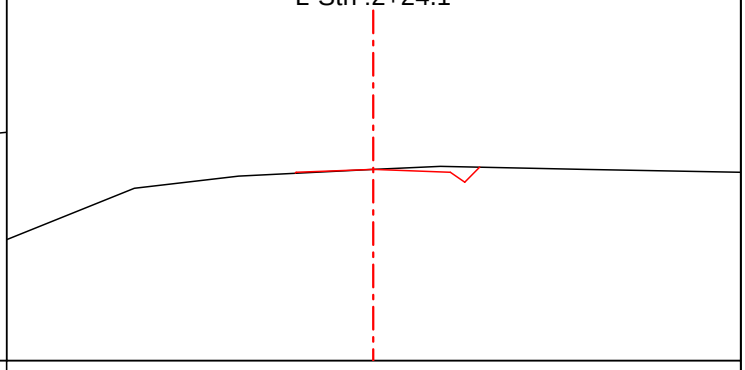
P-Stn :	0+97.2	Cut Dp:	0.0	CL Elev:	97.7
V.Offset:	0.0	H. Offset:	0.0	Index:	1104

L-Stn :1+58.6



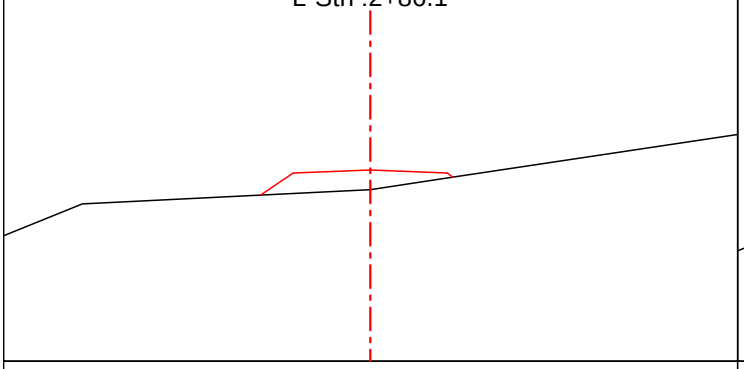
P-Stn :	1+58.6	Cut Dp:	0.0	CL Elev:	95.3
V.Offset:	0.0	H. Offset:	0.0	Index:	1105

L-Stn :2+24.1



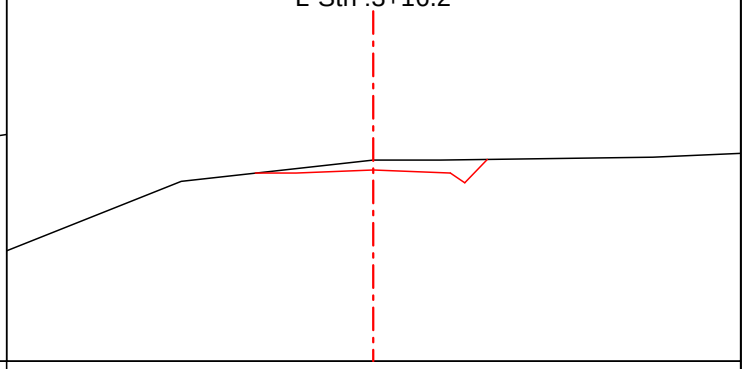
P-Stn :	2+24.1	Cut Dp:	0.0	CL Elev:	93.3
V.Offset:	0.0	H. Offset:	0.0	Index:	1106

L-Stn :2+86.1



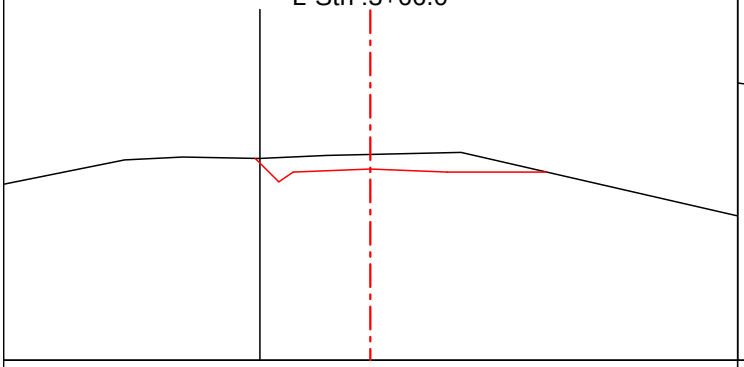
P-Stn :	2+86.1	Cut Dp:	-2.0	CL Elev:	92.3
V.Offset:	2.0	H. Offset:	0.0	Index:	1107

L-Stn :3+16.2



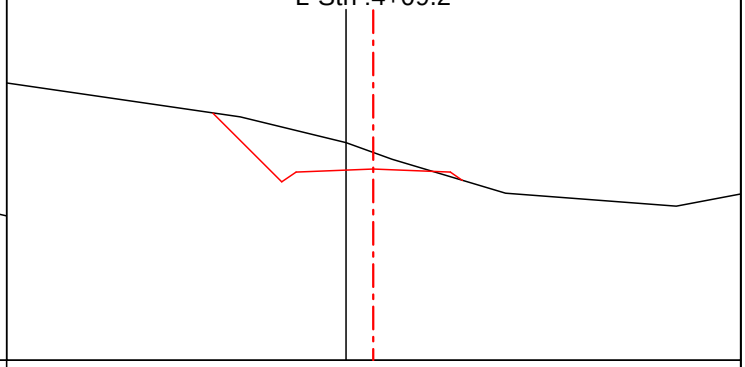
P-Stn :	3+16.2	Cut Dp:	1.0	CL Elev:	92.2
V.Offset:	-1.0	H. Offset:	0.0	Index:	1108

L-Stn :3+66.0



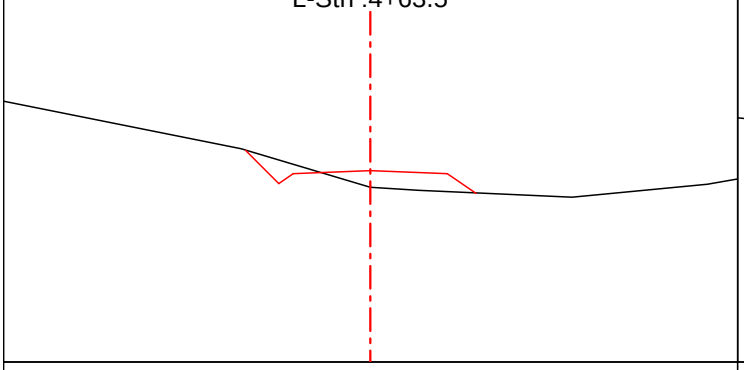
P-Stn : 3+69.3 Cut Dp: 1.5 CL Elev: 93.7
V.Offset: -1.1 H. Offset: 11.6 Index: 1109

L-Stn :4+09.2



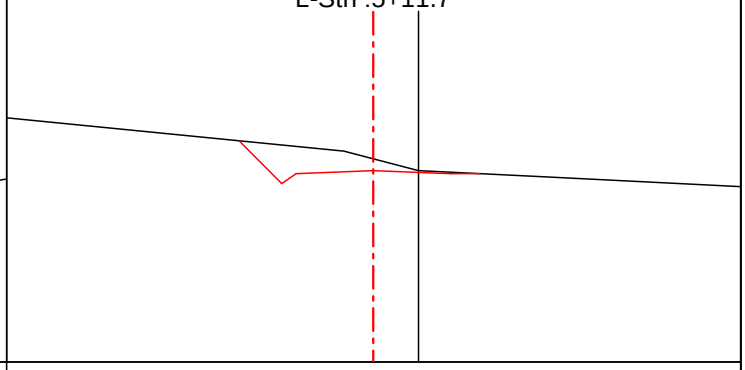
P-Stn : 4+16.5 Cut Dp: 1.7 CL Elev: 93.4
V.Offset: -2.8 H. Offset: 2.8 Index: 1110

L-Stn :4+63.5



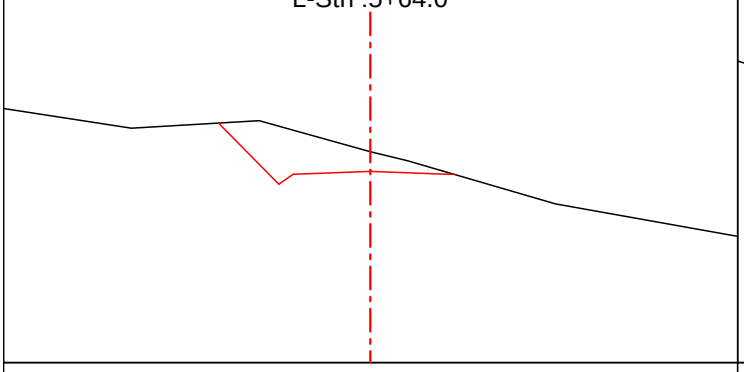
P-Stn : 4+71.0 Cut Dp: -1.7 CL Elev: 90.9
V.Offset: 1.7 H. Offset: 0.0 Index: 1111

L-Stn :5+11.7



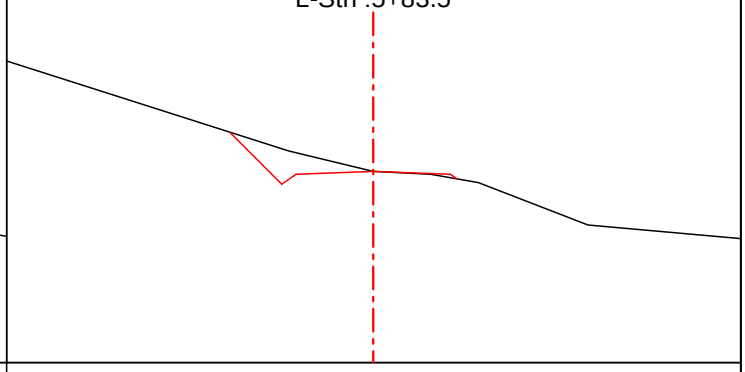
P-Stn : 5+20.5 Cut Dp: 1.2 CL Elev: 88.2
V.Offset: 0.0 H. Offset: -4.7 Index: 1112

L-Stn :5+64.0



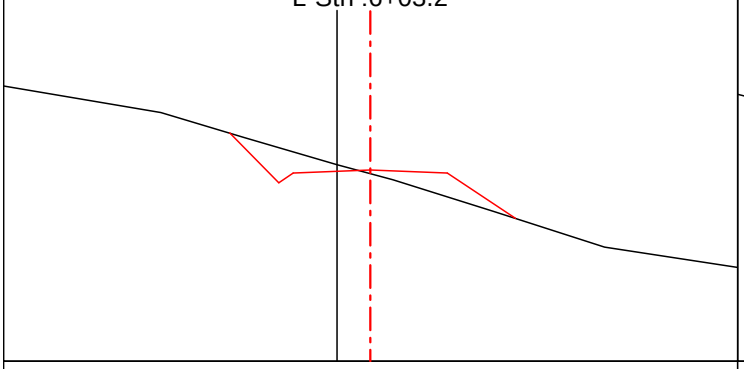
P-Stn : 5+74.0 Cut Dp: 2.0 CL Elev: 84.5
V.Offset: -2.0 H. Offset: 0.0 Index: 1113

L-Stn :5+83.5



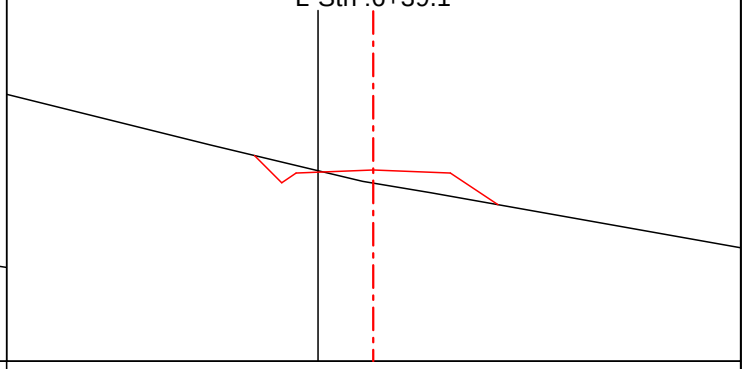
P-Stn : 5+93.5 Cut Dp: 0.0 CL Elev: 83.0
V.Offset: 0.0 H. Offset: 0.0 Index: 1114

L-Stn :6+03.2



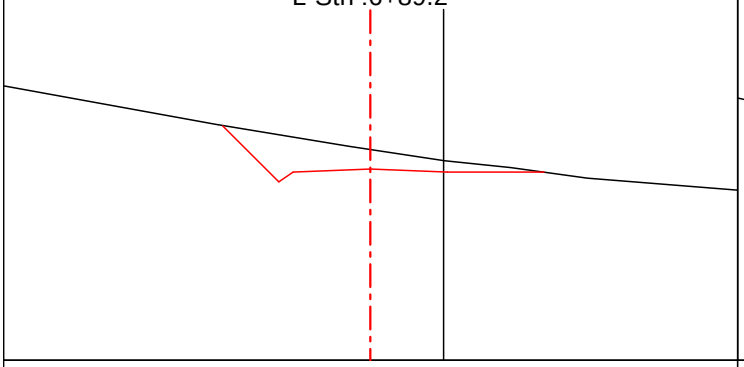
P-Stn : 6+13.2 Cut Dp: -0.4 CL Elev: 81.5
V.Offset: -0.5 H. Offset: 3.5 Index: 1115

L-Stn :6+39.1



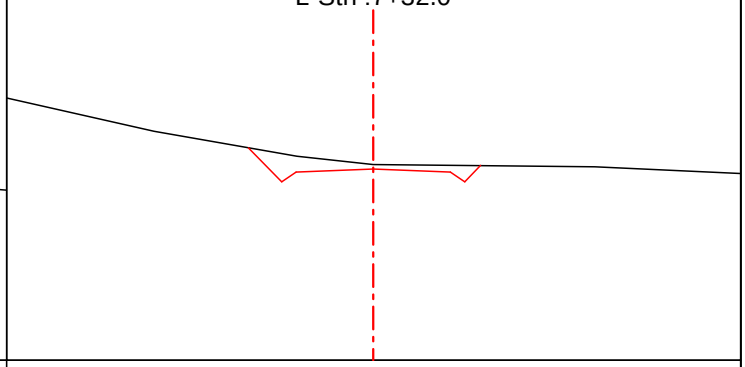
P-Stn : 6+50.7 Cut Dp: -1.4 CL Elev: 78.7
V.Offset: 0.0 H. Offset: 5.9 Index: 1116

L-Stn :6+89.2



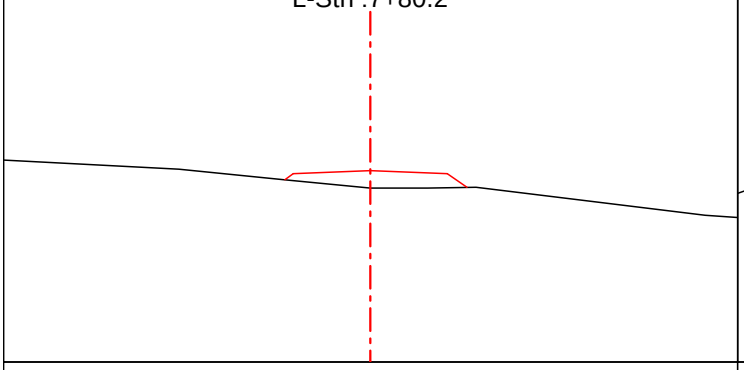
P-Stn : 7+02.5 Cut Dp: 2.0 CL Elev: 74.7
V.Offset: -0.8 H. Offset: -7.7 Index: 1117

L-Stn :7+32.0



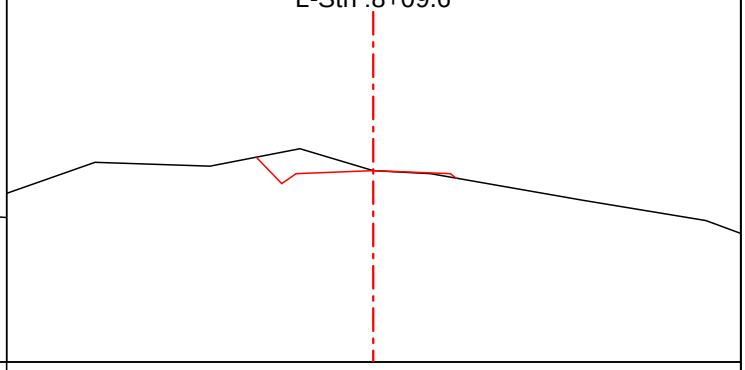
P-Stn : 7+46.6 Cut Dp: 0.5 CL Elev: 71.1
V.Offset: -0.5 H. Offset: 0.0 Index: 1118

L-Stn :7+80.2



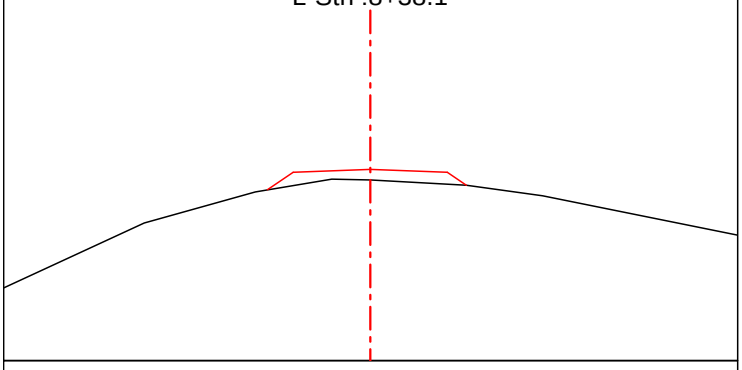
P-Stn : 7+94.8 Cut Dp: -1.8 CL Elev: 68.1
V.Offset: 1.8 H. Offset: 0.0 Index: 1119

L-Stn :8+09.6

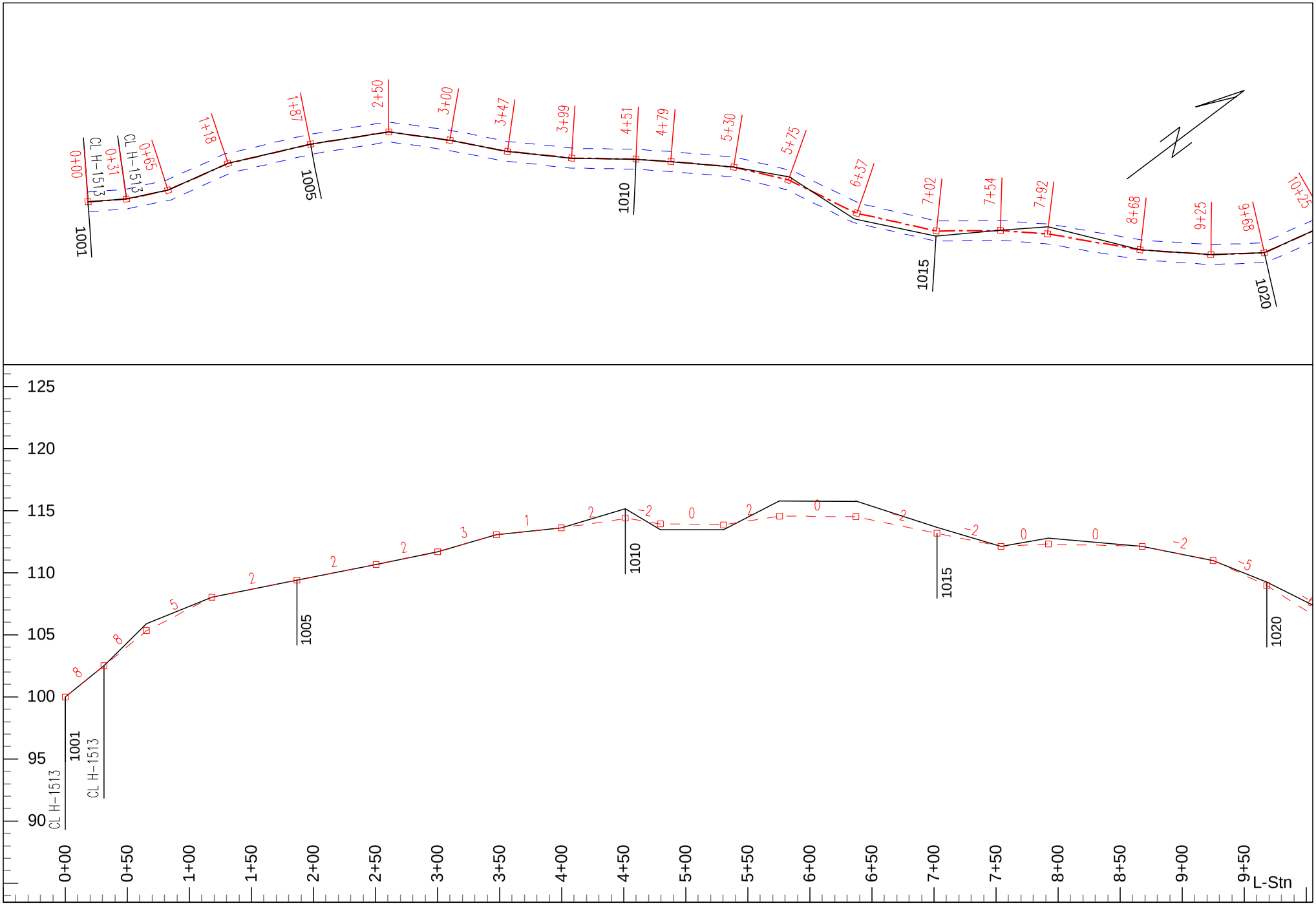


P-Stn : 8+24.2 Cut Dp: 0.0 CL Elev: 67.2
V.Offset: 0.0 H. Offset: 0.0 Index: 1120

L-Stn :8+38.1



P-Stn : 8+52.7 Cut Dp: -1.1 CL Elev: 66.3
V.Offset: 1.1 H. Offset: 0.0 Index: 1121



Hurdle Timber Sale
H-1513ext
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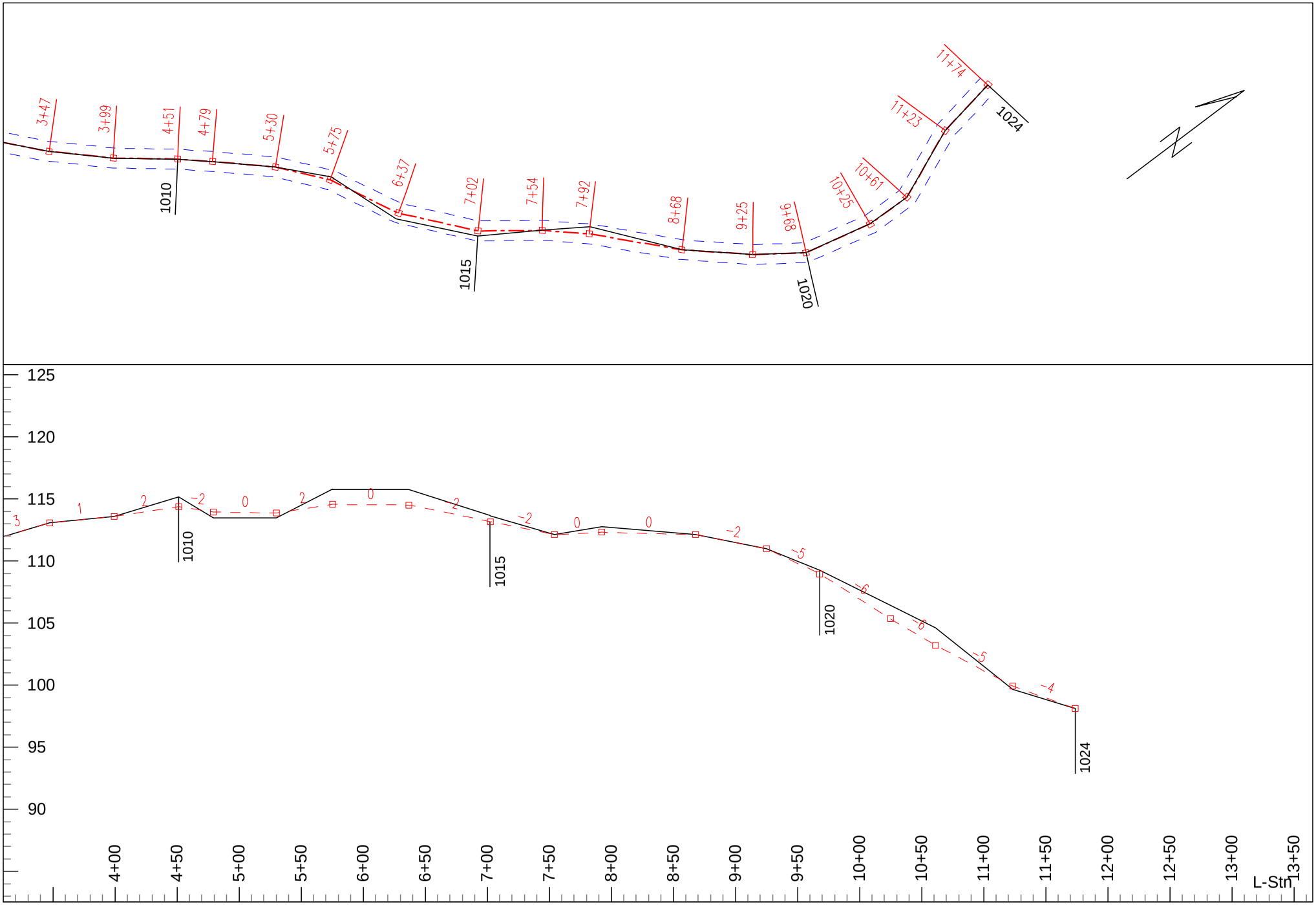

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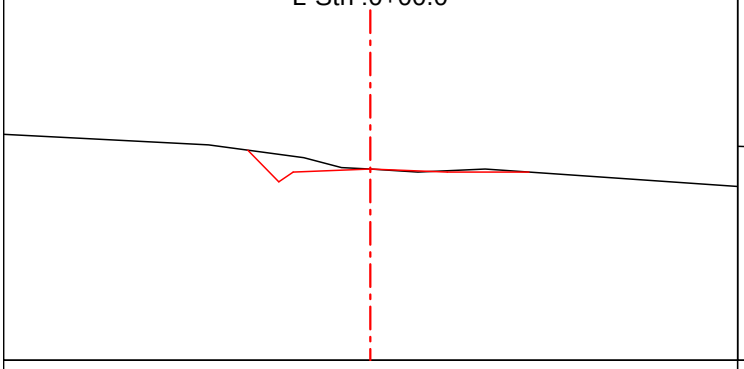
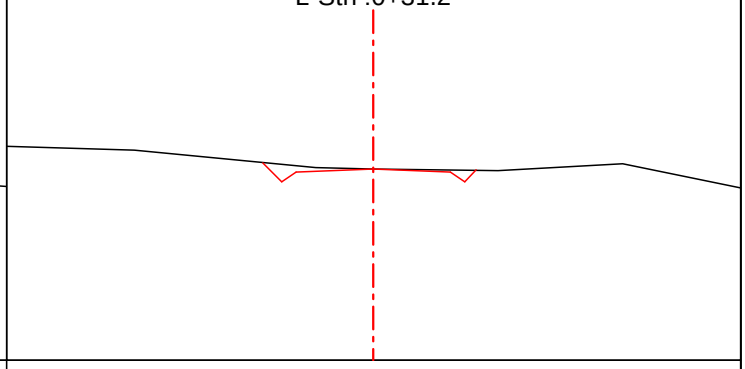
L-Stn :0+00.0



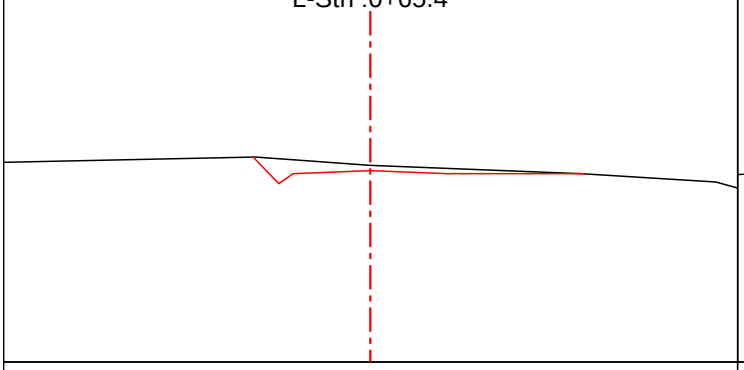
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	1001

L-Stn :0+31.2



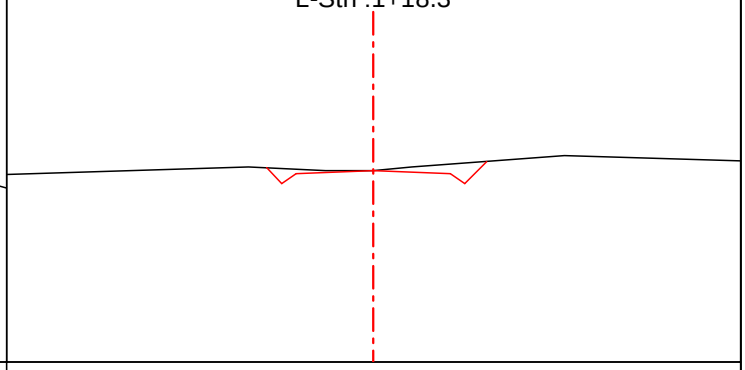
P-Stn :	0+31.2	Cut Dp:	0.0	CL Elev:	102.5
V.Offset:	0.0	H. Offset:	0.0	Index:	1002

L-Stn :0+65.4



P-Stn :	0+65.4	Cut Dp:	0.6	CL Elev:	105.3
V.Offset:	-0.6	H. Offset:	0.0	Index:	1003

L-Stn :1+18.3



P-Stn :	1+18.3	Cut Dp:	0.0	CL Elev:	108.0
V.Offset:	0.0	H. Offset:	0.0	Index:	1004

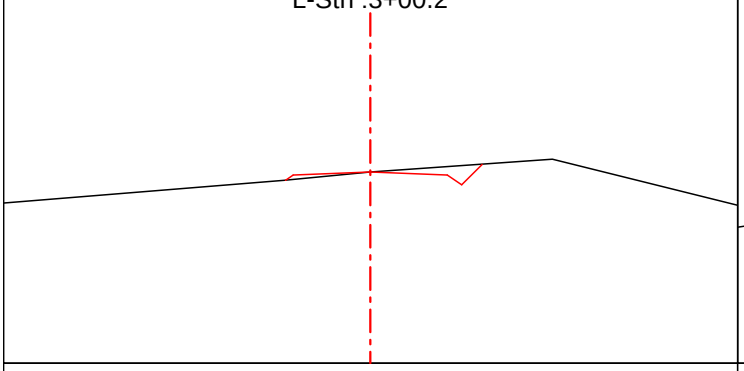
L-Stn :1+86.6

P-Stn :	1+86.6	Cut Dp:	0.0	CL Elev:	109.4
V.Offset:	0.0	H. Offset:	0.0	Index:	1005

L-Stn :2+50.3

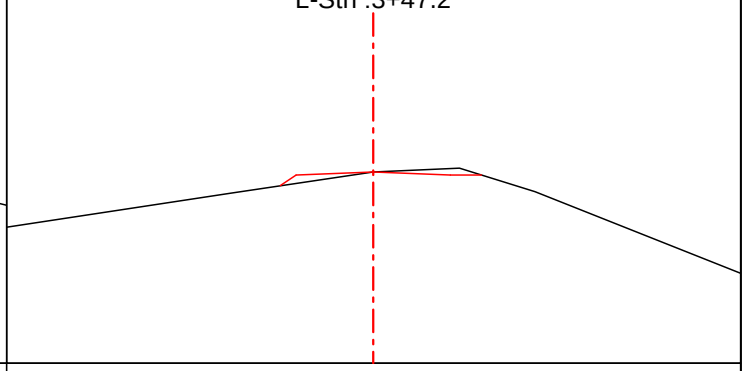
P-Stn :	2+50.3	Cut Dp:	0.0	CL Elev:	110.7
V.Offset:	0.0	H. Offset:	0.0	Index:	1006

L-Stn :3+00.2



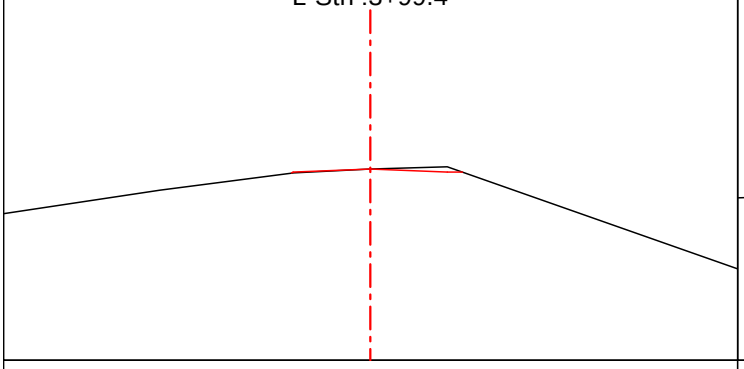
P-Stn :	3+00.2	Cut Dp:	0.0	CL Elev:	111.7
V.Offset:	0.0	H. Offset:	0.0	Index:	1007

L-Stn :3+47.2



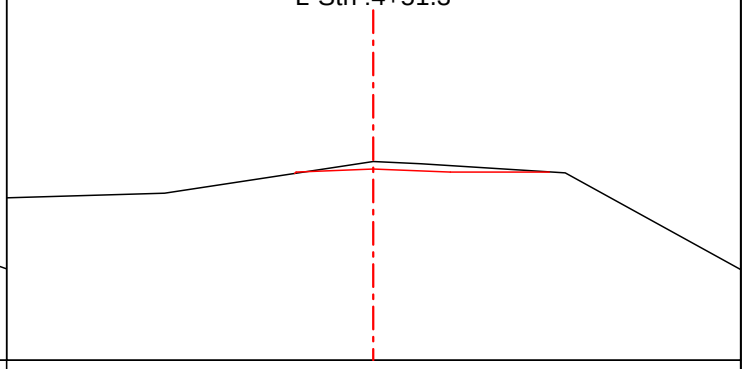
P-Stn :	3+47.2	Cut Dp:	0.0	CL Elev:	113.1
V.Offset:	0.0	H. Offset:	0.0	Index:	1008

L-Stn :3+99.4



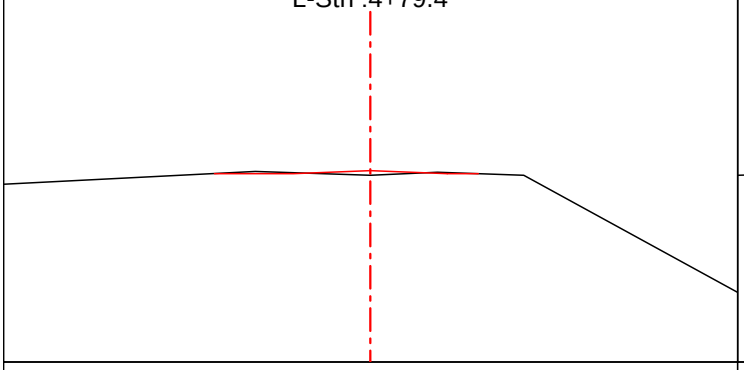
P-Stn :	3+99.4	Cut Dp:	0.0	CL Elev:	113.6
V.Offset:	0.0	H. Offset:	0.0	Index:	1009

L-Stn :4+51.3



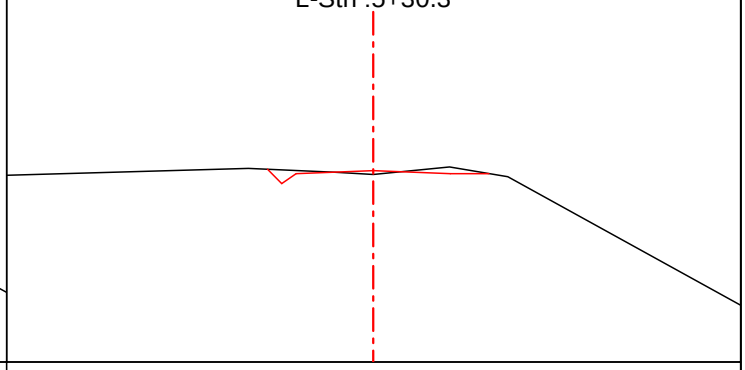
P-Stn :	4+51.3	Cut Dp:	0.8	CL Elev:	114.4
V.Offset:	-0.8	H. Offset:	0.0	Index:	1010

L-Stn :4+79.4



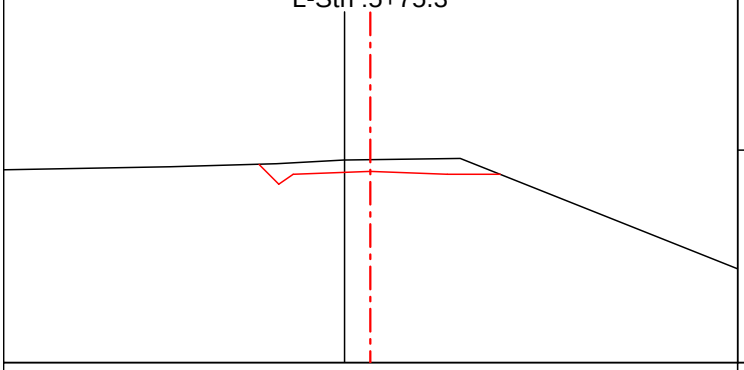
P-Stn :	4+79.4	Cut Dp:	-0.5	CL Elev:	113.9
V.Offset:	0.5	H. Offset:	0.0	Index:	1011

L-Stn :5+30.3



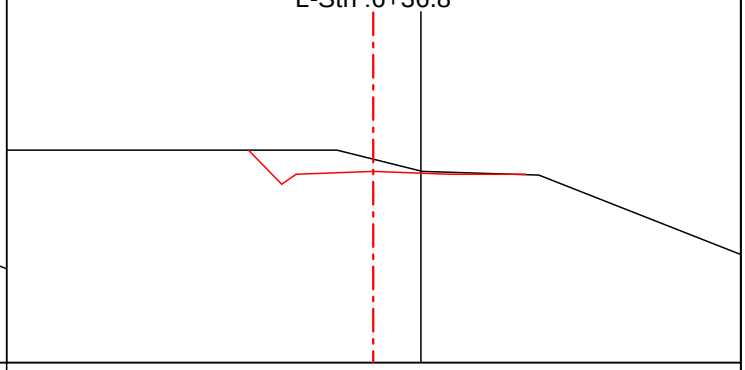
P-Stn :	5+30.3	Cut Dp:	-0.4	CL Elev:	113.9
V.Offset:	0.4	H. Offset:	0.0	Index:	1012

L-Stn :5+75.3



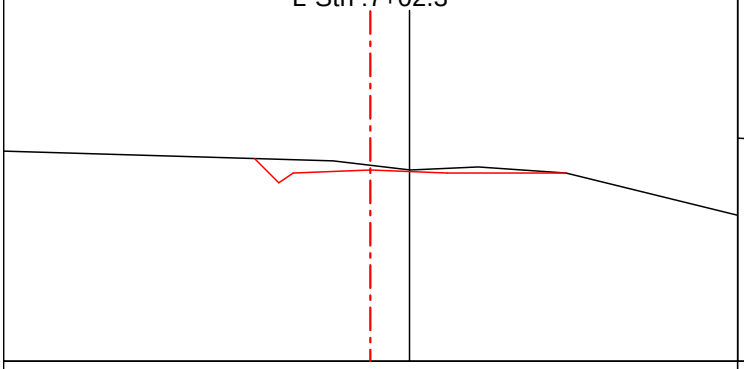
P-Stn :	5+75.8	Cut Dp:	1.2	CL Elev:	114.6
V.Offset:	-1.2	H. Offset:	2.7	Index:	1013

L-Stn :6+36.8



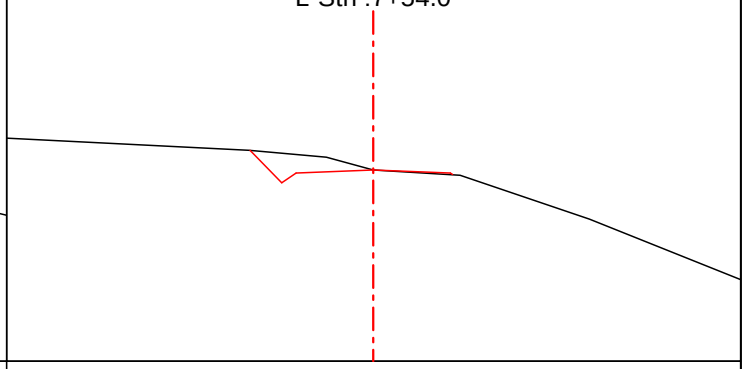
P-Stn :	6+38.3	Cut Dp:	1.3	CL Elev:	114.5
V.Offset:	0.0	H. Offset:	-5.0	Index:	1014

L-Stn :7+02.3



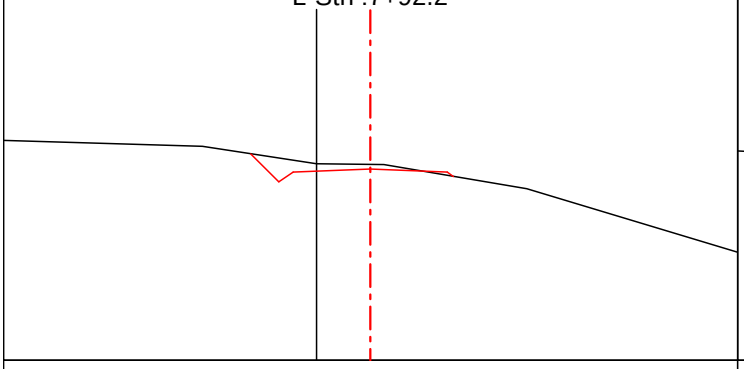
P-Stn :	7+05.3	Cut Dp:	0.5	CL Elev:	113.2
V.Offset:	0.0	H. Offset:	-4.2	Index:	1015

L-Stn :7+54.0



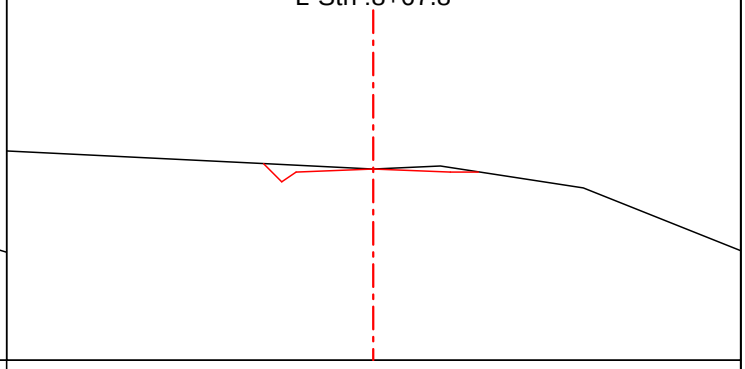
P-Stn :	7+57.5	Cut Dp:	0.0	CL Elev:	112.1
V.Offset:	0.0	H. Offset:	0.0	Index:	1016

L-Stn :7+92.2



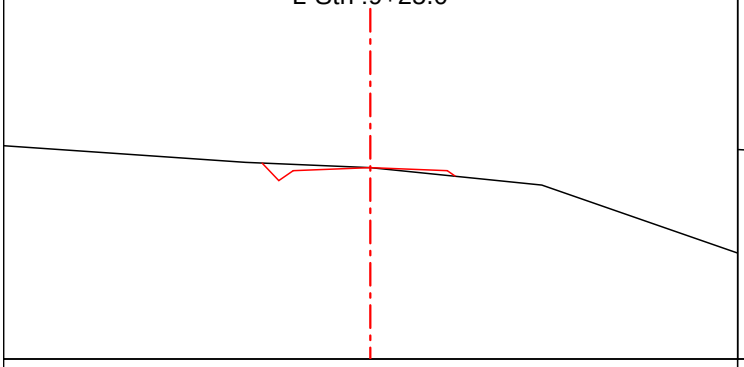
P-Stn :	7+96.1	Cut Dp:	0.5	CL Elev:	112.3
V.Offset:	-0.6	H. Offset:	5.6	Index:	1017

L-Stn :8+67.8



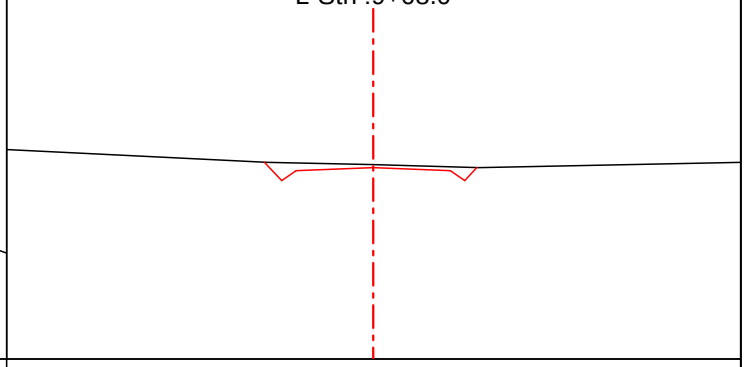
P-Stn :	8+72.3	Cut Dp:	0.0	CL Elev:	112.1
V.Offset:	0.0	H. Offset:	0.0	Index:	1018

L-Stn :9+25.0



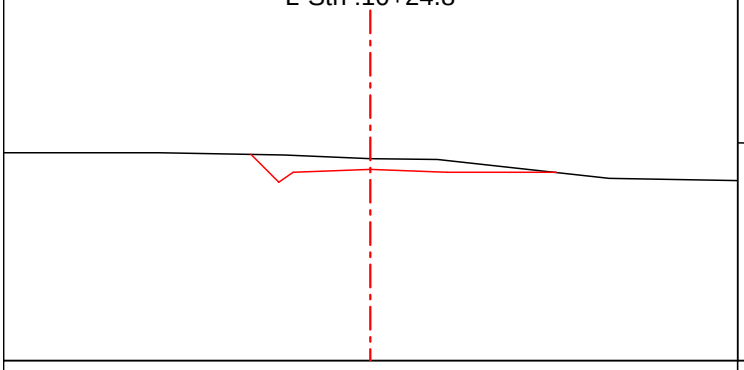
P-Stn :	9+29.5	Cut Dp:	0.0	CL Elev:	111.0
V.Offset:	0.0	H. Offset:	0.0	Index:	1019

L-Stn :9+68.0



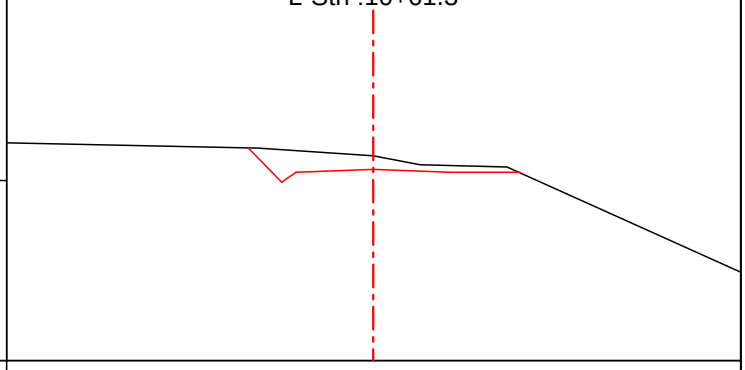
P-Stn :	9+72.6	Cut Dp:	0.3	CL Elev:	109.0
V.Offset:	-0.3	H. Offset:	0.0	Index:	1020

L-Stn :10+24.8



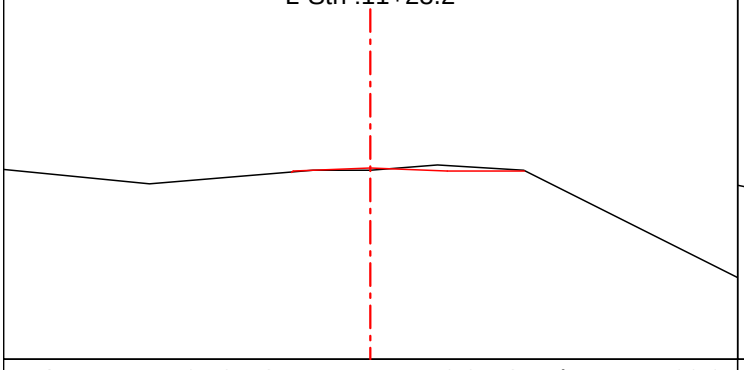
P-Stn :	10+29.3	Cut Dp:	1.1	CL Elev:	105.3
V.Offset:	-1.1	H. Offset:	0.0	Index:	1021

L-Stn :10+61.3



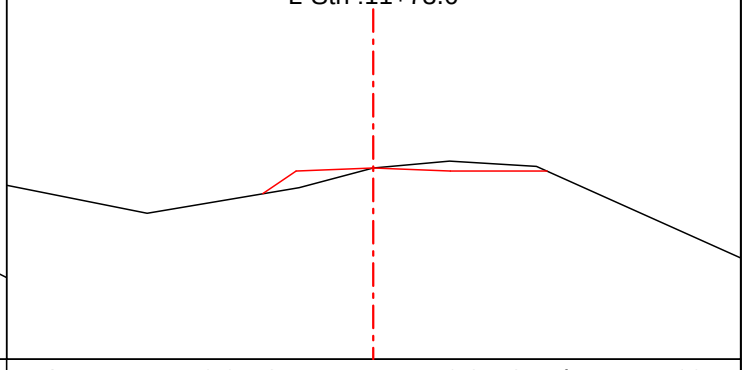
P-Stn :	10+65.9	Cut Dp:	1.4	CL Elev:	103.2
V.Offset:	-1.4	H. Offset:	0.0	Index:	1022

L-Stn :11+23.2

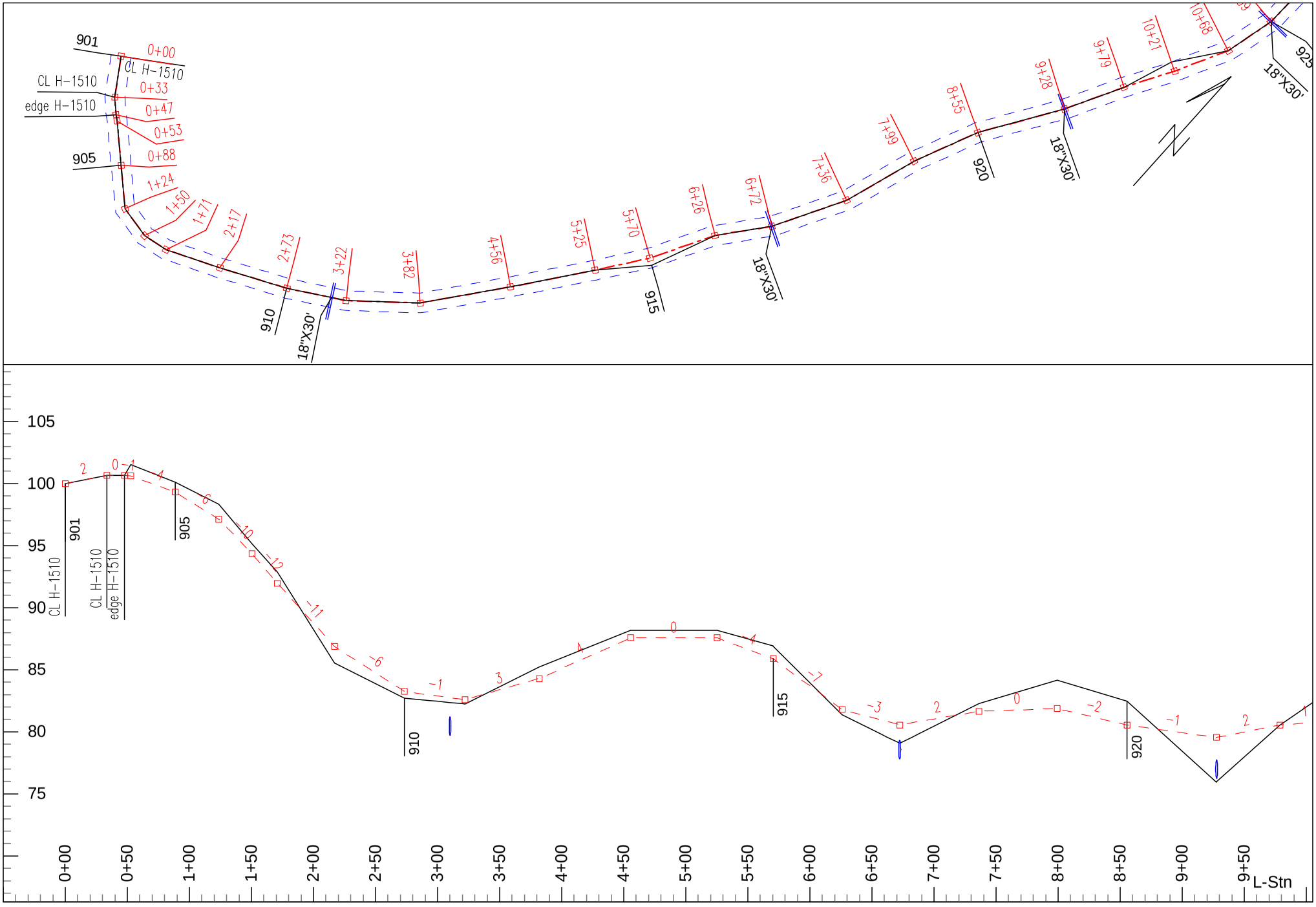


P-Stn :	11+27.8	Cut Dp:	-0.3	CL Elev:	99.9
V.Offset:	0.3	H. Offset:	0.0	Index:	1023

L-Stn :11+73.6



P-Stn :	11+78.2	Cut Dp:	0.0	CL Elev:	98.1
V.Offset:	0.0	H. Offset:	0.0	Index:	1024



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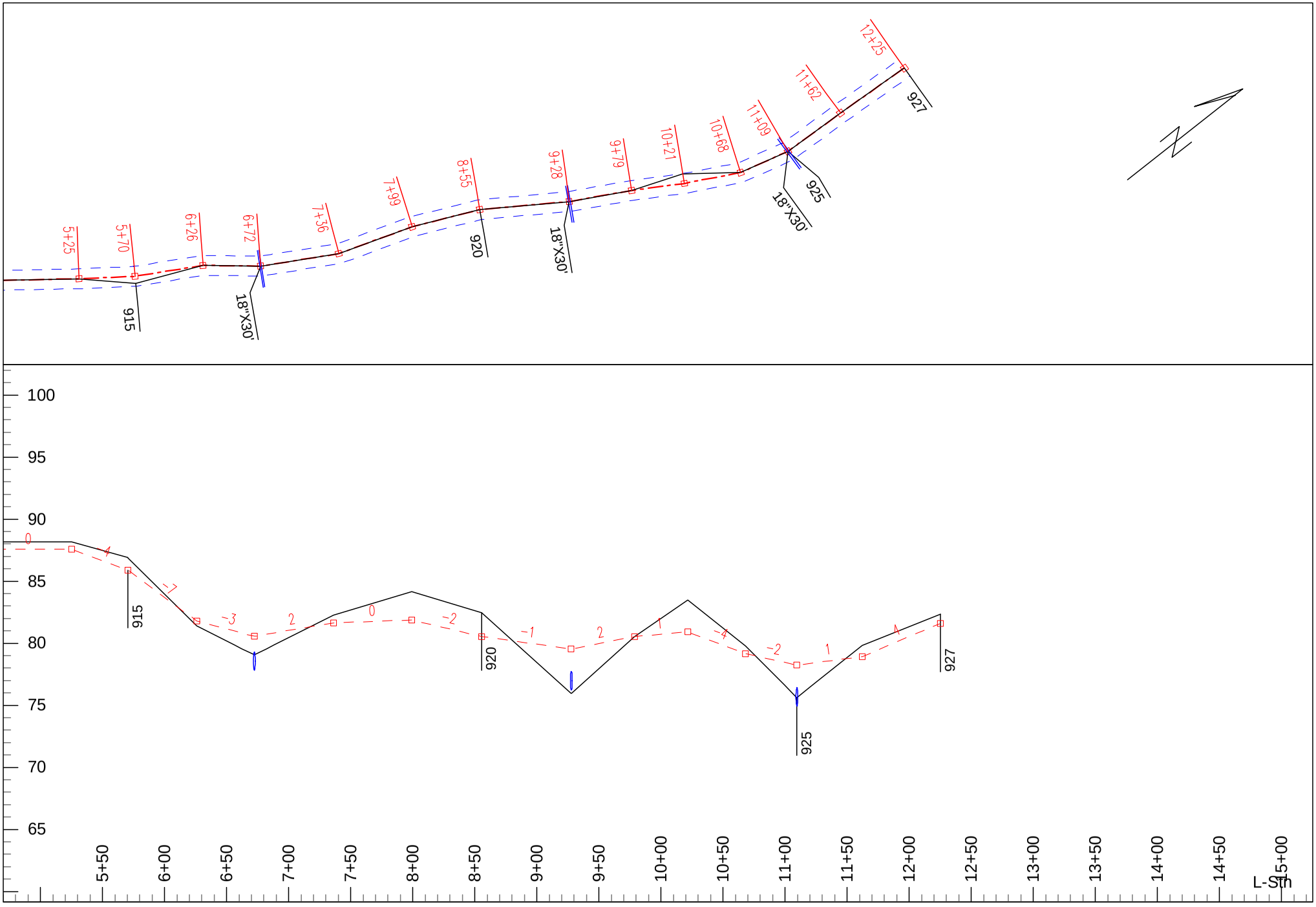

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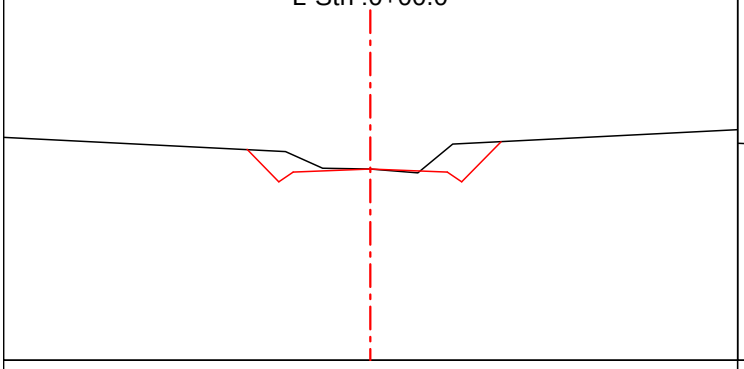
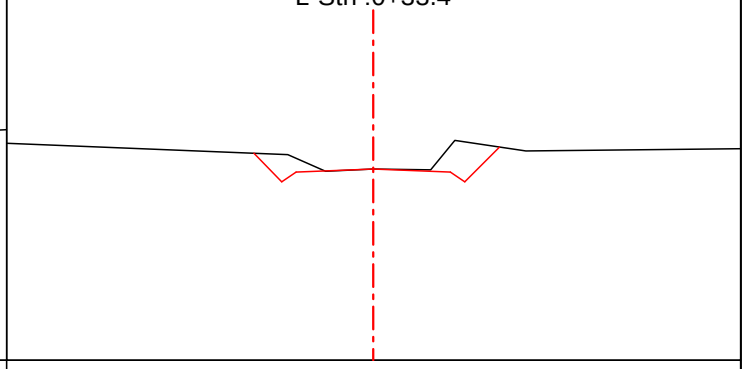
C:\ProgramData\Softree\Data\hurdle\prelim\H-1520		19/08/21

L-Stn :0+00.0



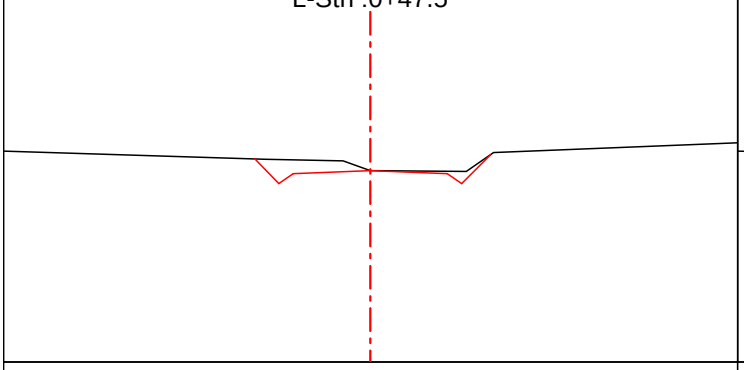
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	901

L-Stn :0+33.4



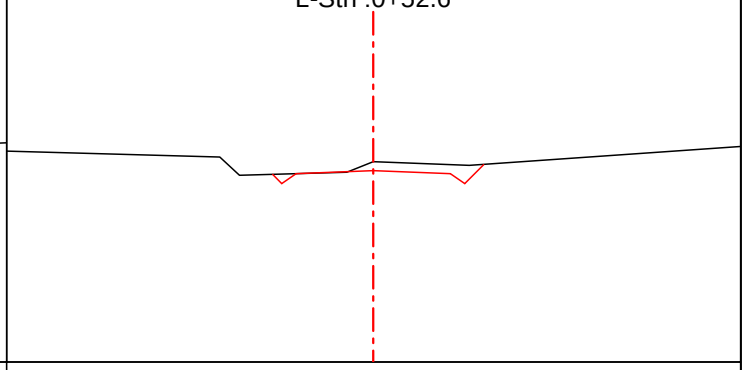
P-Stn :	0+33.4	Cut Dp:	0.0	CL Elev:	100.7
V.Offset:	0.0	H. Offset:	0.0	Index:	902

L-Stn :0+47.5



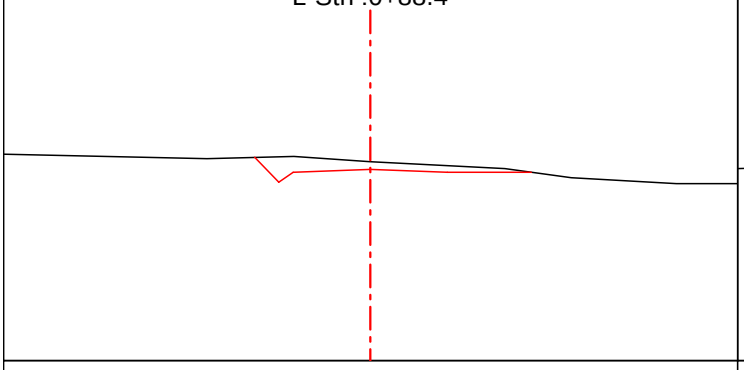
P-Stn :	0+47.5	Cut Dp:	0.0	CL Elev:	100.7
V.Offset:	0.0	H. Offset:	0.0	Index:	903

L-Stn :0+52.6



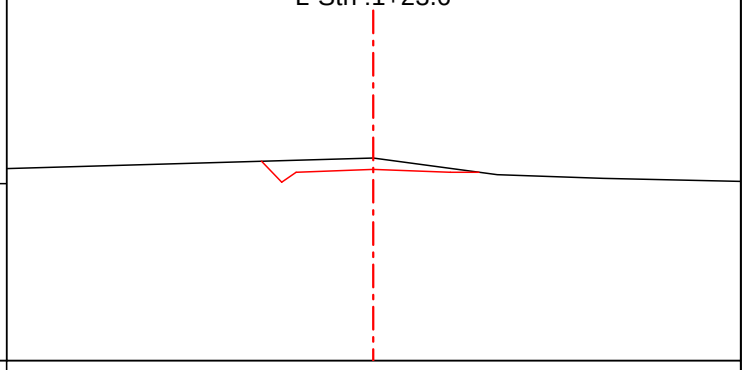
P-Stn :	0+52.6	Cut Dp:	0.9	CL Elev:	100.6
V.Offset:	-0.9	H. Offset:	0.0	Index:	904

L-Stn :0+88.4



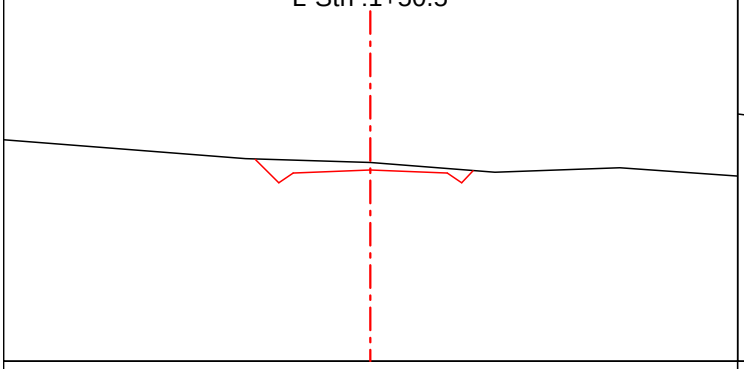
P-Stn :	0+88.4	Cut Dp:	0.8	CL Elev:	99.3
V.Offset:	-0.8	H. Offset:	0.0	Index:	905

L-Stn :1+23.6



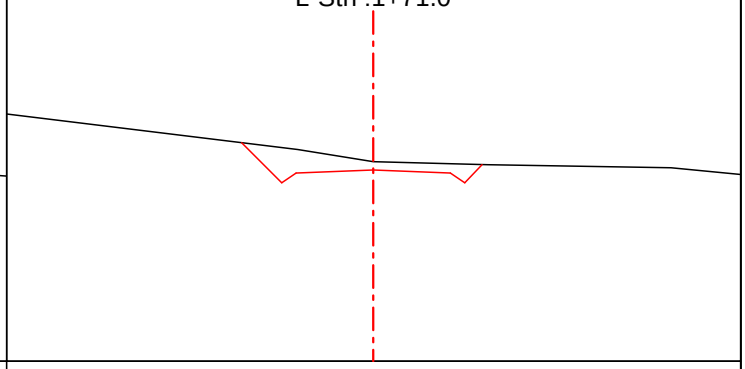
P-Stn :	1+23.6	Cut Dp:	1.2	CL Elev:	97.1
V.Offset:	-1.2	H. Offset:	0.0	Index:	906

L-Stn :1+50.5



P-Stn :	1+50.5	Cut Dp:	0.8	CL Elev:	94.4
V.Offset:	-0.8	H. Offset:	0.0	Index:	907

L-Stn :1+71.0

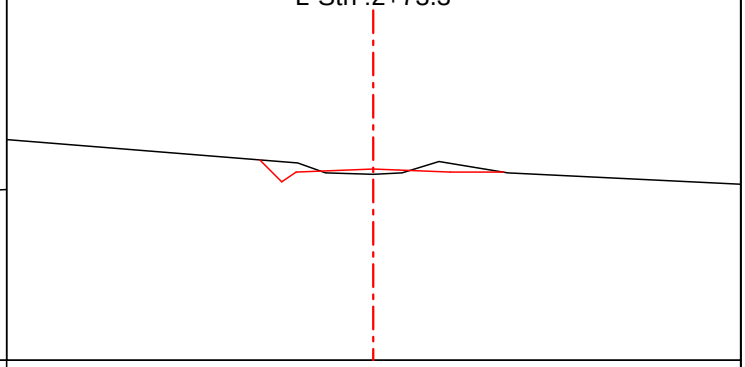


P-Stn :	1+71.0	Cut Dp:	0.9	CL Elev:	92.0
V.Offset:	-0.9	H. Offset:	0.0	Index:	908

L-Stn :2+16.7

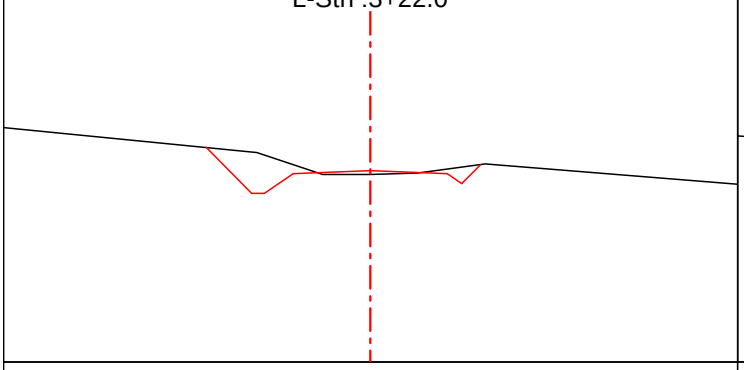
P-Stn : 2+16.7 Cut Dp: -1.3 CL Elev: 86.9
V.Offset: 1.3 H. Offset: 0.0 Index: 909

L-Stn :2+73.3



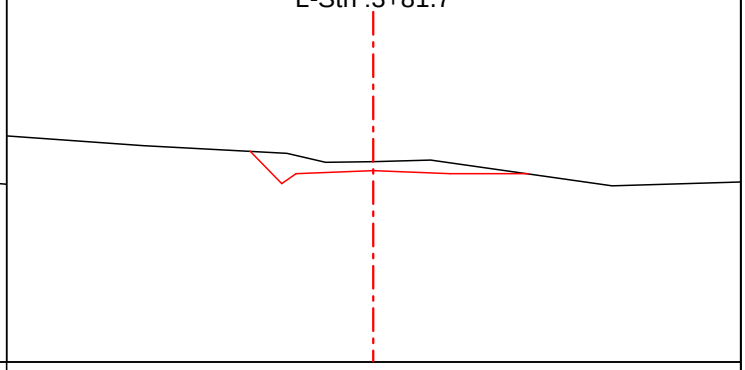
P-Stn : 2+73.3 Cut Dp: -0.5 CL Elev: 83.2
V.Offset: 0.5 H. Offset: 0.0 Index: 910

L-Stn :3+22.0



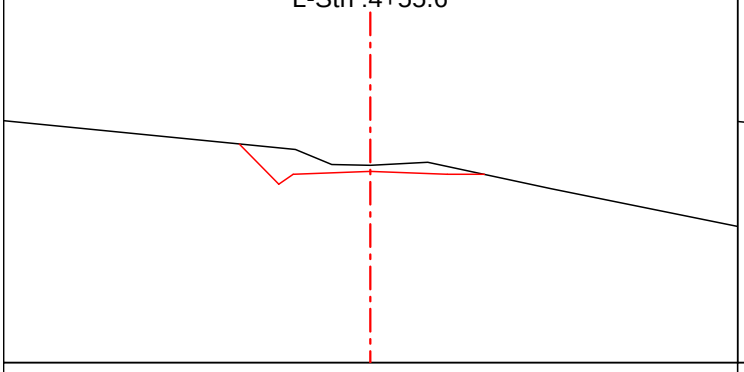
P-Stn : 3+22.0 Cut Dp: -0.4 CL Elev: 82.6
V.Offset: 0.4 H. Offset: 0.0 Index: 911

L-Stn :3+81.7



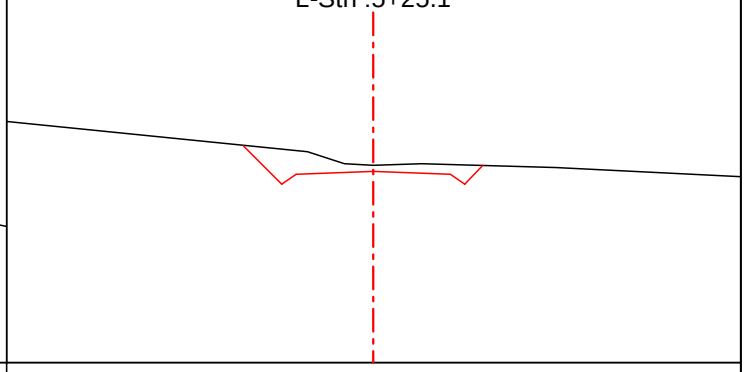
P-Stn : 3+81.7 Cut Dp: 0.9 CL Elev: 84.3
V.Offset: -0.9 H. Offset: 0.0 Index: 912

L-Stn :4+55.6



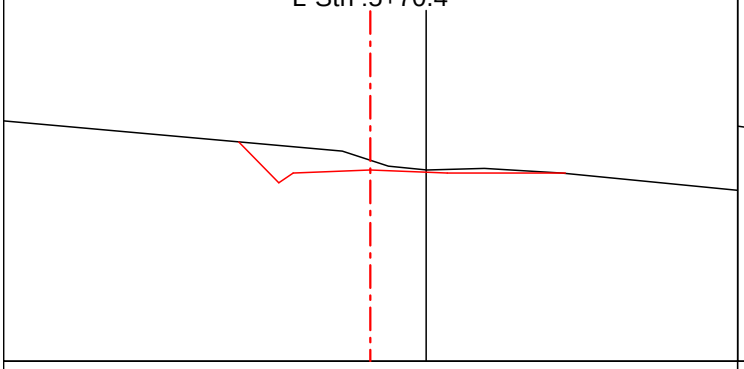
P-Stn : 4+55.6 Cut Dp: 0.6 CL Elev: 87.6
V.Offset: -0.6 H. Offset: 0.0 Index: 913

L-Stn :5+25.1



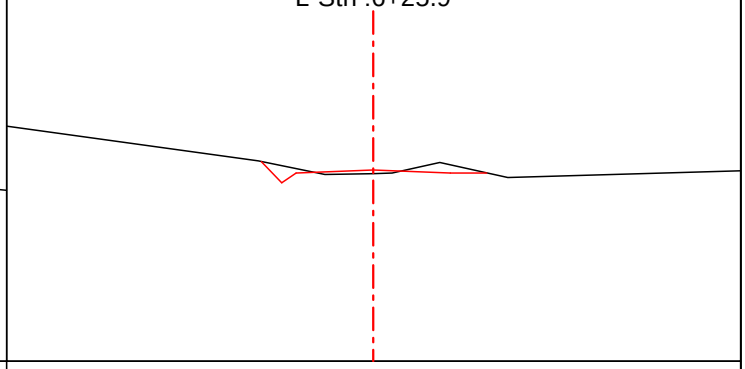
P-Stn : 5+25.1 Cut Dp: 0.6 CL Elev: 87.6
V.Offset: -0.6 H. Offset: 0.0 Index: 914

L-Stn :5+70.4



P-Stn : 5+71.1 Cut Dp: 1.0 CL Elev: 85.9
V.Offset: 0.0 H. Offset: -5.9 Index: 915

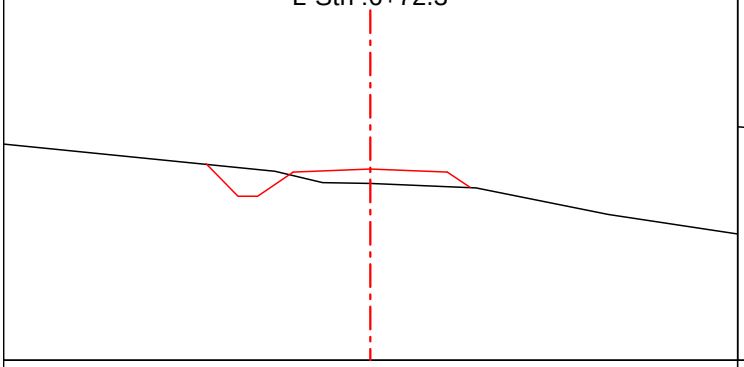
L-Stn :6+25.9



P-Stn : 6+27.3 Cut Dp: -0.4 CL Elev: 81.8
V.Offset: 0.4 H. Offset: 0.0 Index: 916

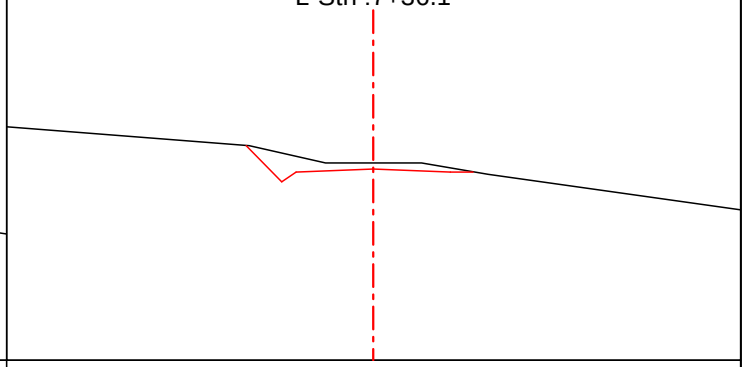
Softree Section	Scale 1:240	P. 3
C:\ProgramData\Softree\Data\hurdle\prelim\H-1520		19/08/21

L-Stn :6+72.3



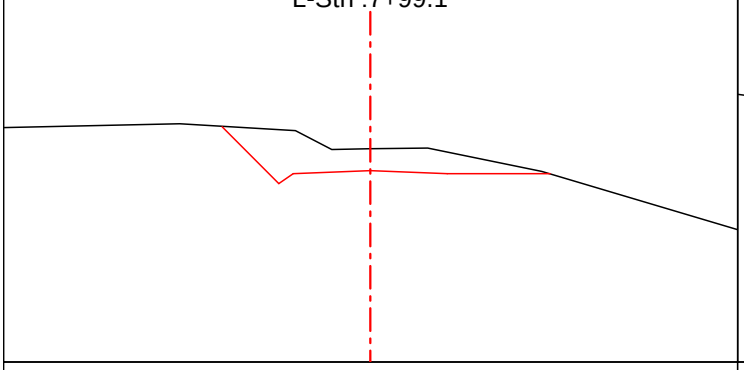
P-Stn : 6+73.6 Cut Dp: -1.5 CL Elev: 80.6
V.Offset: 1.5 H. Offset: 0.0 Index: 917

L-Stn :7+36.1



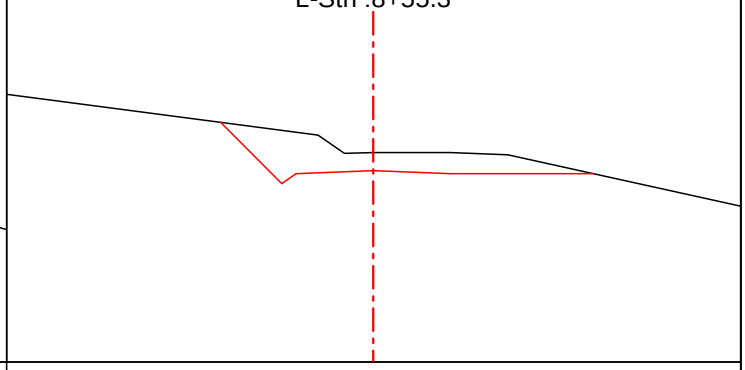
P-Stn : 7+37.5 Cut Dp: 0.6 CL Elev: 81.7
V.Offset: -0.6 H. Offset: 0.0 Index: 918

L-Stn :7+99.1



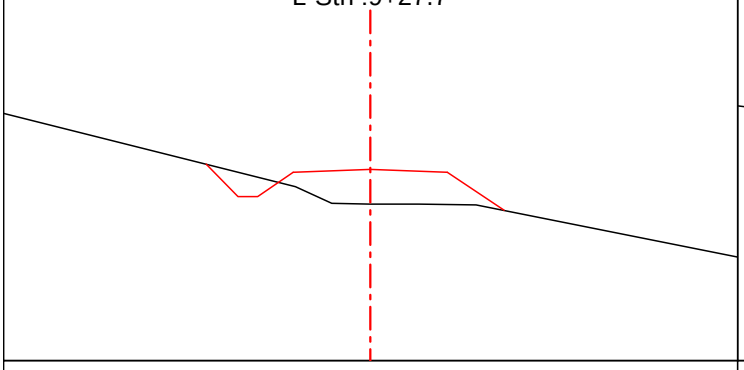
P-Stn : 8+00.4 Cut Dp: 2.3 CL Elev: 81.9
V.Offset: -2.3 H. Offset: 0.0 Index: 919

L-Stn :8+55.3



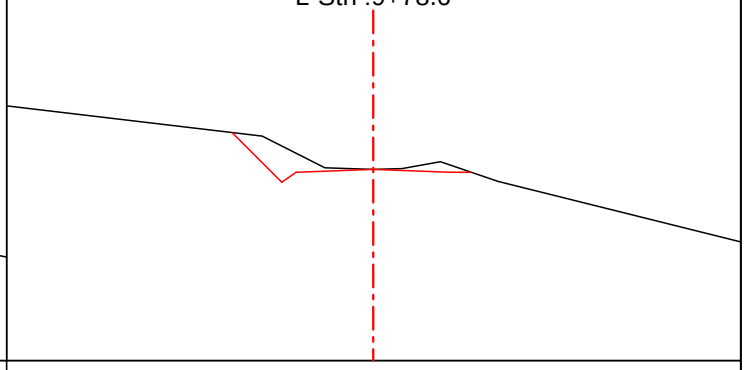
P-Stn : 8+56.7 Cut Dp: 1.9 CL Elev: 80.6
V.Offset: -1.9 H. Offset: 0.0 Index: 920

L-Stn :9+27.7



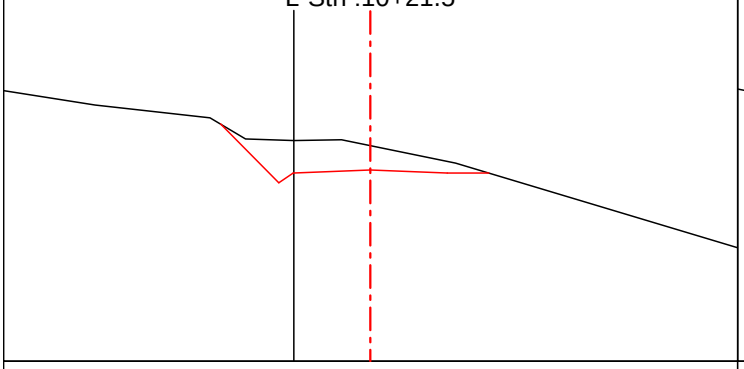
P-Stn : 9+29.0 Cut Dp: -3.6 CL Elev: 79.5
V.Offset: 3.6 H. Offset: 0.0 Index: 921

L-Stn :9+78.6



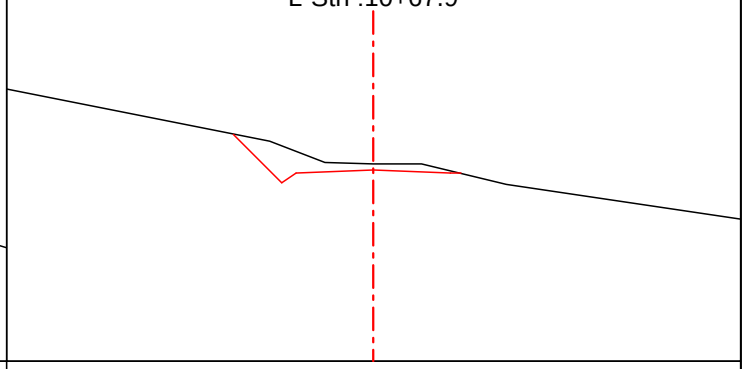
P-Stn : 9+80.0 Cut Dp: 0.0 CL Elev: 80.5
V.Offset: 0.0 H. Offset: 0.0 Index: 922

L-Stn :10+21.5



P-Stn : 10+23.3 Cut Dp: 2.6 CL Elev: 80.9
V.Offset: -3.1 H. Offset: 8.0 Index: 923

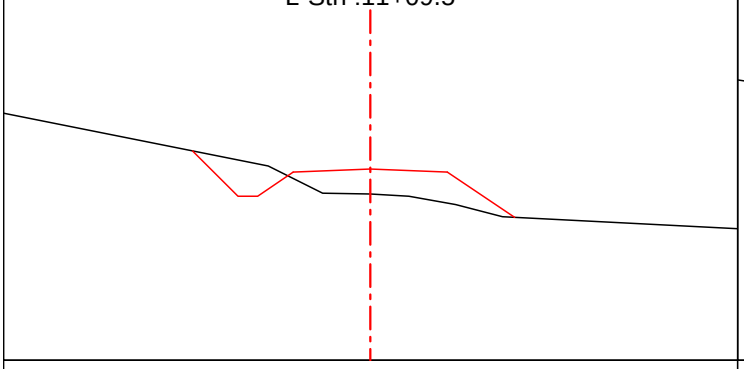
L-Stn :10+67.9



P-Stn : 10+70.2 Cut Dp: 0.6 CL Elev: 79.2
V.Offset: -0.6 H. Offset: 0.0 Index: 924

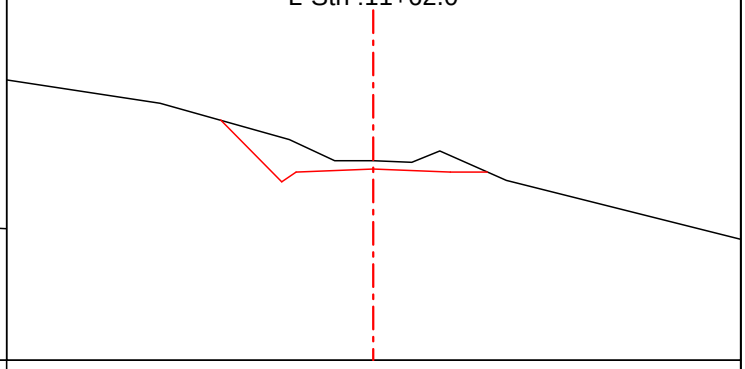
Softree Section	Scale 1:240	P. 4
C:\ProgramData\Softree\Data\hurdle\prelim\H-1520		19/08/21

L-Stn :11+09.5



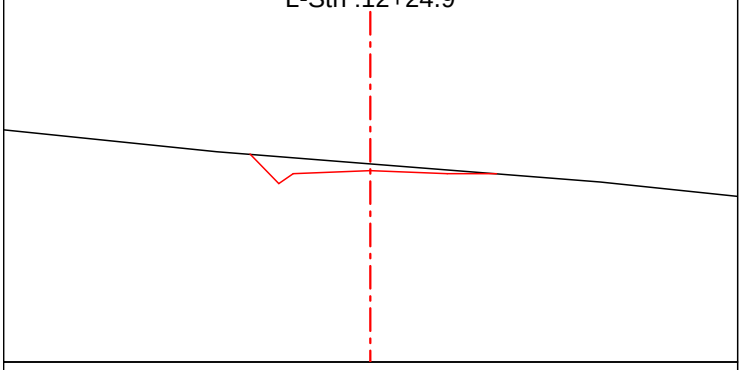
P-Stn :	11+11.8	Cut Dp:	-2.6	CL Elev:	78.2
V.Offset:	2.6	H. Offset:	0.0	Index:	925

L-Stn :11+62.0

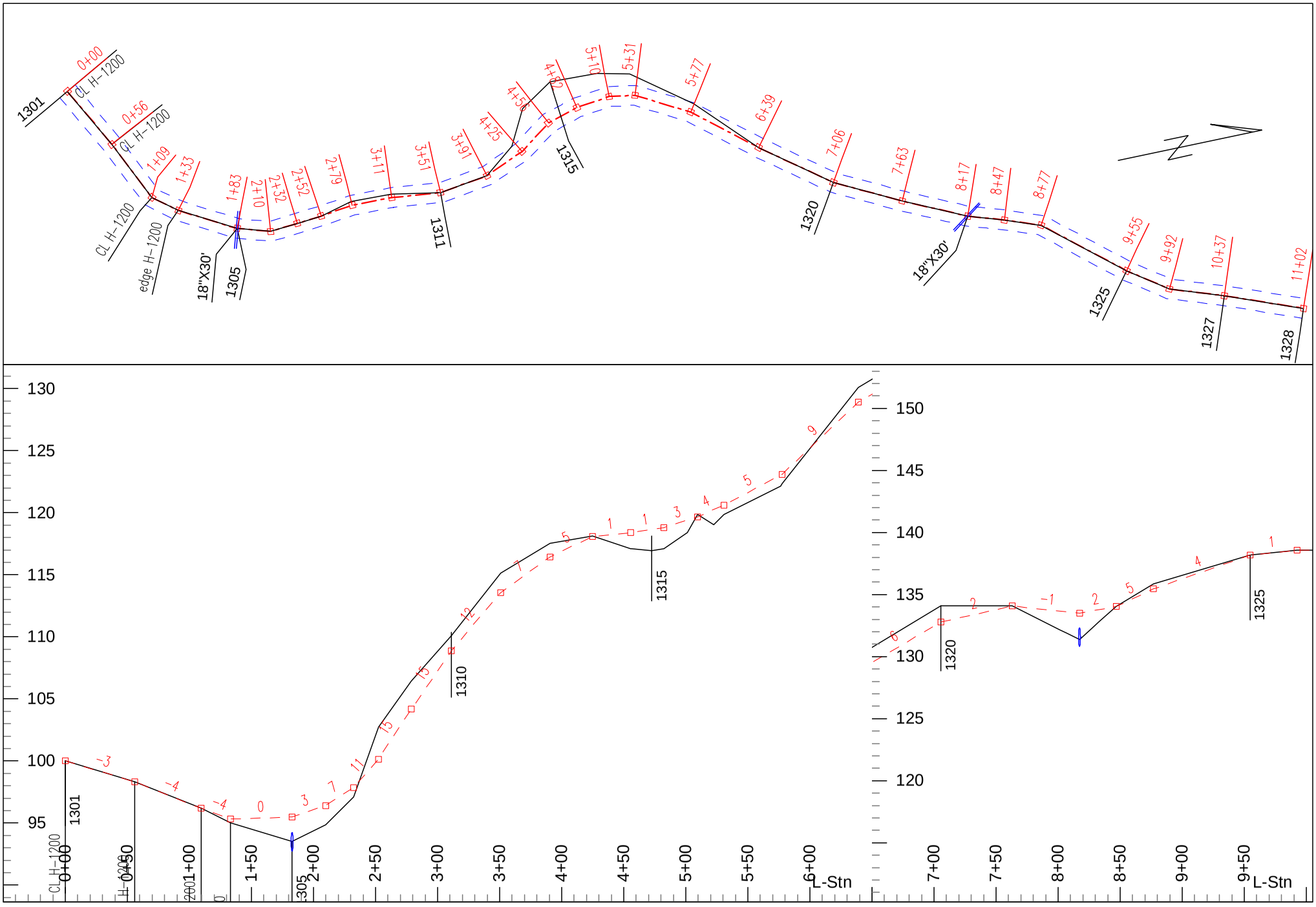


P-Stn :	11+64.3	Cut Dp:	0.9	CL Elev:	78.9
V.Offset:	-0.9	H. Offset:	0.0	Index:	926

L-Stn :12+24.9



P-Stn :	12+27.3	Cut Dp:	0.7	CL Elev:	81.6
V.Offset:	-0.7	H. Offset:	0.0	Index:	927



Hurdle Timber Sale
Spur 1
Contract #: 30-097377

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

Engineer: Heymann
19/08/21
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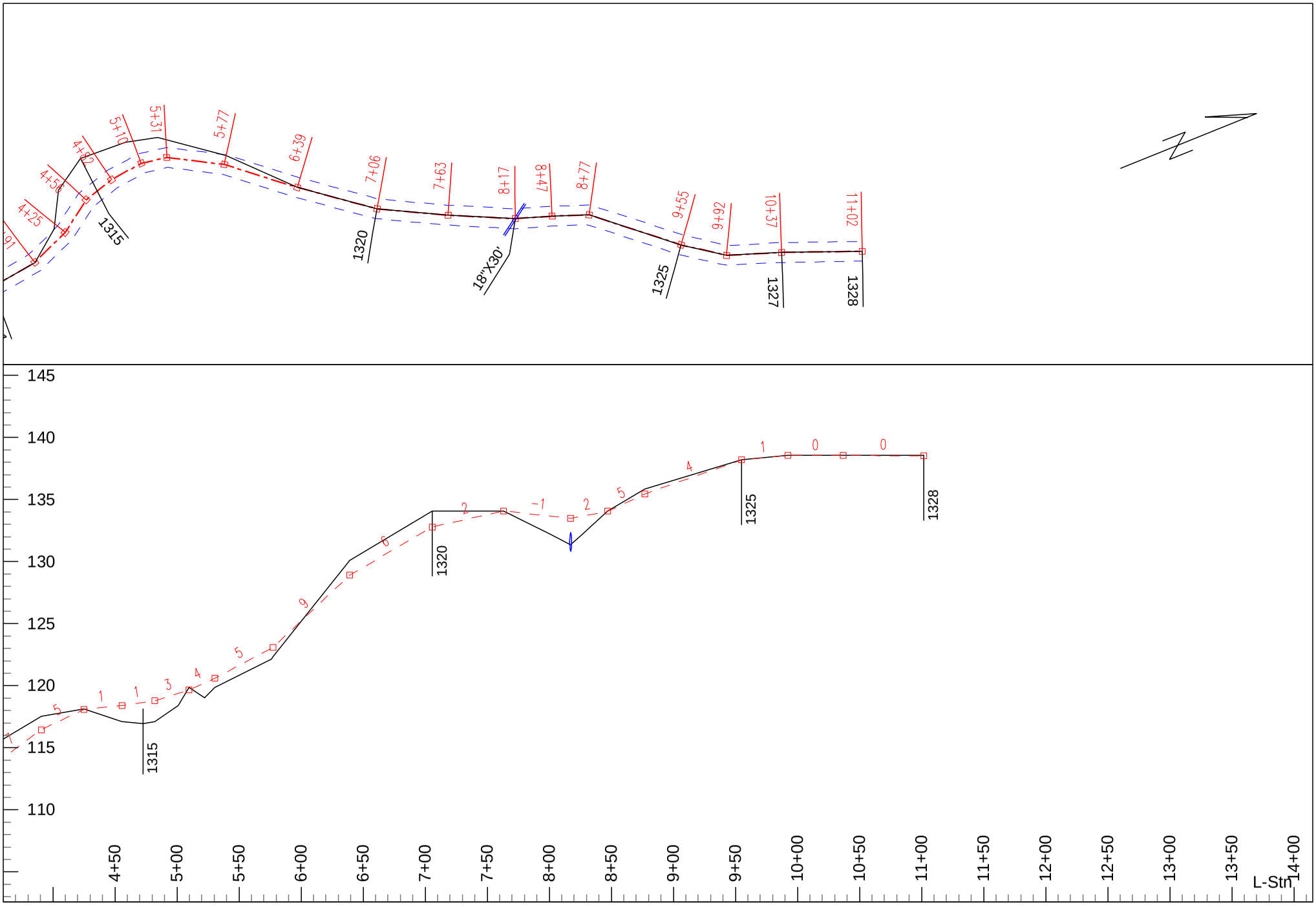

Hurdle Timber Sale
Spur 1
Contract #: 30-097377

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

Engineer: Heymann
19/08/21
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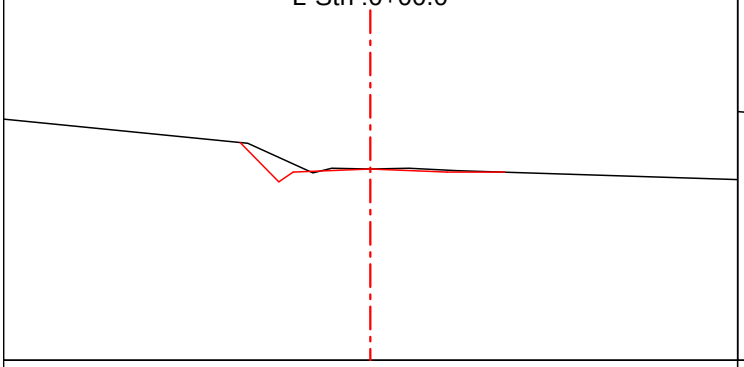
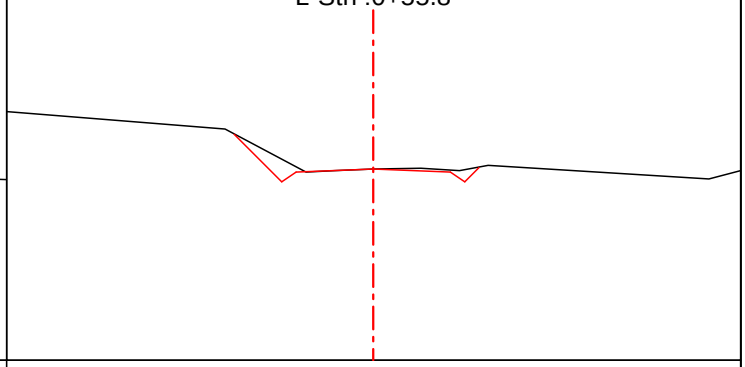
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur1		19/08/21

L-Stn :0+00.0



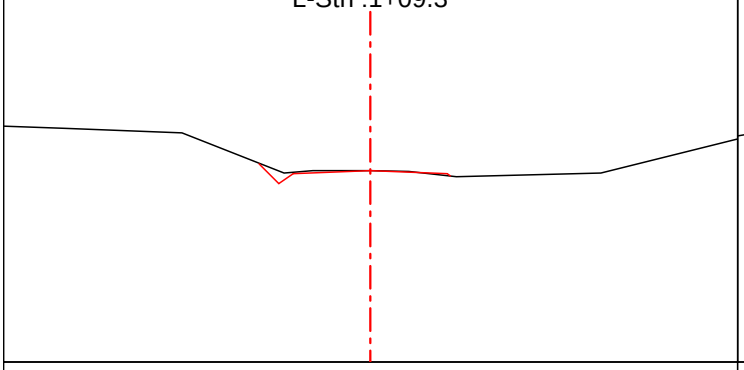
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	1301

L-Stn :0+55.8



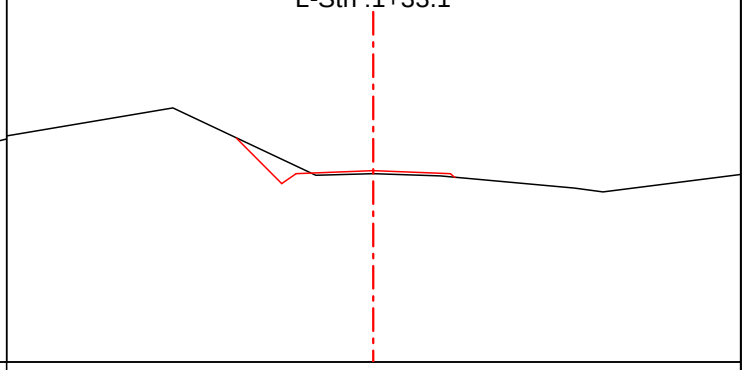
P-Stn :	0+55.8	Cut Dp:	0.0	CL Elev:	98.3
V.Offset:	0.0	H. Offset:	0.0	Index:	1302

L-Stn :1+09.3



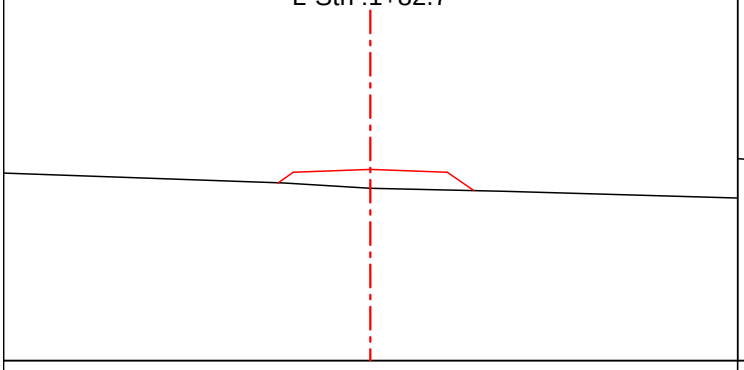
P-Stn :	1+09.3	Cut Dp:	0.0	CL Elev:	96.2
V.Offset:	0.0	H. Offset:	0.0	Index:	1303

L-Stn :1+33.1



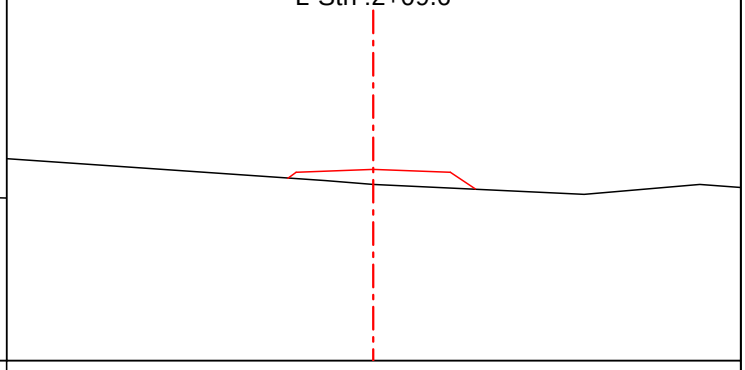
P-Stn :	1+33.1	Cut Dp:	-0.3	CL Elev:	95.3
V.Offset:	0.3	H. Offset:	0.0	Index:	1304

L-Stn :1+82.7



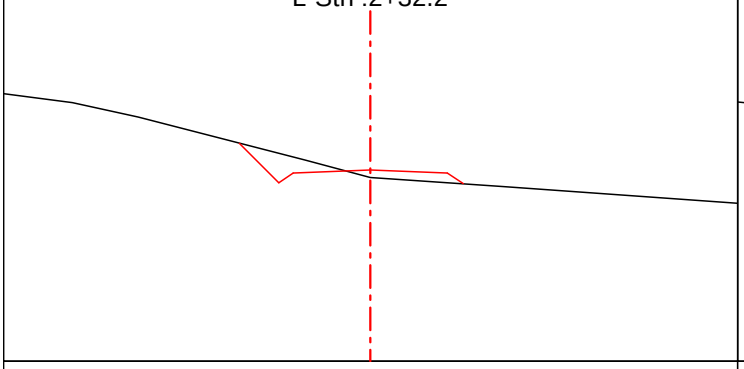
P-Stn :	1+82.7	Cut Dp:	-2.0	CL Elev:	95.5
V.Offset:	2.0	H. Offset:	0.0	Index:	1305

L-Stn :2+09.6



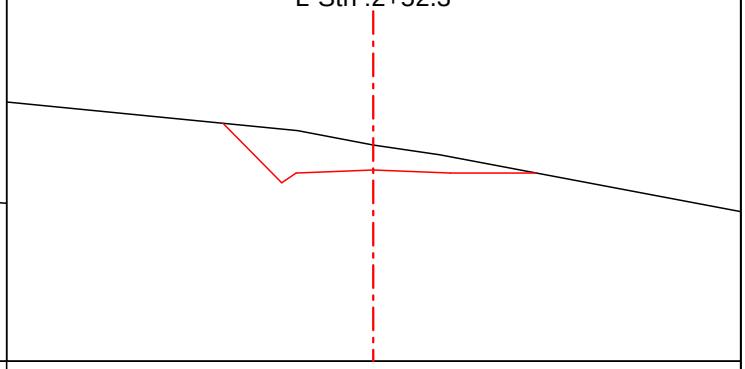
P-Stn :	2+09.6	Cut Dp:	-1.5	CL Elev:	96.4
V.Offset:	1.5	H. Offset:	0.0	Index:	1306

L-Stn :2+32.2



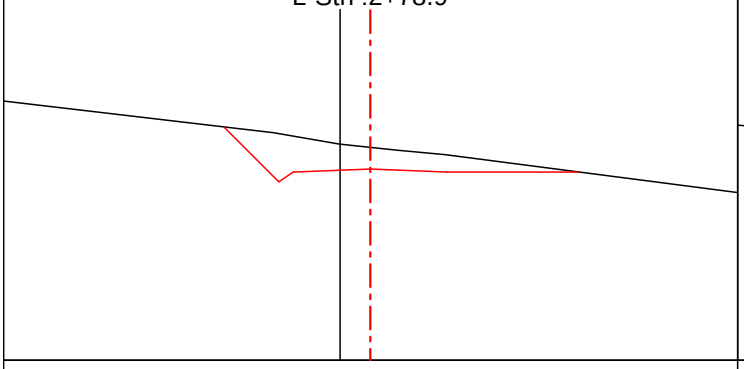
P-Stn :	2+32.2	Cut Dp:	-0.8	CL Elev:	97.9
V.Offset:	0.8	H. Offset:	0.0	Index:	1307

L-Stn :2+52.3



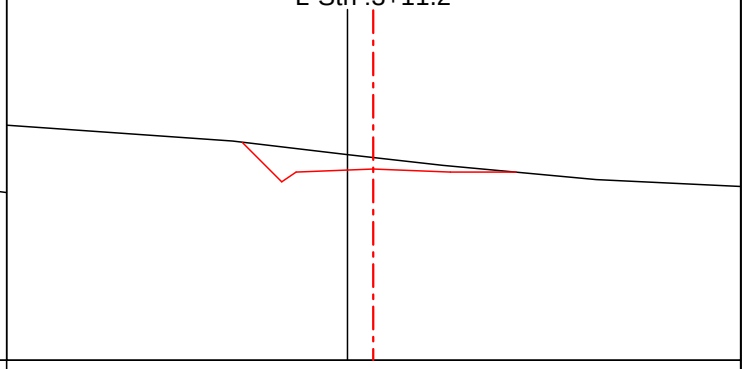
P-Stn :	2+52.3	Cut Dp:	2.6	CL Elev:	100.1
V.Offset:	-2.6	H. Offset:	0.0	Index:	1308

L-Stn :2+78.9



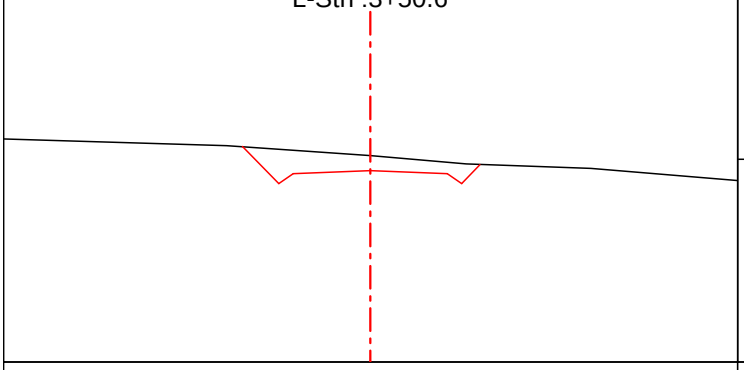
P-Stn :	2+79.2	Cut Dp:	2.3	CL Elev:	104.2
V.Offset:	-2.6	H. Offset:	3.2	Index:	1309

L-Stn :3+11.2



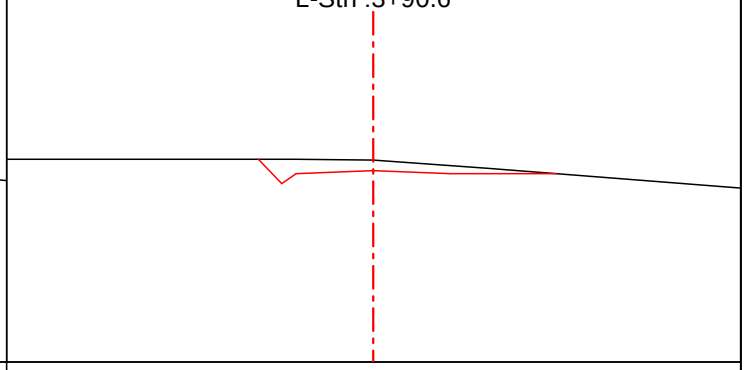
P-Stn :	3+12.1	Cut Dp:	1.2	CL Elev:	108.9
V.Offset:	-1.5	H. Offset:	2.7	Index:	1310

L-Stn :3+50.6



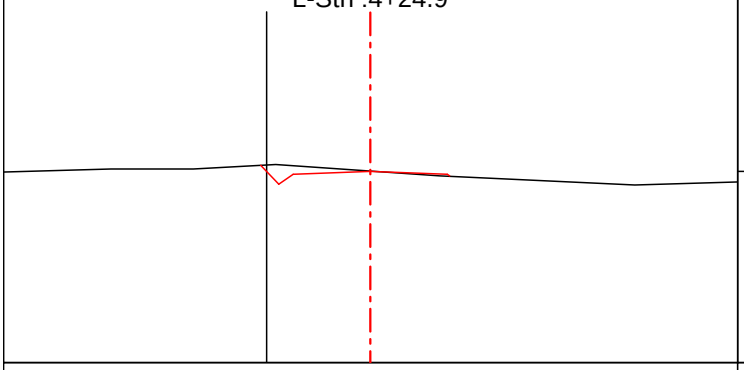
P-Stn :	3+51.6	Cut Dp:	1.6	CL Elev:	113.5
V.Offset:	-1.6	H. Offset:	0.0	Index:	1311

L-Stn :3+90.6



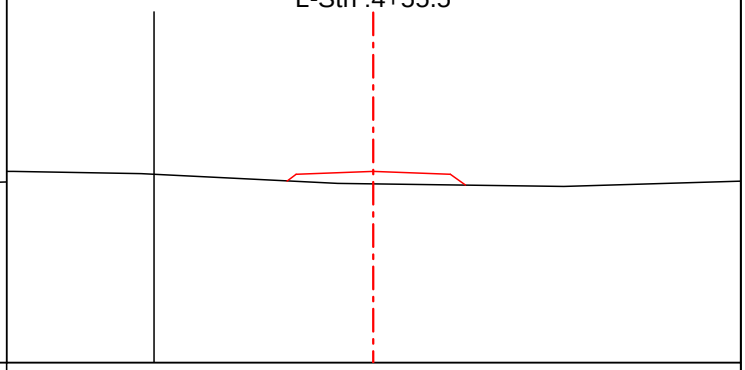
P-Stn :	3+91.6	Cut Dp:	1.1	CL Elev:	116.4
V.Offset:	-1.1	H. Offset:	0.0	Index:	1312

L-Stn :4+24.9



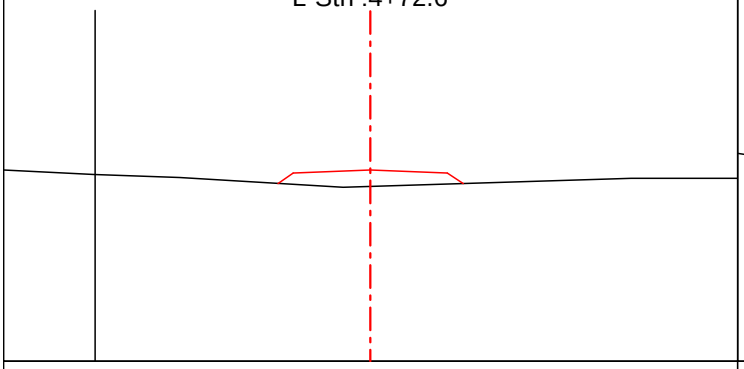
P-Stn :	4+22.8	Cut Dp:	0.0	CL Elev:	118.1
V.Offset:	-0.7	H. Offset:	9.2	Index:	1313

L-Stn :4+55.5



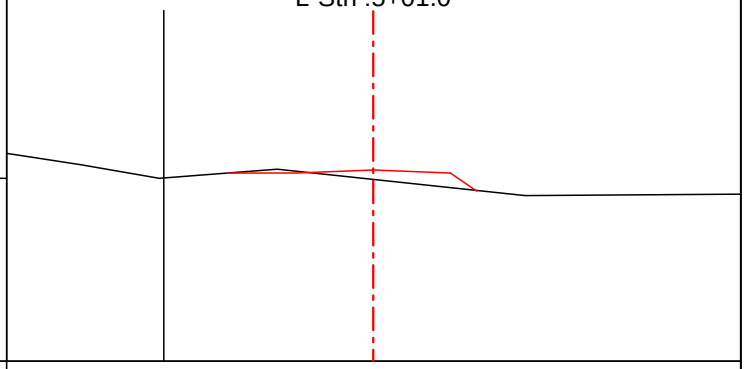
P-Stn :	4+54.1	Cut Dp:	-1.3	CL Elev:	118.4
V.Offset:	0.2	H. Offset:	23.6	Index:	1314

L-Stn :4+72.6



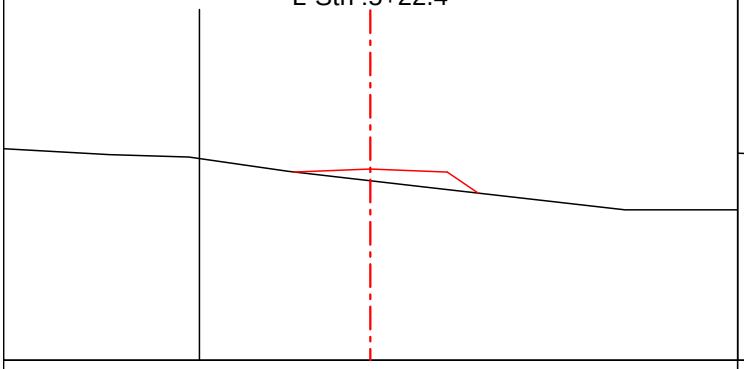
P-Stn :	4+85.1	Cut Dp:	-1.7	CL Elev:	118.6
V.Offset:	0.5	H. Offset:	28.8	Index:	1315

L-Stn :5+01.0



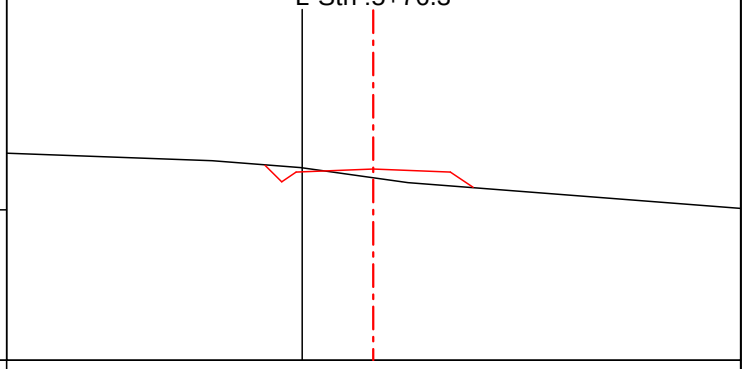
P-Stn :	5+23.5	Cut Dp:	-1.0	CL Elev:	119.4
V.Offset:	0.9	H. Offset:	21.6	Index:	1316

L-Stn :5+22.4



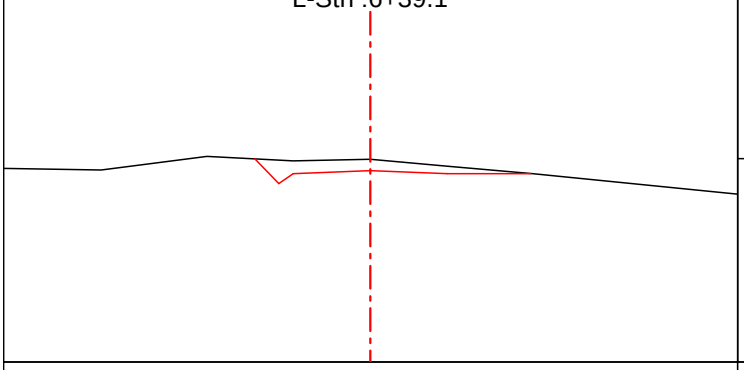
P-Stn :	5+50.1	Cut Dp:	-1.2	CL Elev:	120.2
V.Offset:	-1.2	H. Offset:	18.1	Index:	1317

L-Stn :5+76.3



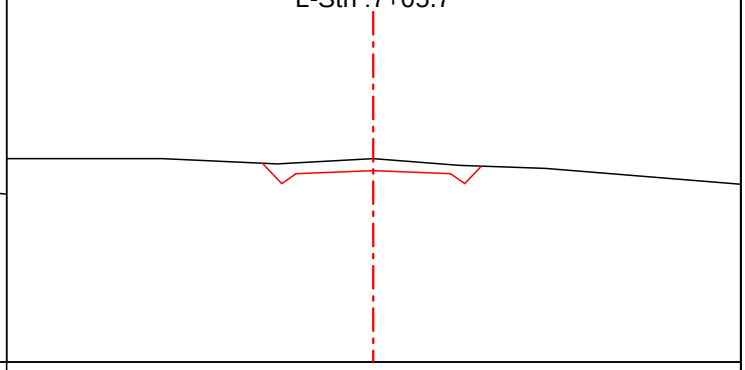
P-Stn :	6+07.0	Cut Dp:	-0.9	CL Elev:	123.0
V.Offset:	-0.1	H. Offset:	7.4	Index:	1318

L-Stn :6+39.1



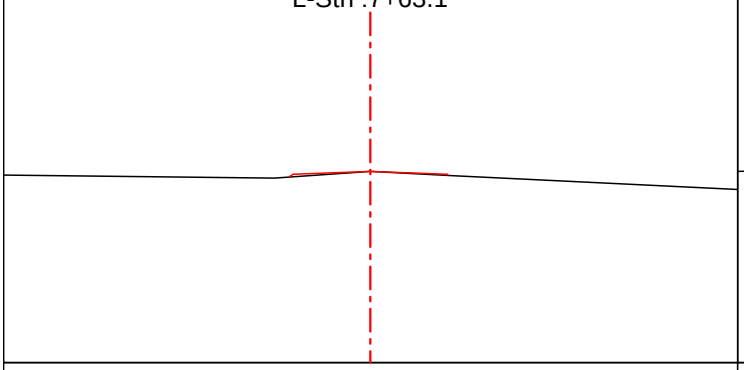
P-Stn :	6+69.9	Cut Dp:	1.2	CL Elev:	128.9
V.Offset:	-1.2	H. Offset:	0.0	Index:	1319

L-Stn :7+05.7



P-Stn :	7+36.5	Cut Dp:	1.3	CL Elev:	132.8
V.Offset:	-1.3	H. Offset:	0.0	Index:	1320

L-Stn :7+63.1

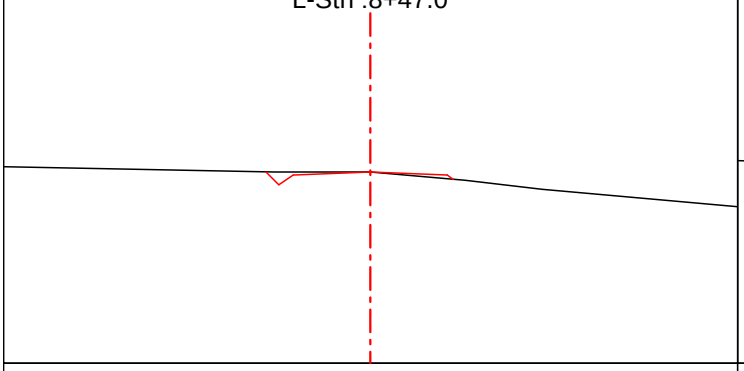


P-Stn :	7+93.9	Cut Dp:	0.0	CL Elev:	134.1
V.Offset:	0.0	H. Offset:	0.0	Index:	1321

L-Stn :8+17.2

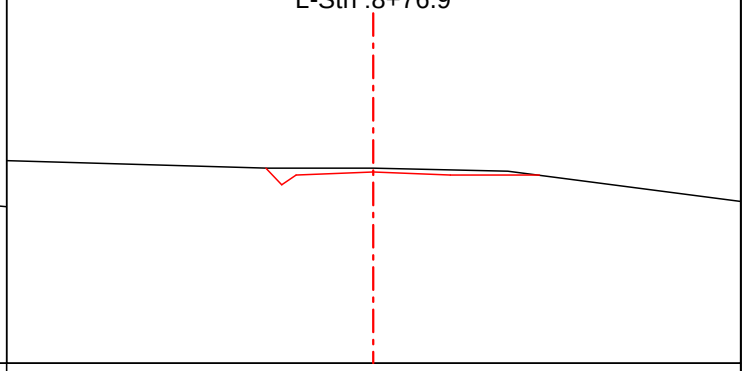
P-Stn :	8+48.0	Cut Dp:	-2.1	CL Elev:	133.5
V.Offset:	2.1	H. Offset:	0.0	Index:	1322

L-Stn :8+47.0



P-Stn :	8+77.8	Cut Dp:	0.0	CL Elev:	134.1
V.Offset:	0.0	H. Offset:	0.0	Index:	1323

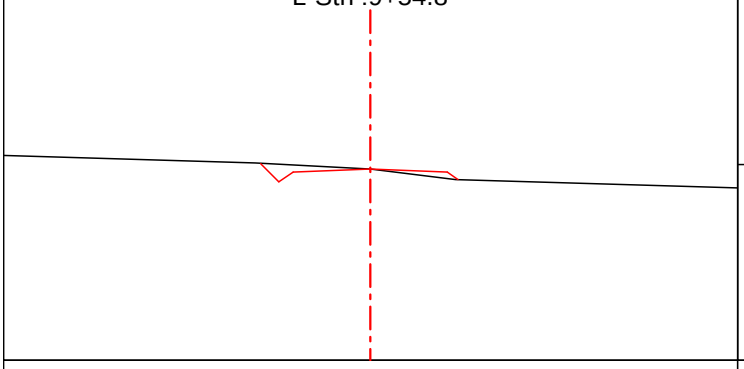
L-Stn :8+76.9



P-Stn :	9+07.7	Cut Dp:	0.4	CL Elev:	135.5
V.Offset:	-0.4	H. Offset:	0.0	Index:	1324

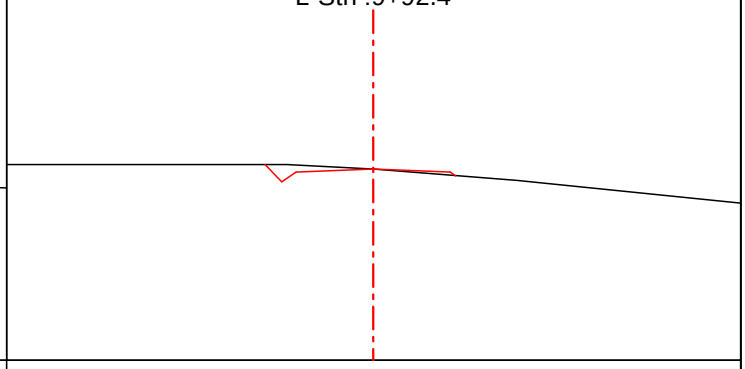
Softree Section	Scale 1:240	P. 4
C:\ProgramData\Softree\Data\hurdle\prelim\spur1		19/08/21

L-Stn :9+54.8



P-Stn :	9+85.6	Cut Dp:	0.0	CL Elev:	138.2
V.Offset:	0.0	H. Offset:	0.0	Index:	1325

L-Stn :9+92.4

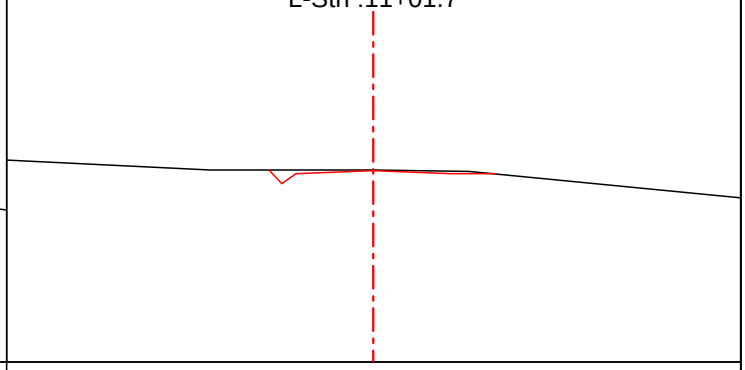


P-Stn :	10+23.2	Cut Dp:	0.0	CL Elev:	138.6
V.Offset:	0.0	H. Offset:	0.0	Index:	1326

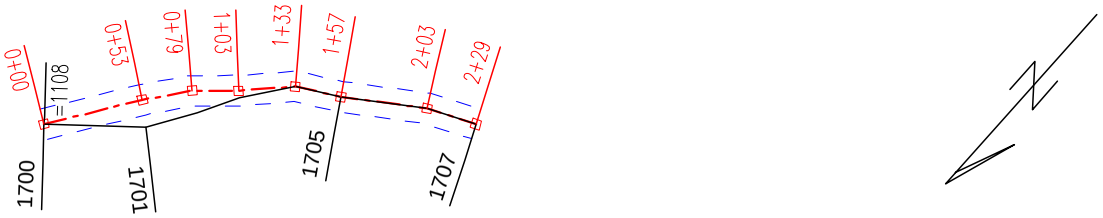
L-Stn :10+36.9

P-Stn :	10+67.7	Cut Dp:	0.0	CL Elev:	138.6
V.Offset:	0.0	H. Offset:	0.0	Index:	1327

L-Stn :11+01.7



P-Stn :	11+32.5	Cut Dp:	0.1	CL Elev:	138.5
V.Offset:	-0.1	H. Offset:	0.0	Index:	1328



Hurdle Timber Sale
Spur 2
Contract #: 30-097377

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Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

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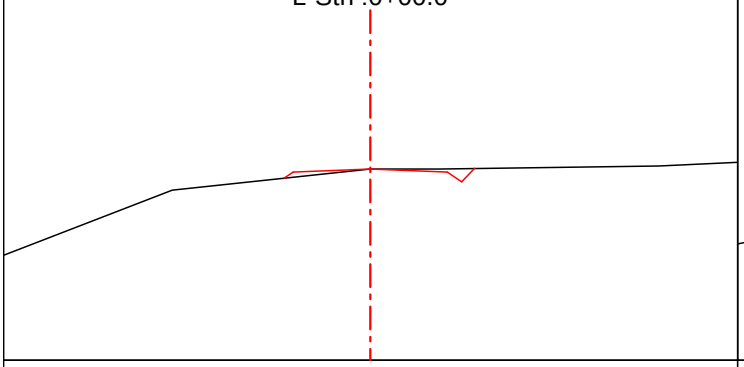
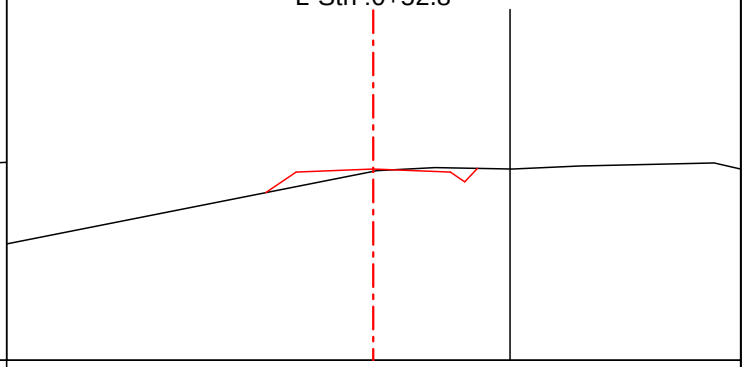
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur2		19/08/21

L-Stn :0+00.0



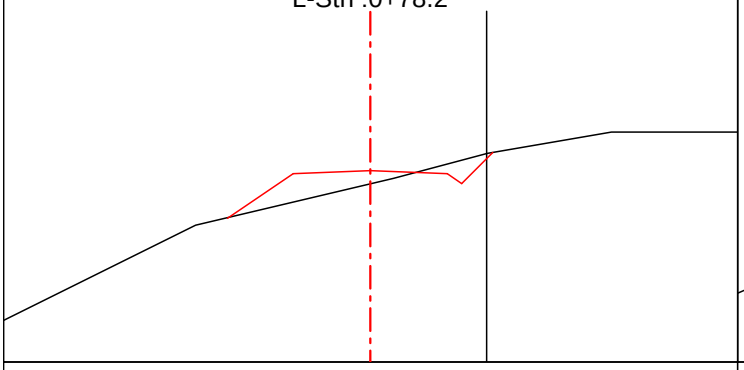
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	94.8
V.Offset:	0.0	H. Offset:	0.0	Index:	1700

L-Stn :0+52.8



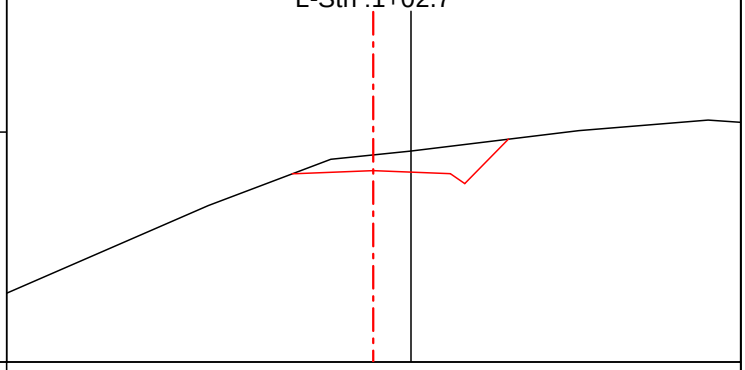
P-Stn :	0+53.0	Cut Dp:	-0.2	CL Elev:	96.4
V.Offset:	0.0	H. Offset:	-14.4	Index:	1701

L-Stn :0+78.2



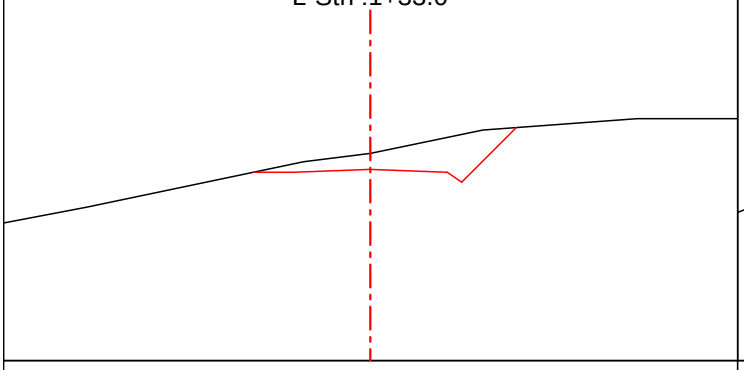
P-Stn :	0+80.9	Cut Dp:	-1.4	CL Elev:	97.7
V.Offset:	-1.8	H. Offset:	-12.1	Index:	1702

L-Stn :1+02.7



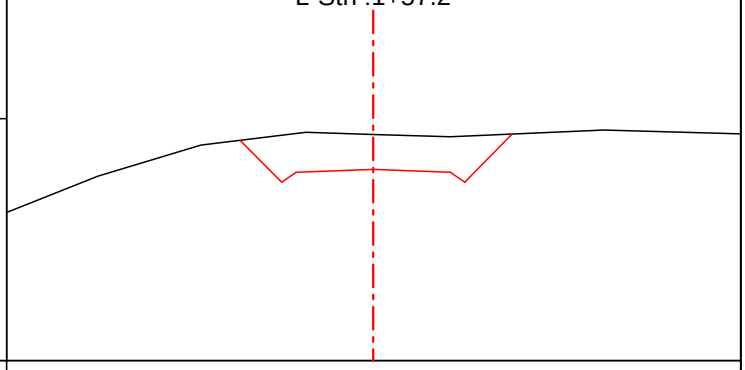
P-Stn :	1+04.2	Cut Dp:	1.6	CL Elev:	99.6
V.Offset:	-2.0	H. Offset:	-3.7	Index:	1703

L-Stn :1+33.0



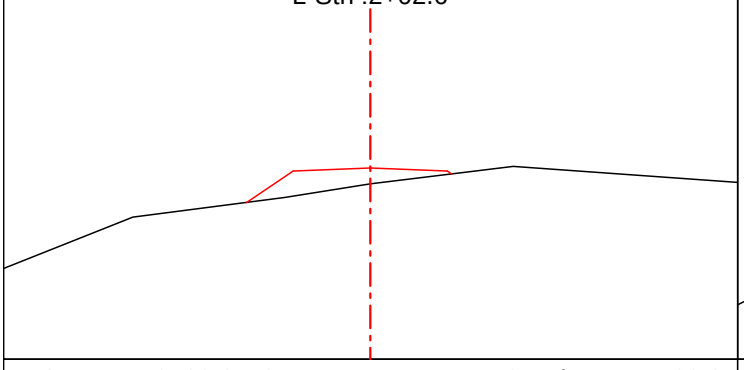
P-Stn :	1+34.0	Cut Dp:	1.7	CL Elev:	101.1
V.Offset:	-1.7	H. Offset:	0.0	Index:	1704

L-Stn :1+57.2



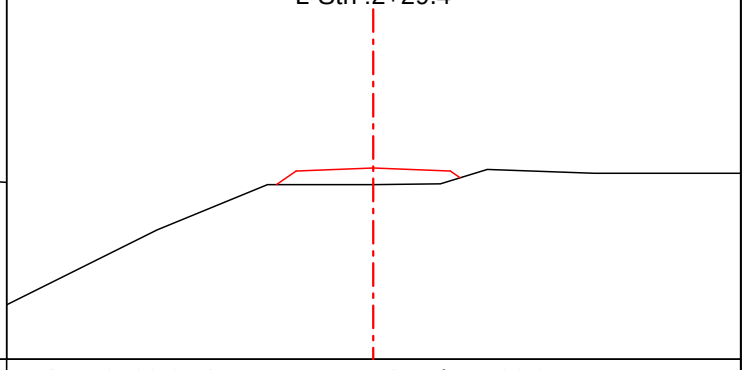
P-Stn :	1+58.2	Cut Dp:	3.6	CL Elev:	101.6
V.Offset:	-3.6	H. Offset:	0.0	Index:	1705

L-Stn :2+02.6

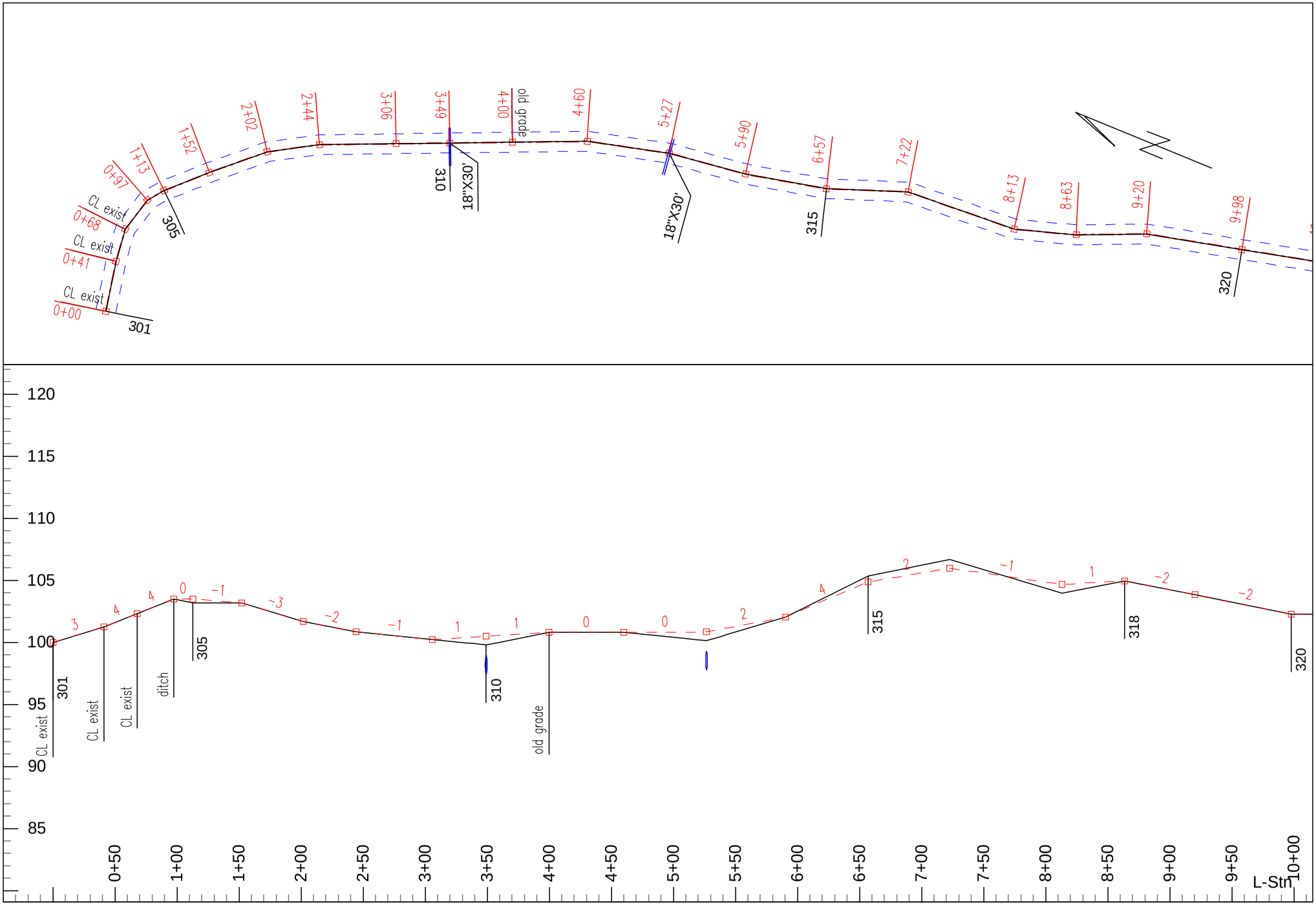


P-Stn :	2+03.6	Cut Dp:	-1.7	CL Elev:	100.0
V.Offset:	1.7	H. Offset:	0.0	Index:	1706

L-Stn :2+29.4



P-Stn :	2+30.3	Cut Dp:	-1.7	CL Elev:	99.3
V.Offset:	1.7	H. Offset:	0.0	Index:	1707



Hurdle Timber Sale
Spur 3
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NATURAL RESOURCES

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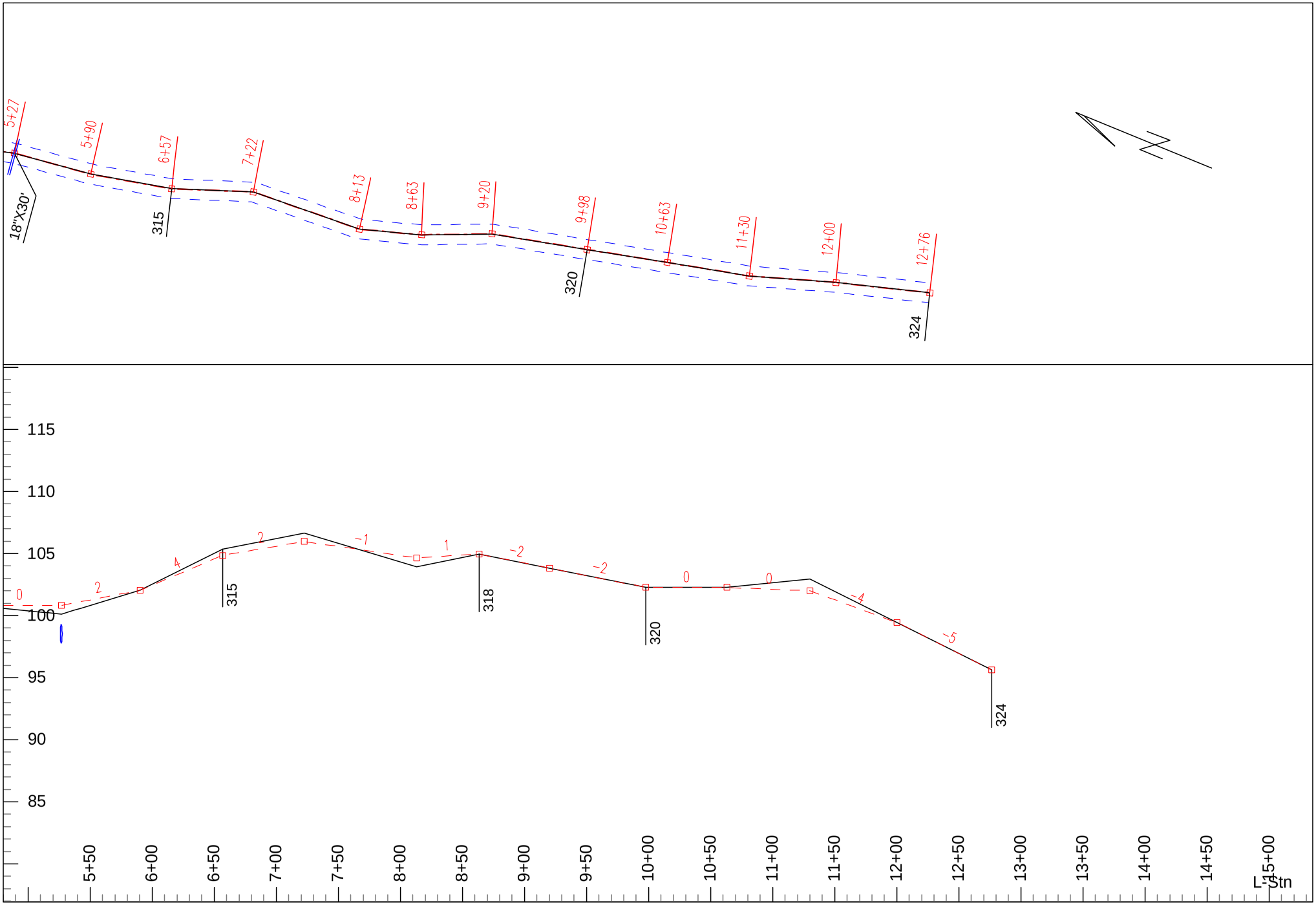

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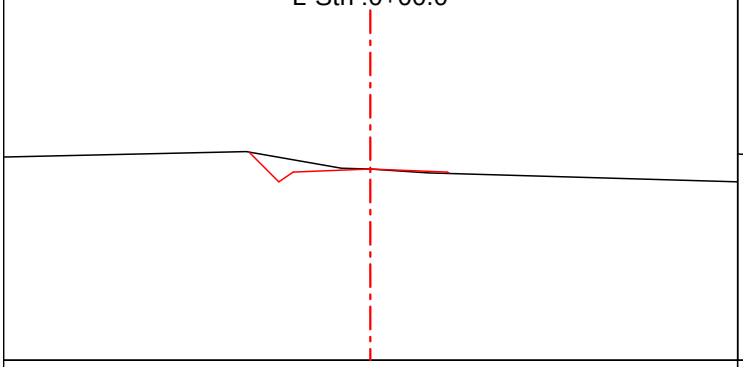
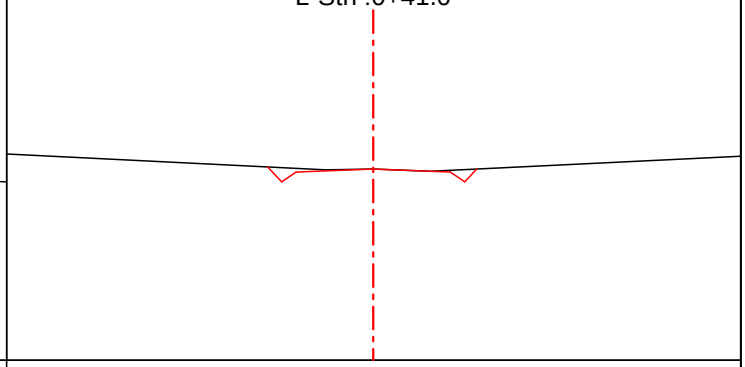
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur3		19/08/21

L-Stn :0+00.0



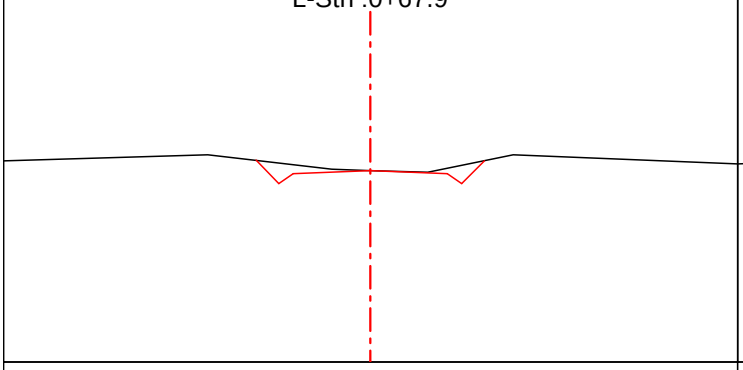
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	301

L-Stn :0+41.0



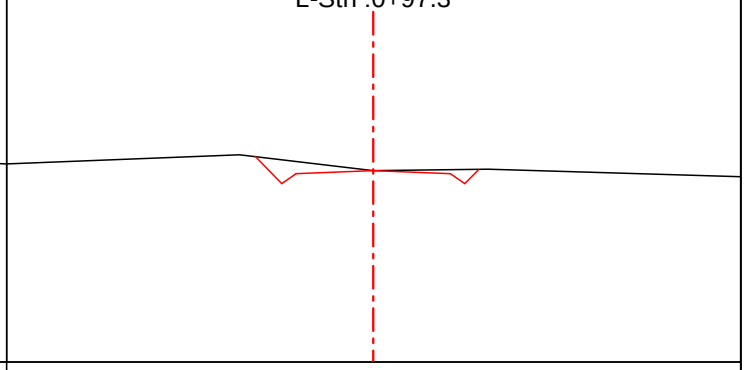
P-Stn :	0+41.0	Cut Dp:	0.0	CL Elev:	101.2
V.Offset:	0.0	H. Offset:	0.0	Index:	302

L-Stn :0+67.9



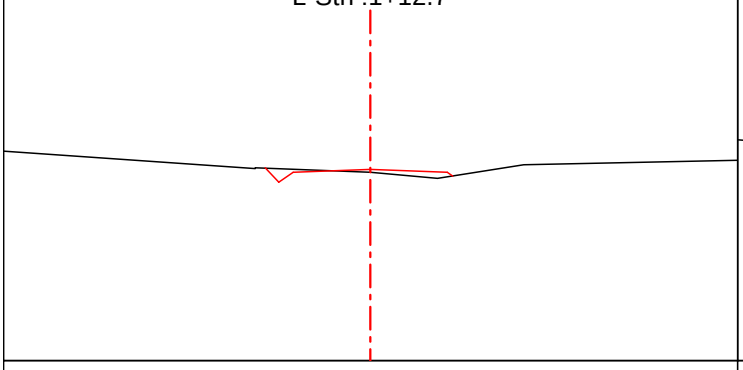
P-Stn :	0+67.9	Cut Dp:	0.0	CL Elev:	102.3
V.Offset:	0.0	H. Offset:	0.0	Index:	303

L-Stn :0+97.3



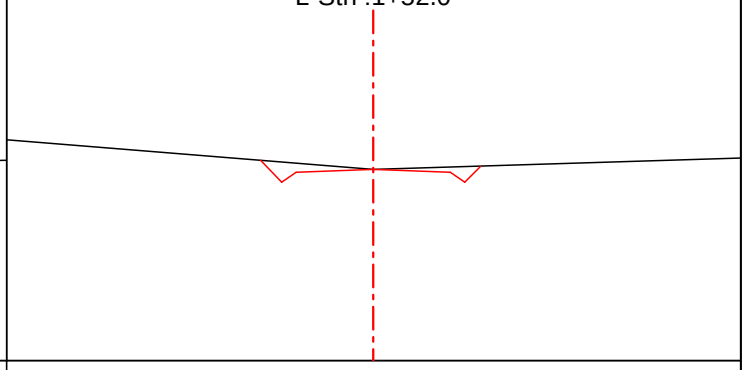
P-Stn :	0+97.3	Cut Dp:	0.0	CL Elev:	103.5
V.Offset:	0.0	H. Offset:	0.0	Index:	304

L-Stn :1+12.7



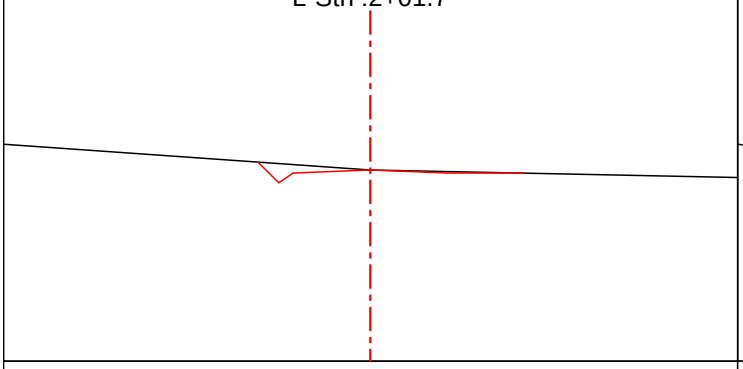
P-Stn :	1+12.7	Cut Dp:	-0.3	CL Elev:	103.5
V.Offset:	0.3	H. Offset:	0.0	Index:	305

L-Stn :1+52.0



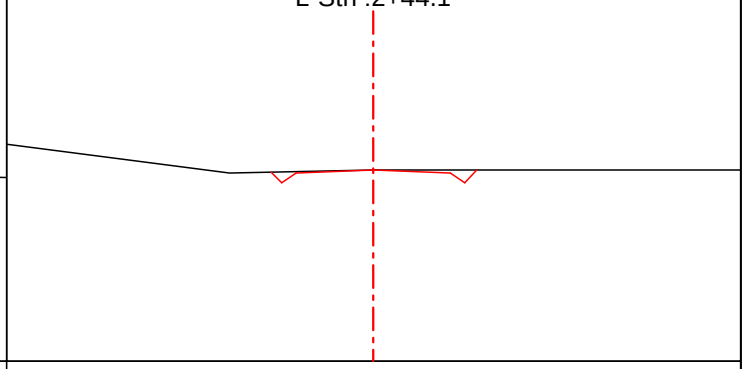
P-Stn :	1+52.0	Cut Dp:	0.0	CL Elev:	103.2
V.Offset:	0.0	H. Offset:	0.0	Index:	306

L-Stn :2+01.7



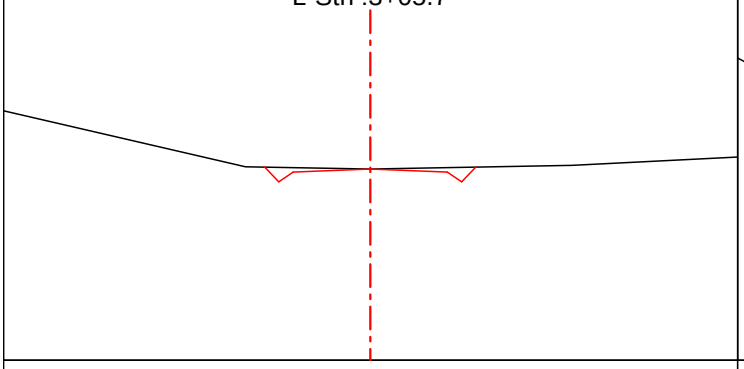
P-Stn :	2+01.7	Cut Dp:	0.0	CL Elev:	101.7
V.Offset:	0.0	H. Offset:	0.0	Index:	307

L-Stn :2+44.1



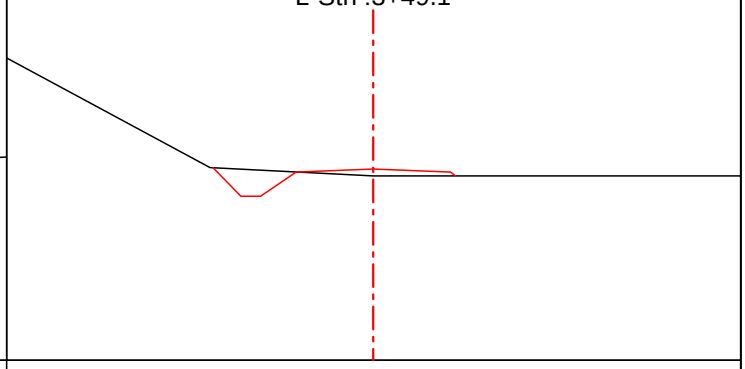
P-Stn :	2+44.1	Cut Dp:	0.0	CL Elev:	100.8
V.Offset:	0.0	H. Offset:	0.0	Index:	308

L-Stn :3+05.7



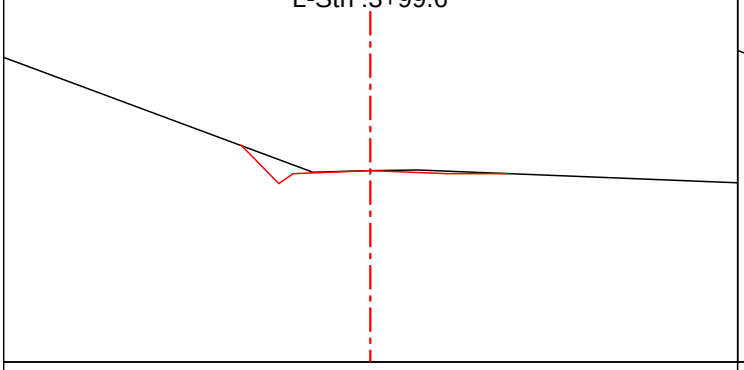
P-Stn :	3+05.7	Cut Dp:	0.0	CL Elev:	100.2
V.Offset:	0.0	H. Offset:	0.0	Index:	309

L-Stn :3+49.1



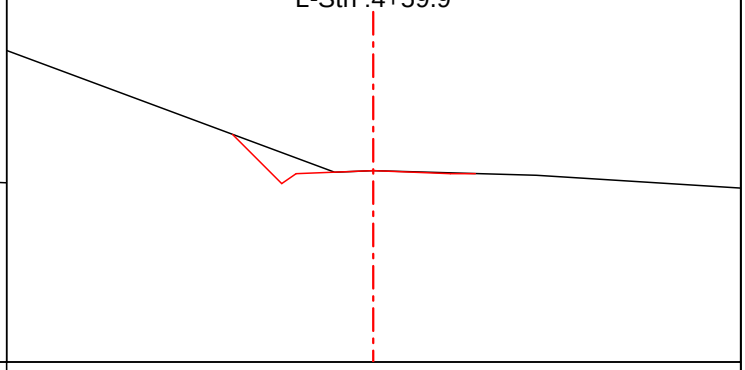
P-Stn :	3+49.1	Cut Dp:	-0.7	CL Elev:	100.5
V.Offset:	0.7	H. Offset:	0.0	Index:	310

L-Stn :3+99.6



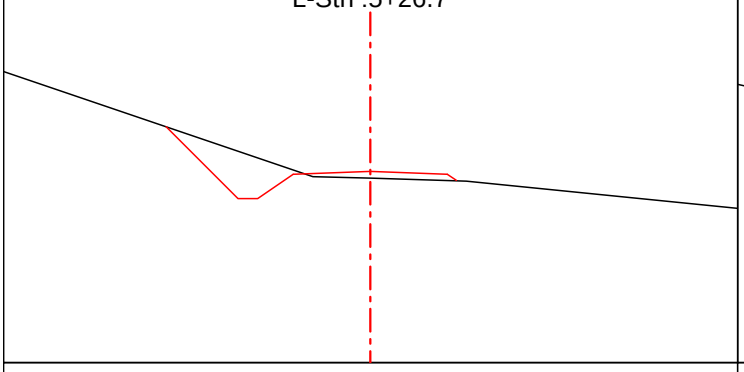
P-Stn :	3+99.6	Cut Dp:	0.0	CL Elev:	100.8
V.Offset:	0.0	H. Offset:	0.0	Index:	311

L-Stn :4+59.9



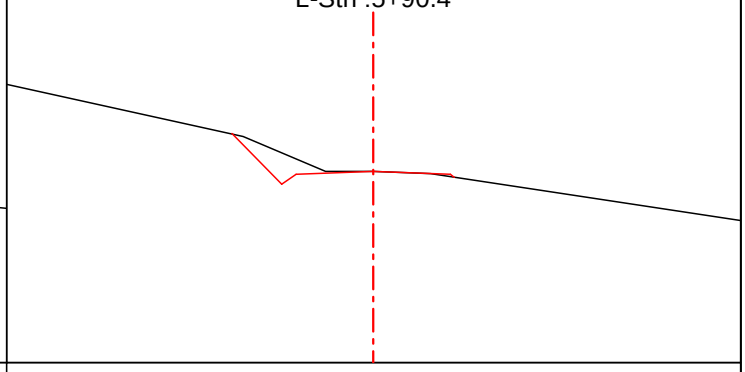
P-Stn :	4+59.9	Cut Dp:	0.0	CL Elev:	100.8
V.Offset:	0.0	H. Offset:	0.0	Index:	312

L-Stn :5+26.7



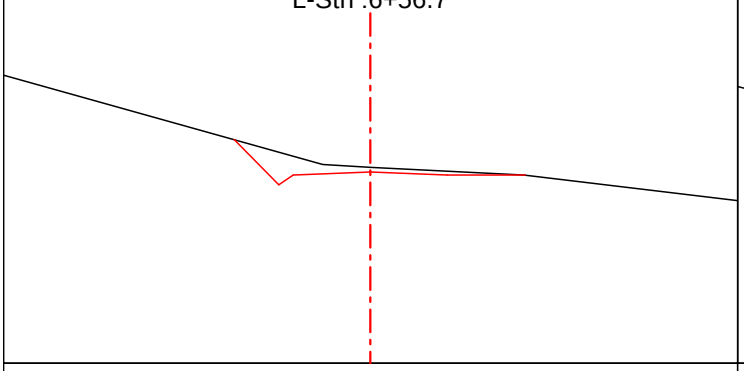
P-Stn :	5+26.7	Cut Dp:	-0.7	CL Elev:	100.8
V.Offset:	0.7	H. Offset:	0.0	Index:	313

L-Stn :5+90.4



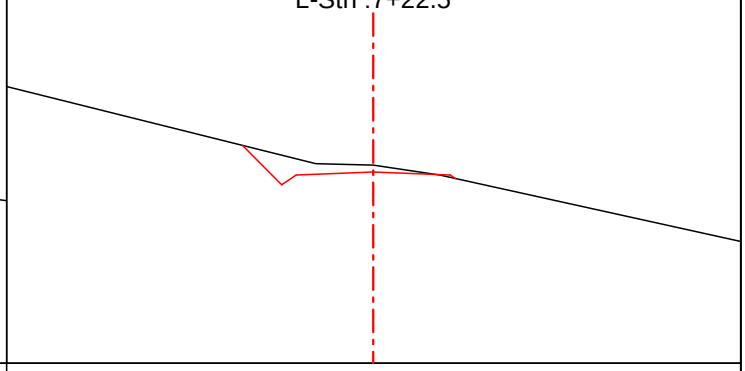
P-Stn :	5+90.4	Cut Dp:	0.0	CL Elev:	102.0
V.Offset:	0.0	H. Offset:	0.0	Index:	314

L-Stn :6+56.7



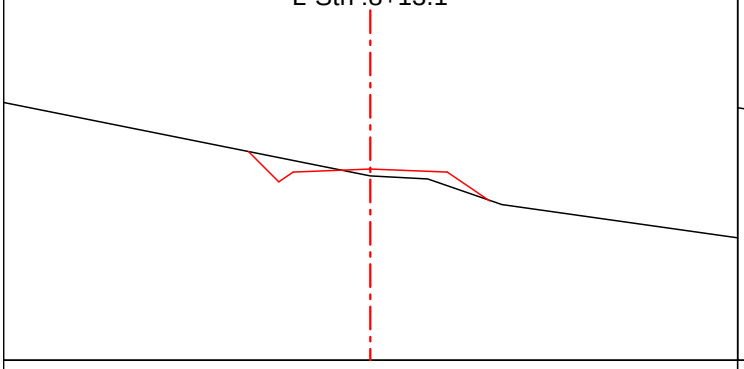
P-Stn :	6+56.7	Cut Dp:	0.5	CL Elev:	104.9
V.Offset:	-0.5	H. Offset:	0.0	Index:	315

L-Stn :7+22.5



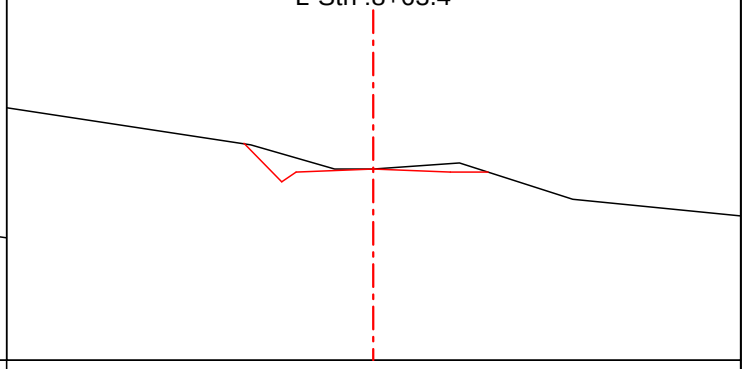
P-Stn :	7+22.5	Cut Dp:	0.7	CL Elev:	106.0
V.Offset:	-0.7	H. Offset:	0.0	Index:	316

L-Stn :8+13.1



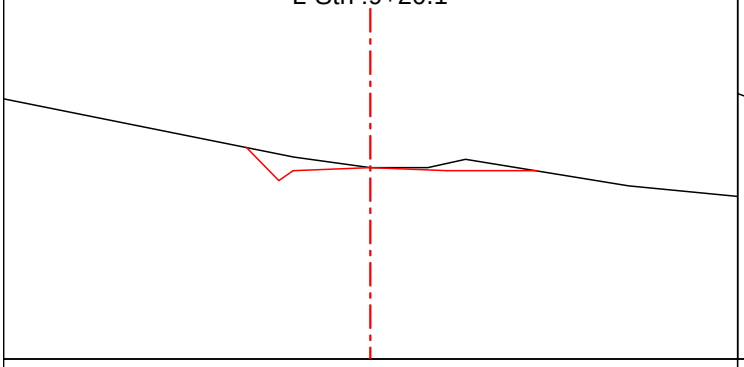
P-Stn :	8+13.1	Cut Dp:	-0.7	CL Elev:	104.7
V.Offset:	0.7	H. Offset:	0.0	Index:	317

L-Stn :8+63.4



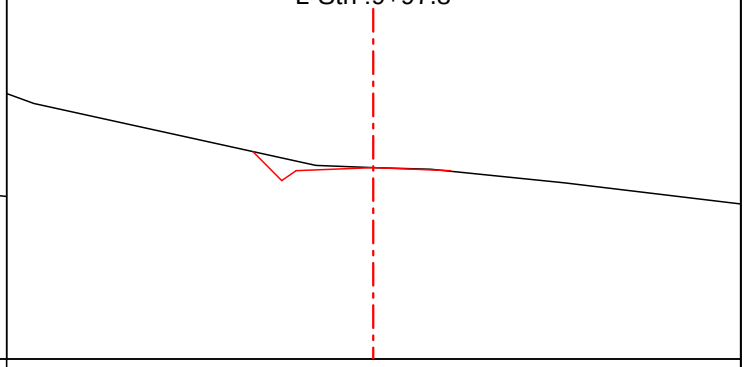
P-Stn :	8+63.4	Cut Dp:	0.0	CL Elev:	105.0
V.Offset:	0.0	H. Offset:	0.0	Index:	318

L-Stn :9+20.1



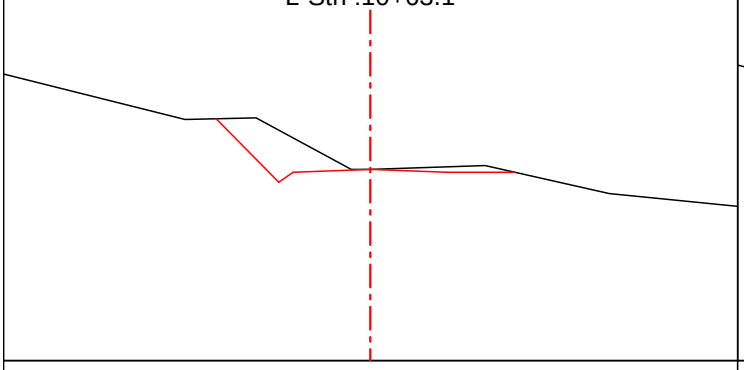
P-Stn :	9+20.1	Cut Dp:	0.0	CL Elev:	103.8
V.Offset:	0.0	H. Offset:	0.0	Index:	319

L-Stn :9+97.8



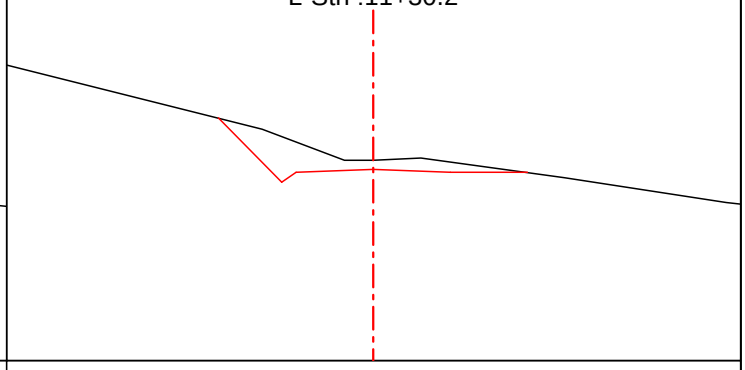
P-Stn :	9+97.8	Cut Dp:	0.0	CL Elev:	102.3
V.Offset:	0.0	H. Offset:	0.0	Index:	320

L-Stn :10+63.1



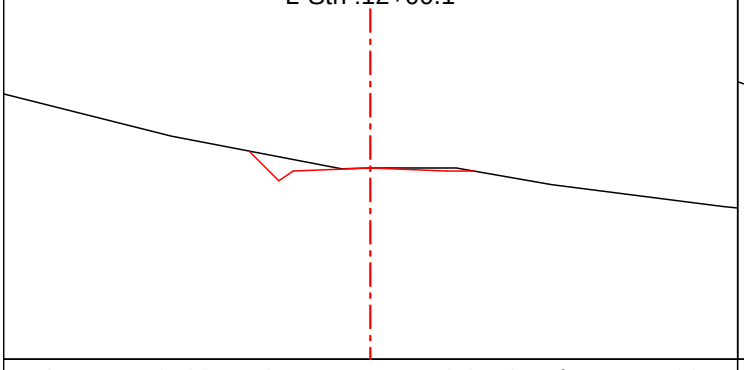
P-Stn :	10+63.1	Cut Dp:	0.0	CL Elev:	102.3
V.Offset:	0.0	H. Offset:	0.0	Index:	321

L-Stn :11+30.2



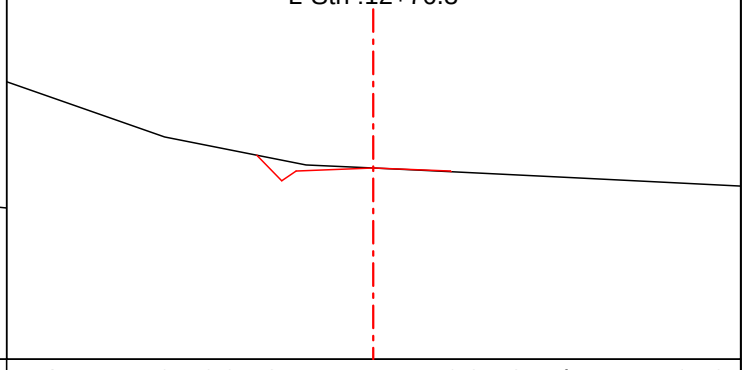
P-Stn :	11+30.2	Cut Dp:	0.9	CL Elev:	102.0
V.Offset:	-0.9	H. Offset:	0.0	Index:	322

L-Stn :12+00.1

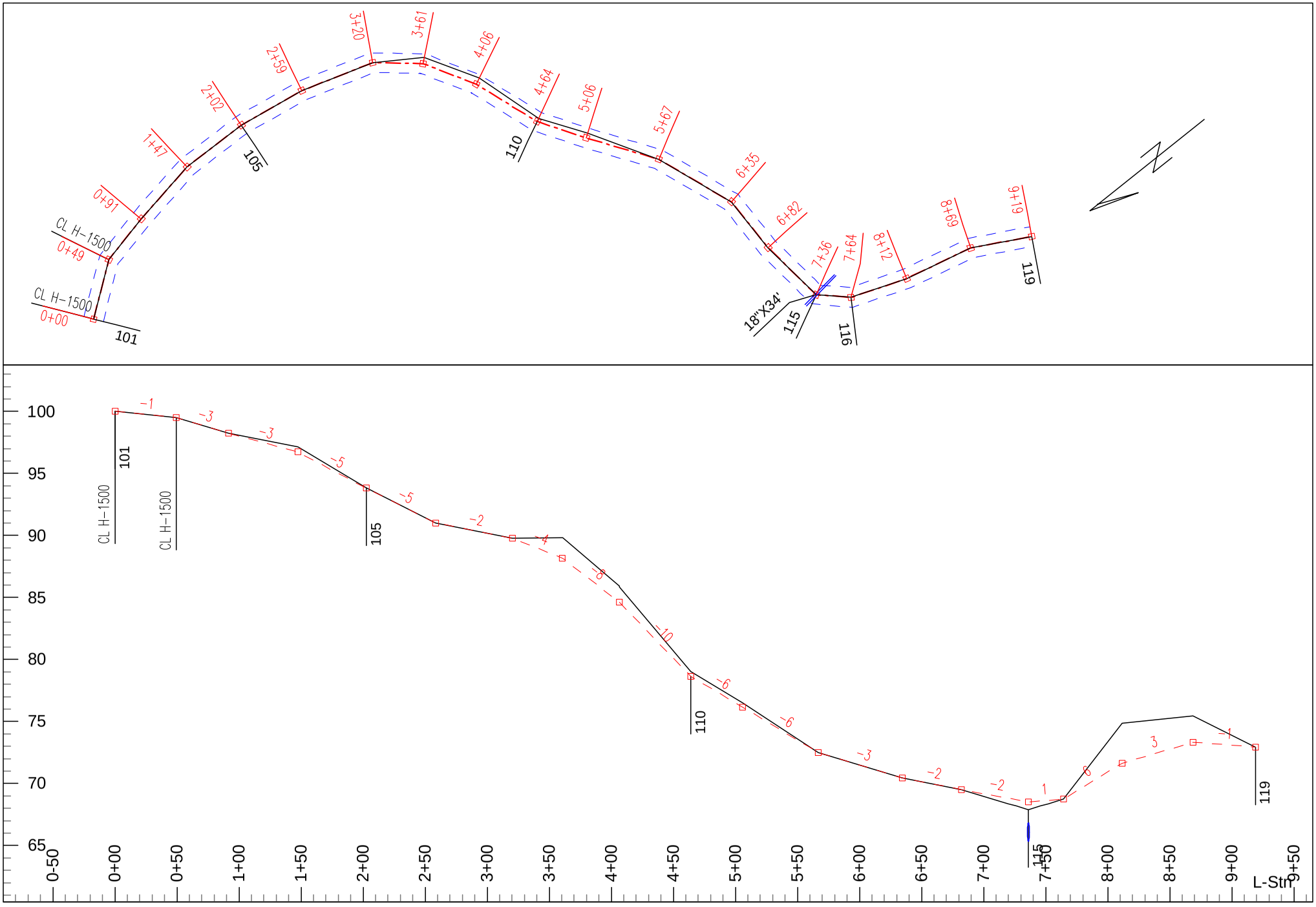


P-Stn :	12+00.1	Cut Dp:	0.0	CL Elev:	99.4
V.Offset:	0.0	H. Offset:	0.0	Index:	323

L-Stn :12+76.3



P-Stn :	12+76.3	Cut Dp:	0.0	CL Elev:	95.6
V.Offset:	0.0	H. Offset:	0.0	Index:	324



Hurdle Timber Sale
Spur 4
Contract #: 30-097377

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Plan Scale 1:1200
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Profile Horz Scale 1:1200

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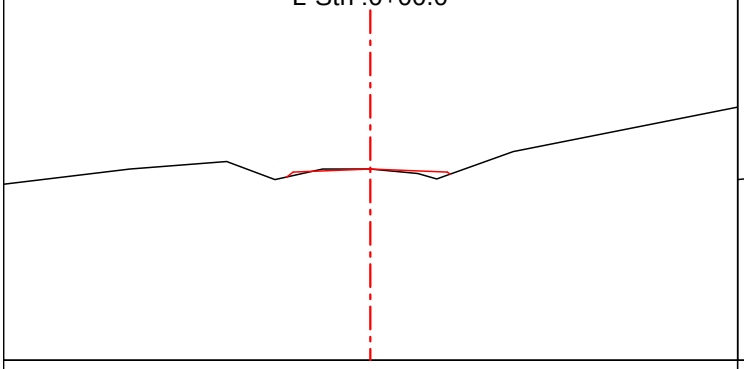
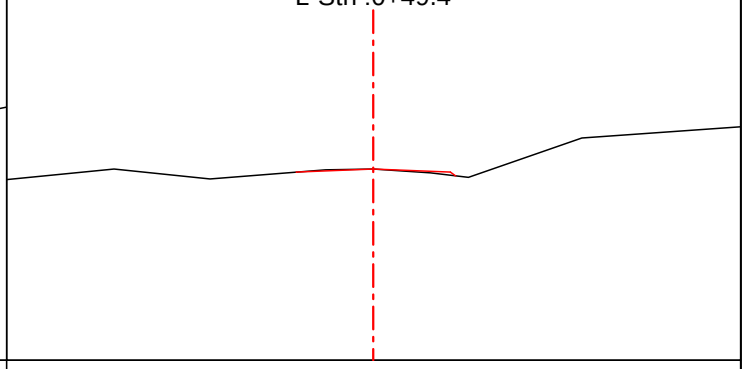
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur4		19/08/21

L-Stn :0+00.0



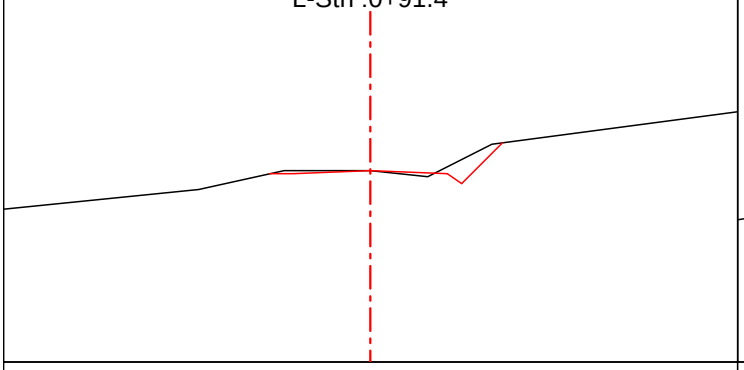
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	101

L-Stn :0+49.4



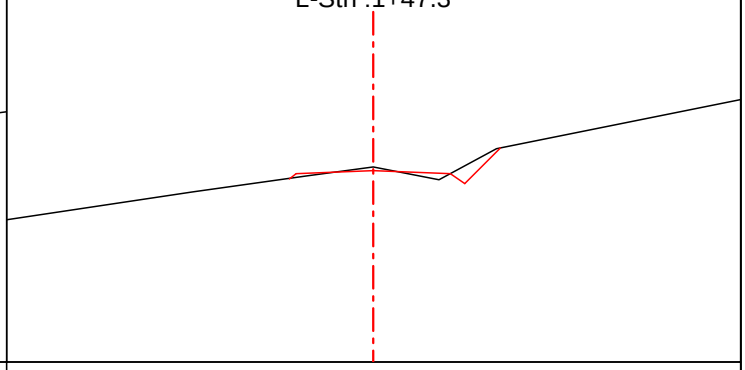
P-Stn :	0+49.4	Cut Dp:	0.0	CL Elev:	99.5
V.Offset:	0.0	H. Offset:	0.0	Index:	102

L-Stn :0+91.4



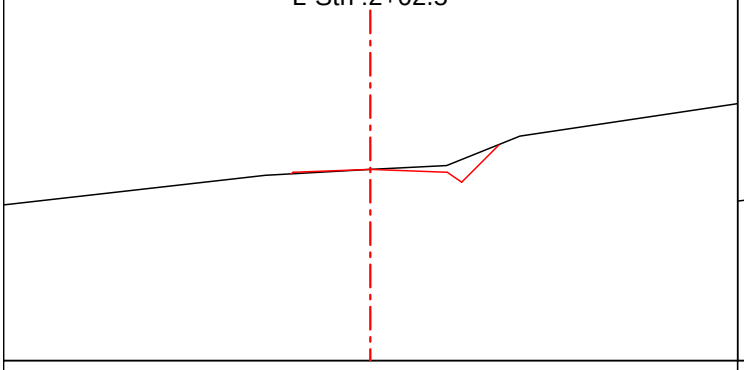
P-Stn :	0+91.4	Cut Dp:	0.0	CL Elev:	98.2
V.Offset:	0.0	H. Offset:	0.0	Index:	103

L-Stn :1+47.3



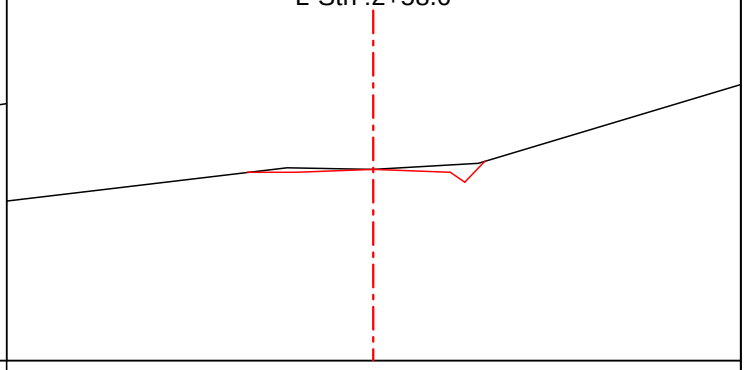
P-Stn :	1+47.3	Cut Dp:	0.4	CL Elev:	96.7
V.Offset:	-0.4	H. Offset:	0.0	Index:	104

L-Stn :2+02.5



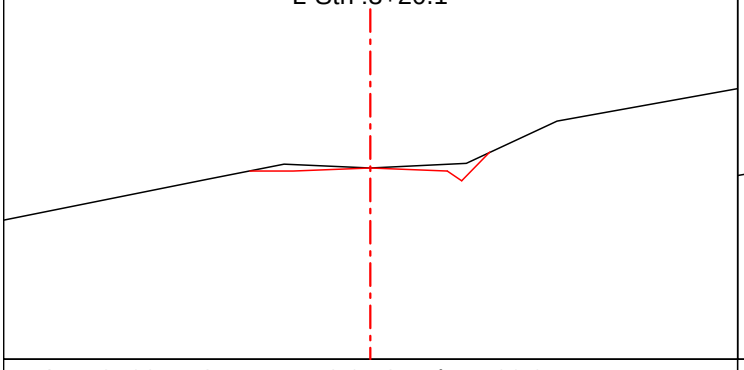
P-Stn :	2+02.5	Cut Dp:	0.0	CL Elev:	93.8
V.Offset:	0.0	H. Offset:	0.0	Index:	105

L-Stn :2+58.6



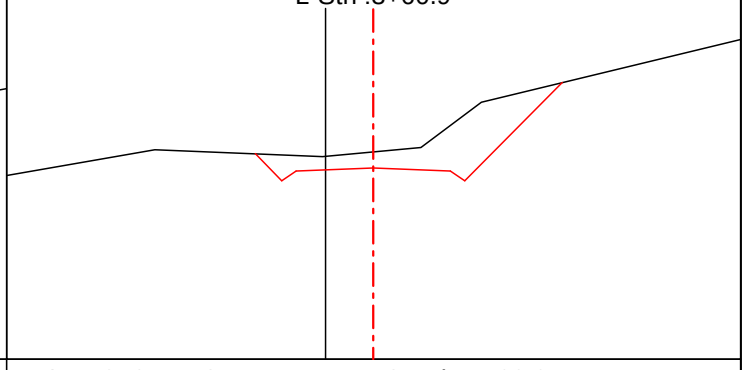
P-Stn :	2+58.6	Cut Dp:	0.0	CL Elev:	91.0
V.Offset:	0.0	H. Offset:	0.0	Index:	106

L-Stn :3+20.1



P-Stn :	3+20.1	Cut Dp:	0.0	CL Elev:	89.8
V.Offset:	0.0	H. Offset:	0.0	Index:	107

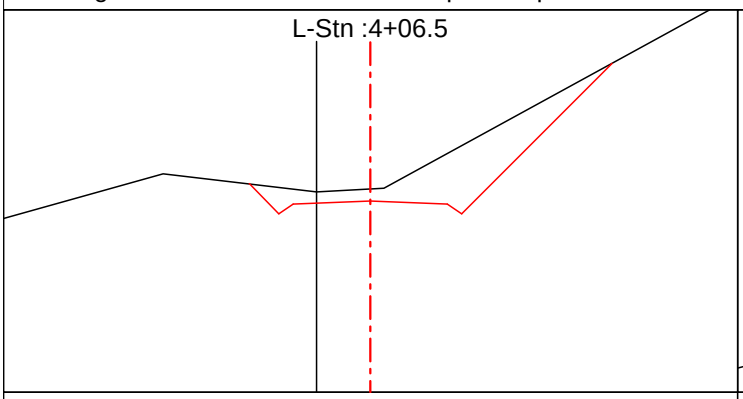
L-Stn :3+60.9



P-Stn :	3+61.7	Cut Dp:	1.7	CL Elev:	88.2
V.Offset:	-1.2	H. Offset:	5.1	Index:	108

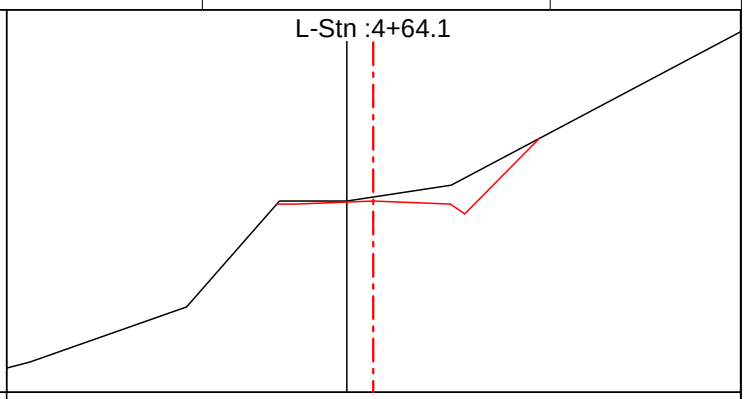
Softree Section	Scale 1:240	P. 2
C:\ProgramData\Softree\Data\hurdle\prelim\spur4		19/08/21

L-Stn :4+06.5



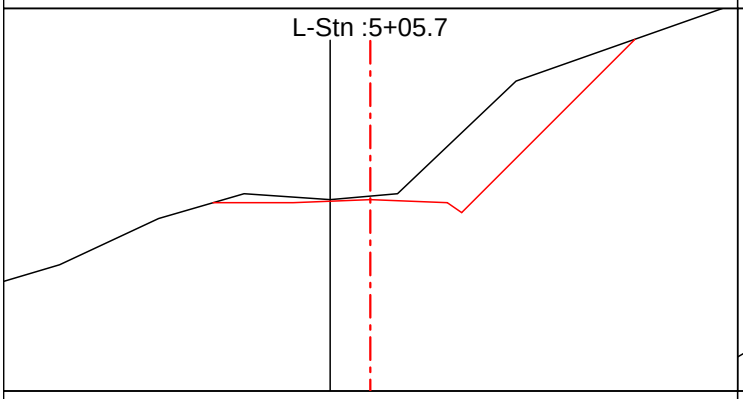
P-Stn : 4+09.1 Cut Dp: 1.2 CL Elev: 84.6
V.Offset: -1.0 H. Offset: 5.6 Index: 109

L-Stn :4+64.1



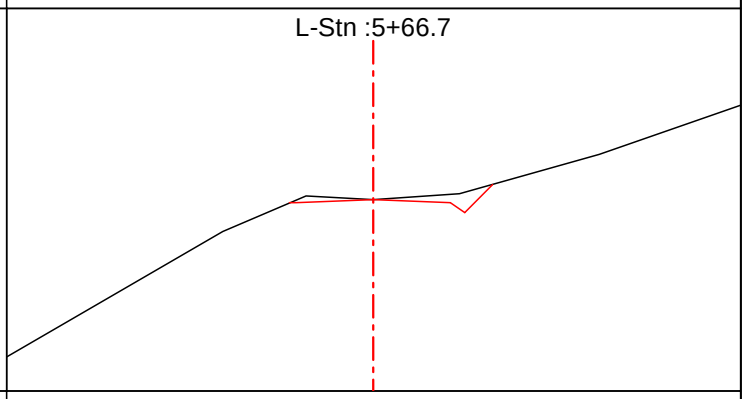
P-Stn : 4+66.9 Cut Dp: 0.4 CL Elev: 78.6
V.Offset: 0.0 H. Offset: 2.8 Index: 110

L-Stn :5+05.7



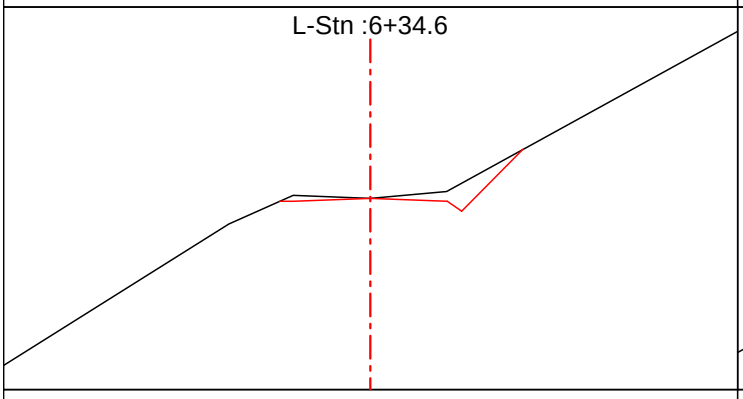
P-Stn : 5+08.2 Cut Dp: 0.4 CL Elev: 76.2
V.Offset: 0.0 H. Offset: 4.2 Index: 111

L-Stn :5+66.7



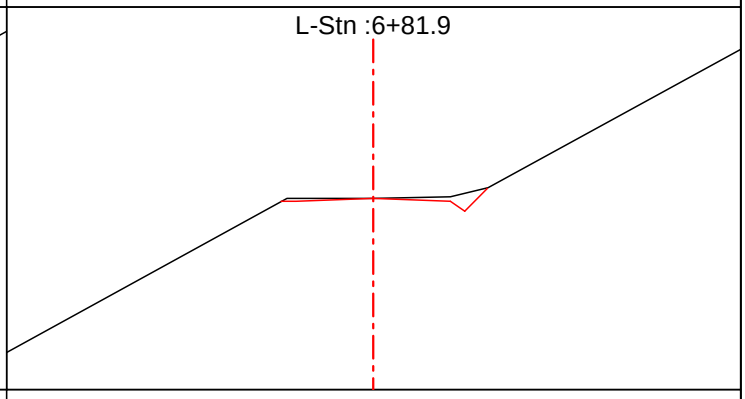
P-Stn : 5+69.2 Cut Dp: 0.0 CL Elev: 72.5
V.Offset: 0.0 H. Offset: 0.0 Index: 112

L-Stn :6+34.6



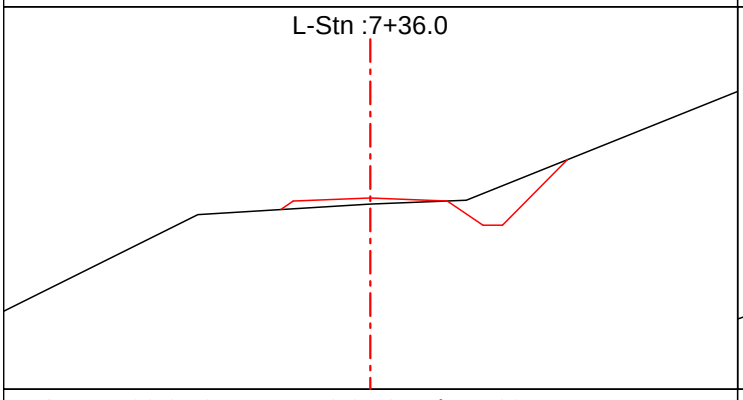
P-Stn : 6+37.1 Cut Dp: 0.0 CL Elev: 70.5
V.Offset: 0.0 H. Offset: 0.0 Index: 113

L-Stn :6+81.9



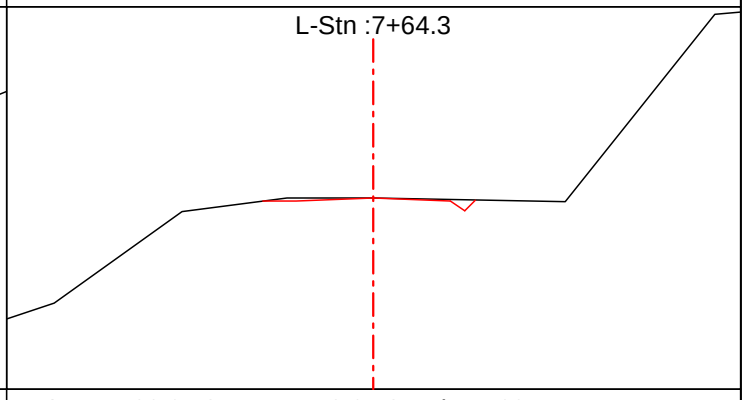
P-Stn : 6+84.4 Cut Dp: 0.0 CL Elev: 69.5
V.Offset: 0.0 H. Offset: 0.0 Index: 114

L-Stn :7+36.0



P-Stn : 7+38.6 Cut Dp: -0.6 CL Elev: 68.5
V.Offset: 0.6 H. Offset: 0.0 Index: 115

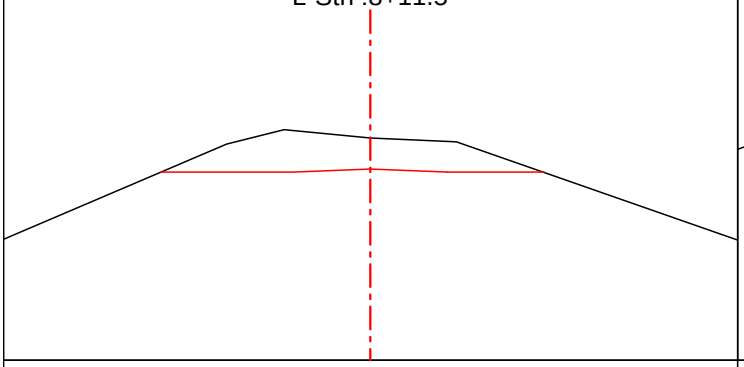
L-Stn :7+64.3



P-Stn : 7+66.9 Cut Dp: 0.0 CL Elev: 68.7
V.Offset: 0.0 H. Offset: 0.0 Index: 116

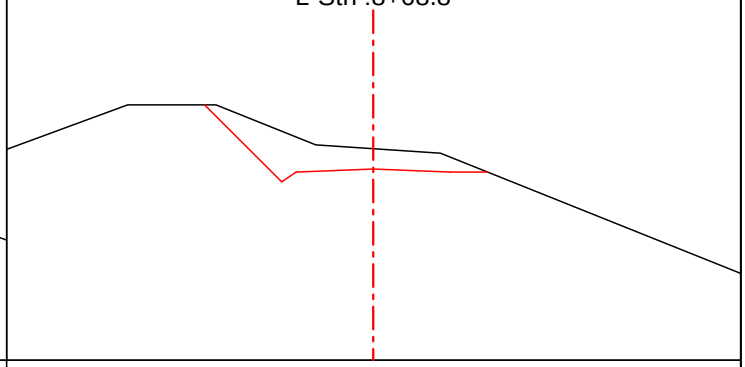
Softree Section	Scale 1:240	P. 3
C:\ProgramData\Softree\Data\hurdle\prelim\spur4		19/08/21

L-Stn :8+11.5



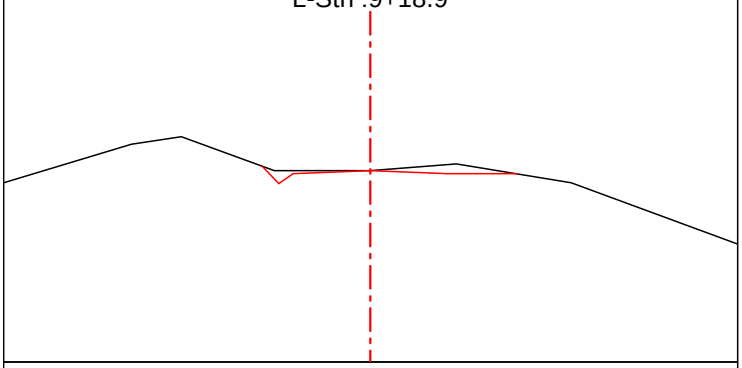
P-Stn : 8+14.1 Cut Dp: 3.2 CL Elev: 71.6
V.Offset: -3.2 H. Offset: 0.0 Index: 117

L-Stn :8+68.8

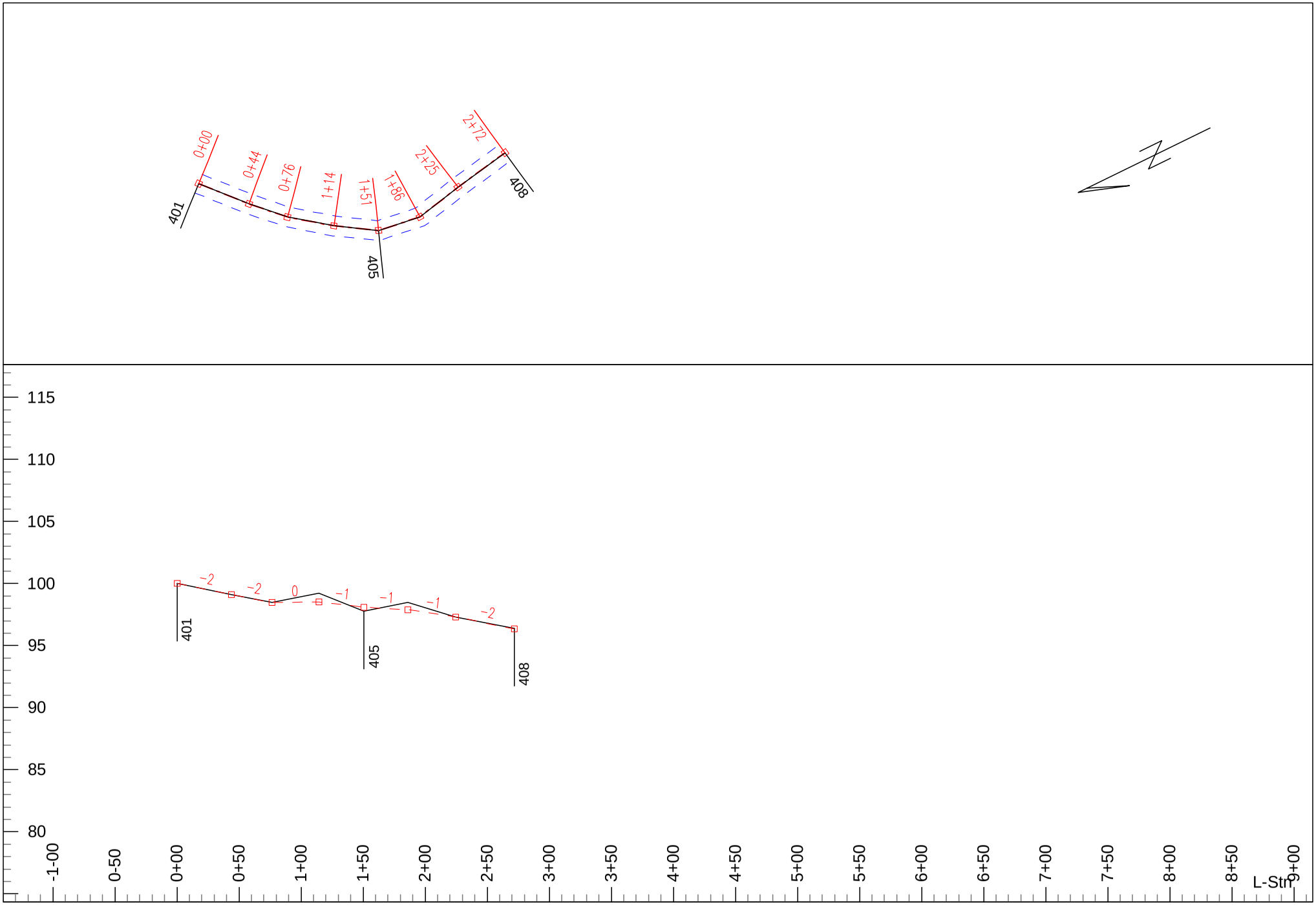


P-Stn : 8+71.4 Cut Dp: 2.1 CL Elev: 73.3
V.Offset: -2.1 H. Offset: 0.0 Index: 118

L-Stn :9+18.9



P-Stn : 9+21.4 Cut Dp: 0.0 CL Elev: 72.9
V.Offset: 0.0 H. Offset: 0.0 Index: 119



Hurdle Timber Sale
Spur 5
Contract #: 30-097377

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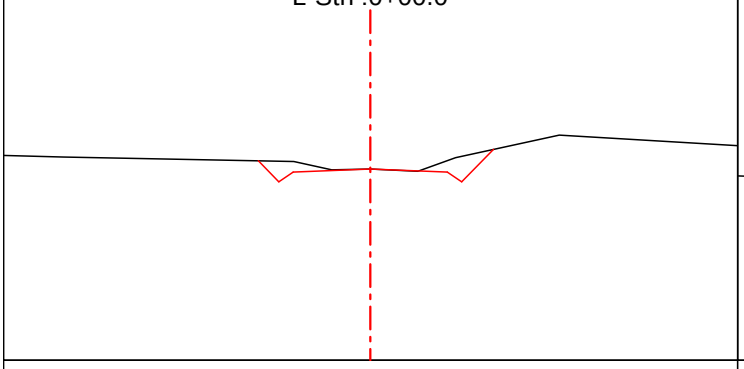
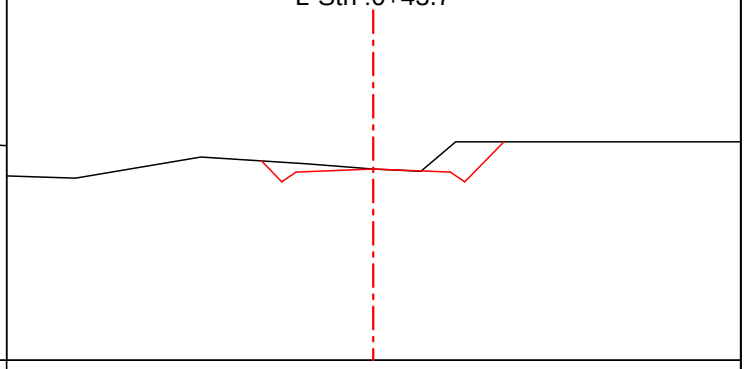
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur5		19/08/21

L-Stn :0+00.0



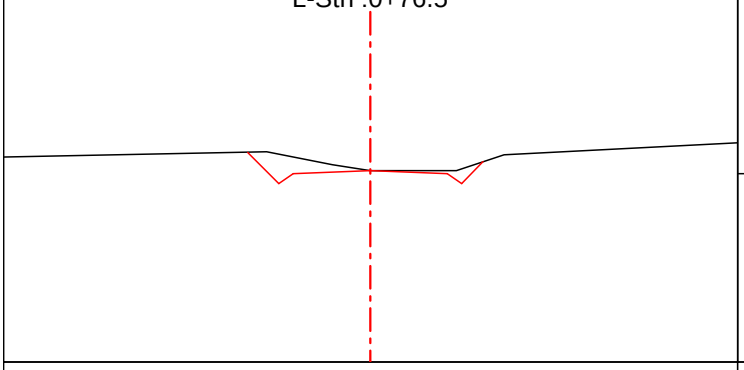
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	401

L-Stn :0+43.7



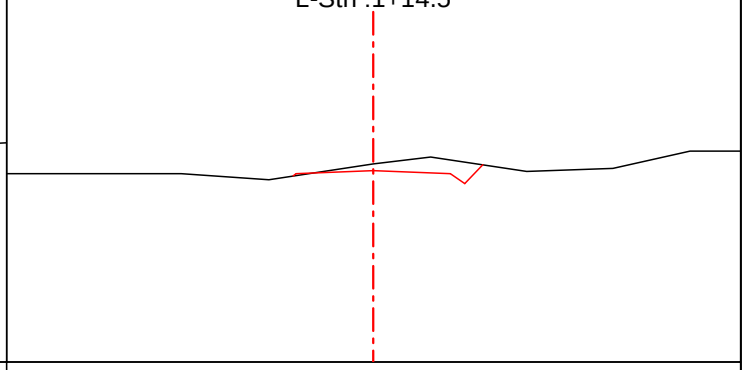
P-Stn :	0+43.7	Cut Dp:	0.0	CL Elev:	99.1
V.Offset:	0.0	H. Offset:	0.0	Index:	402

L-Stn :0+76.5



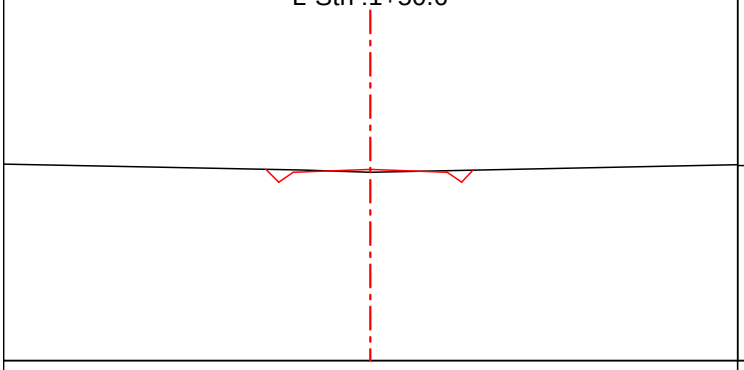
P-Stn :	0+76.5	Cut Dp:	0.0	CL Elev:	98.5
V.Offset:	0.0	H. Offset:	0.0	Index:	403

L-Stn :1+14.5



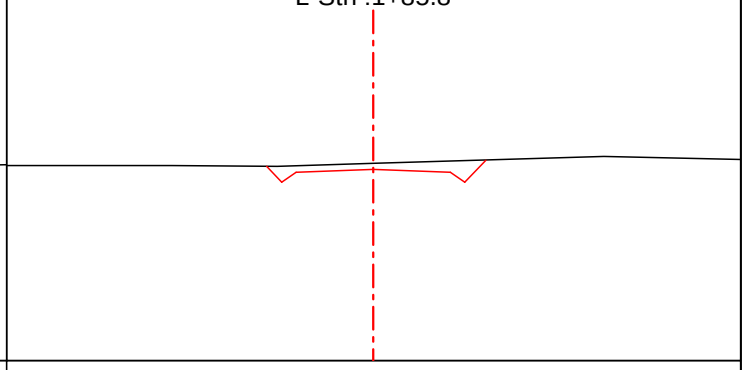
P-Stn :	1+14.5	Cut Dp:	0.7	CL Elev:	98.5
V.Offset:	-0.7	H. Offset:	0.0	Index:	404

L-Stn :1+50.6



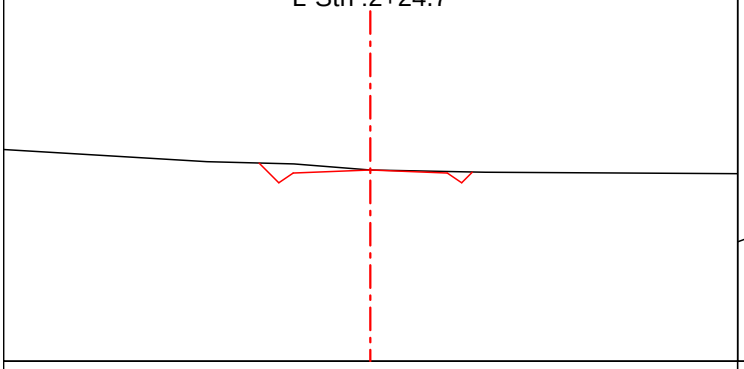
P-Stn :	1+50.6	Cut Dp:	-0.3	CL Elev:	98.1
V.Offset:	0.3	H. Offset:	0.0	Index:	405

L-Stn :1+85.8



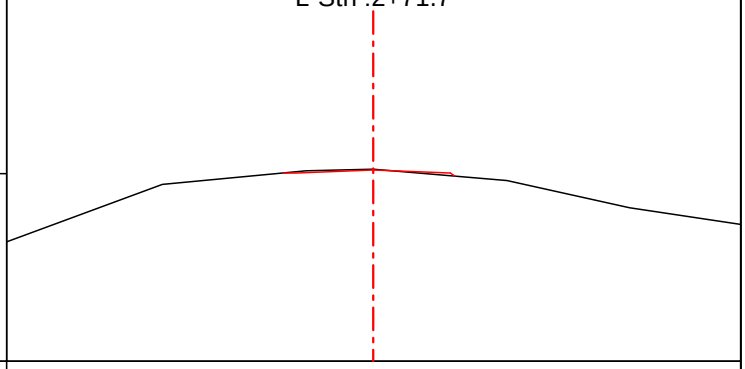
P-Stn :	1+85.8	Cut Dp:	0.6	CL Elev:	97.9
V.Offset:	-0.6	H. Offset:	0.0	Index:	406

L-Stn :2+24.7

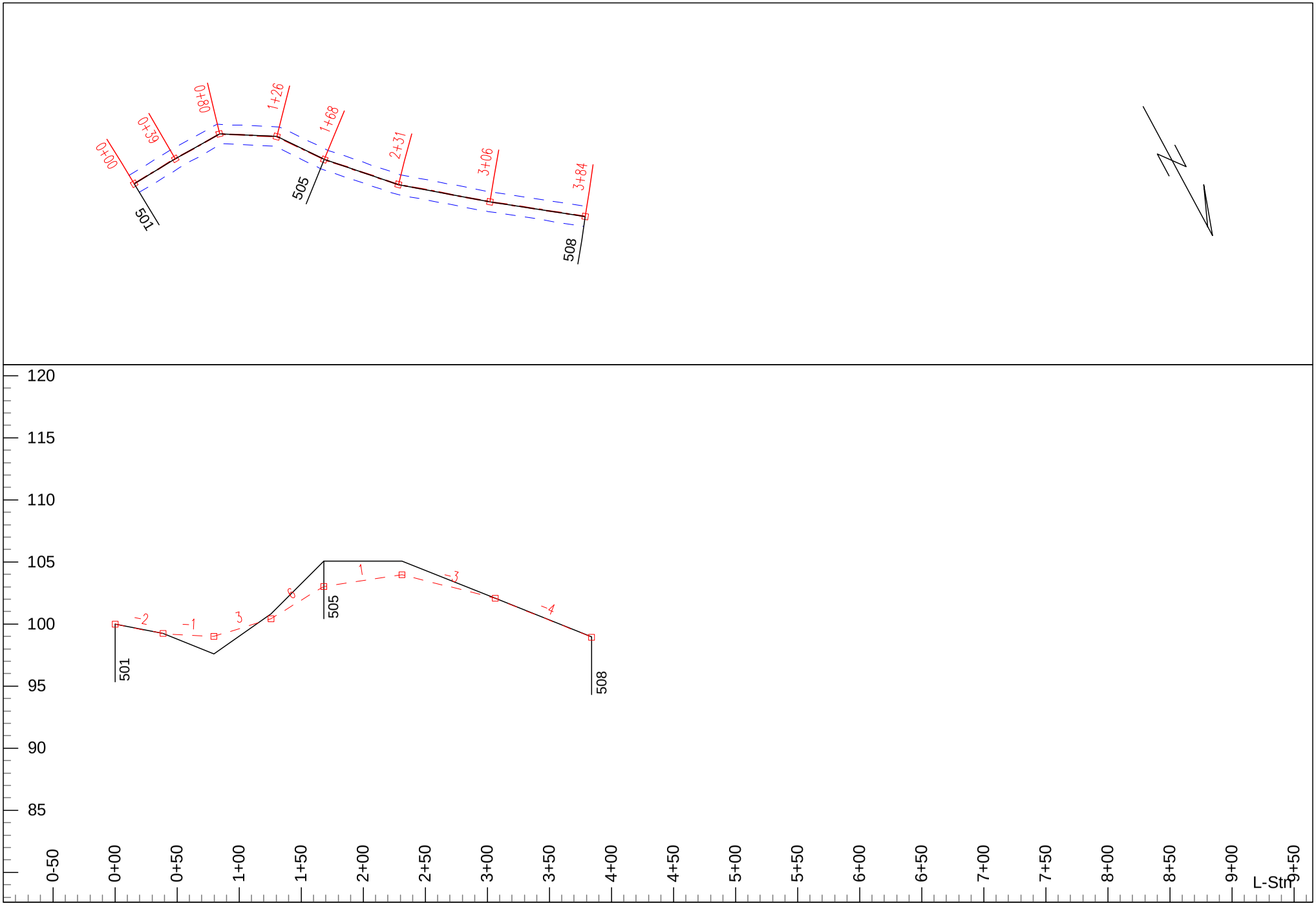


P-Stn :	2+24.7	Cut Dp:	0.0	CL Elev:	97.3
V.Offset:	0.0	H. Offset:	0.0	Index:	407

L-Stn :2+71.7



P-Stn :	2+71.7	Cut Dp:	0.0	CL Elev:	96.3
V.Offset:	0.0	H. Offset:	0.0	Index:	408



Hurdle Timber Sale
Spur 6
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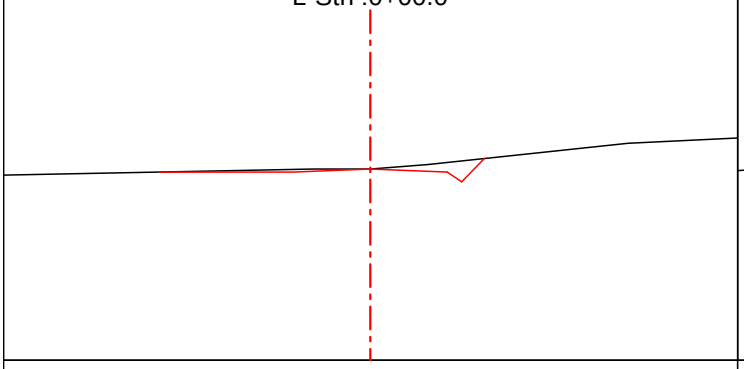
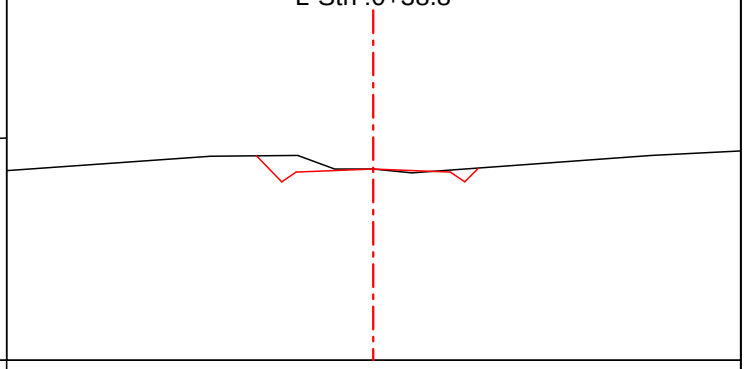
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur6		19/08/21

L-Stn :0+00.0



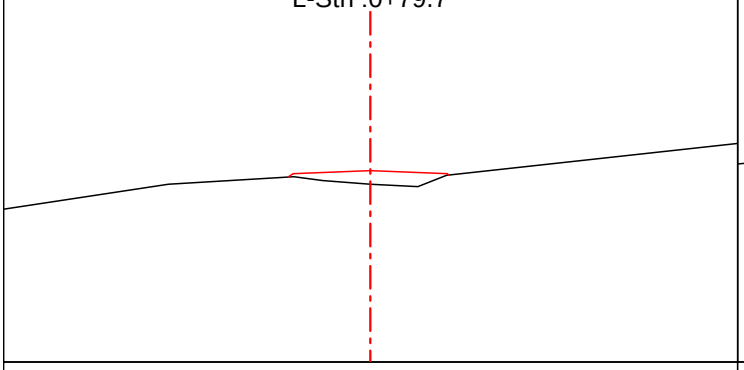
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	501

L-Stn :0+38.8



P-Stn :	0+38.8	Cut Dp:	0.0	CL Elev:	99.2
V.Offset:	0.0	H. Offset:	0.0	Index:	502

L-Stn :0+79.7

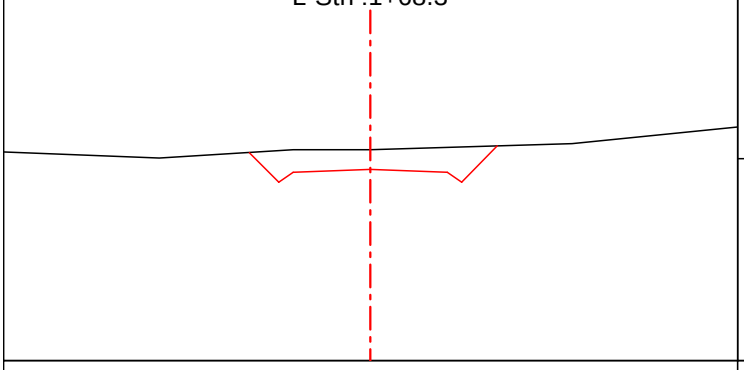


P-Stn :	0+79.7	Cut Dp:	-1.4	CL Elev:	99.0
V.Offset:	1.4	H. Offset:	0.0	Index:	503

L-Stn :1+25.7

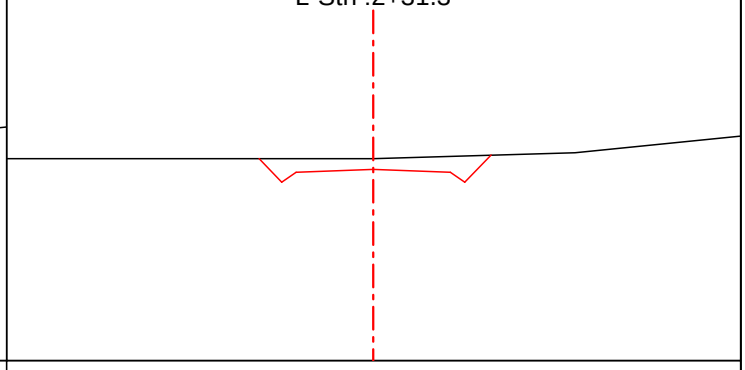
P-Stn :	1+25.7	Cut Dp:	0.4	CL Elev:	100.4
V.Offset:	-0.4	H. Offset:	0.0	Index:	504

L-Stn :1+68.3



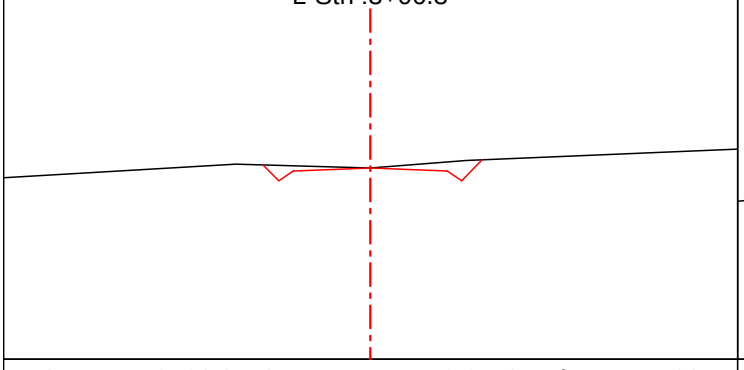
P-Stn :	1+68.3	Cut Dp:	2.0	CL Elev:	103.0
V.Offset:	-2.0	H. Offset:	0.0	Index:	505

L-Stn :2+31.3



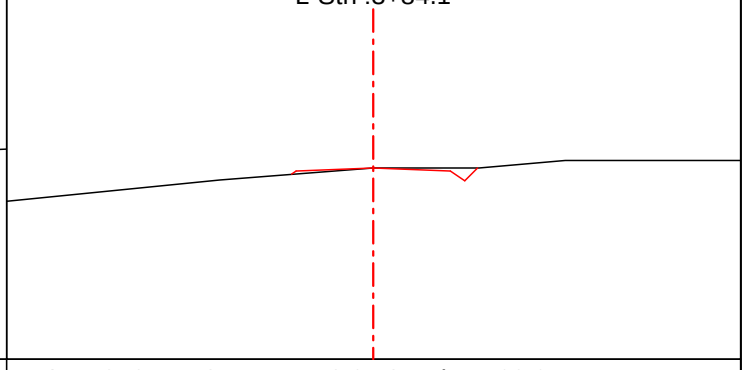
P-Stn :	2+31.3	Cut Dp:	1.1	CL Elev:	104.0
V.Offset:	-1.1	H. Offset:	0.0	Index:	506

L-Stn :3+06.3

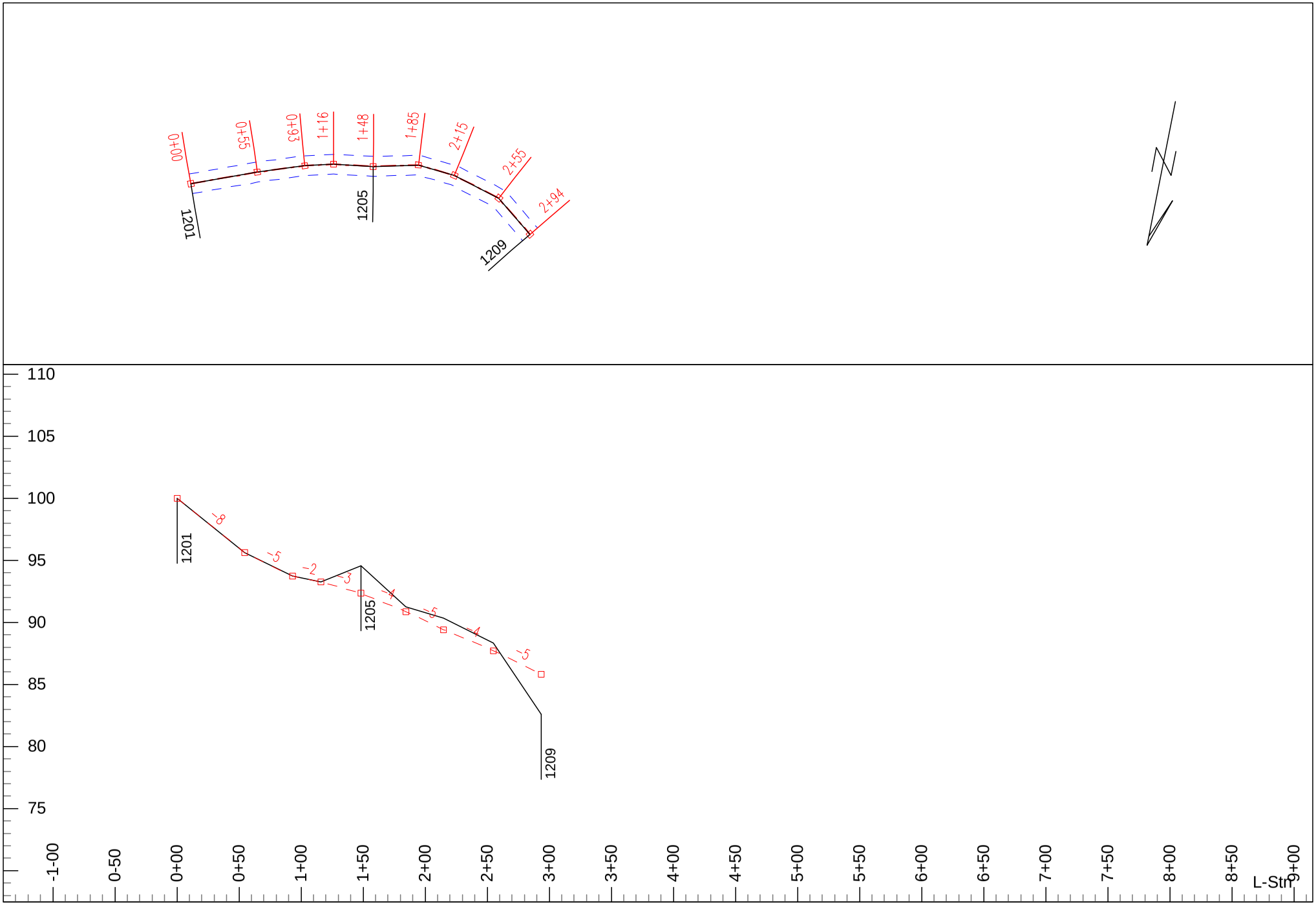


P-Stn :	3+06.3	Cut Dp:	0.0	CL Elev:	102.1
V.Offset:	0.0	H. Offset:	0.0	Index:	507

L-Stn :3+84.1



P-Stn :	3+84.1	Cut Dp:	0.0	CL Elev:	98.9
V.Offset:	0.0	H. Offset:	0.0	Index:	508



Hurdle Timber Sale
Spur 7
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Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

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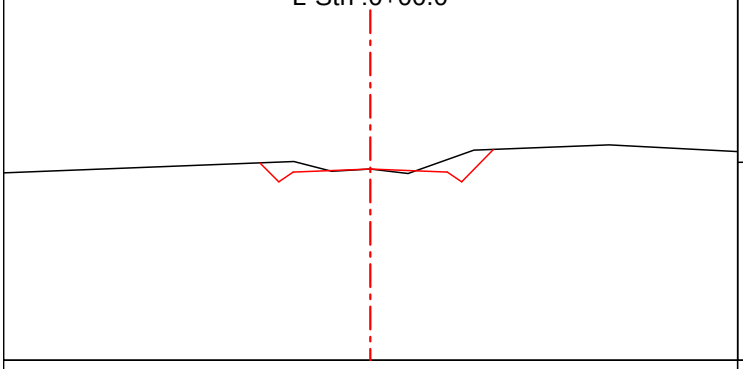
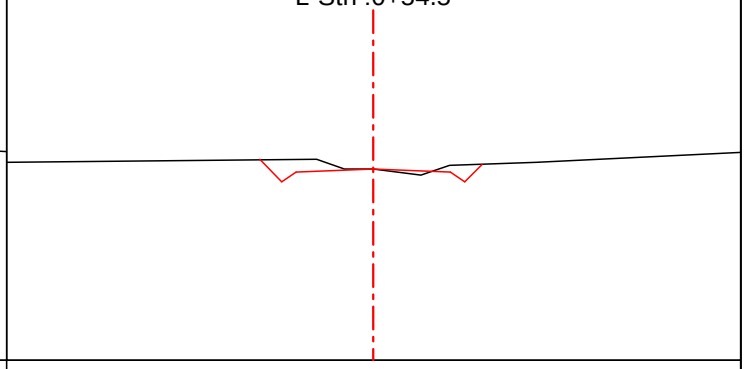
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur7		19/08/21

L-Stn :0+00.0



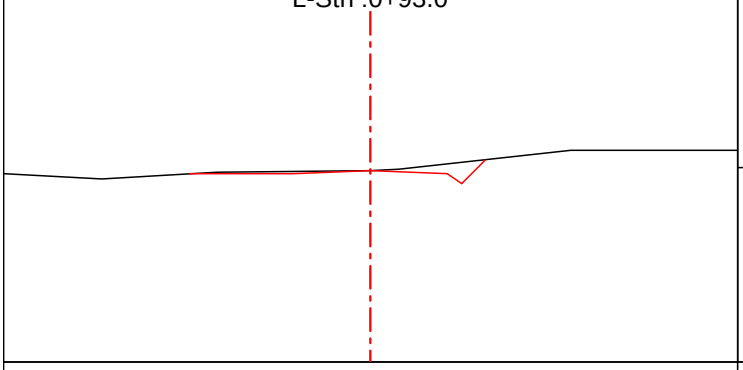
P-Stn : 0+00.0 Cut Dp: 0.0 CL Elev: 100.0
V.Offset: 0.0 H. Offset: 0.0 Index: 1201

L-Stn :0+54.5



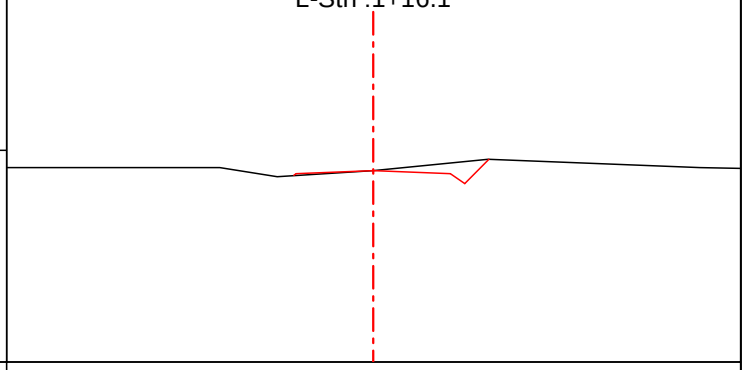
P-Stn : 0+54.5 Cut Dp: 0.0 CL Elev: 95.6
V.Offset: 0.0 H. Offset: 0.0 Index: 1202

L-Stn :0+93.0



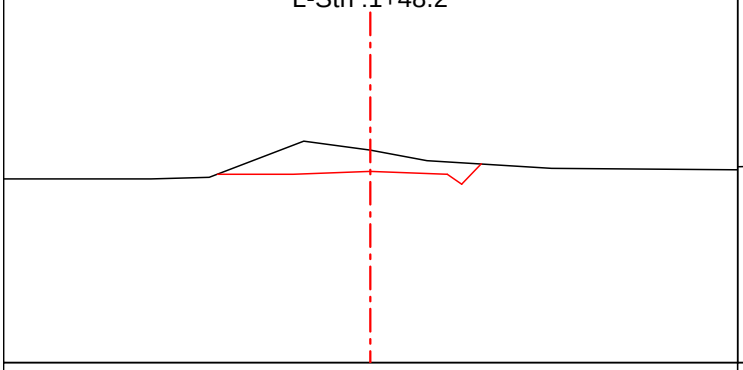
P-Stn : 0+93.0 Cut Dp: 0.0 CL Elev: 93.7
V.Offset: 0.0 H. Offset: 0.0 Index: 1203

L-Stn :1+16.1



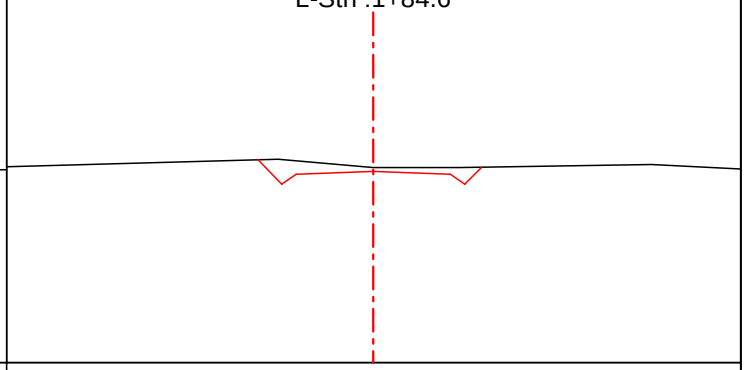
P-Stn : 1+16.1 Cut Dp: 0.0 CL Elev: 93.3
V.Offset: 0.0 H. Offset: 0.0 Index: 1204

L-Stn :1+48.2



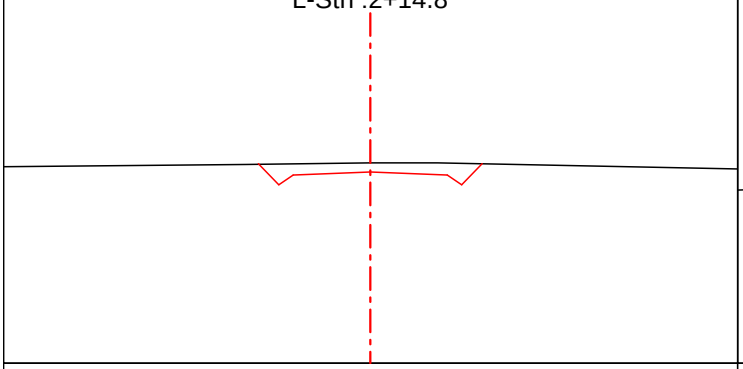
P-Stn : 1+48.2 Cut Dp: 2.2 CL Elev: 92.3
V.Offset: -2.2 H. Offset: 0.0 Index: 1205

L-Stn :1+84.6



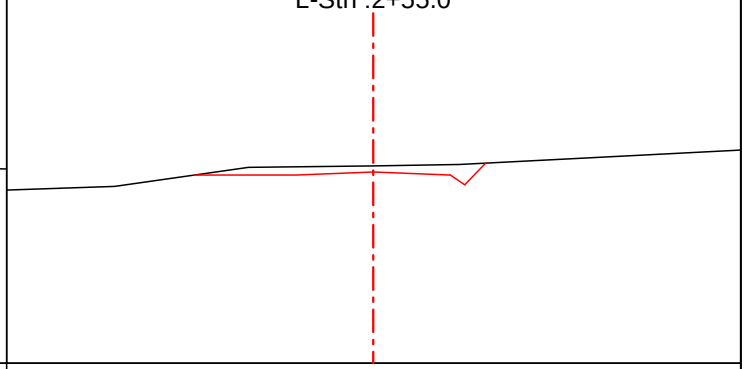
P-Stn : 1+84.6 Cut Dp: 0.4 CL Elev: 90.9
V.Offset: -0.4 H. Offset: 0.0 Index: 1206

L-Stn :2+14.8



P-Stn : 2+14.8 Cut Dp: 0.9 CL Elev: 89.4
V.Offset: -0.9 H. Offset: 0.0 Index: 1207

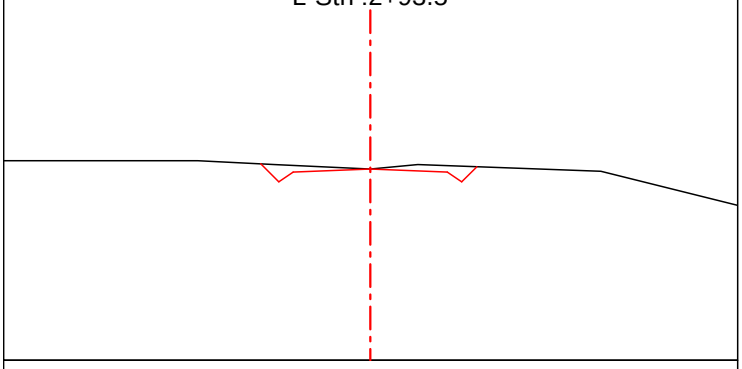
L-Stn :2+55.0



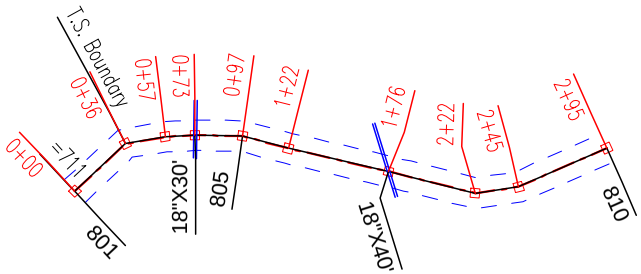
P-Stn : 2+55.0 Cut Dp: 0.6 CL Elev: 87.7
V.Offset: -0.6 H. Offset: 0.0 Index: 1208

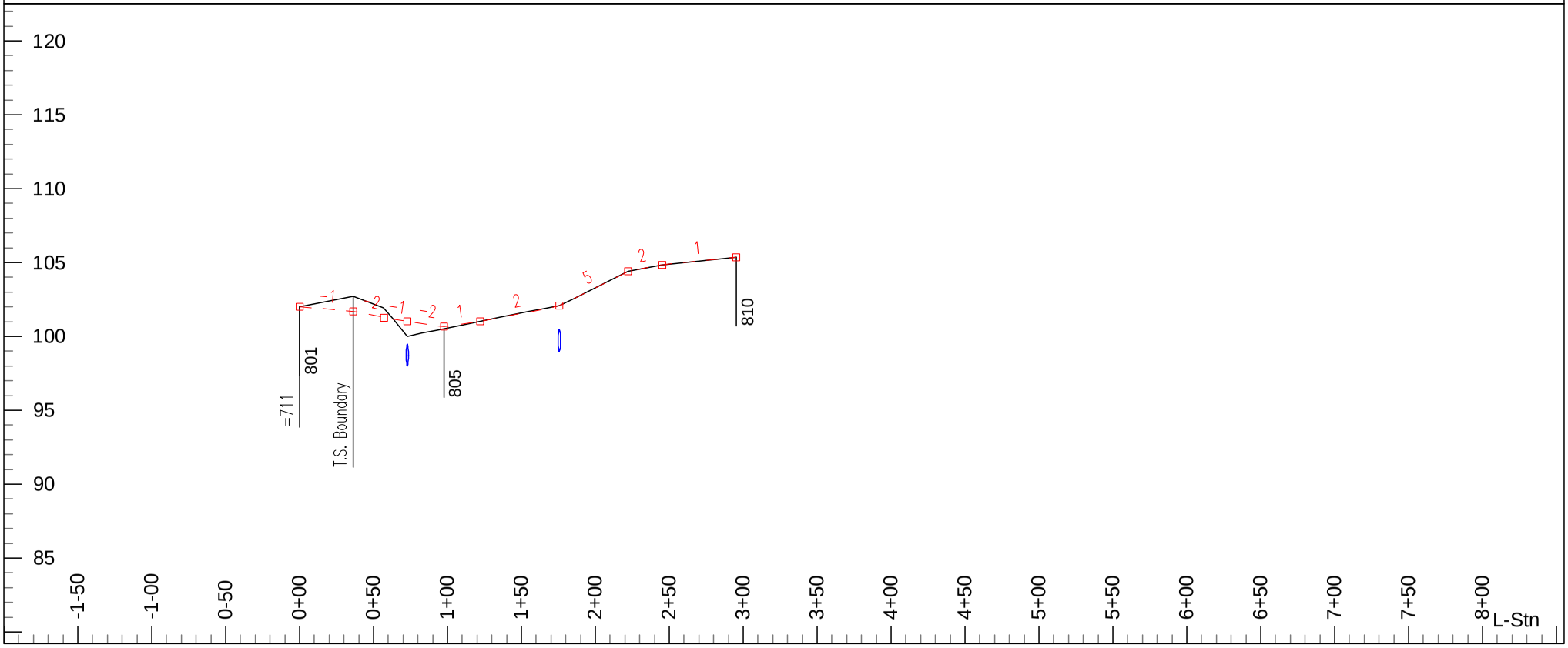
Softree Section	Scale 1:240	P. 2
C:\ProgramData\Softree\Data\hurdle\prelim\spur7		19/08/21

L-Stn :2+93.5



P-Stn : 2+93.5 Cut Dp: 0.0 CL Elev: 82.6
V.Offset: 0.0 H. Offset: 0.0 Index: 1209





Hurdle Timber Sale
Spur 8
Contract #: 30-097377

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Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

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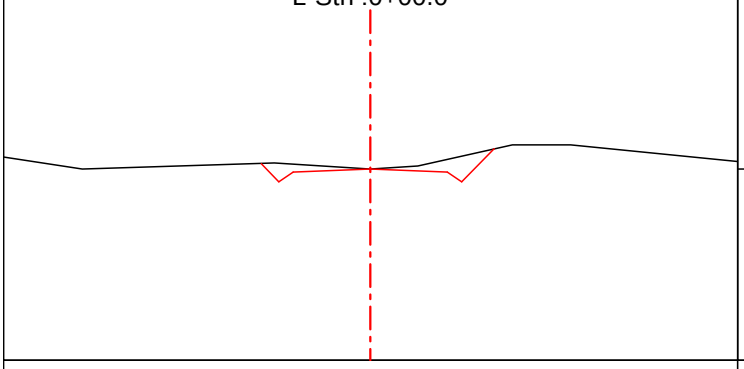
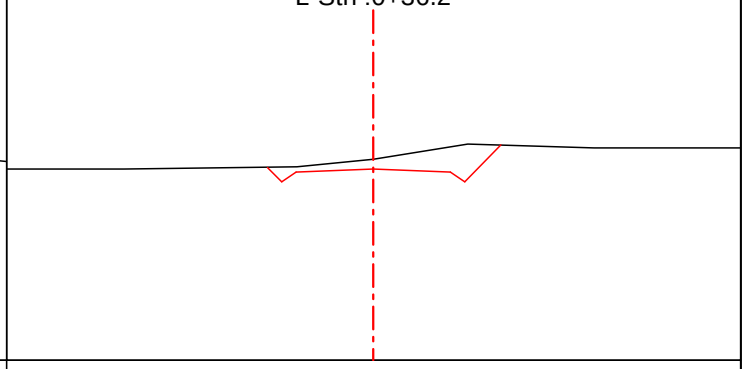
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur8		19/08/26

L-Stn :0+00.0



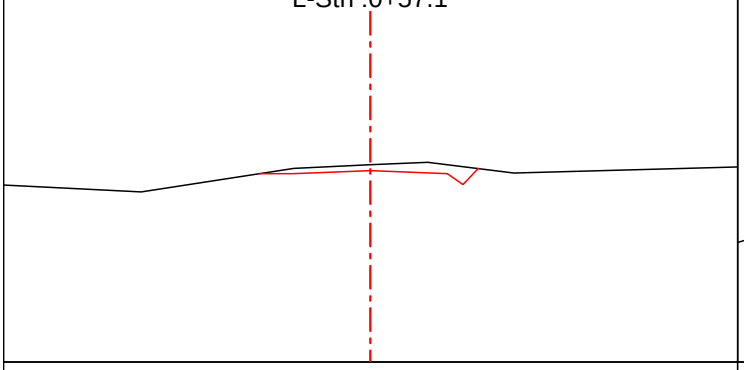
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	102.0
V.Offset:	0.0	H. Offset:	0.0	Index:	801

L-Stn :0+36.2



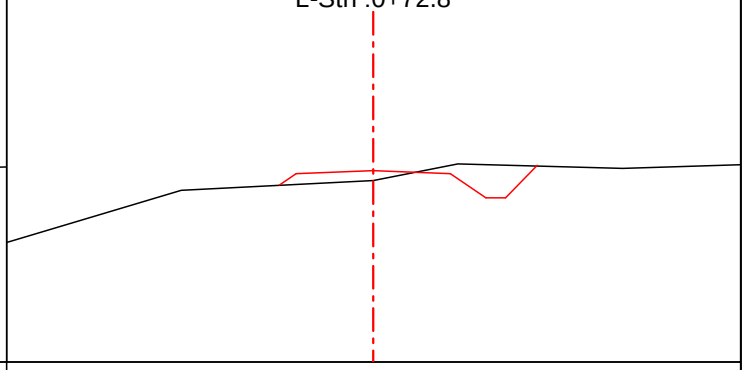
P-Stn :	0+36.2	Cut Dp:	1.0	CL Elev:	101.7
V.Offset:	-1.0	H. Offset:	0.0	Index:	802

L-Stn :0+57.1



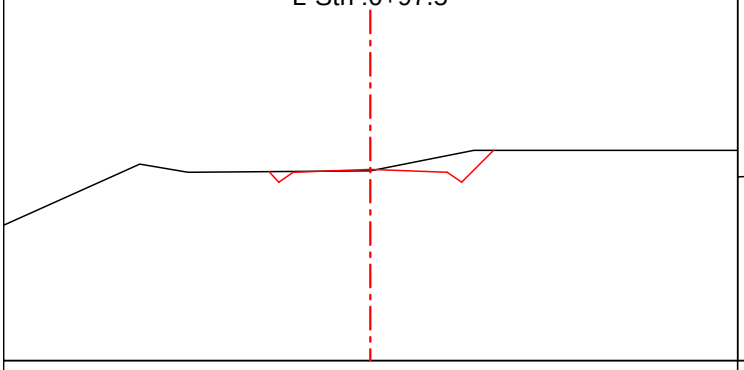
P-Stn :	0+57.1	Cut Dp:	0.6	CL Elev:	101.3
V.Offset:	-0.6	H. Offset:	0.0	Index:	803

L-Stn :0+72.8



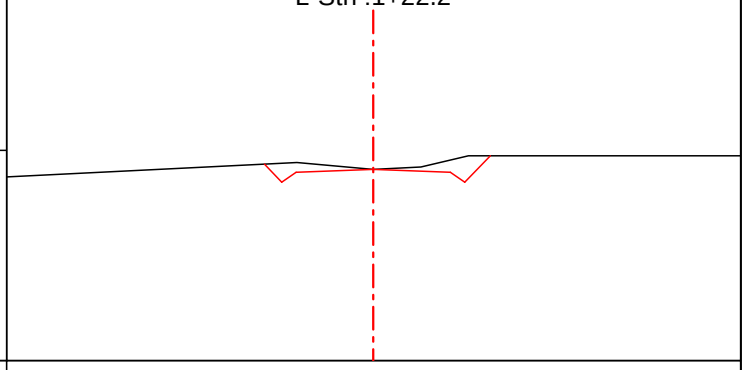
P-Stn :	0+72.8	Cut Dp:	-1.0	CL Elev:	101.0
V.Offset:	1.0	H. Offset:	0.0	Index:	804

L-Stn :0+97.5



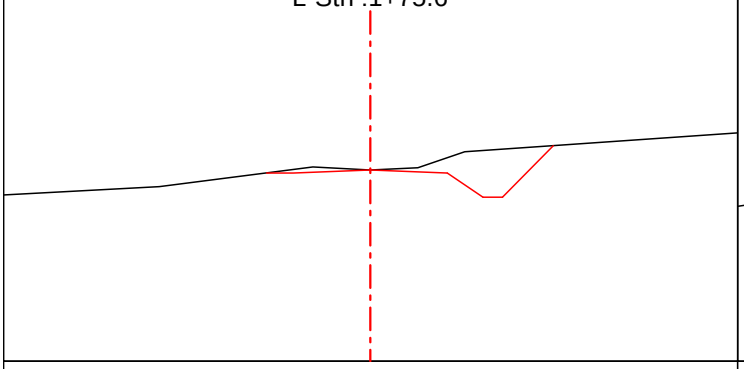
P-Stn :	0+97.5	Cut Dp:	-0.2	CL Elev:	100.7
V.Offset:	0.2	H. Offset:	0.0	Index:	805

L-Stn :1+22.2



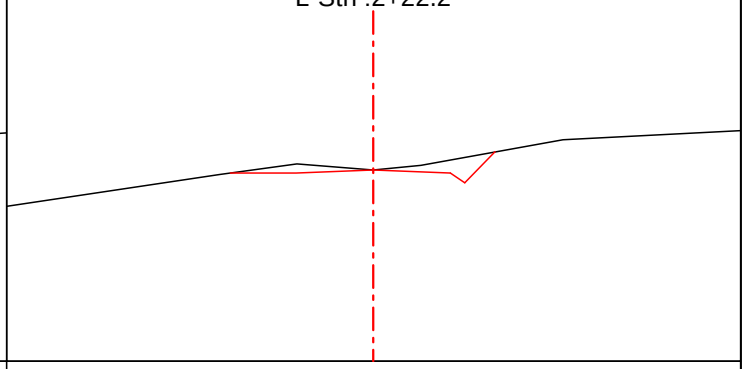
P-Stn :	1+22.2	Cut Dp:	0.0	CL Elev:	101.0
V.Offset:	0.0	H. Offset:	0.0	Index:	806

L-Stn :1+75.6



P-Stn :	1+75.6	Cut Dp:	0.0	CL Elev:	102.1
V.Offset:	0.0	H. Offset:	0.0	Index:	807

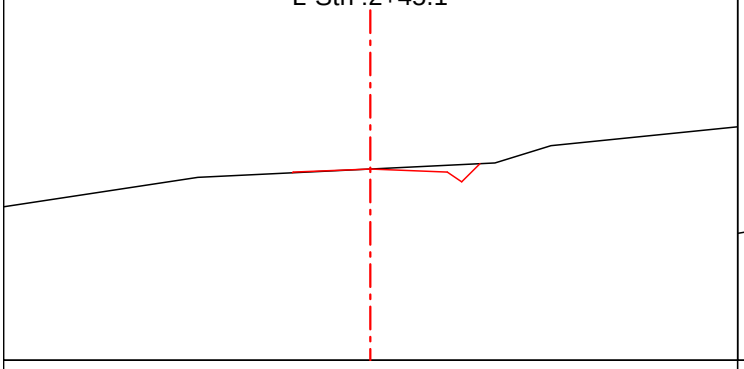
L-Stn :2+22.2



P-Stn :	2+22.2	Cut Dp:	0.0	CL Elev:	104.4
V.Offset:	0.0	H. Offset:	0.0	Index:	808

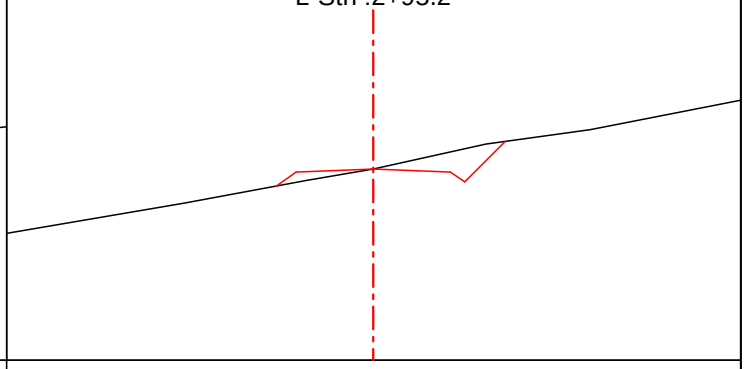
Softree Section	Scale 1:240	P. 2
C:\ProgramData\Softree\Data\hurdle\prelim\spur8		19/08/26

L-Stn :2+45.1

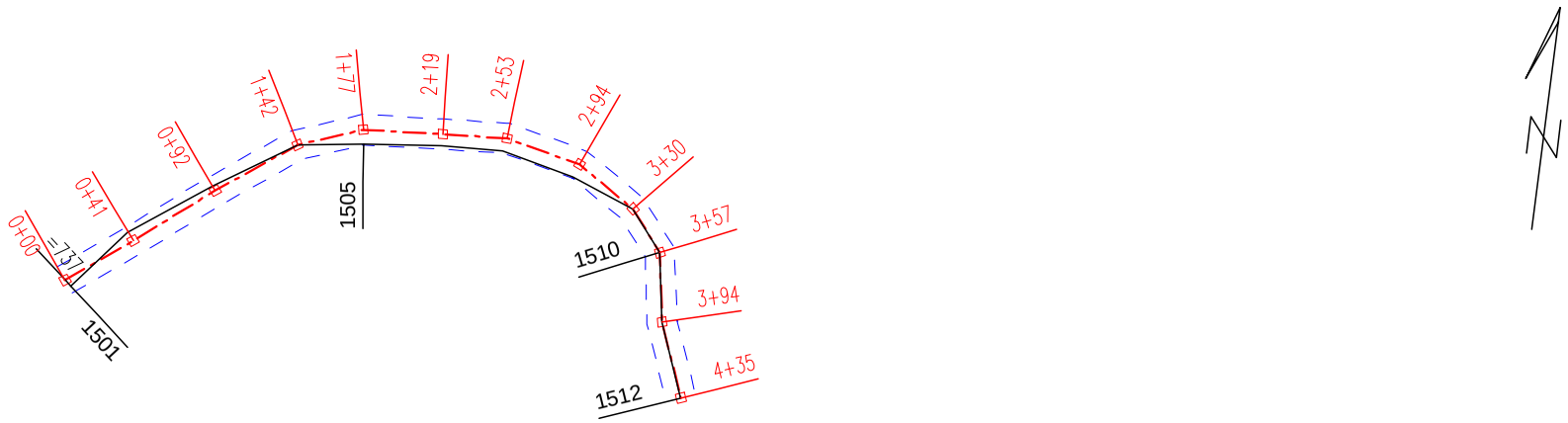


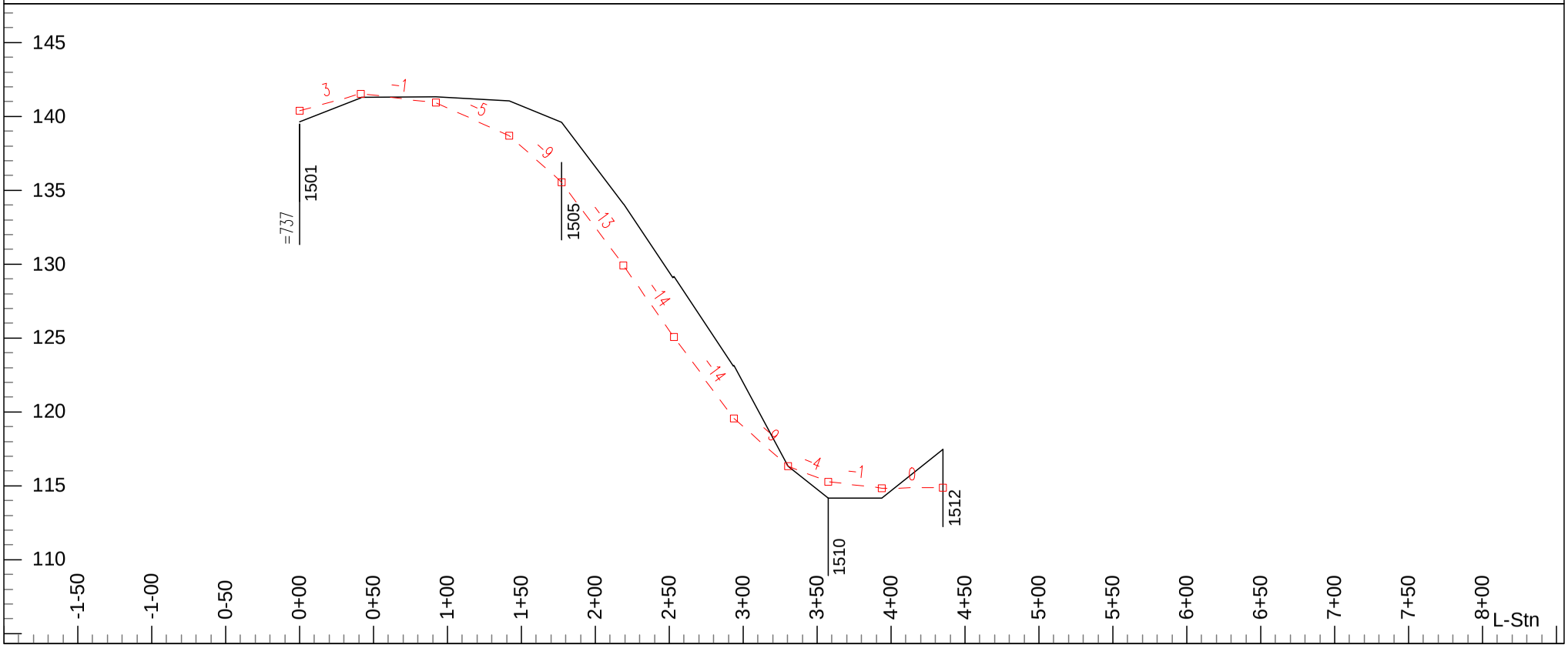
P-Stn :	2+45.1	Cut Dp:	0.0	CL Elev:	104.9
V.Offset:	0.0	H. Offset:	0.0	Index:	809

L-Stn :2+95.2



P-Stn :	2+95.2	Cut Dp:	0.0	CL Elev:	105.4
V.Offset:	0.0	H. Offset:	0.0	Index:	810





Hurdle Timber Sale
Spur 9
Contract #: 30-097377

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Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

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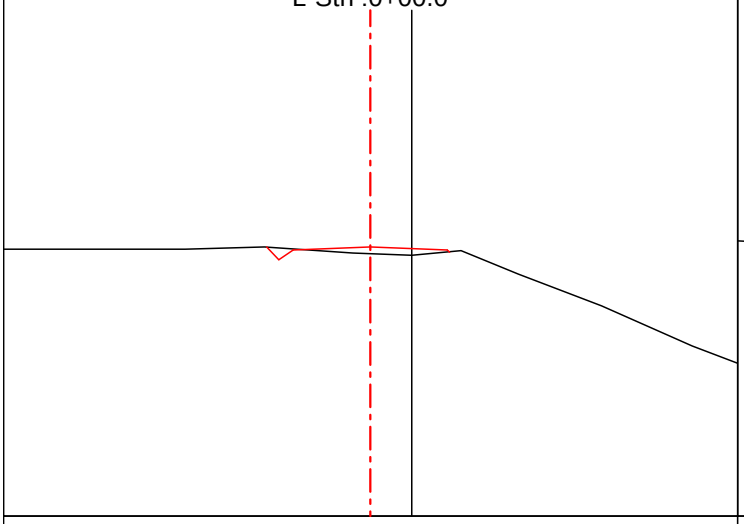
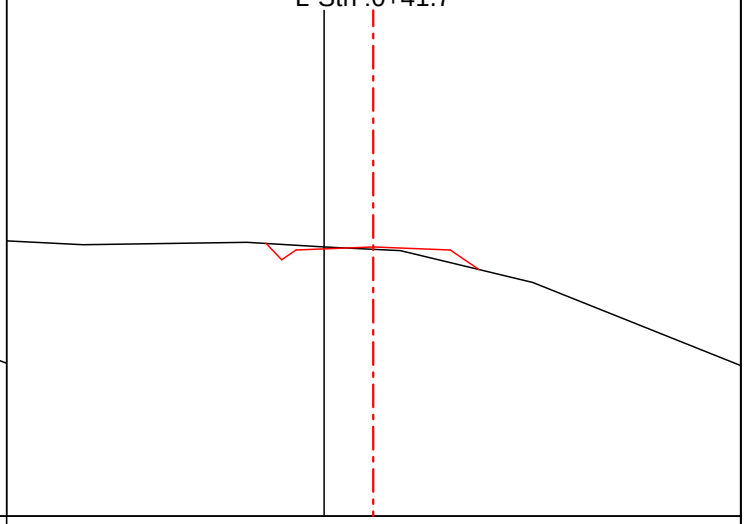
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur9		19/08/26

L-Stn :0+00.0



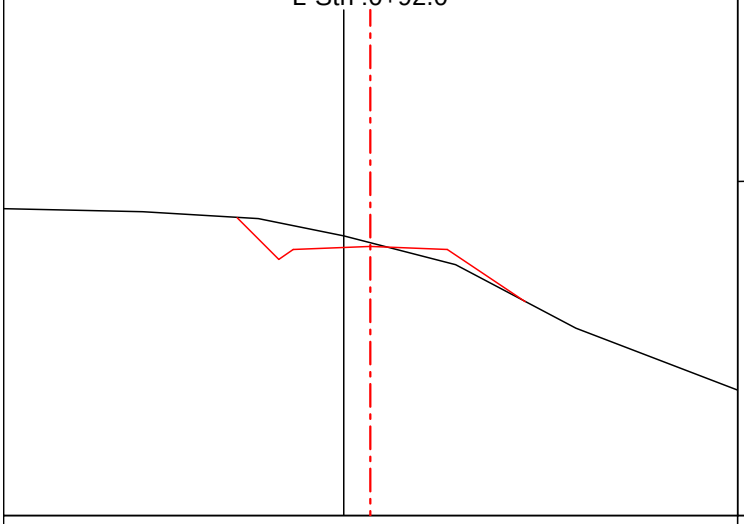
P-Stn :	0+00.0	Cut Dp:	-0.7	CL Elev:	140.4
V.Offset:	0.9	H. Offset:	-4.2	Index:	1501

L-Stn :0+41.7



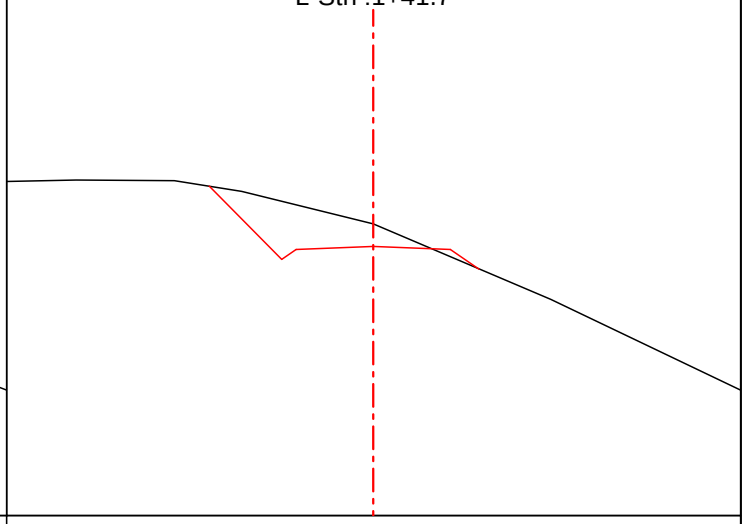
P-Stn :	0+41.2	Cut Dp:	-0.3	CL Elev:	141.5
V.Offset:	0.0	H. Offset:	5.1	Index:	1502

L-Stn :0+92.0



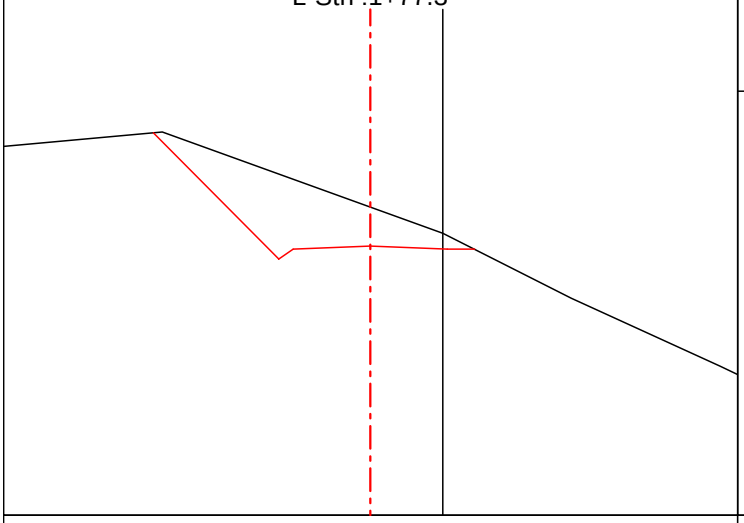
P-Stn :	0+92.2	Cut Dp:	0.4	CL Elev:	140.9
V.Offset:	-1.1	H. Offset:	2.8	Index:	1503

L-Stn :1+41.7



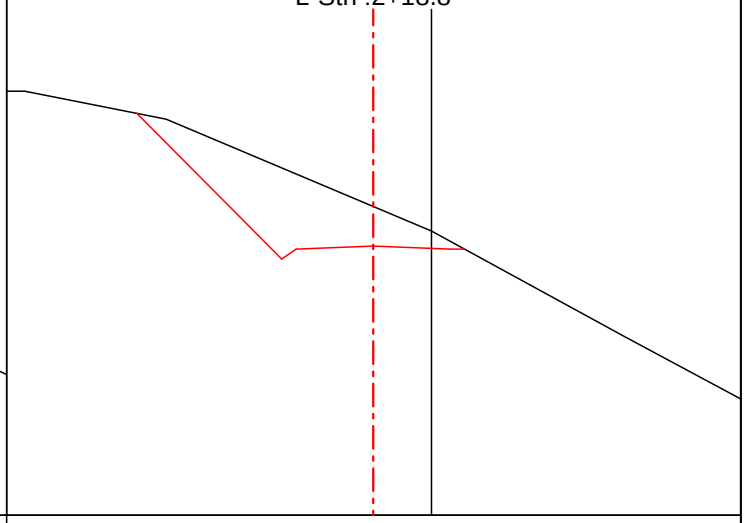
P-Stn :	1+41.9	Cut Dp:	2.4	CL Elev:	138.7
V.Offset:	-2.4	H. Offset:	0.0	Index:	1504

L-Stn :1+77.3



P-Stn :	1+76.6	Cut Dp:	4.1	CL Elev:	135.5
V.Offset:	-1.4	H. Offset:	-7.5	Index:	1505

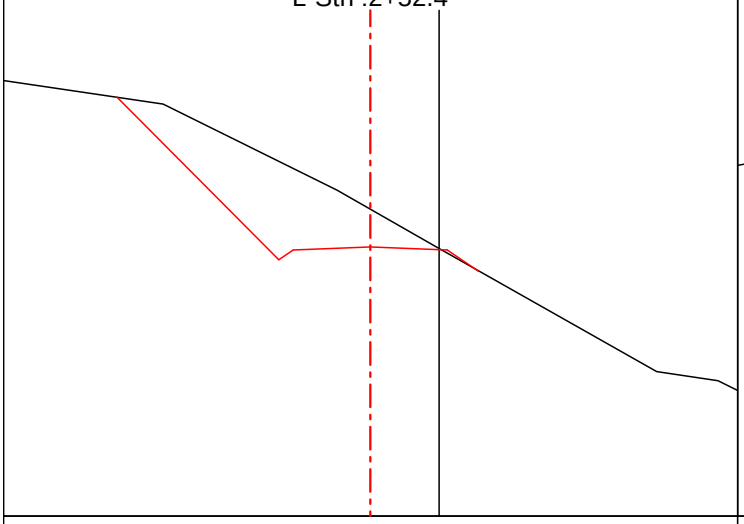
L-Stn :2+18.8



P-Stn :	2+17.7	Cut Dp:	4.2	CL Elev:	129.9
V.Offset:	-1.6	H. Offset:	-6.0	Index:	1506

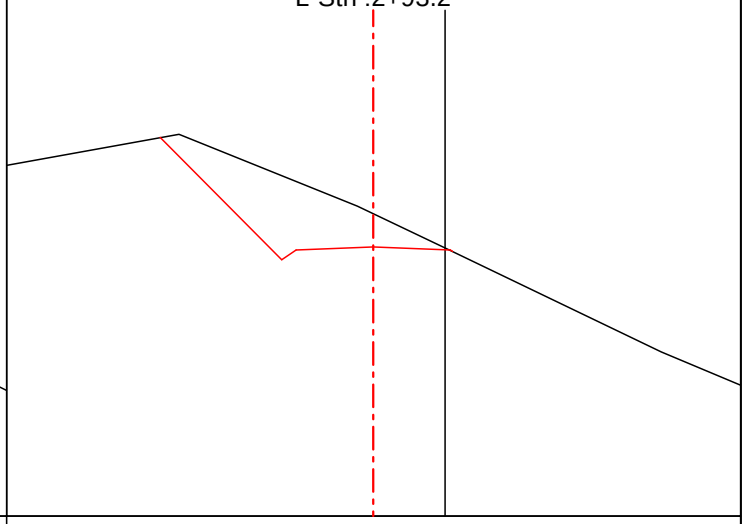
Softree Section	Scale 1:240	P. 2
C:\ProgramData\Softree\Data\hurdle\prelim\spur9		19/08/26

L-Stn :2+52.4



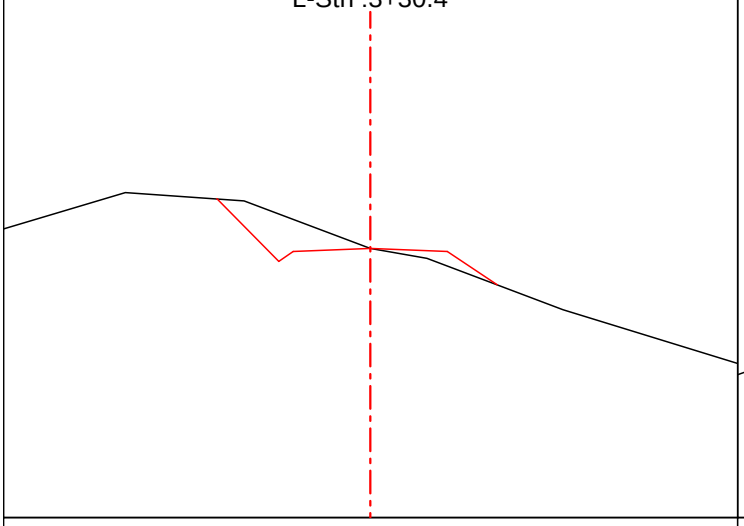
P-Stn :	2+50.2	Cut Dp:	3.9	CL Elev:	125.2
V.Offset:	0.1	H. Offset:	-6.9	Index:	1507

L-Stn :2+93.2



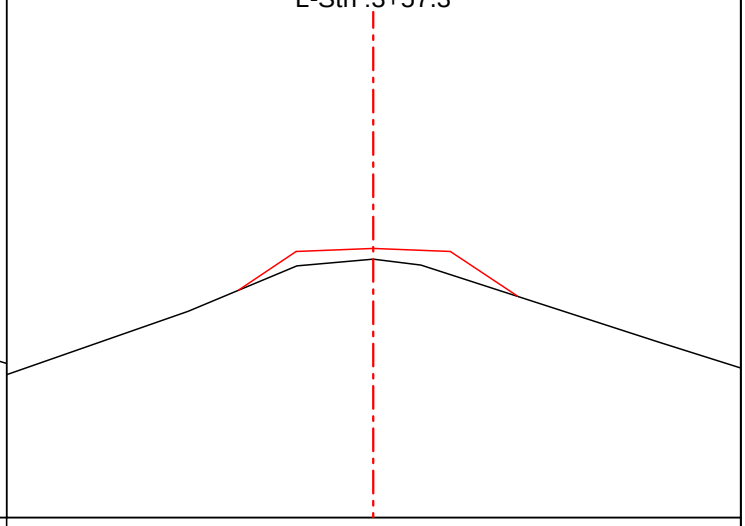
P-Stn :	2+89.5	Cut Dp:	3.5	CL Elev:	119.6
V.Offset:	0.1	H. Offset:	-7.4	Index:	1508

L-Stn :3+30.4



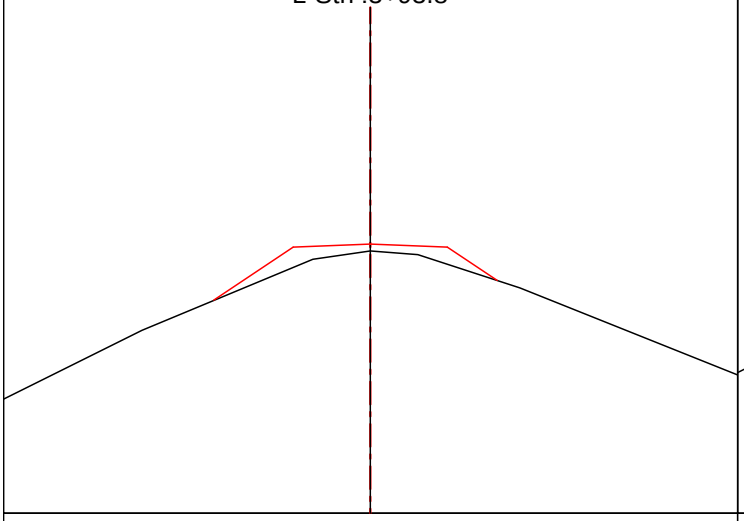
P-Stn :	3+25.5	Cut Dp:	0.0	CL Elev:	116.3
V.Offset:	0.0	H. Offset:	0.0	Index:	1509

L-Stn :3+57.3



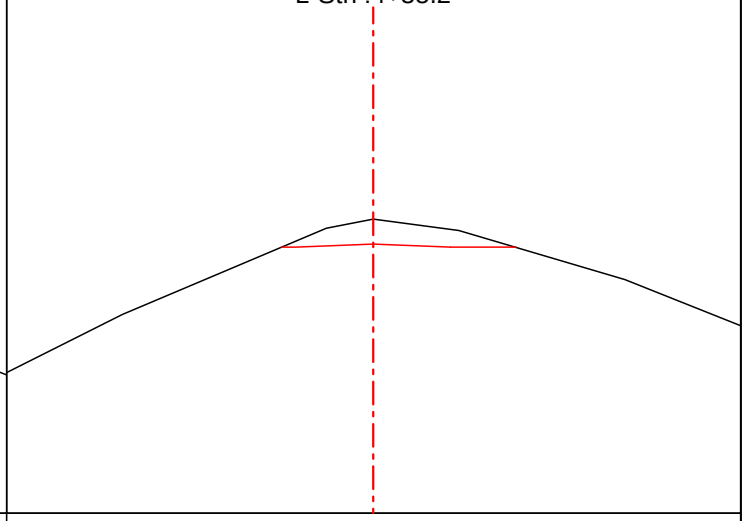
P-Stn :	3+52.4	Cut Dp:	-1.1	CL Elev:	115.3
V.Offset:	1.1	H. Offset:	0.0	Index:	1510

L-Stn :3+93.8

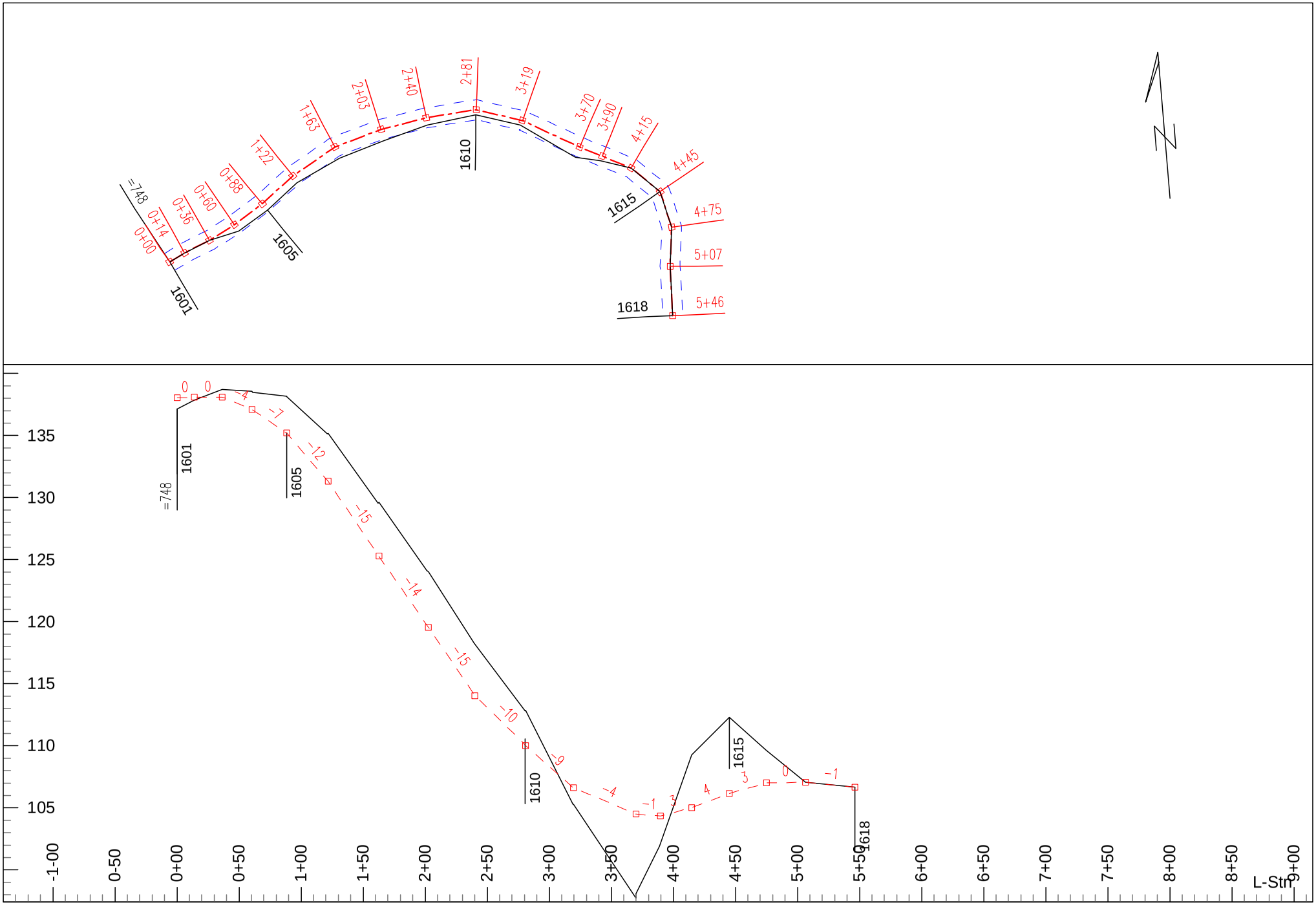


P-Stn :	3+88.9	Cut Dp:	-0.7	CL Elev:	114.9
V.Offset:	0.7	H. Offset:	0.0	Index:	1511

L-Stn :4+35.2



P-Stn :	4+30.3	Cut Dp:	2.6	CL Elev:	114.9
V.Offset:	-2.6	H. Offset:	0.0	Index:	1512



Hurdle Timber Sale
Spur 10
Contract #: 30-097377

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

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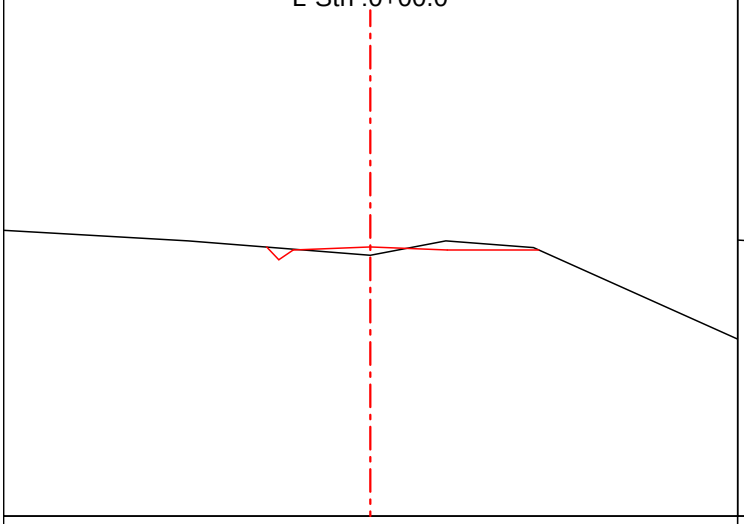
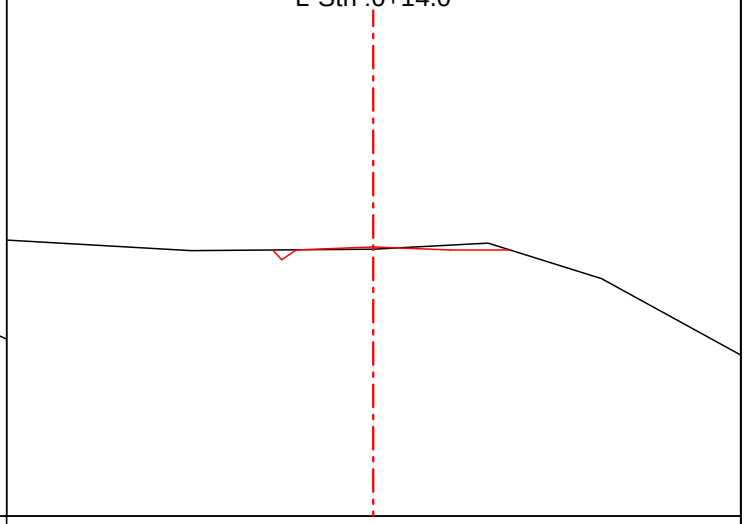
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur10		19/08/26

L-Stn :0+00.0



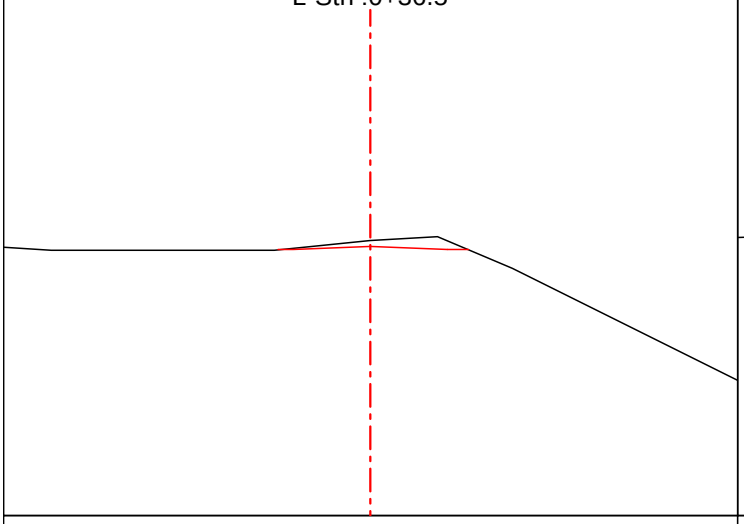
P-Stn :	0+00.0	Cut Dp:	-0.9	CL Elev:	138.0
V.Offset:	0.9	H. Offset:	0.0	Index:	1601

L-Stn :0+14.0



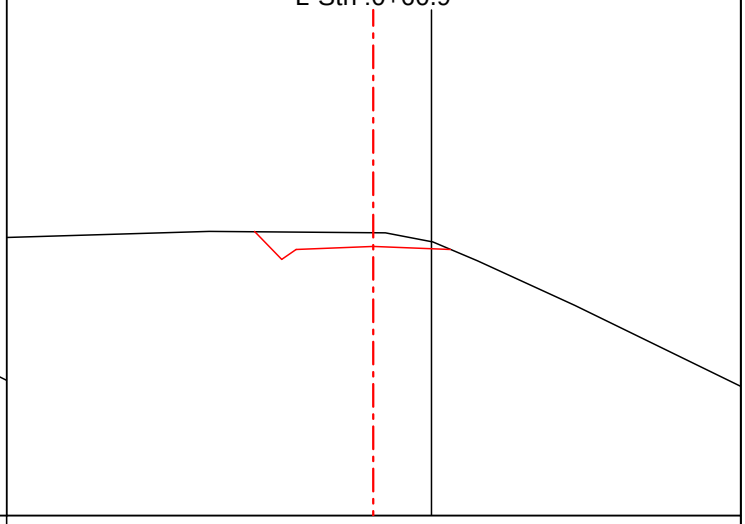
P-Stn :	0+14.0	Cut Dp:	-0.2	CL Elev:	138.1
V.Offset:	0.2	H. Offset:	0.0	Index:	1602

L-Stn :0+36.5



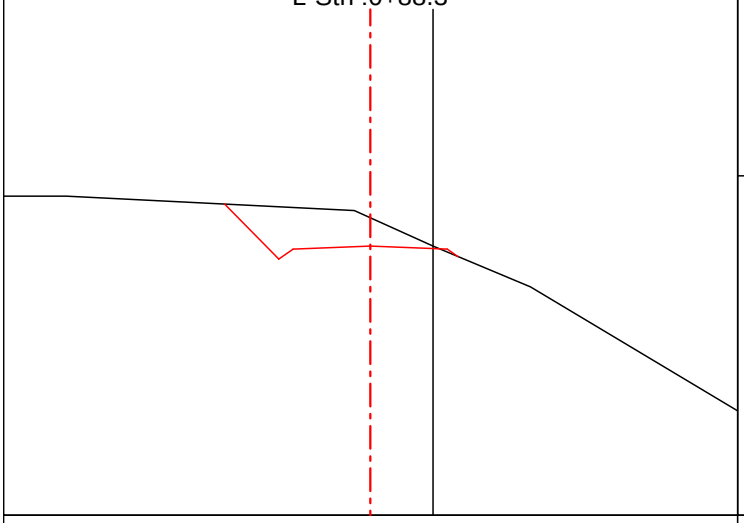
P-Stn :	0+36.5	Cut Dp:	0.6	CL Elev:	138.1
V.Offset:	-0.6	H. Offset:	0.0	Index:	1603

L-Stn :0+60.9



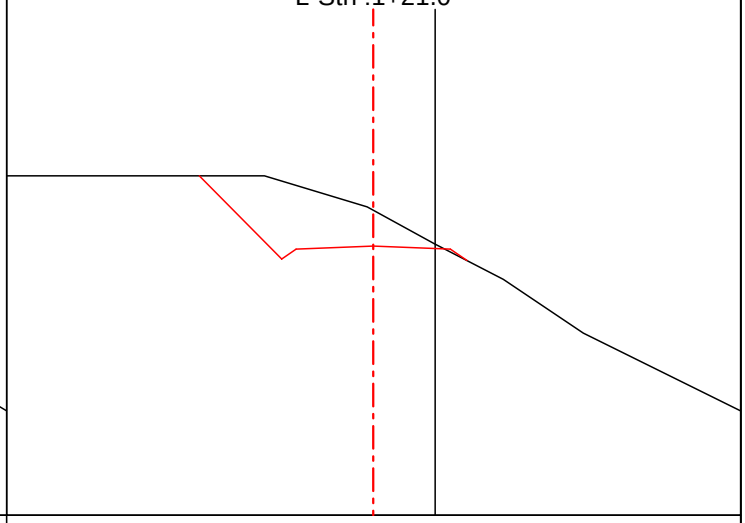
P-Stn :	0+61.1	Cut Dp:	1.4	CL Elev:	137.1
V.Offset:	-0.4	H. Offset:	-6.1	Index:	1604

L-Stn :0+88.3



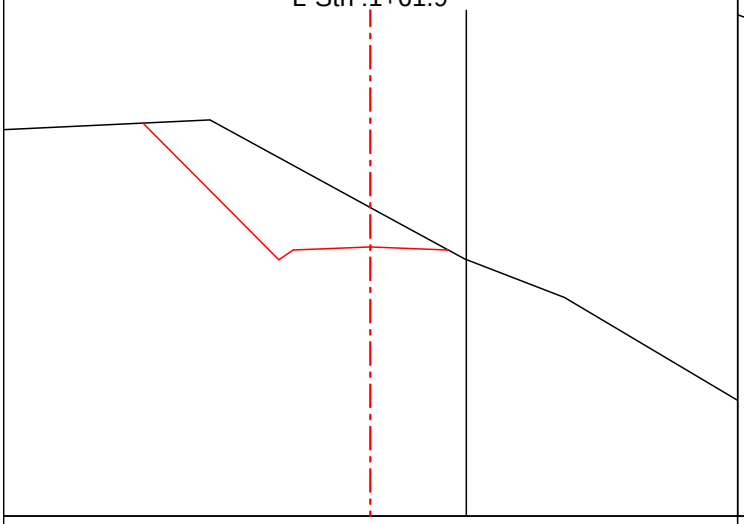
P-Stn :	0+89.8	Cut Dp:	2.9	CL Elev:	135.2
V.Offset:	0.0	H. Offset:	-6.5	Index:	1605

L-Stn :1+21.0



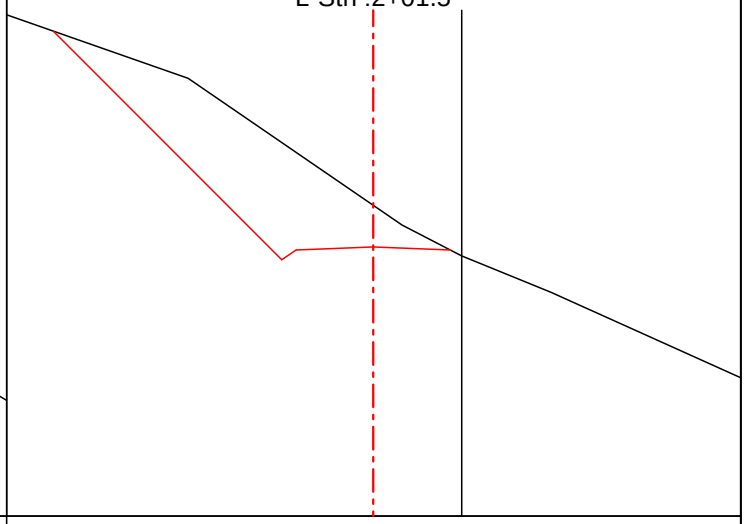
P-Stn :	1+22.2	Cut Dp:	3.7	CL Elev:	131.4
V.Offset:	-0.2	H. Offset:	-6.4	Index:	1606

L-Stn :1+61.9



P-Stn :	1+61.5	Cut Dp:	4.1	CL Elev:	125.4
V.Offset:	1.2	H. Offset:	-9.8	Index:	1607

L-Stn :2+01.5

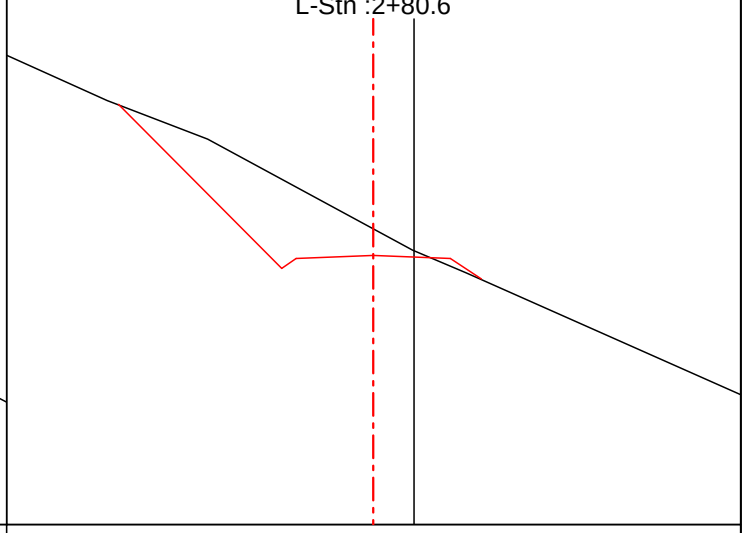


P-Stn :	2+00.3	Cut Dp:	4.4	CL Elev:	119.7
V.Offset:	1.0	H. Offset:	-9.2	Index:	1608

L-Stn :2+39.4

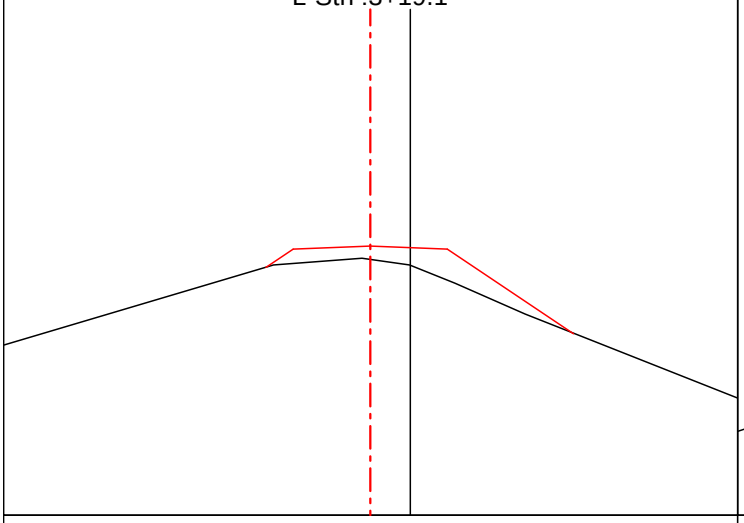
P-Stn :	2+37.4	Cut Dp:	4.1	CL Elev:	114.2
V.Offset:	-1.6	H. Offset:	-5.7	Index:	1609

L-Stn :2+80.6



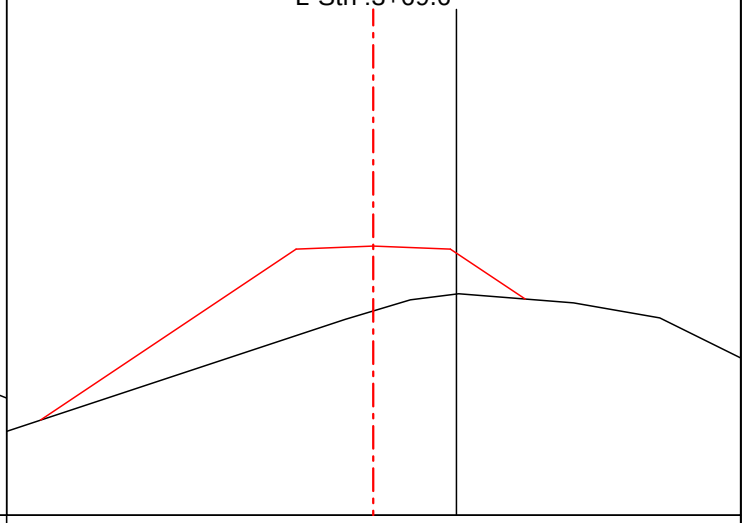
P-Stn :	2+77.4	Cut Dp:	2.7	CL Elev:	110.1
V.Offset:	-0.5	H. Offset:	-4.0	Index:	1610

L-Stn :3+19.1



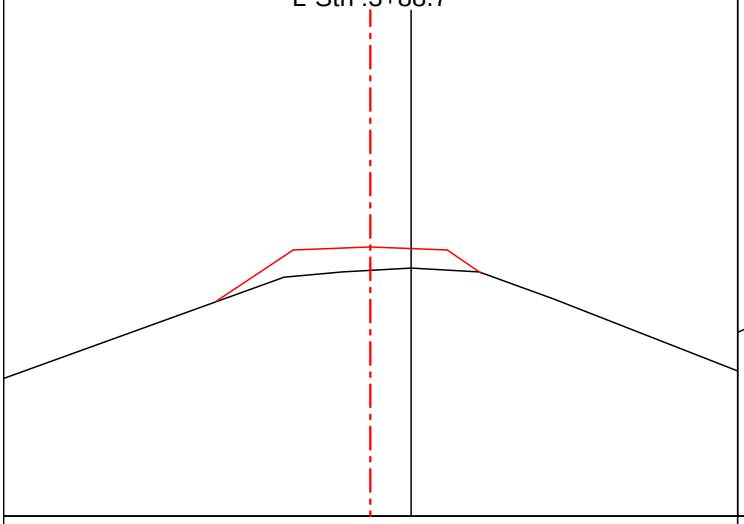
P-Stn :	3+14.3	Cut Dp:	-1.4	CL Elev:	106.7
V.Offset:	2.0	H. Offset:	-4.1	Index:	1611

L-Stn :3+69.6



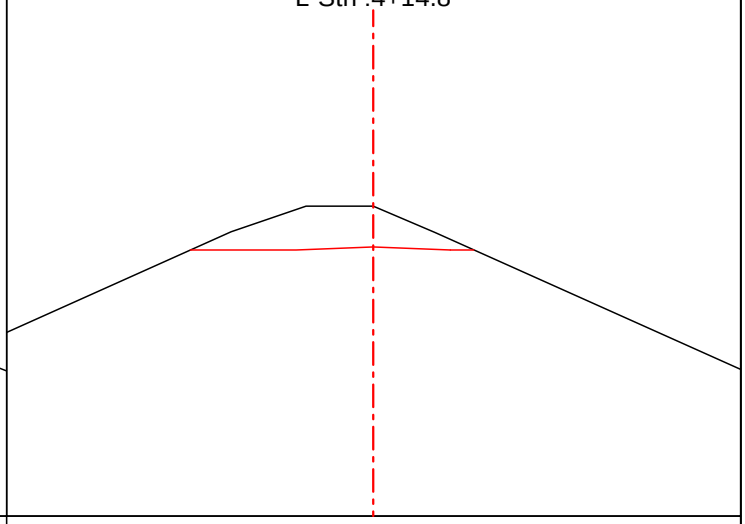
P-Stn :	3+65.8	Cut Dp:	-6.8	CL Elev:	104.5
V.Offset:	5.0	H. Offset:	-8.8	Index:	1612

L-Stn :3+88.7



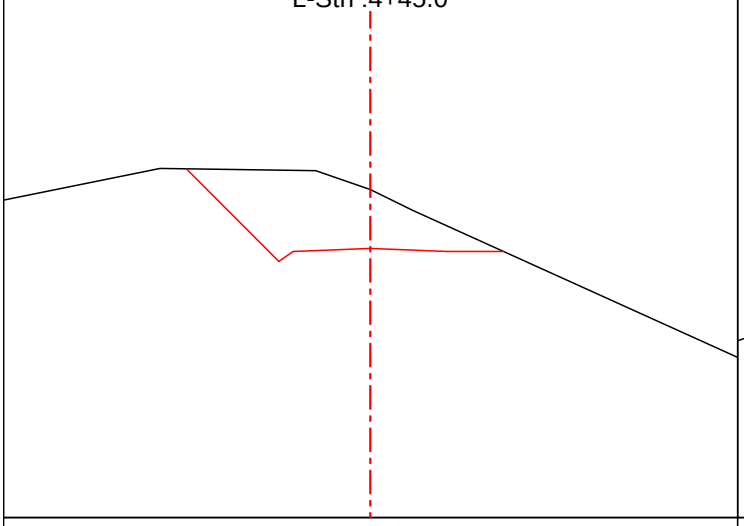
P-Stn :	3+85.8	Cut Dp:	-2.4	CL Elev:	104.3
V.Offset:	2.2	H. Offset:	-4.1	Index:	1613

L-Stn :4+14.8



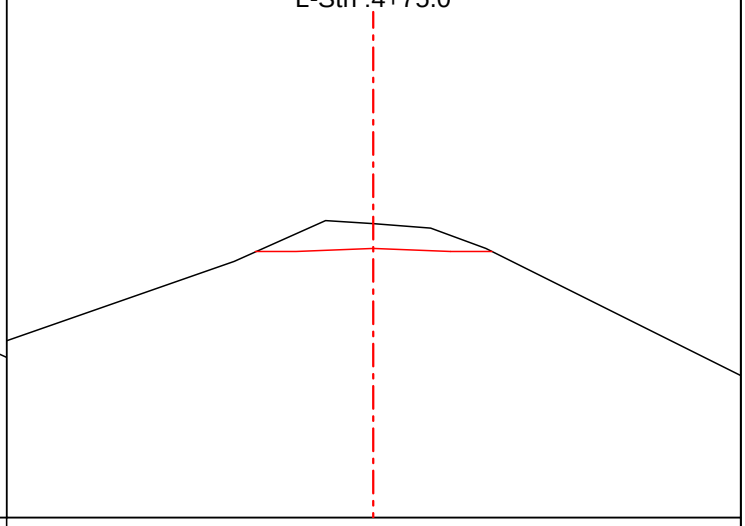
P-Stn :	4+11.3	Cut Dp:	4.3	CL Elev:	105.0
V.Offset:	-4.3	H. Offset:	0.0	Index:	1614

L-Stn :4+45.0



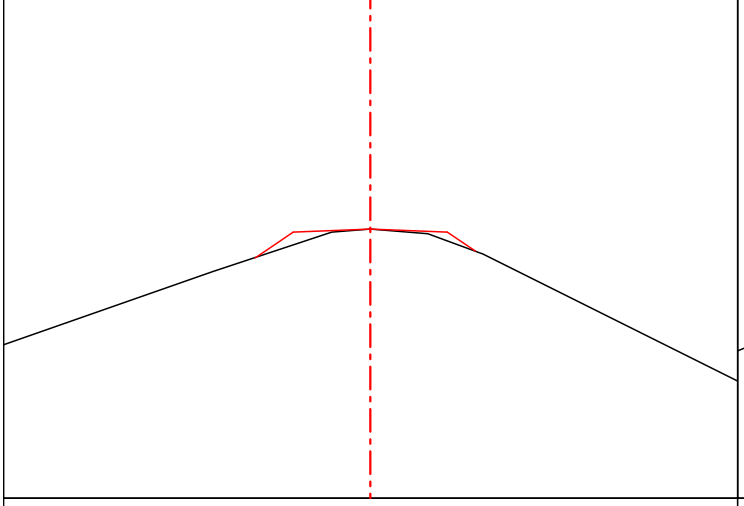
P-Stn :	4+41.6	Cut Dp:	6.1	CL Elev:	106.2
V.Offset:	-6.1	H. Offset:	0.0	Index:	1615

L-Stn :4+75.0



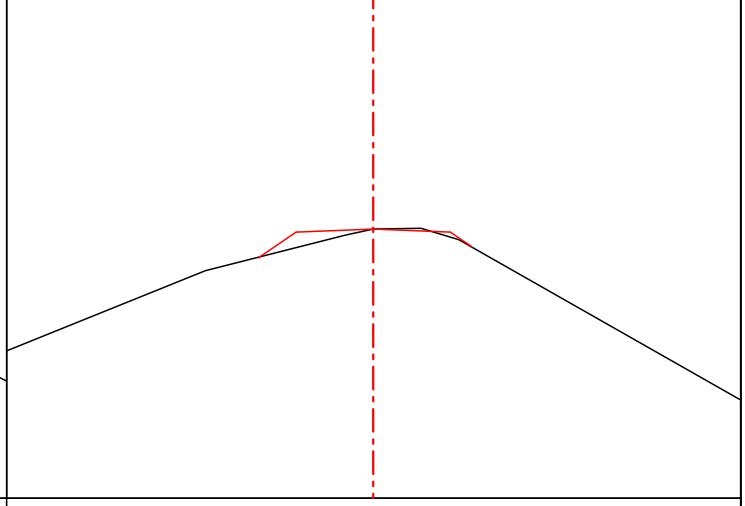
P-Stn :	4+71.6	Cut Dp:	2.6	CL Elev:	107.0
V.Offset:	-2.6	H. Offset:	0.0	Index:	1616

L-Stn :5+06.6

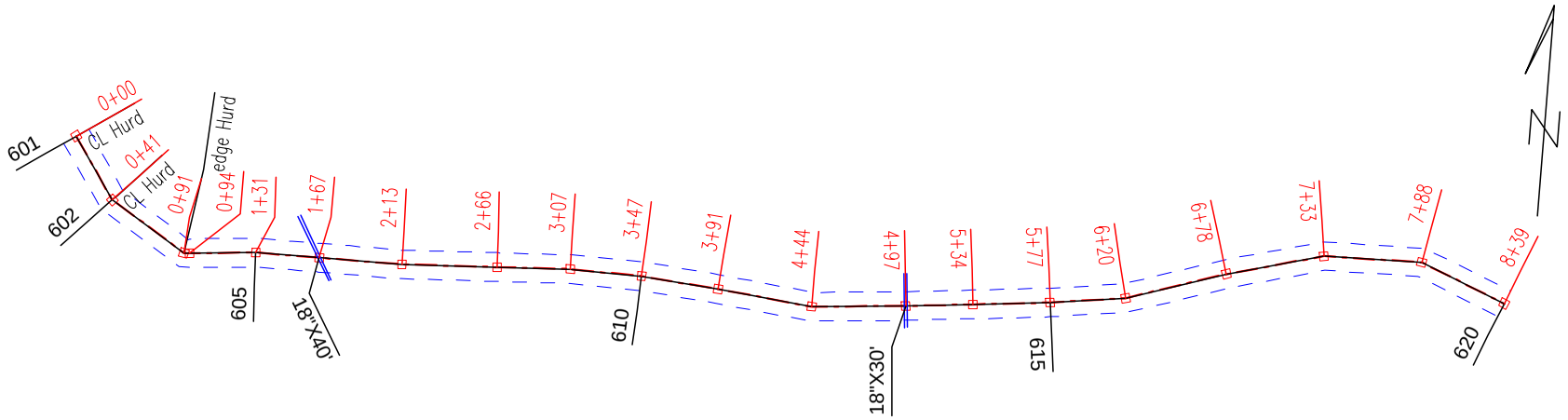


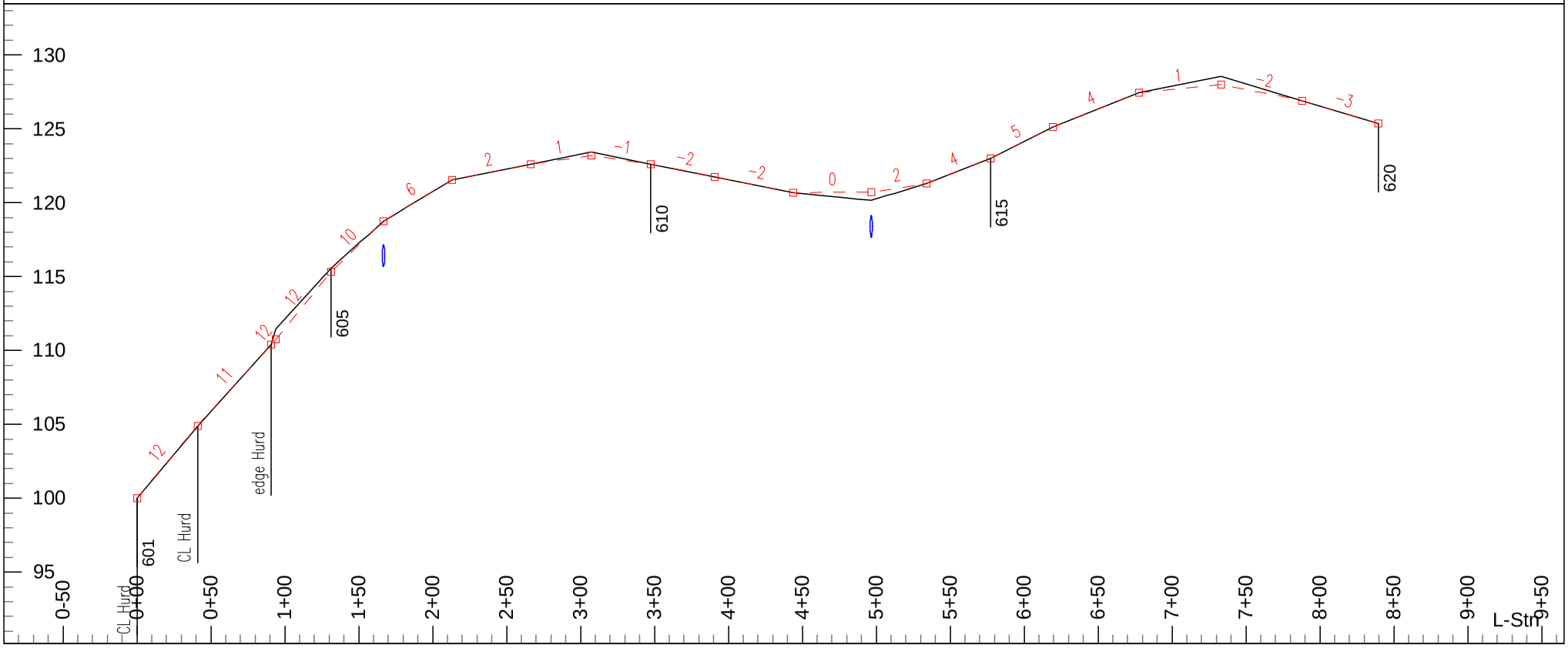
P-Stn :	5+03.2	Cut Dp:	0.0	CL Elev:	107.1
V.Offset:	0.0	H. Offset:	0.0	Index:	1617

L-Stn :5+46.4



P-Stn :	5+43.0	Cut Dp:	0.0	CL Elev:	106.7
V.Offset:	0.0	H. Offset:	0.0	Index:	1618





Hurdle Timber Sale
Spur 11
Contract #: 30-097377

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

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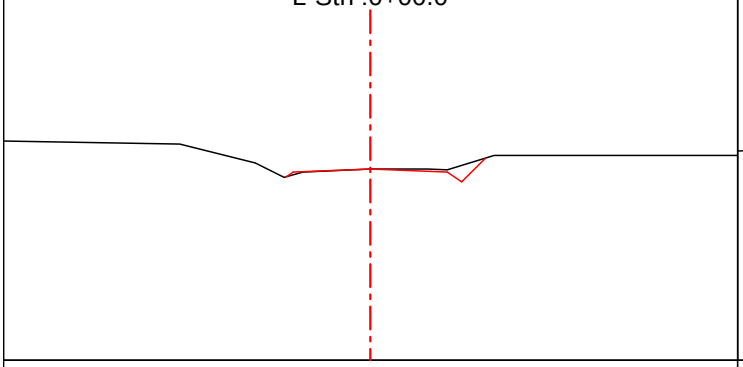
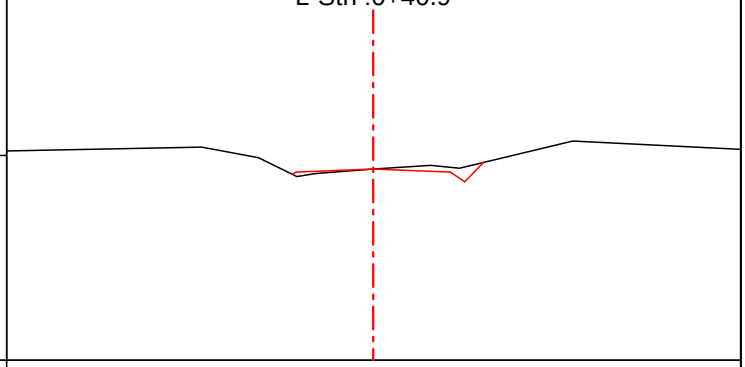
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur11		19/08/26

L-Stn :0+00.0



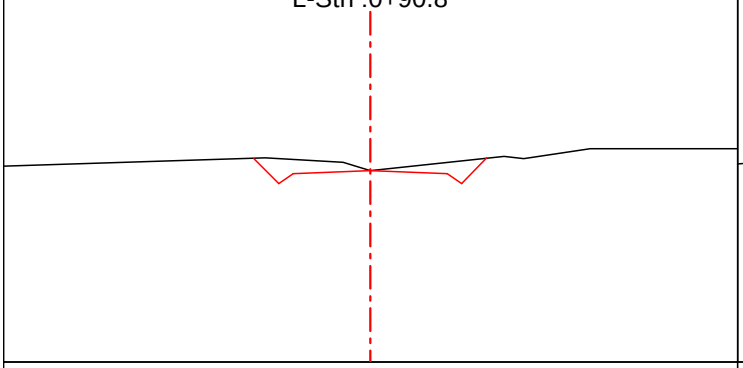
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	601

L-Stn :0+40.9



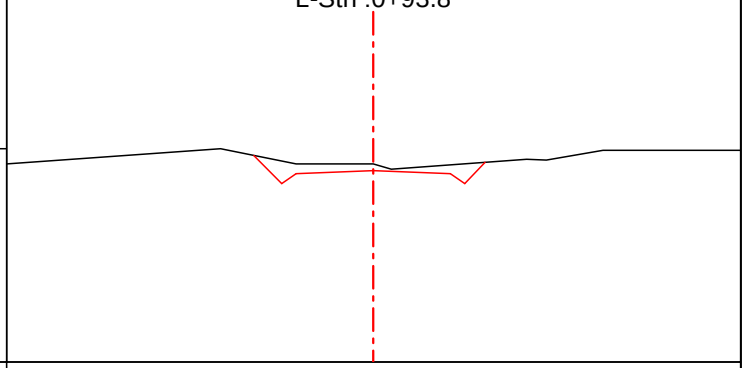
P-Stn :	0+40.9	Cut Dp:	0.0	CL Elev:	104.9
V.Offset:	0.0	H. Offset:	0.0	Index:	602

L-Stn :0+90.8



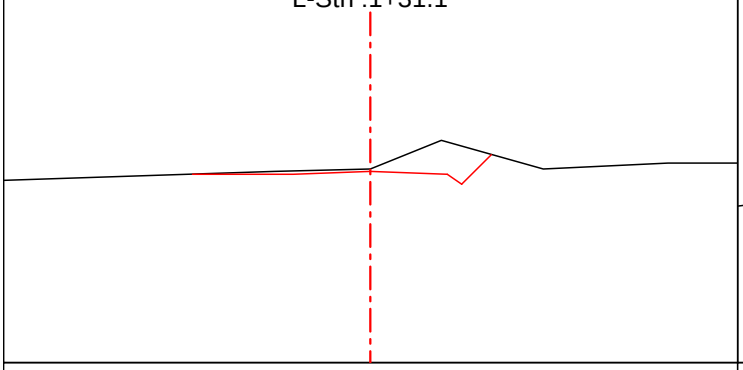
P-Stn :	0+90.8	Cut Dp:	0.0	CL Elev:	110.4
V.Offset:	0.0	H. Offset:	0.0	Index:	603

L-Stn :0+93.8



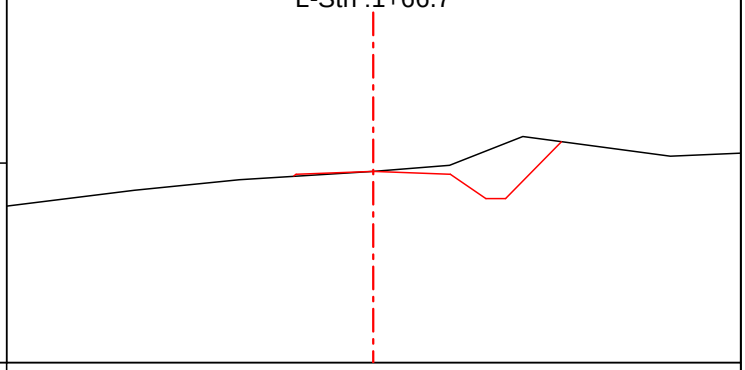
P-Stn :	0+93.8	Cut Dp:	0.7	CL Elev:	110.7
V.Offset:	-0.7	H. Offset:	0.0	Index:	604

L-Stn :1+31.1



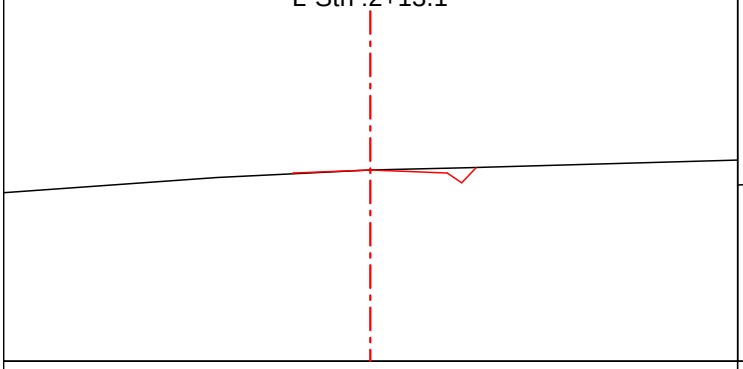
P-Stn :	1+31.1	Cut Dp:	0.2	CL Elev:	115.3
V.Offset:	-0.2	H. Offset:	0.0	Index:	605

L-Stn :1+66.7



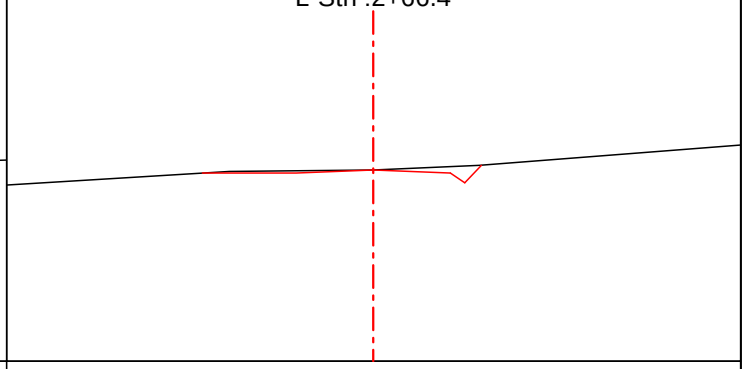
P-Stn :	1+66.7	Cut Dp:	0.0	CL Elev:	118.8
V.Offset:	0.0	H. Offset:	0.0	Index:	606

L-Stn :2+13.1



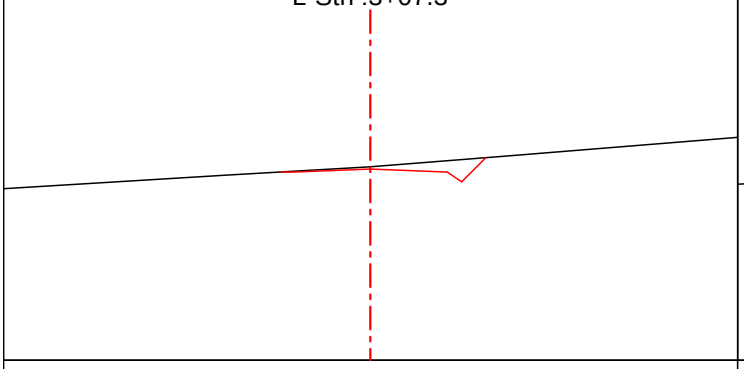
P-Stn :	2+13.1	Cut Dp:	0.0	CL Elev:	121.5
V.Offset:	0.0	H. Offset:	0.0	Index:	607

L-Stn :2+66.4



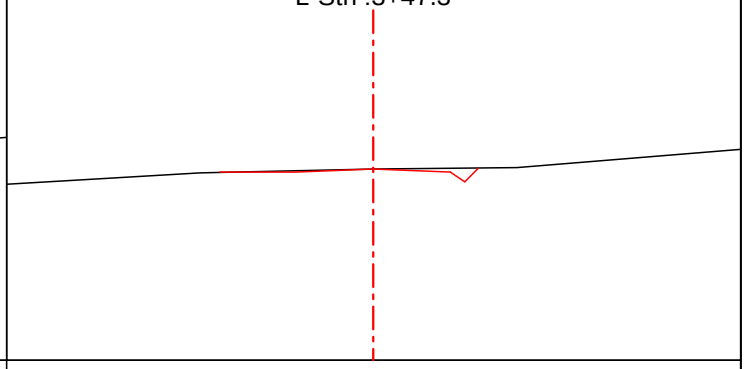
P-Stn :	2+66.4	Cut Dp:	0.0	CL Elev:	122.6
V.Offset:	0.0	H. Offset:	0.0	Index:	608

L-Stn :3+07.3



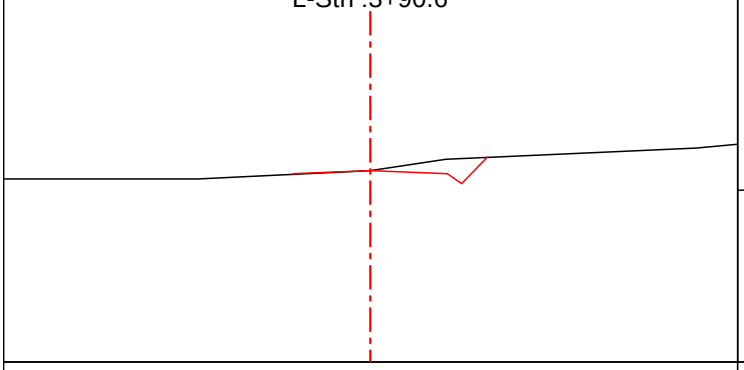
P-Stn :	3+07.3	Cut Dp:	0.2	CL Elev:	123.2
V.Offset:	-0.2	H. Offset:	0.0	Index:	609

L-Stn :3+47.3



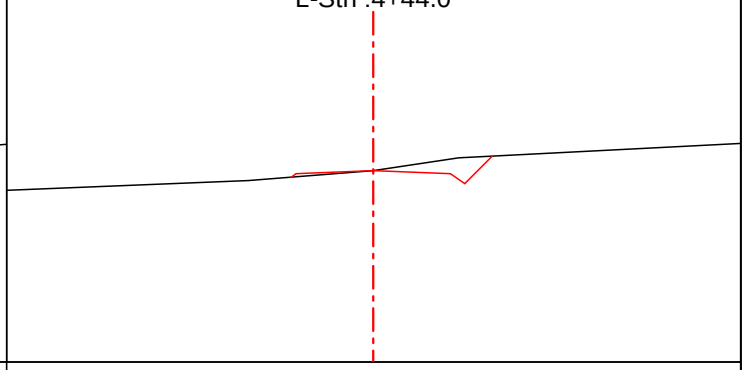
P-Stn :	3+47.3	Cut Dp:	0.0	CL Elev:	122.6
V.Offset:	0.0	H. Offset:	0.0	Index:	610

L-Stn :3+90.6



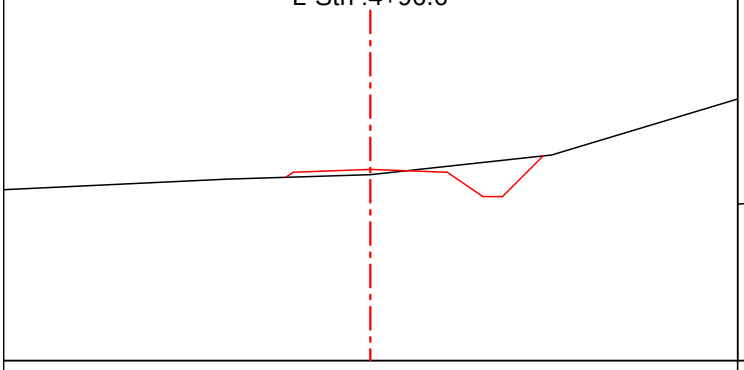
P-Stn :	3+90.6	Cut Dp:	0.0	CL Elev:	121.8
V.Offset:	0.0	H. Offset:	0.0	Index:	611

L-Stn :4+44.0



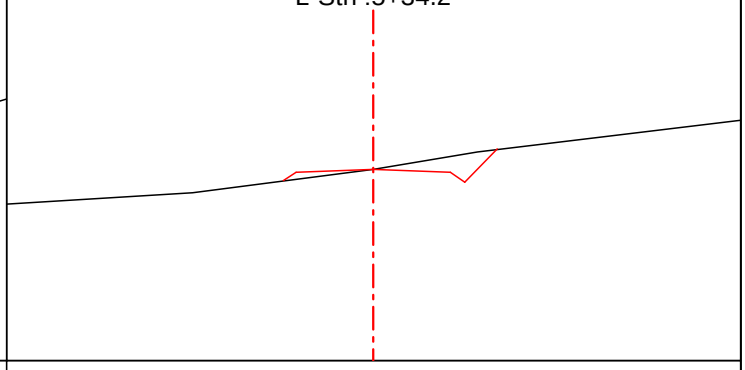
P-Stn :	4+44.0	Cut Dp:	0.0	CL Elev:	120.7
V.Offset:	0.0	H. Offset:	0.0	Index:	612

L-Stn :4+96.6



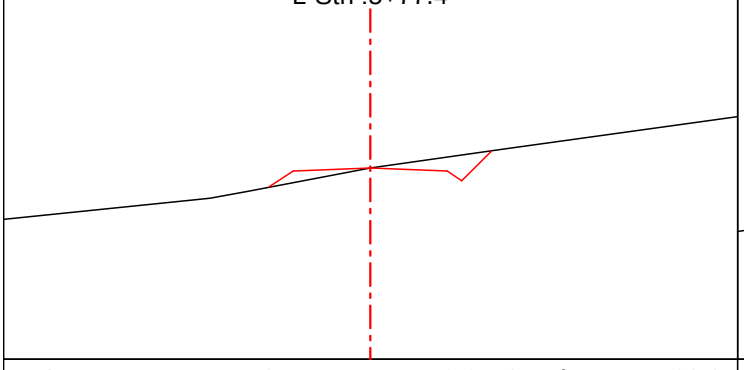
P-Stn :	4+96.6	Cut Dp:	-0.6	CL Elev:	120.7
V.Offset:	0.6	H. Offset:	0.0	Index:	613

L-Stn :5+34.2



P-Stn :	5+34.2	Cut Dp:	0.0	CL Elev:	121.3
V.Offset:	0.0	H. Offset:	0.0	Index:	614

L-Stn :5+77.4



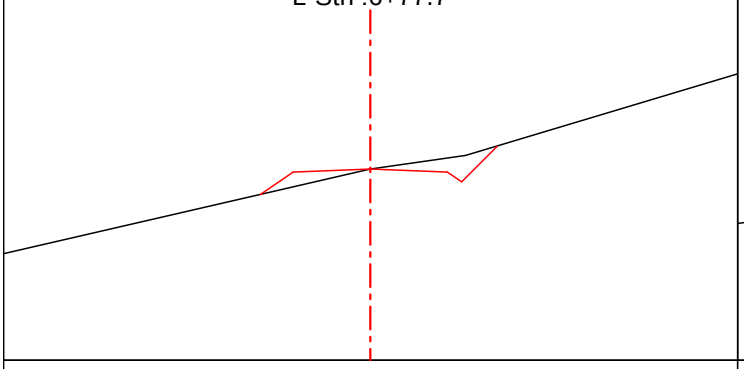
P-Stn :	5+77.4	Cut Dp:	0.0	CL Elev:	123.0
V.Offset:	0.0	H. Offset:	0.0	Index:	615

L-Stn :6+19.6

P-Stn :	6+19.6	Cut Dp:	0.0	CL Elev:	125.1
V.Offset:	0.0	H. Offset:	0.0	Index:	616

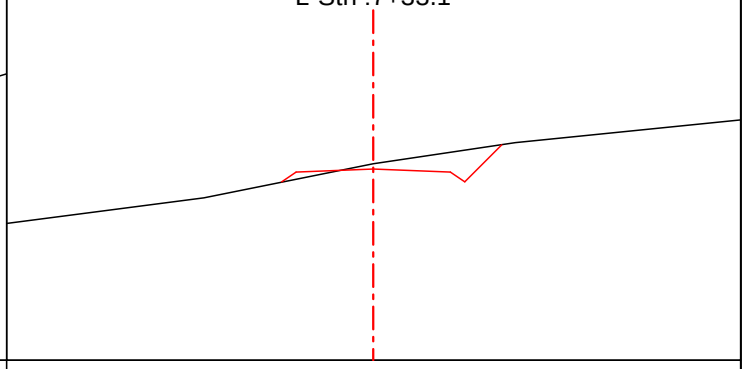
Softree Section	Scale 1:240	P. 3
C:\ProgramData\Softree\Data\hurdle\prelim\spur11		19/08/26

L-Stn :6+77.7



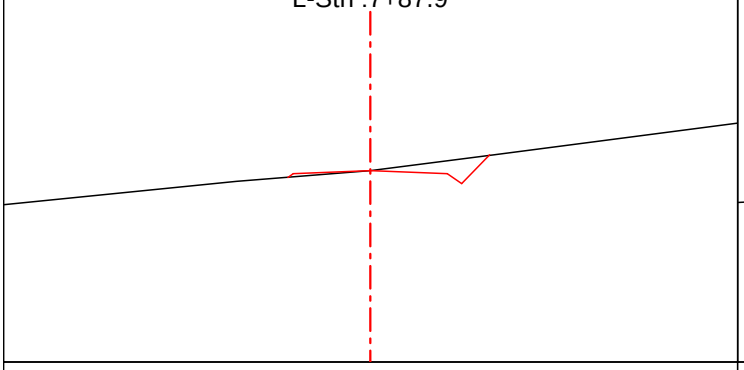
P-Stn :	6+77.7	Cut Dp:	0.0	CL Elev:	127.5
V.Offset:	0.0	H. Offset:	0.0	Index:	617

L-Stn :7+33.1



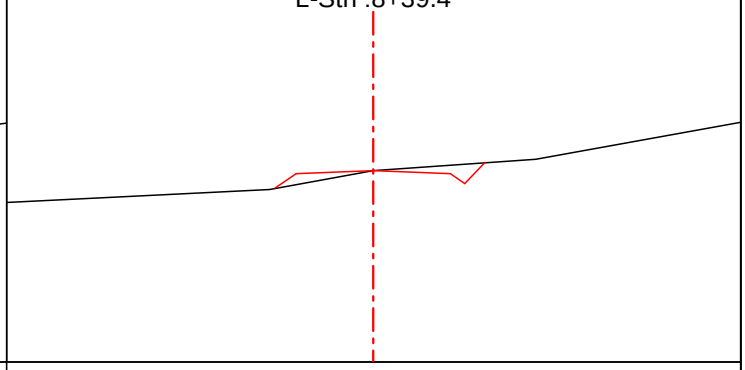
P-Stn :	7+33.1	Cut Dp:	0.6	CL Elev:	128.0
V.Offset:	-0.6	H. Offset:	0.0	Index:	618

L-Stn :7+87.9

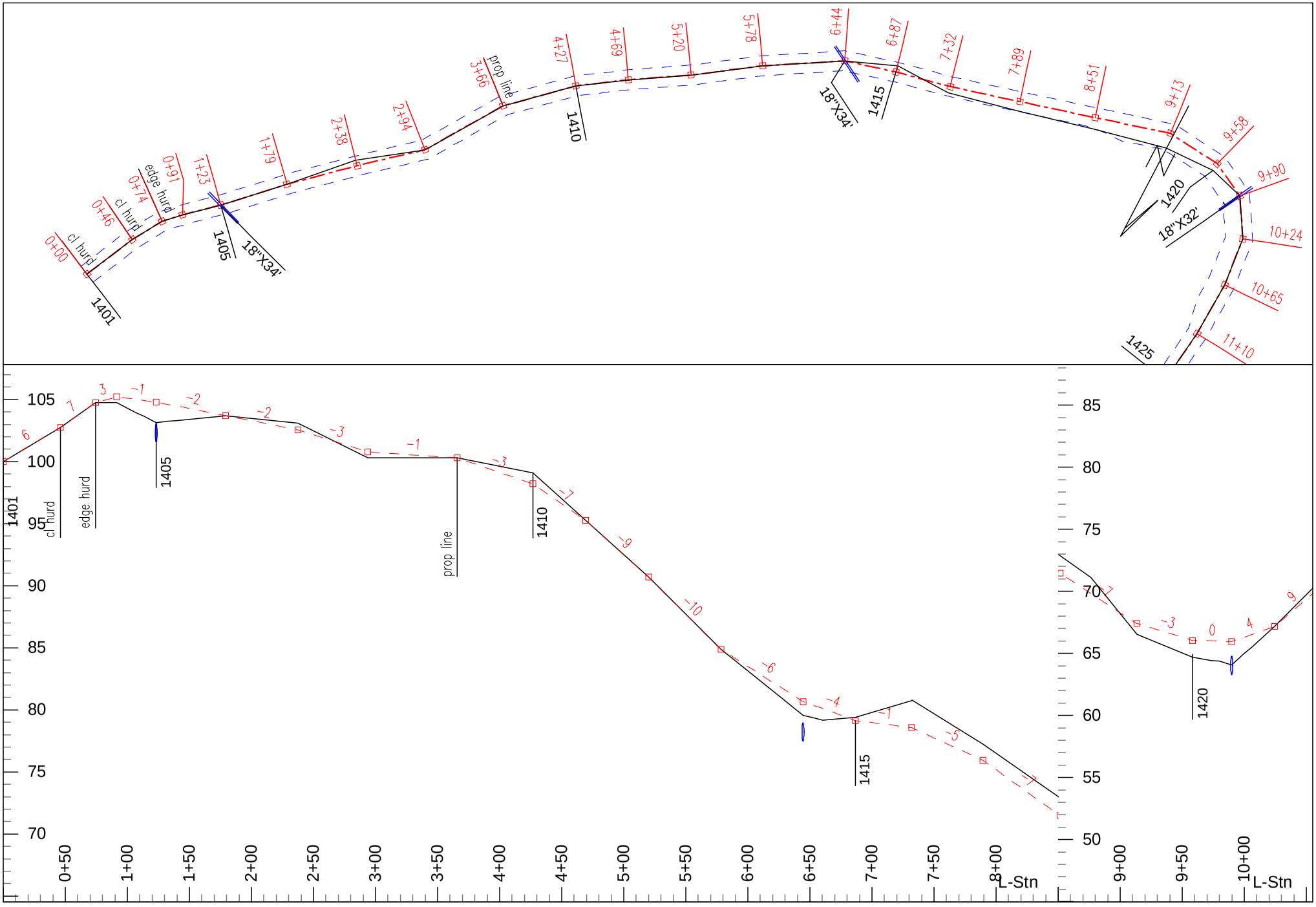


P-Stn :	7+87.9	Cut Dp:	0.0	CL Elev:	126.9
V.Offset:	0.0	H. Offset:	0.0	Index:	619

L-Stn :8+39.4



P-Stn :	8+39.4	Cut Dp:	0.0	CL Elev:	125.4
V.Offset:	0.0	H. Offset:	0.0	Index:	620

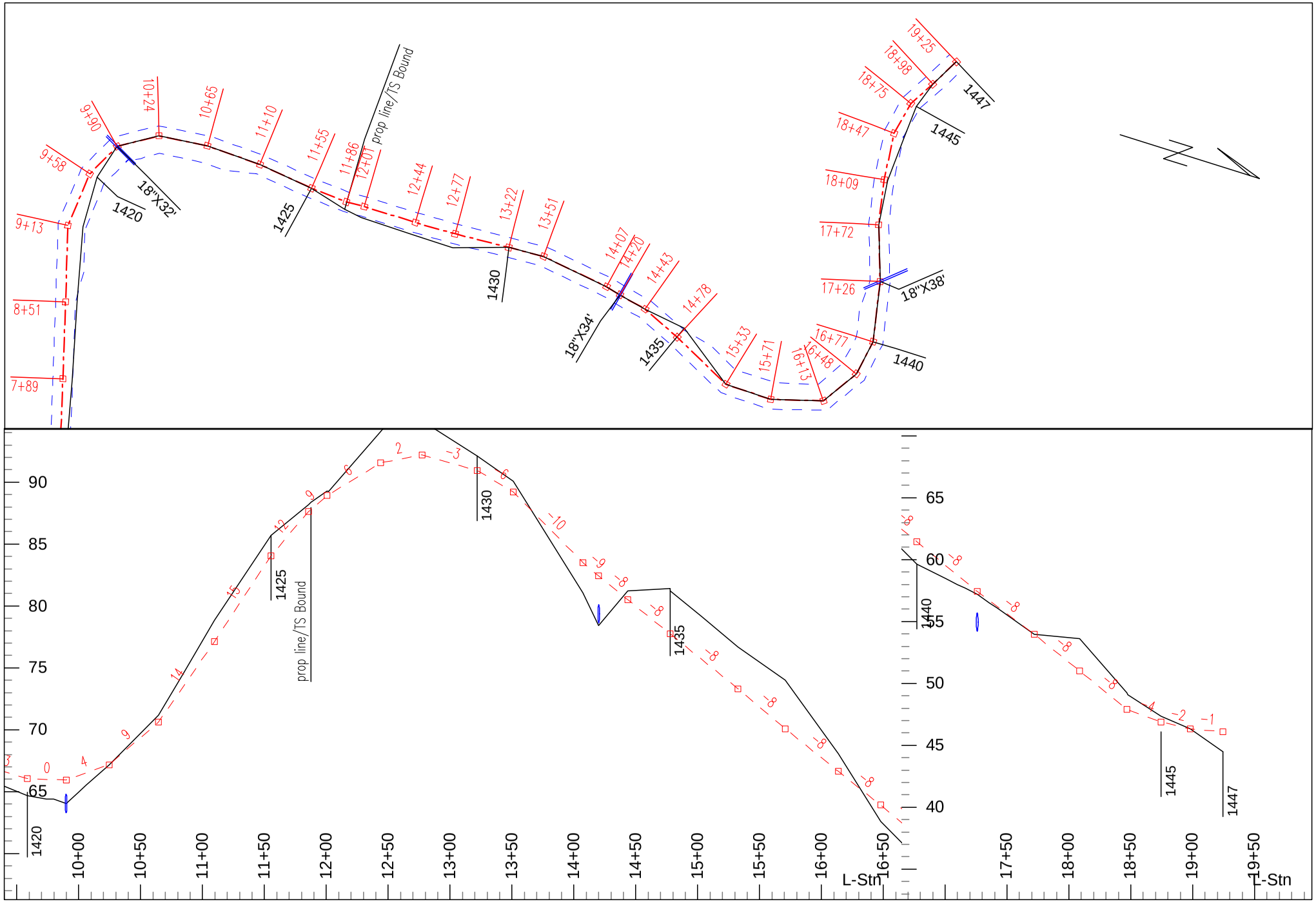


Hurdle Timber Sale
Spur 12
Contract #: 30-097377

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

Engineer: Heymann
19/08/26
Page 1 of 2



Hurdle Timber Sale
Spur 12
Contract #: 30-097377

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Plan Scale 1:1200
Profile Vert Scale 1:120
Profile Horz Scale 1:1200

Engineer: Heymann
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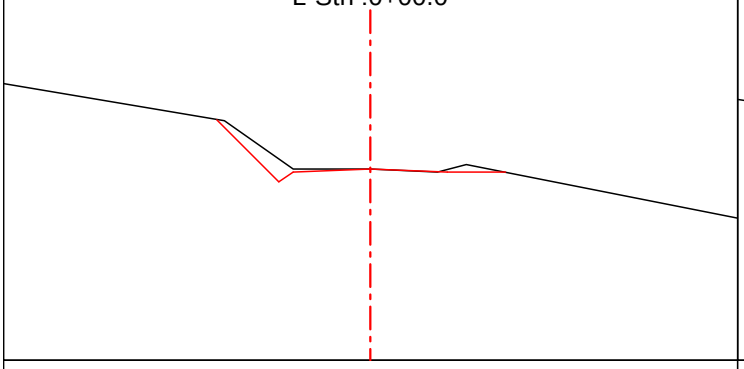
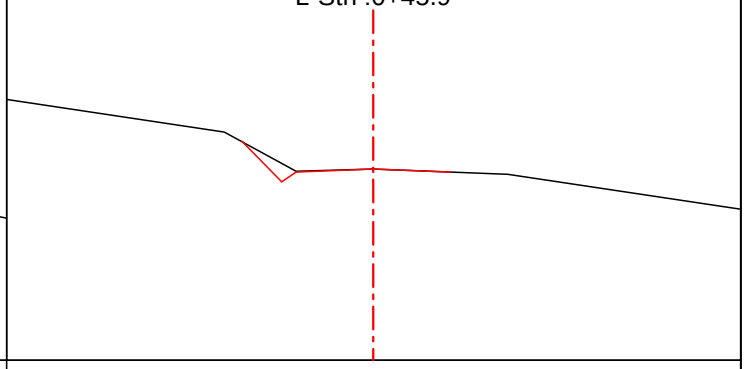
Softree Section	Scale 1:240	P. 1
C:\ProgramData\Softree\Data\hurdle\prelim\spur12		19/08/26

L-Stn :0+00.0



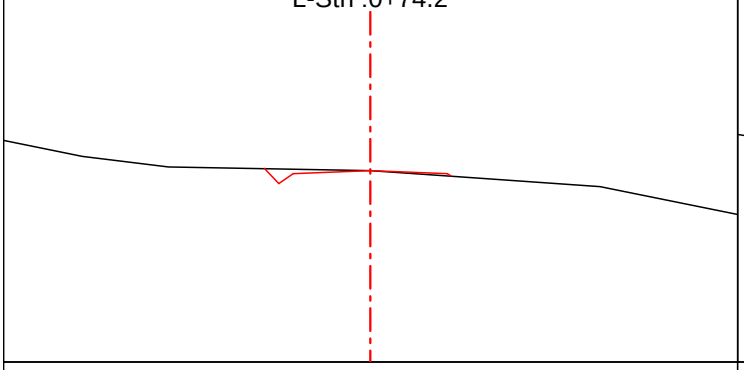
P-Stn :	0+00.0	Cut Dp:	0.0	CL Elev:	100.0
V.Offset:	0.0	H. Offset:	0.0	Index:	1401

L-Stn :0+45.9



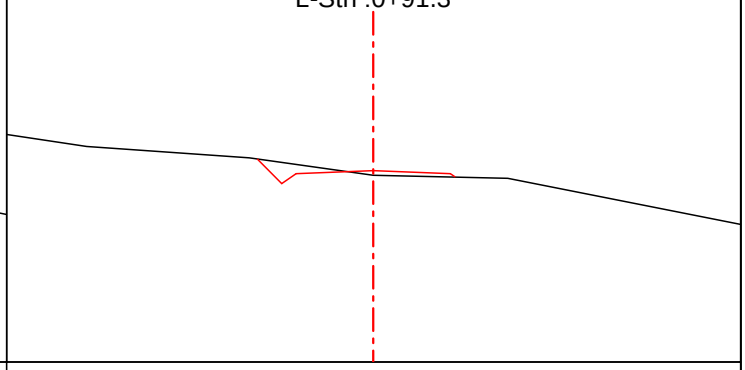
P-Stn :	0+45.9	Cut Dp:	0.0	CL Elev:	102.8
V.Offset:	0.0	H. Offset:	0.0	Index:	1402

L-Stn :0+74.2



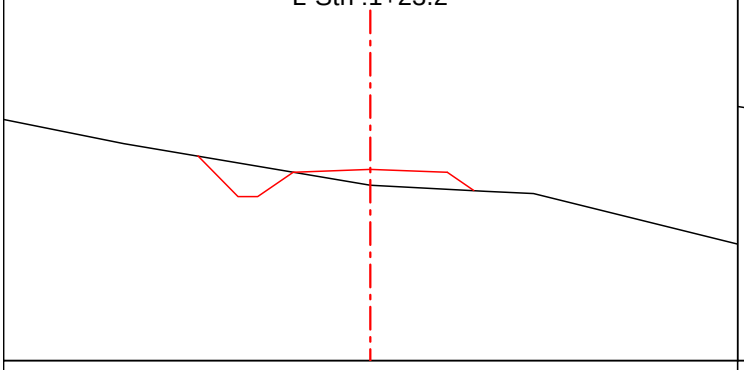
P-Stn :	0+74.2	Cut Dp:	0.0	CL Elev:	104.7
V.Offset:	0.0	H. Offset:	0.0	Index:	1403

L-Stn :0+91.3



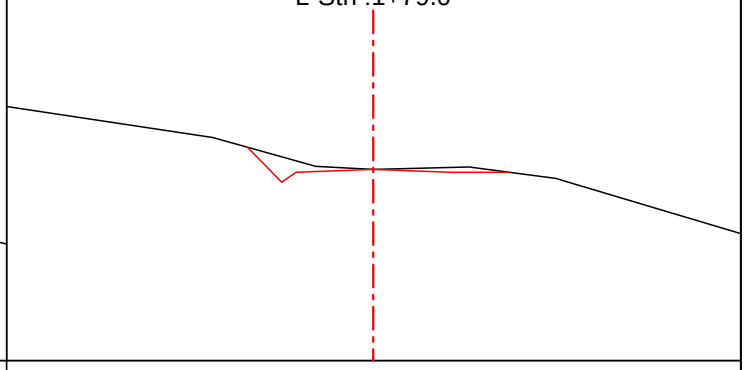
P-Stn :	0+91.3	Cut Dp:	-0.5	CL Elev:	105.2
V.Offset:	0.5	H. Offset:	0.0	Index:	1404

L-Stn :1+23.2



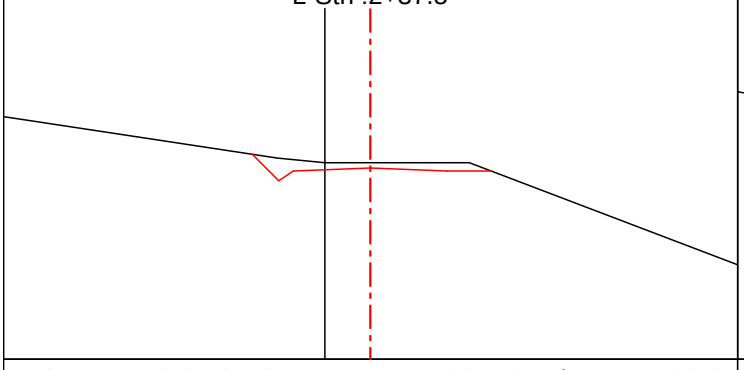
P-Stn :	1+23.2	Cut Dp:	-1.7	CL Elev:	104.8
V.Offset:	1.7	H. Offset:	0.0	Index:	1405

L-Stn :1+79.0



P-Stn :	1+79.0	Cut Dp:	0.0	CL Elev:	103.7
V.Offset:	0.0	H. Offset:	0.0	Index:	1406

L-Stn :2+37.5

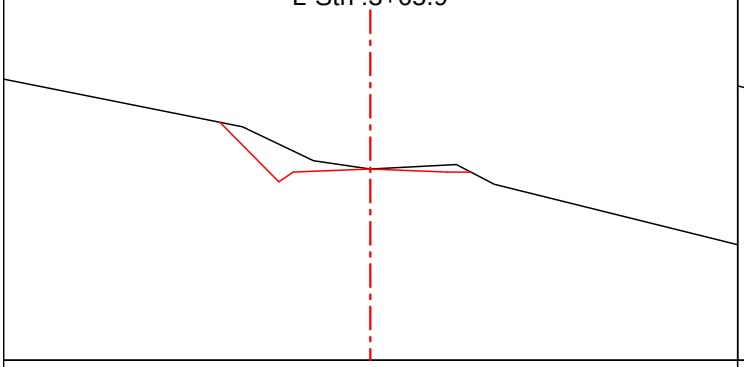


P-Stn :	2+37.8	Cut Dp:	0.6	CL Elev:	102.6
V.Offset:	-0.6	H. Offset:	4.7	Index:	1407

L-Stn :2+93.6

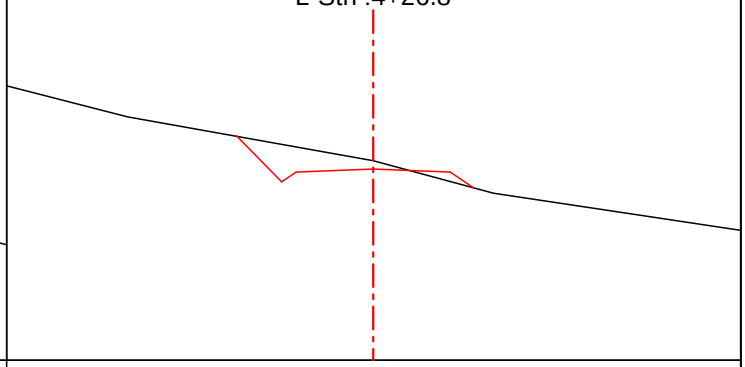
P-Stn :	2+94.1	Cut Dp:	-0.5	CL Elev:	100.8
V.Offset:	0.5	H. Offset:	-0.1	Index:	1408

L-Stn :3+65.9



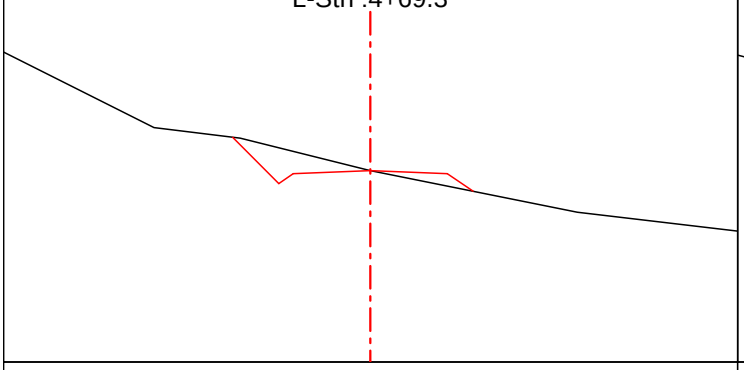
P-Stn :	3+66.4	Cut Dp:	0.0	CL Elev:	100.3
V.Offset:	0.0	H. Offset:	0.0	Index:	1409

L-Stn :4+26.8



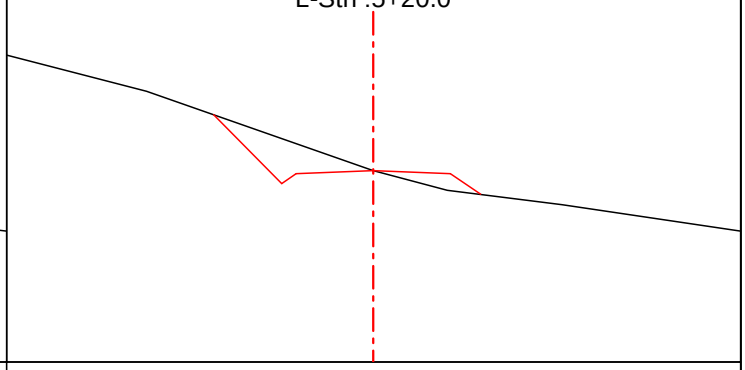
P-Stn :	4+27.3	Cut Dp:	0.9	CL Elev:	98.2
V.Offset:	-0.9	H. Offset:	0.0	Index:	1410

L-Stn :4+69.3



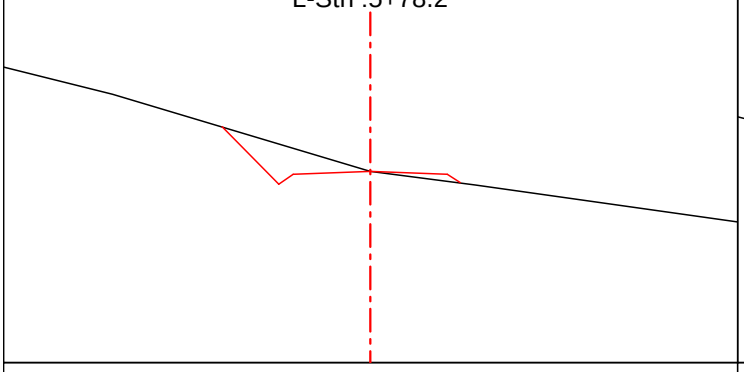
P-Stn :	4+69.8	Cut Dp:	0.0	CL Elev:	95.3
V.Offset:	0.0	H. Offset:	0.0	Index:	1411

L-Stn :5+20.0



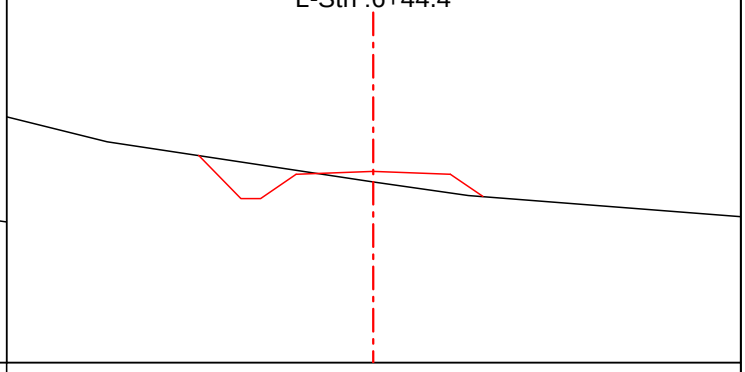
P-Stn :	5+20.5	Cut Dp:	0.0	CL Elev:	90.7
V.Offset:	0.0	H. Offset:	0.0	Index:	1412

L-Stn :5+78.2



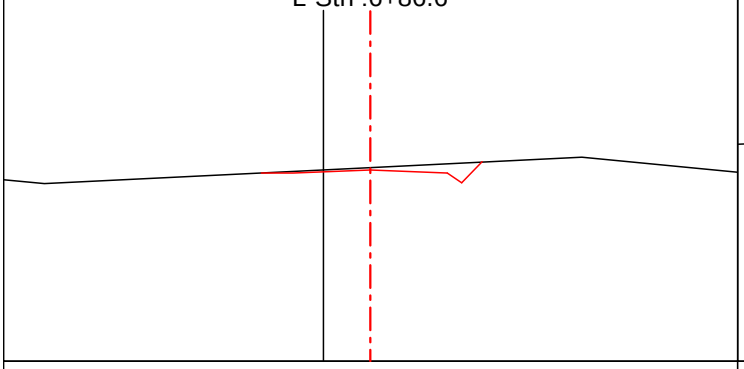
P-Stn :	5+78.8	Cut Dp:	0.0	CL Elev:	84.9
V.Offset:	0.0	H. Offset:	0.0	Index:	1413

L-Stn :6+44.4



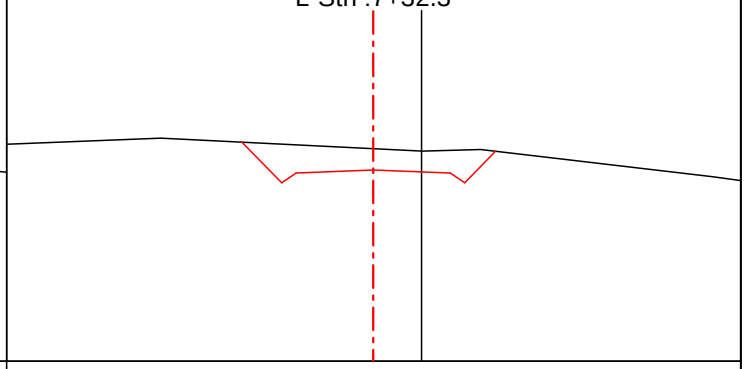
P-Stn :	6+44.9	Cut Dp:	-1.1	CL Elev:	80.7
V.Offset:	1.1	H. Offset:	0.0	Index:	1414

L-Stn :6+86.6



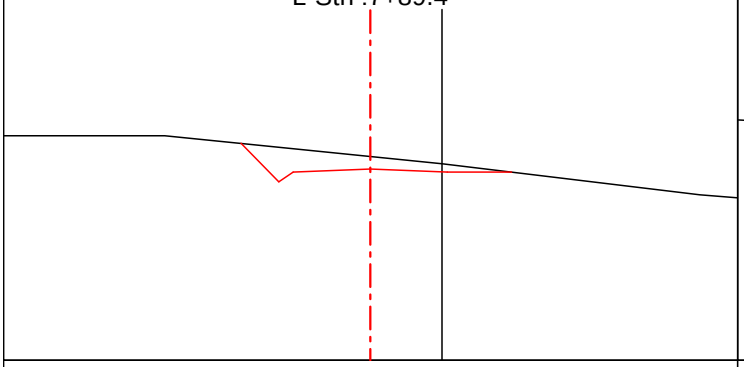
P-Stn :	6+87.8	Cut Dp:	0.2	CL Elev:	79.1
V.Offset:	0.0	H. Offset:	5.0	Index:	1415

L-Stn :7+32.3



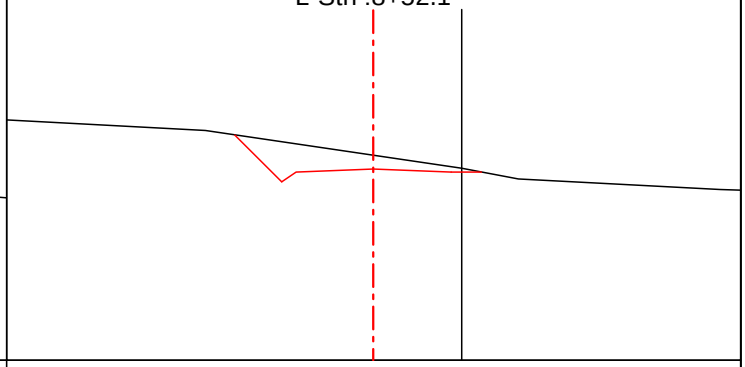
P-Stn :	7+33.9	Cut Dp:	2.2	CL Elev:	78.5
V.Offset:	-2.0	H. Offset:	-5.1	Index:	1416

L-Stn :7+89.4



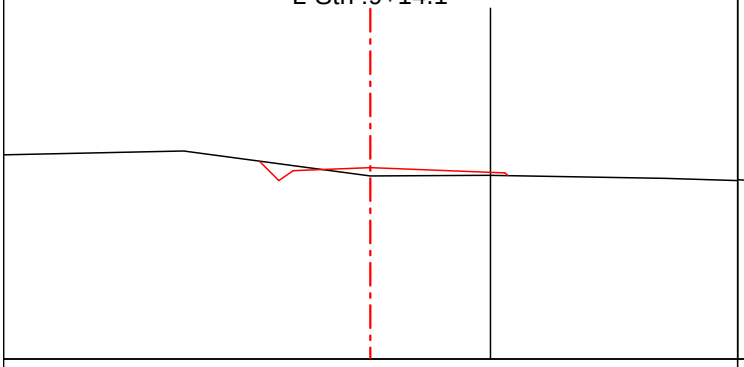
P-Stn : 7+91.6 Cut Dp: 1.3 CL Elev: 75.9
V.Offset: -0.5 H. Offset: -7.5 Index: 1417

L-Stn :8+52.1



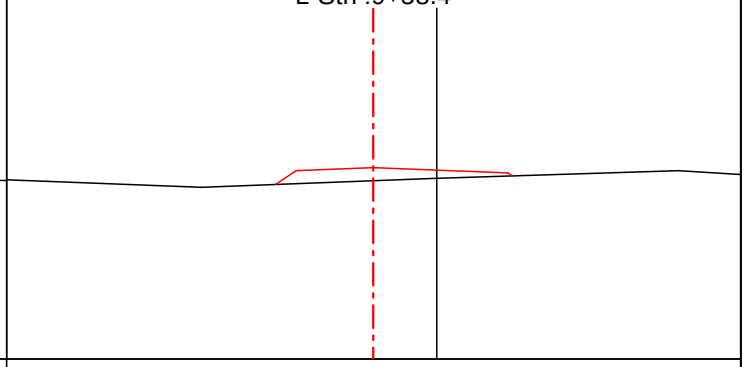
P-Stn : 8+54.3 Cut Dp: 1.4 CL Elev: 71.4
V.Offset: 0.0 H. Offset: -9.2 Index: 1418

L-Stn :9+14.1



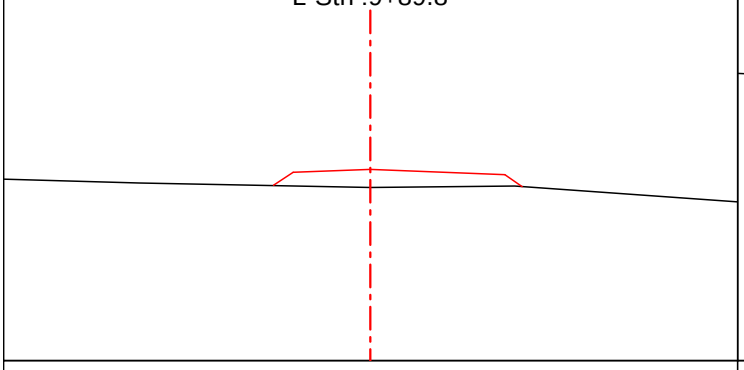
P-Stn : 9+15.0 Cut Dp: -0.9 CL Elev: 67.4
V.Offset: 0.8 H. Offset: -12.0 Index: 1419

L-Stn :9+58.4



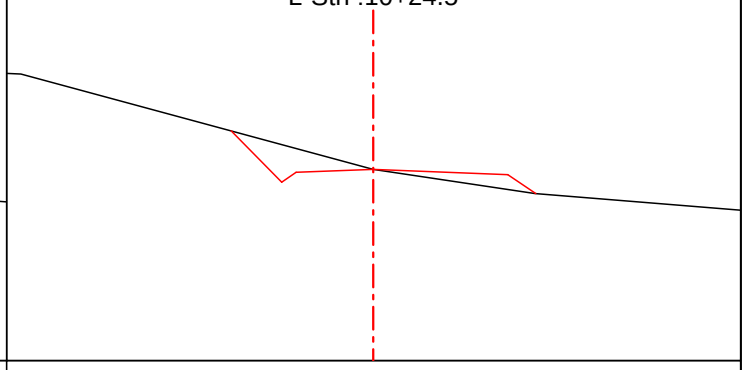
P-Stn : 9+56.7 Cut Dp: -1.4 CL Elev: 66.1
V.Offset: 1.1 H. Offset: -6.4 Index: 1420

L-Stn :9+89.8



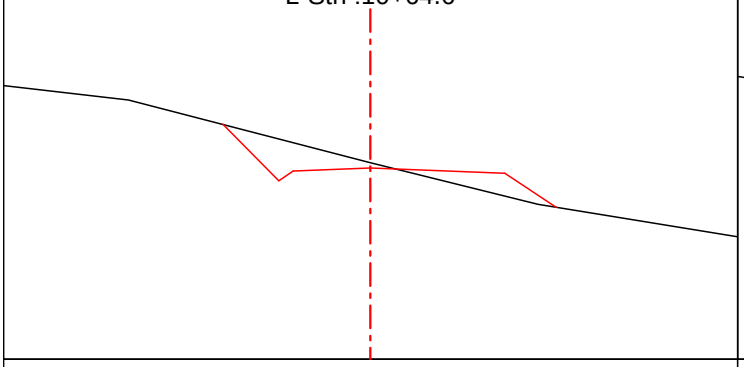
P-Stn : 9+86.5 Cut Dp: -1.9 CL Elev: 65.9
V.Offset: 1.9 H. Offset: 0.0 Index: 1421

L-Stn :10+24.5



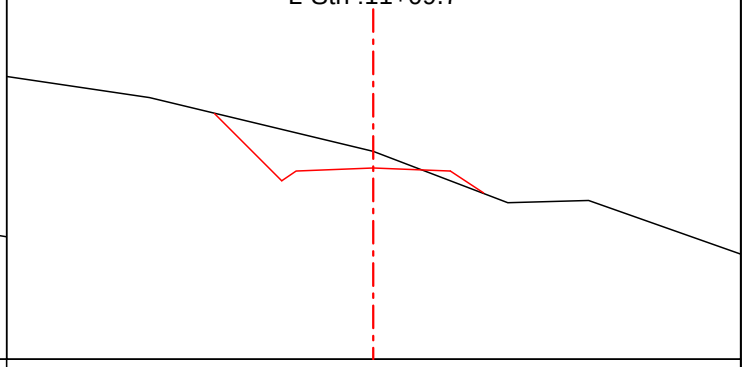
P-Stn : 10+21.2 Cut Dp: 0.0 CL Elev: 67.2
V.Offset: 0.0 H. Offset: 0.0 Index: 1422

L-Stn :10+64.6



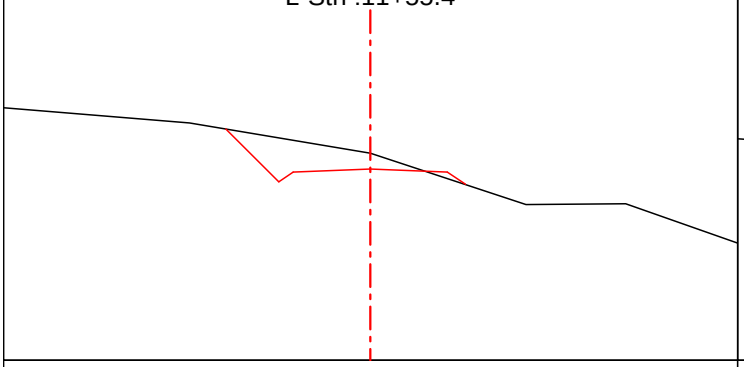
P-Stn : 10+61.3 Cut Dp: 0.6 CL Elev: 70.6
V.Offset: -0.6 H. Offset: 0.0 Index: 1423

L-Stn :11+09.7



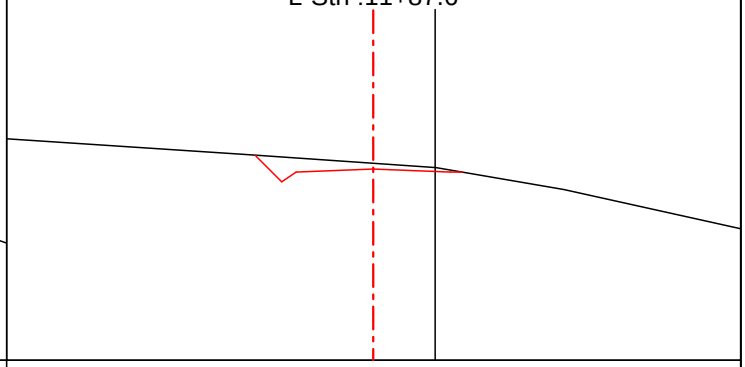
P-Stn : 11+06.3 Cut Dp: 1.7 CL Elev: 77.1
V.Offset: -1.7 H. Offset: 0.0 Index: 1424

L-Stn :11+55.4



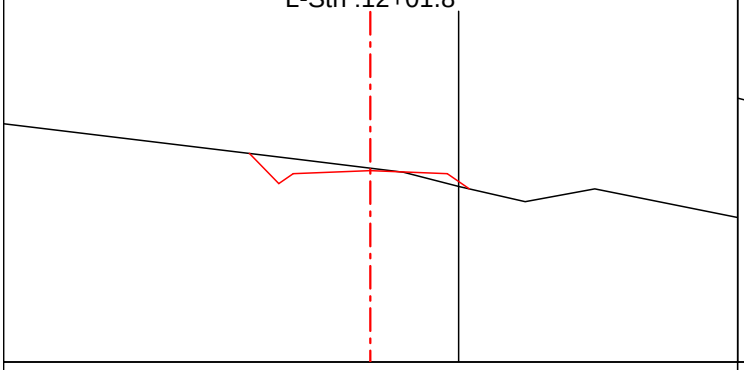
P-Stn :	11+52.1	Cut Dp:	1.7	CL Elev:	84.1
V.Offset:	-1.7	H. Offset:	0.0	Index:	1425

L-Stn :11+87.6



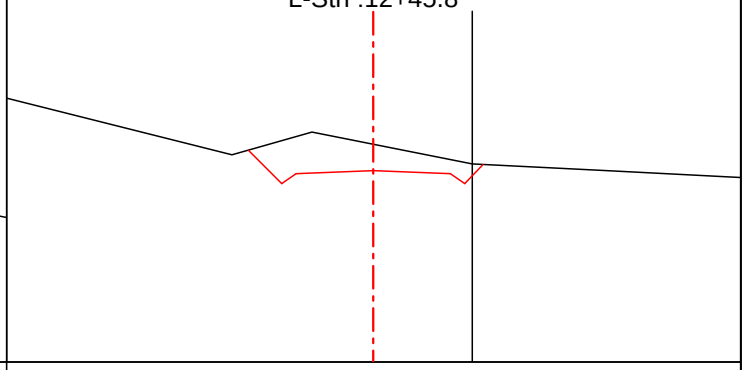
P-Stn :	11+84.0	Cut Dp:	0.6	CL Elev:	87.8
V.Offset:	-0.2	H. Offset:	-6.4	Index:	1426

L-Stn :12+01.8



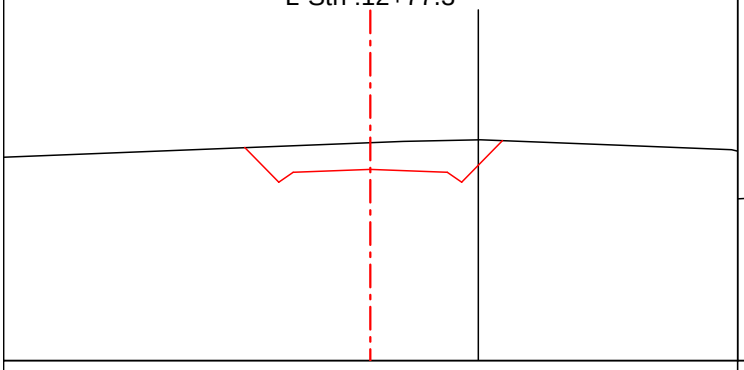
P-Stn :	11+98.8	Cut Dp:	0.3	CL Elev:	89.0
V.Offset:	1.6	H. Offset:	-9.2	Index:	1427

L-Stn :12+45.8



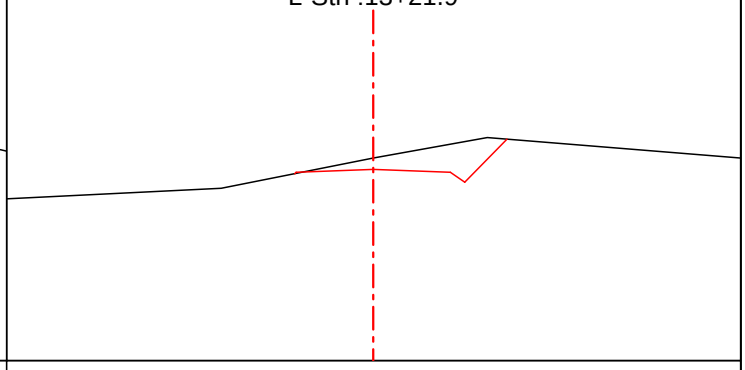
P-Stn :	12+43.6	Cut Dp:	2.7	CL Elev:	91.6
V.Offset:	-0.7	H. Offset:	-10.3	Index:	1428

L-Stn :12+77.3



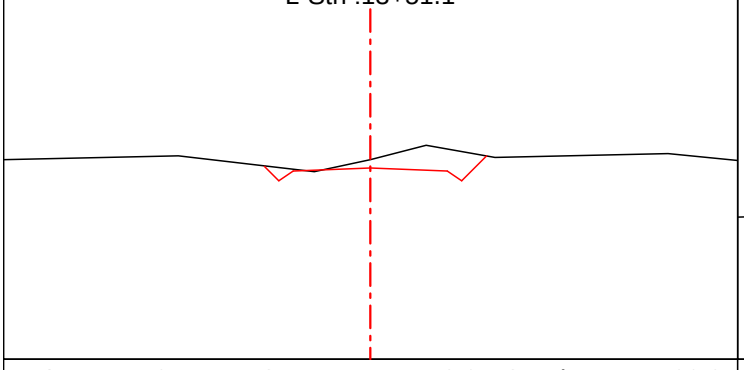
P-Stn :	12+76.9	Cut Dp:	2.8	CL Elev:	92.2
V.Offset:	-3.1	H. Offset:	-11.4	Index:	1429

L-Stn :13+21.9



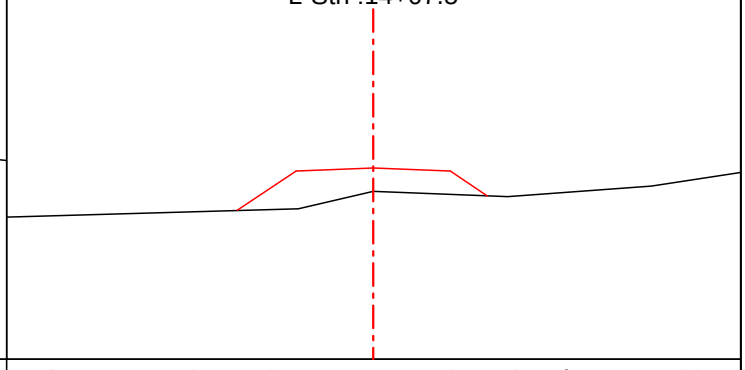
P-Stn :	13+21.9	Cut Dp:	1.2	CL Elev:	90.9
V.Offset:	-1.2	H. Offset:	0.0	Index:	1430

L-Stn :13+51.1



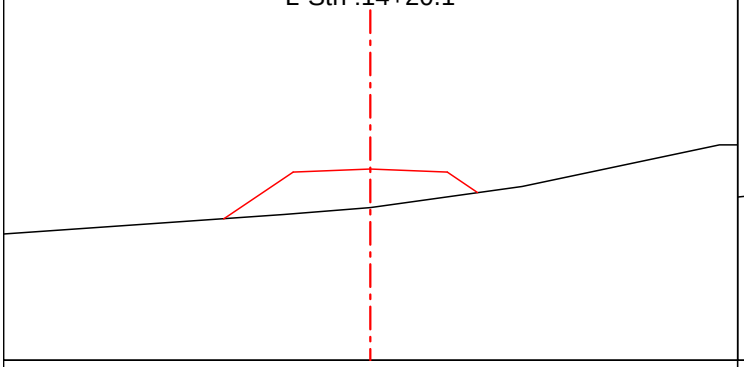
P-Stn :	13+51.1	Cut Dp:	0.9	CL Elev:	89.2
V.Offset:	-0.9	H. Offset:	0.0	Index:	1431

L-Stn :14+07.5



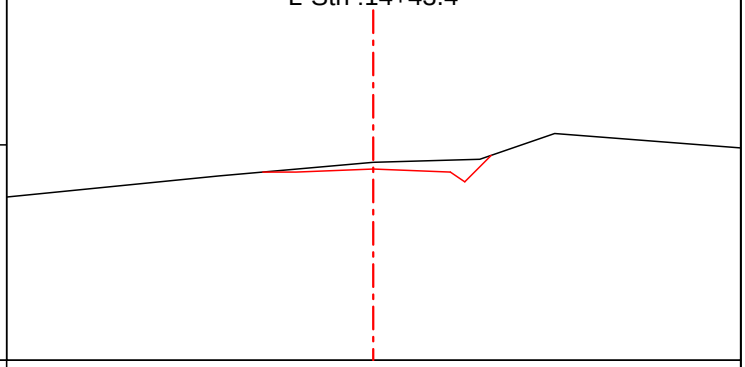
P-Stn :	14+07.4	Cut Dp:	-2.4	CL Elev:	83.5
V.Offset:	2.4	H. Offset:	0.0	Index:	1432

L-Stn :14+20.1



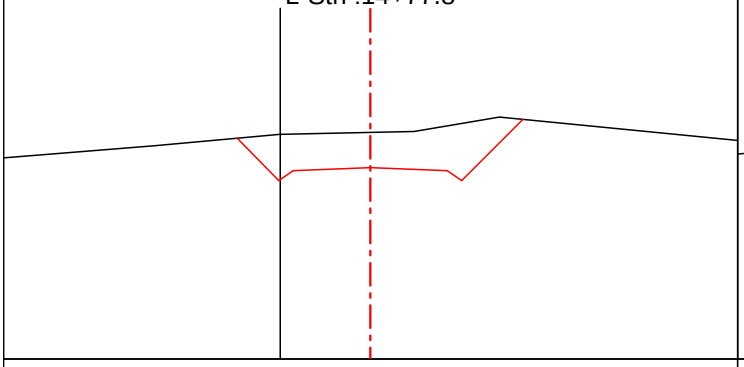
P-Stn :	14+20.1	Cut Dp:	-4.0	CL Elev:	82.4
V.Offset:	4.0	H. Offset:	0.0	Index:	1433

L-Stn :14+43.4



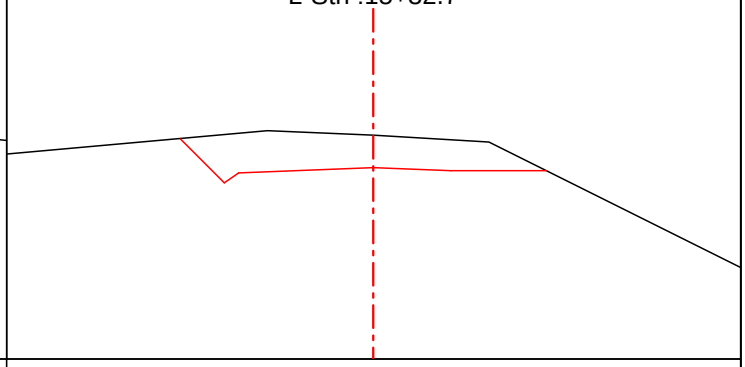
P-Stn :	14+43.4	Cut Dp:	0.7	CL Elev:	80.5
V.Offset:	-0.7	H. Offset:	0.0	Index:	1434

L-Stn :14+77.8



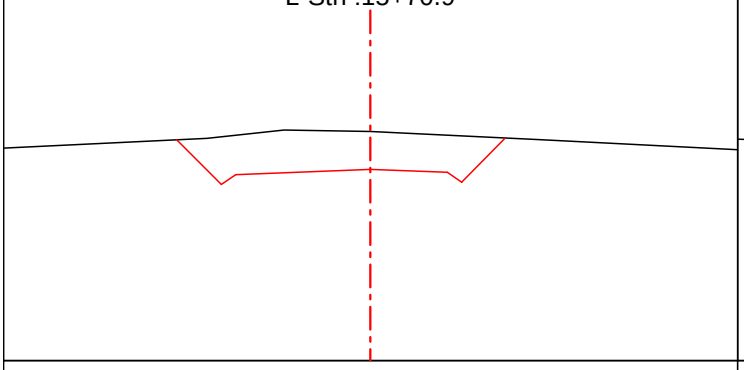
P-Stn :	14+78.8	Cut Dp:	3.7	CL Elev:	77.7
V.Offset:	-3.5	H. Offset:	9.4	Index:	1435

L-Stn :15+32.7



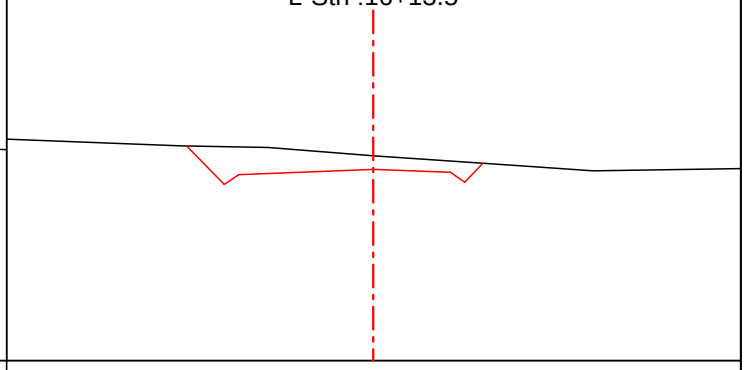
P-Stn :	15+35.2	Cut Dp:	3.4	CL Elev:	73.3
V.Offset:	-3.4	H. Offset:	0.0	Index:	1436

L-Stn :15+70.9



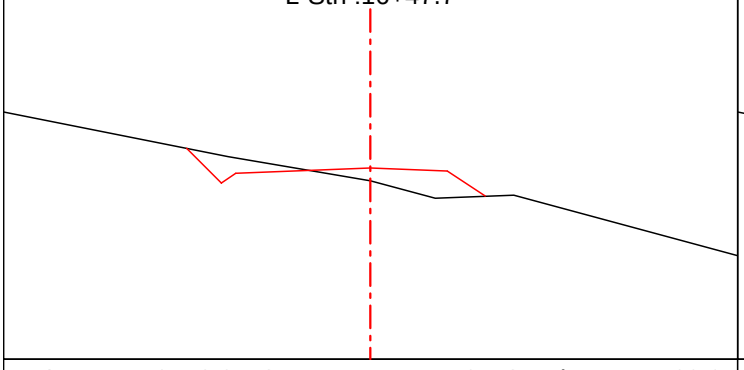
P-Stn :	15+73.4	Cut Dp:	3.9	CL Elev:	70.1
V.Offset:	-3.9	H. Offset:	0.0	Index:	1437

L-Stn :16+13.5



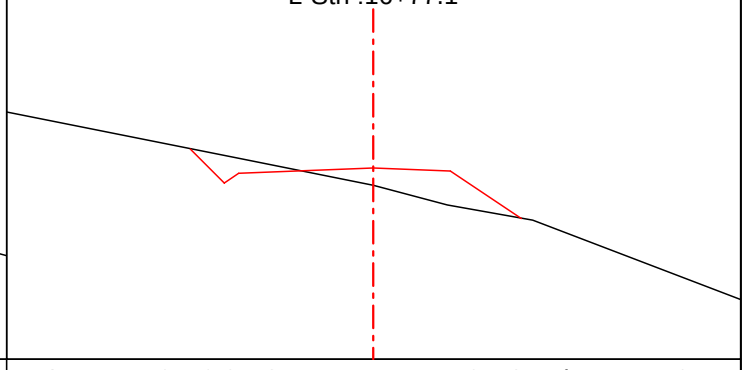
P-Stn :	16+16.0	Cut Dp:	1.4	CL Elev:	66.6
V.Offset:	-1.4	H. Offset:	0.0	Index:	1438

L-Stn :16+47.7



P-Stn :	16+50.3	Cut Dp:	-1.3	CL Elev:	63.9
V.Offset:	1.3	H. Offset:	0.0	Index:	1439

L-Stn :16+77.1



P-Stn :	16+79.6	Cut Dp:	-1.8	CL Elev:	61.4
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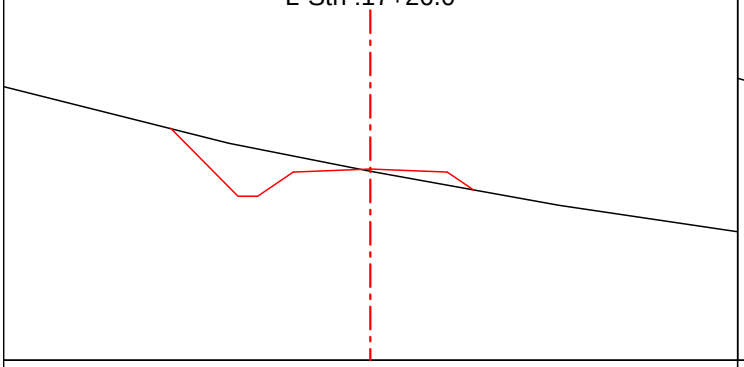
Softree Section	Scale 1:240	P. 6
C:\ProgramData\Softree\Data\hurdle\prelim\spur12		19/08/26

L-Stn :17+26.0



P-Stn :	17+28.6	Cut Dp:	-0.2	CL Elev:	57.4
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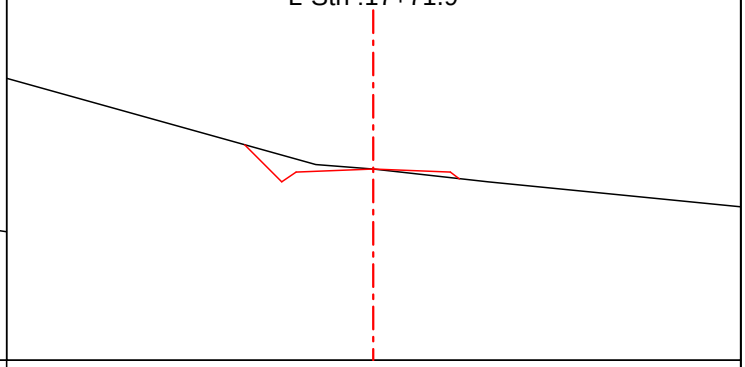
L-Stn :17+71.9



P-Stn :	17+74.5	Cut Dp:	0.0	CL Elev:	54.0
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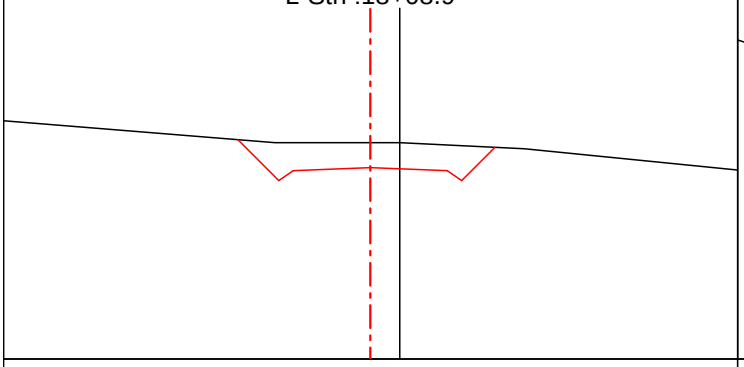
L-Stn :18+08.9



P-Stn :	18+11.1	Cut Dp:	2.6	CL Elev:	51.0
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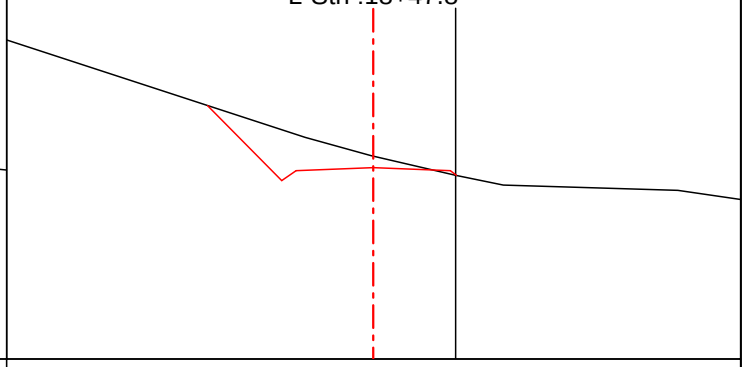
L-Stn :18+47.8



P-Stn :	18+49.2	Cut Dp:	1.2	CL Elev:	47.9
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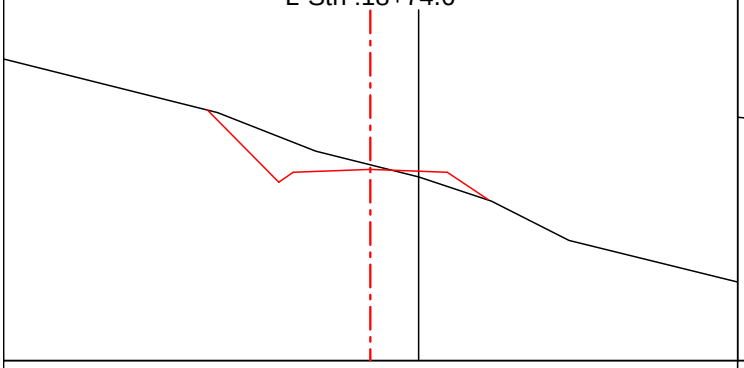
L-Stn :18+74.6



P-Stn :	18+75.1	Cut Dp:	0.5	CL Elev:	46.9
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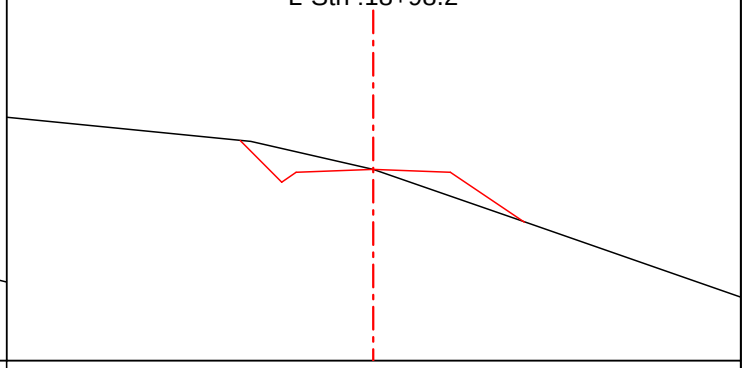
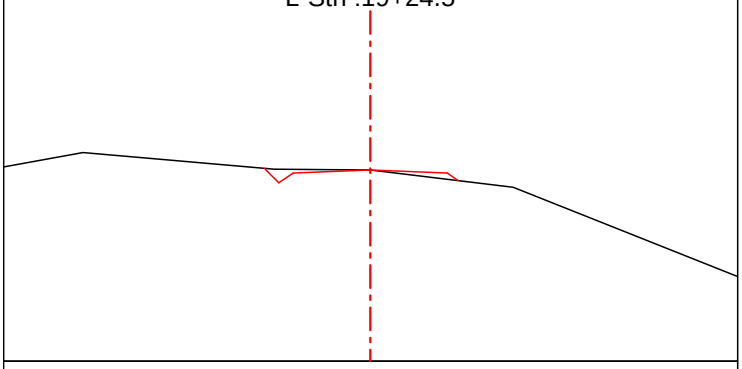
L-Stn :18+98.2



P-Stn :	18+97.5	Cut Dp:	0.0	CL Elev:	46.3
V.Offset:	0.0	H. Offset:	0.0	Index:	1446

L-Stn :19+24.5

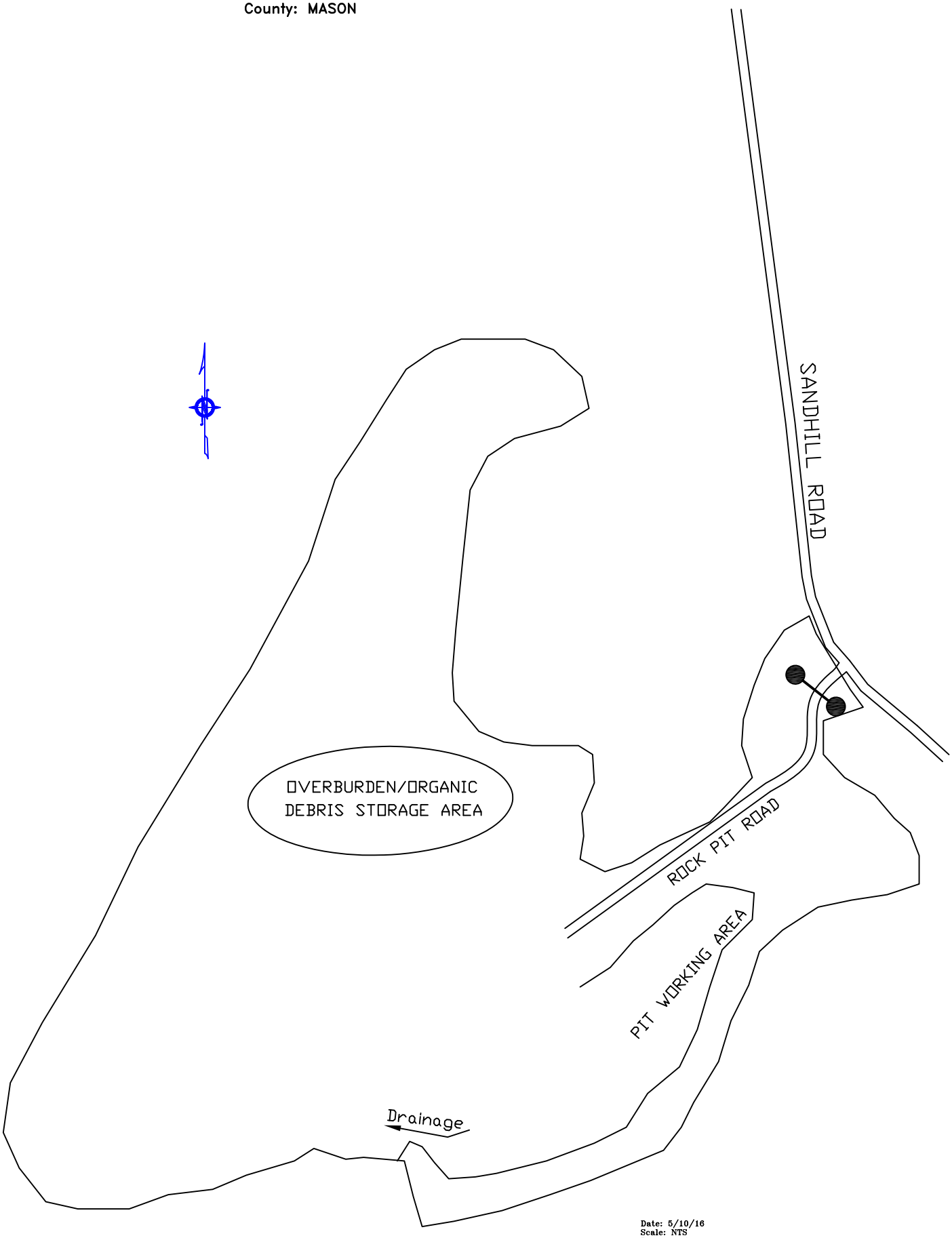


P-Stn :	19+23.8	Cut Dp:	0.0	CL Elev:	44.5
V.Offset:	0.0	H. Offset:	0.0	Index:	1447

Sand Hill Pit

NW1/4 NE1/4 & NE1/4 NW1/4 SEC 24 TOWNSHIP 23 NORTH,RANGE 2 WEST

County: MASON



Date: 5/10/16
Scale: NTS
Page: 1 of 1
Drawn By: WJH

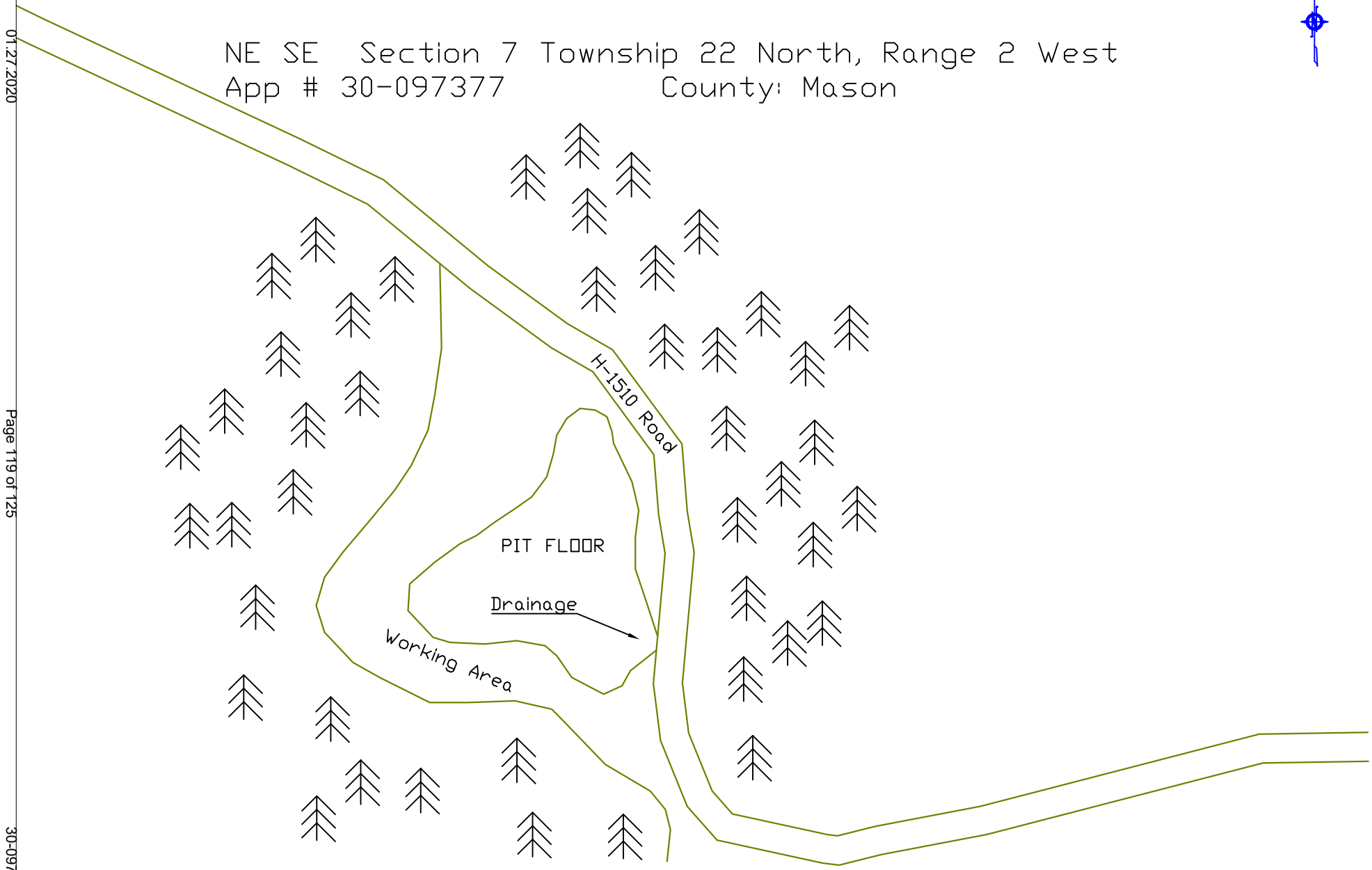
Legal Description: NW, NE & NE, NW Sec 24 T23N R02W
Rock Pit Name: Sandhill Pit

Legal Description: NE, SE Sec 7 T22N R02W
Rock Pit Name: Shoofly Pit

PIT DEVELOPMENT PLAN

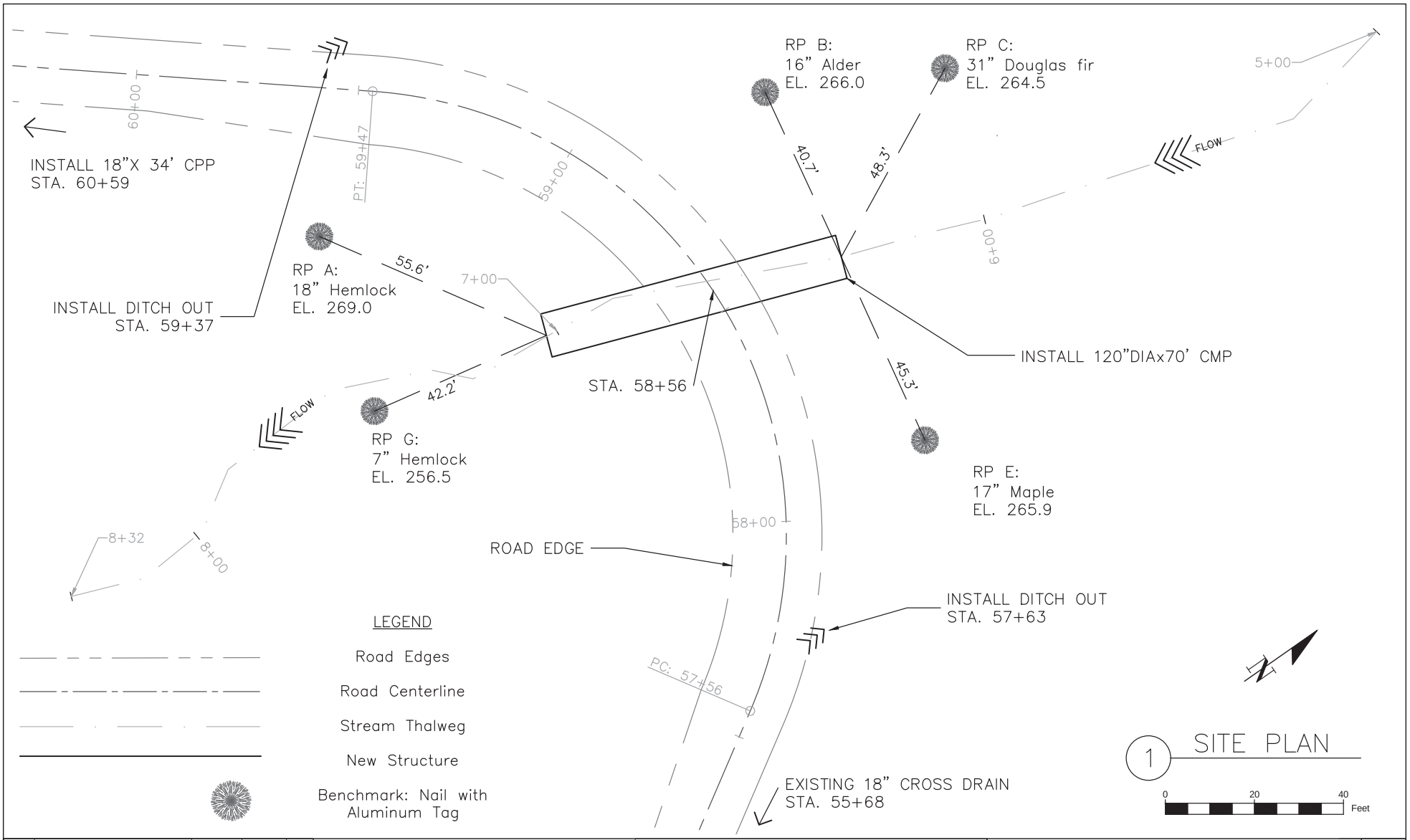
1. Scatter root wads and organic debris larger than one cubic foot in volume as directed by the Contract Administrator.
2. A minimum stripping width of 20 feet must be maintained from all pit faces and at the termination of operations pit shall be left in said condition.
3. Pile all reject rock and overburden away from pit working area as shown.
4. Pit floor shall be sloped to allow drainage as shown. No ponding will be allowed.
5. Maximum face height shall not exceed 30 feet in height.
6. Pit face shall have a maximum backslope of 1/4:1.
7. Working bench width shall be a minimum of 25 feet.
8. At the completion of operations, Contractor shall request written approval from the Contract Administrator for final rock source condition and compliance with the terms of this plan
9. Quantity and Quality of ballast pit is not guaranteed by the State.

NE SE Section 7 Township 22 North, Range 2 West
App # 30-097377 County: Mason



Date: 9/4/19
Scale : NONE
Page : 1 of 1

Shoofly Pit
PLAN VIEW



1 SITE PLAN

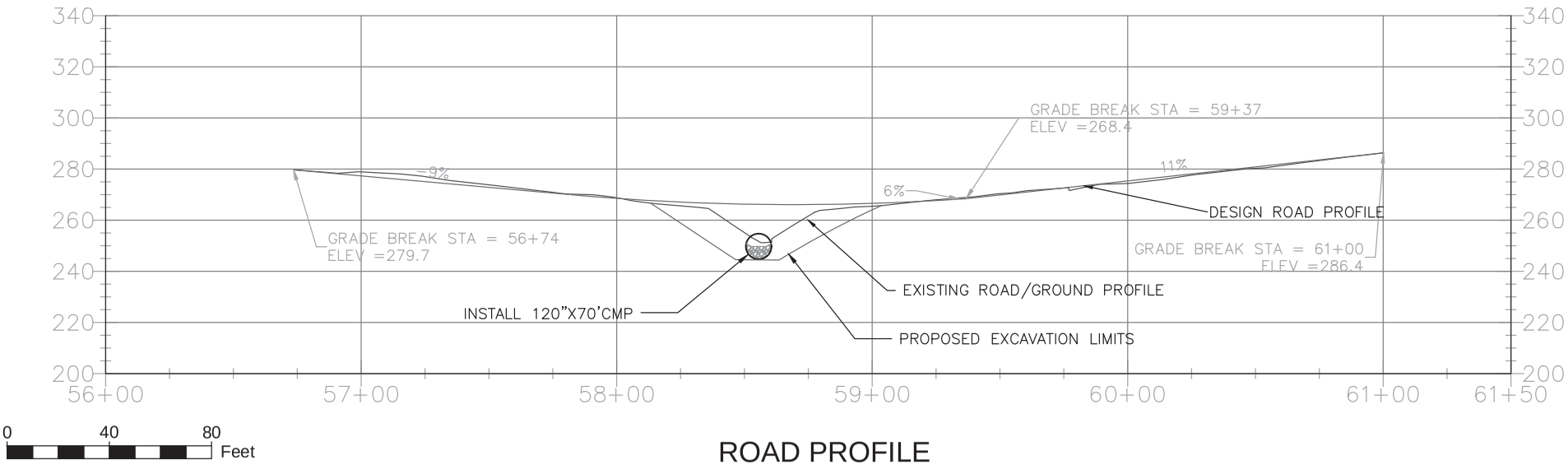
NO.	REVISION DESCRIPTION		DATE	BY

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

DRAWING TITLE: SHOOFLY CREEK PLAN VIEW
LANDOWNER: WA–DNR

SEC. TWNSHP RANGE: SEC. 18 T22N R2W
LAT & LONG: N46.4033 W122.9898°
DATE: 06/26/2019

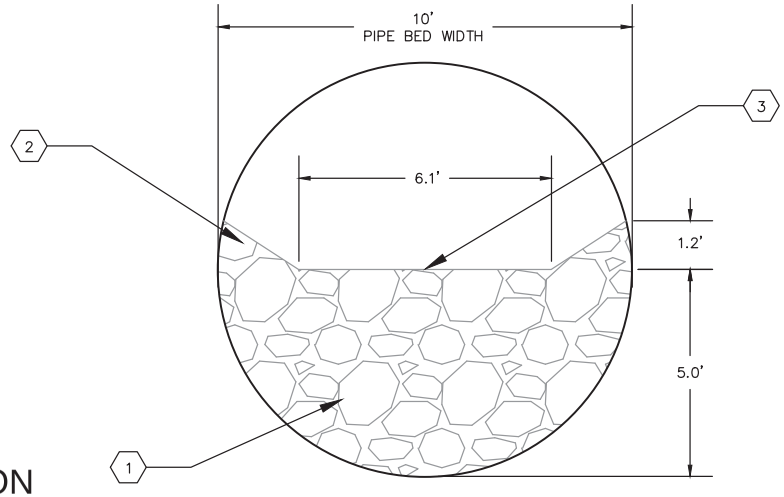
SHEET 1 OF 3



ROAD PROFILE

STREAMBED MATERIAL TABLE

1. CULVERT STREAMBED MATERIAL SHALL BE ACQUIRED FROM SHOOFLY PIT AND WILL CONSIST OF 6 INCH MINUS BANKRUN.
2. SIDEBANKS TO UTILIZE D84 – D100 ROCK AT 6–8 INCHES.
3. COMPACT THALWEG BY USE OF MECHANICAL HAND TAMPER, VIBRATORY PLATE COMPACTOR, OR WALK BEHIND VIBRATORY ROLLER. THREE COMPLETE PASSES SHALL BE MADE PRIOR TO REINTRODUCING FLOW TO PIPE.



CULVERT SECTION

0 2 4 Feet

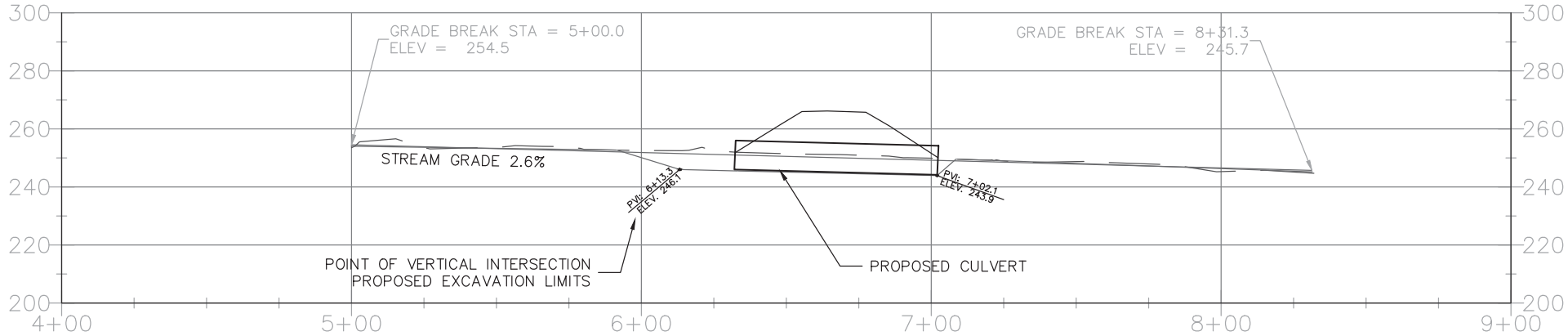
NO.	REVISION DESCRIPTION	DATE	BY

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

DRAWING TITLE: SHOOFLY CREEK ROAD PROFILE
LANDOWNER: WA–DNR

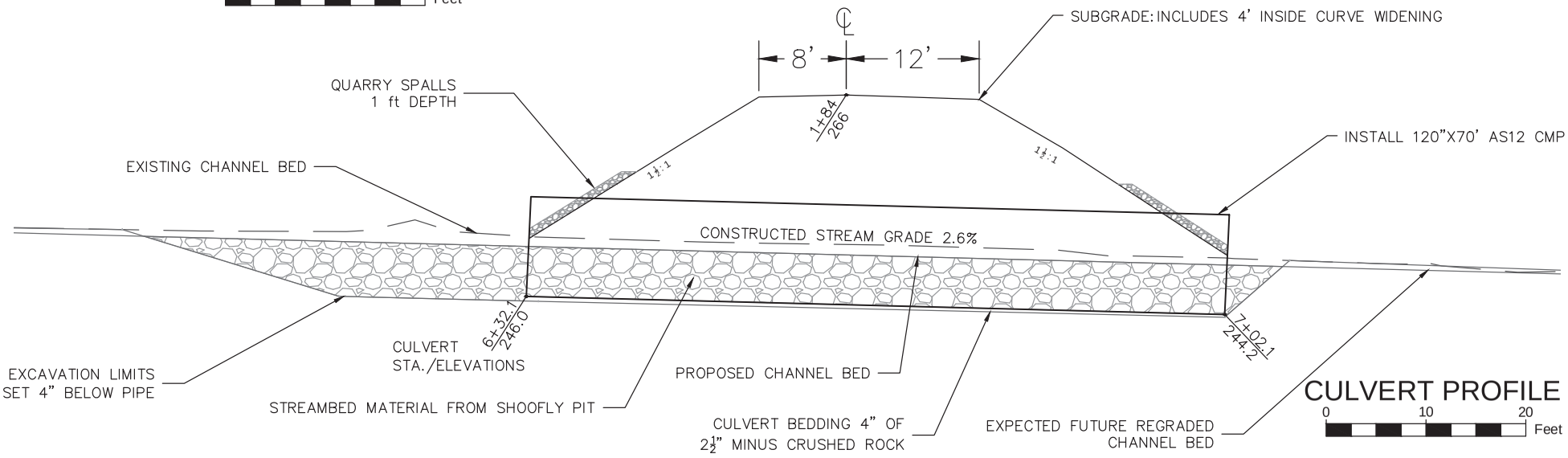
SEC. TWNSHP RANGE: SEC. 18 T22N R2W
LAT & LONG: N46.4033 W122.9898°
DATE: 06/26/2019

SHEET 2 OF 3



CHANNEL PROFILE

0 35 70 Feet



CULVERT PROFILE

0 10 20 Feet

NO.	REVISION DESCRIPTION	DATE	BY

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

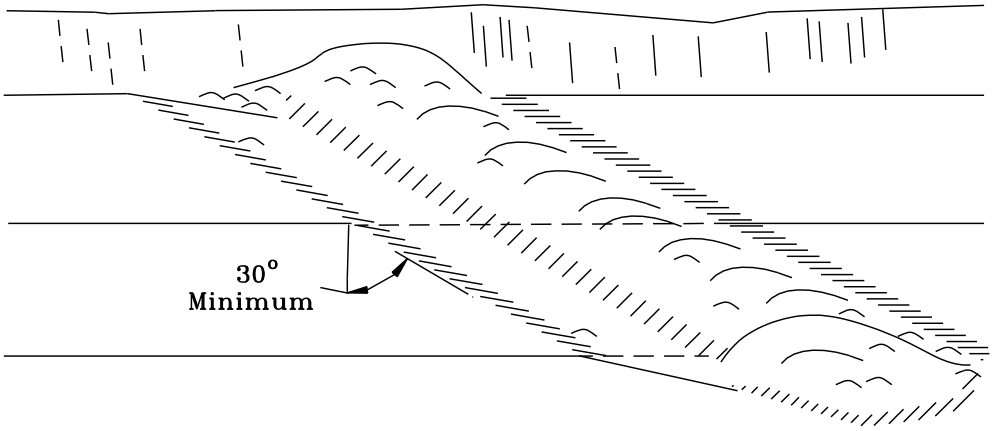
DRAWING TITLE: SHOOFLY CREEK CHANNEL PROFILE
LAND OWNER: WA–DNR

SEC. TWNSHP RANGE: SEC. 18 T22N R2W
LAT & LONG: N46.4033 W122.9898°
DATE: 06/26/2019

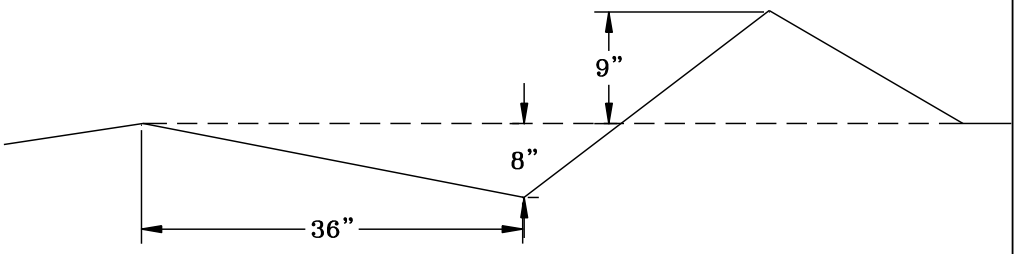
SHEET 3 OF 3

Drivable Water Bar Detail

Cross Ditch



Cross Section at Centerline



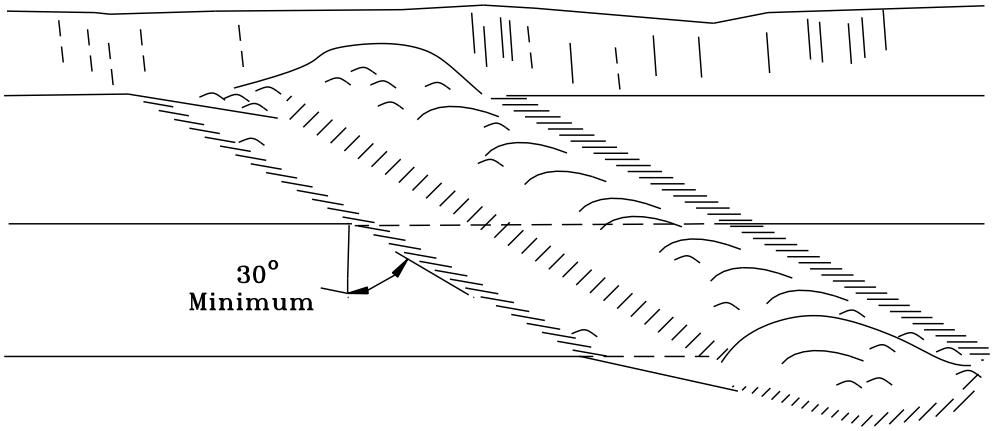
Date:
Scale : None
App#
Drawn by: M.A.D.

Water Bar Detail

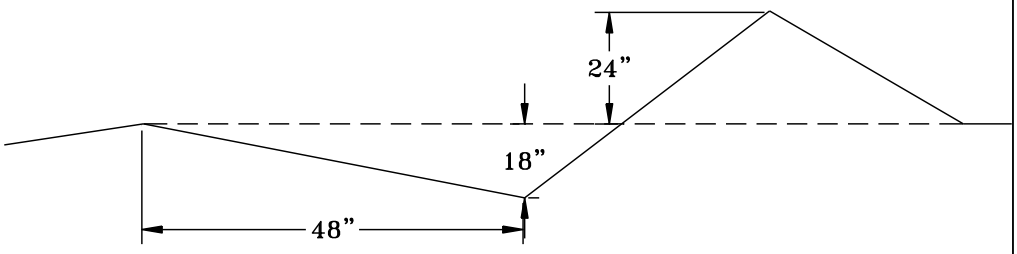
WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES
SPS REGION

Non-Drivable Water Bar Detail

Cross Ditch



Cross Section at Centerline



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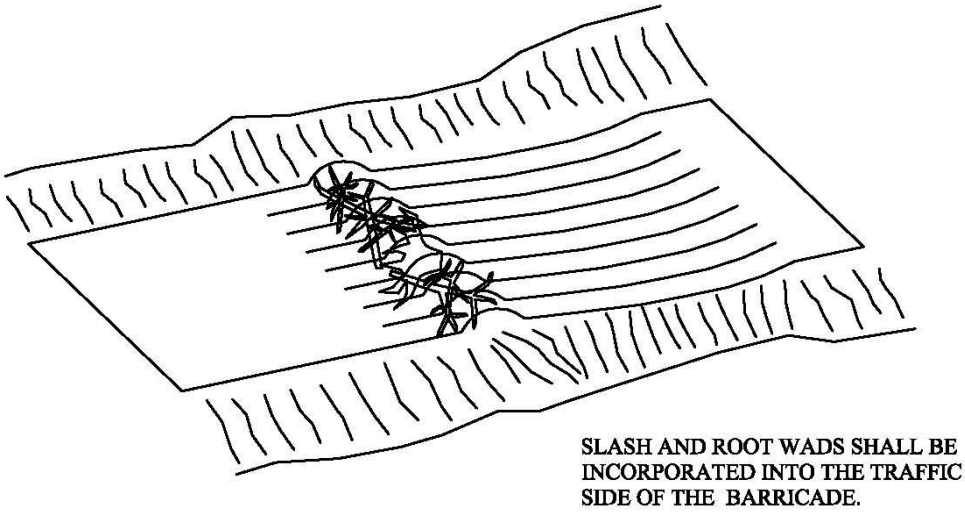
Scale : None
App#
Drawn by: M.A.D.

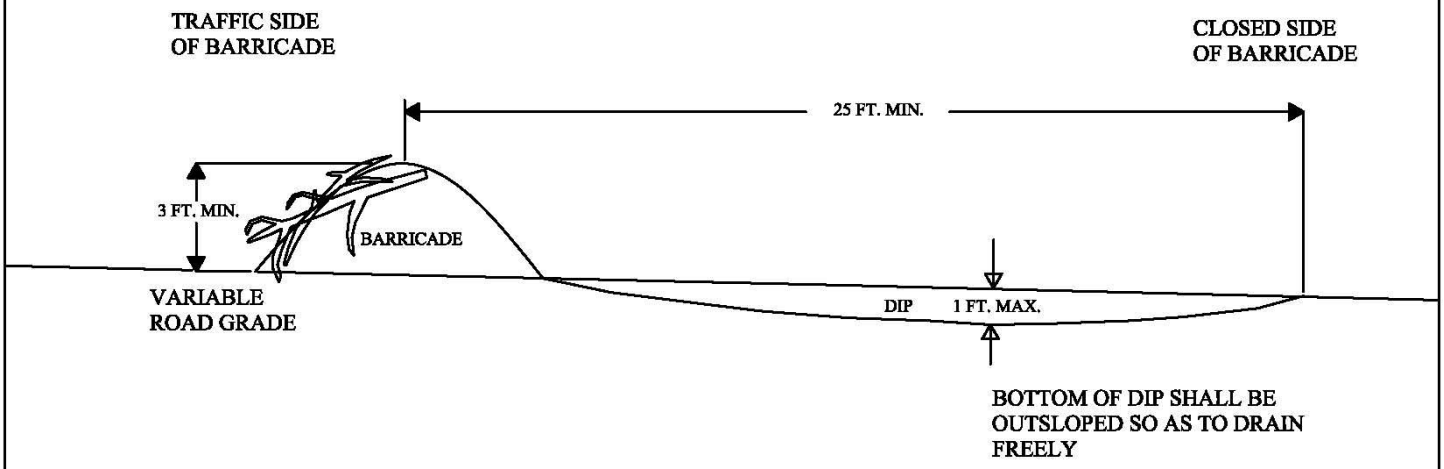
Water Bar Detail

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

BARRICADE DETAIL



PLAN VIEW



PROFILE VIEW

DEPARTMENT OF NATURAL RESOURCES - SOUTH PUGET SOUND REGION

FORM 9-87(Rev. 01-09)

Road Development Cost Estimate

(For internal DNR use only. Costs are estimates only & are not guaranteed by the State or part of the Road Plan.)

REGION: South Puget Sound
DISTRICT: Hood Canal

SALE/PROJECT NAME: Hurdle T.S. CONTRACT NUMBER: 30-097377
LEGAL DESCRIPTION: Sec 3, 4, 7, 8 & 18 T22NR02W & Sec 13 T22N R03W

ROAD NUMBER:	H-1500ext H-1520 H-1510ext H-1560ext H-1513ext Spurs 1-12	H-1510 H-1550 H-1513 H-1560 H-1540	H-1000 H-1230 H-1100 H-1500 H-1200 H-1510 H-1550
ROAD STANDARD:	Construction	Reconstruction	Pre-haul maintenance
NUMBER OF STATIONS:	147.80	88.02	440.16
SIDESLOPE:	15-30%	10-25%	10-20%
CLEARING AND GRUBBING:	$13,581	$4,044	
EXCAVATION AND FILL:	$28,142	$18,683	
MISC. MAINTENANCE:			$9,595
ROCK TOTALS (Cu. Yds.):			
Ballast: 323	$0	$1,042	$1,185
Surface: 120	$0	$3,672	$0
Riprap: 50	$291	$719	$0
CULVERTS AND FLUMES:	$16,827	$5,494	$8,806
STRUCTURES:	$0	$15,798	$0
GENERAL EXPENSES:	$5,296	$4,451	$1,959
MOBILIZATION:	$4,067	$4,067	$4,067
TOTAL COSTS:	$68,203	$57,968	$25,611
COST PER STATION:	$461	$659	$58

ROAD DEACTIVATION AND ABANDONMENT COSTS: $17,612

NOTE[1]: This appraisal has no allowance for profit and risk.
NOTE[2]: This appraisal does not account for optional rock.

TOTAL (All Roads) = $169,395

SALE VOLUME MBF = 5,684

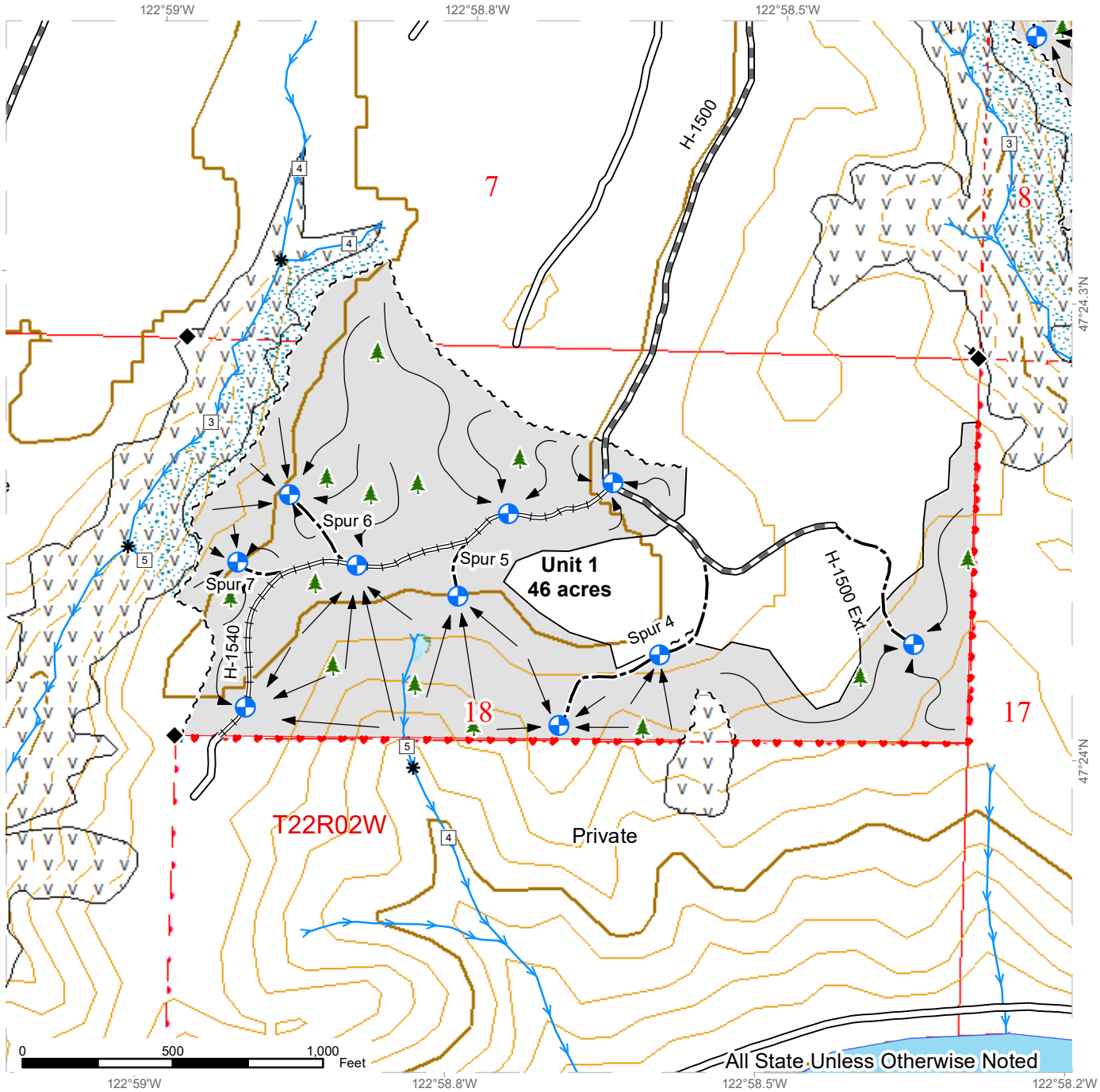
TOTAL COST PER MBF = $29.80

Date: 09/10/19

LOGGING PLAN MAP

SALE NAME: HURDLE
AGREEMENT#: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Scientific School (10), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 160-480



Ground Harvest	Existing Roads	Landing - Proposed	Riparian Mgt Zone
Cable Harvest	Required Pre-Haul Maintenance	Leave Tree Area <1/4-acre	Wetlands
Sale Boundary Tags	Required Reconstruction	Survey Monument	Tailhold Restriction Area
Timber Type Change	Optional Construction		
Property Line	Streams		

N

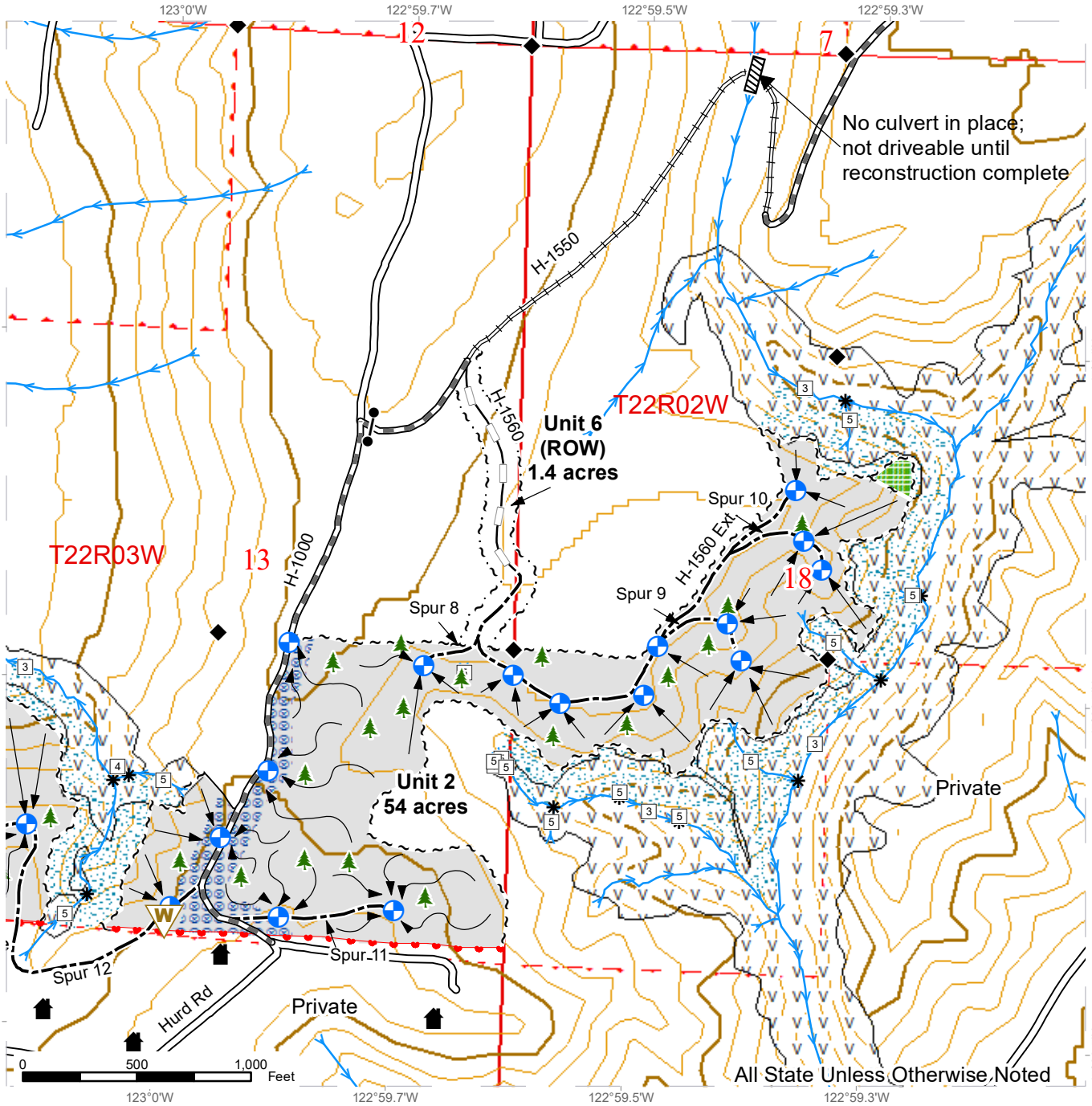
Prepared By: RHRT490

Modification Date: nchi490 1/22/2020

LOGGING PLAN MAP

SALE NAME: HURDLE
AGREEMENT#: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Scientific School (10), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 160-480



Ground Harvest	Existing Roads	Culvert	Leave Tree Area
Cable Harvest	Required Pre-Haul Maintenance	Gate	Riparian Mgt Zone
Sale Boundary Tags	Required Reconstruction	Landing - Proposed	Tailhold Restriction Area
Timber Type Change	Optional Construction	Leave Tree Area <1/4-acre	Hazard Abatement Area
Leave Tree Tags	Optional Reconstruction	Structure	
Right of Way Tags	Streams	Waste Area	
Property Line		Survey Monument	

N

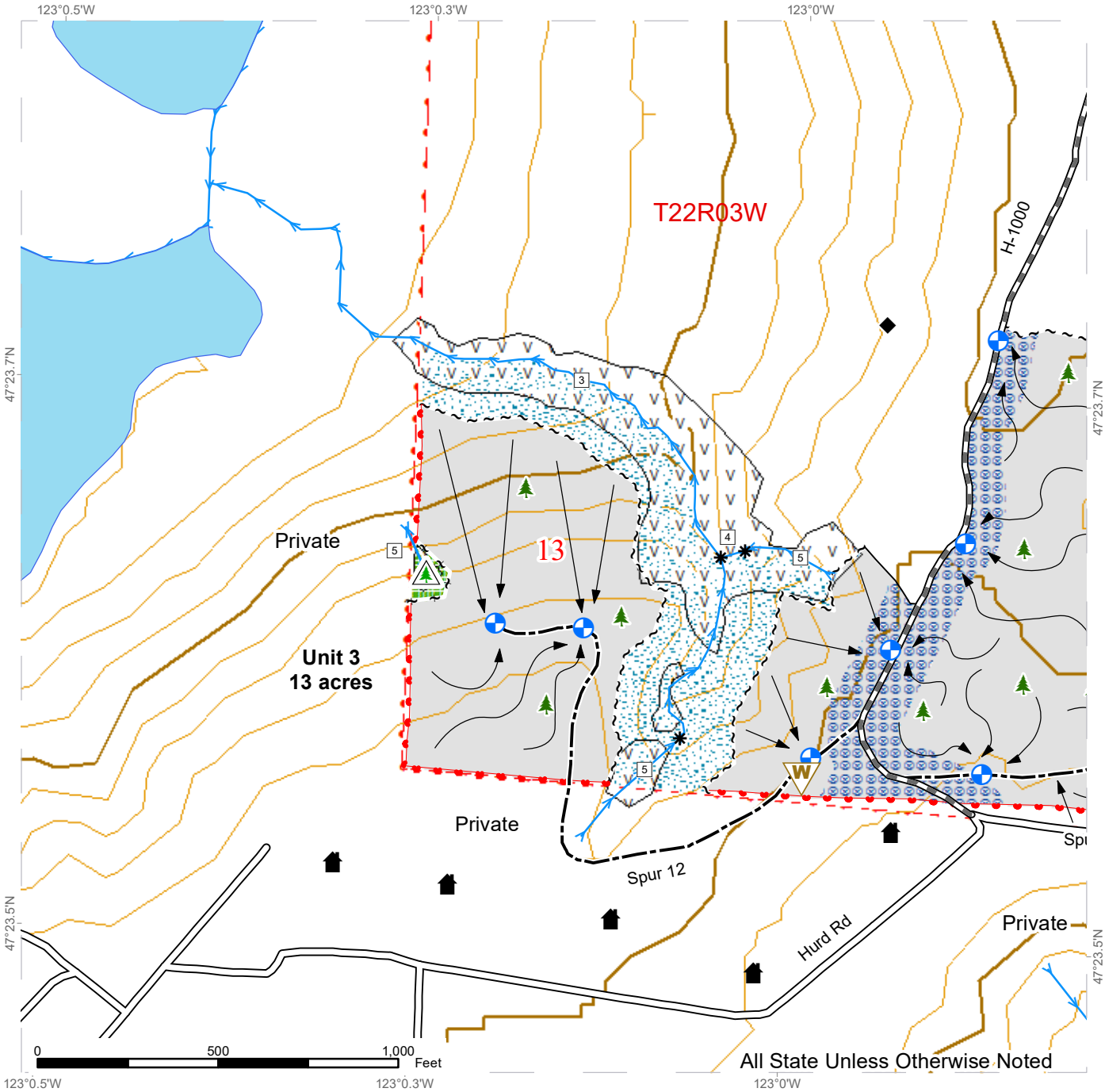
Prepared By: RHRT490

Modification Date: nchi490 1/22/2020

LOGGING PLAN MAP

SALE NAME: HURDLE
AGREEMENT#: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Scientific School (10), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 160-480



Ground Harvest	Existing Roads	Landing - Proposed	Leave Tree Area
Cable Harvest	Required Pre-Haul Maintenance	Leave Tree Area <1/4-acre	Riparian Mgt Zone
Sale Boundary Tags	Optional Construction	Non-Tradeable Leave Trees	Tailhold Restriction Area
Timber Type Change	Streams	Structure	Hazard Abatement Area
Leave Tree Tags		Waste Area	
Property Line		Survey Monument	

N

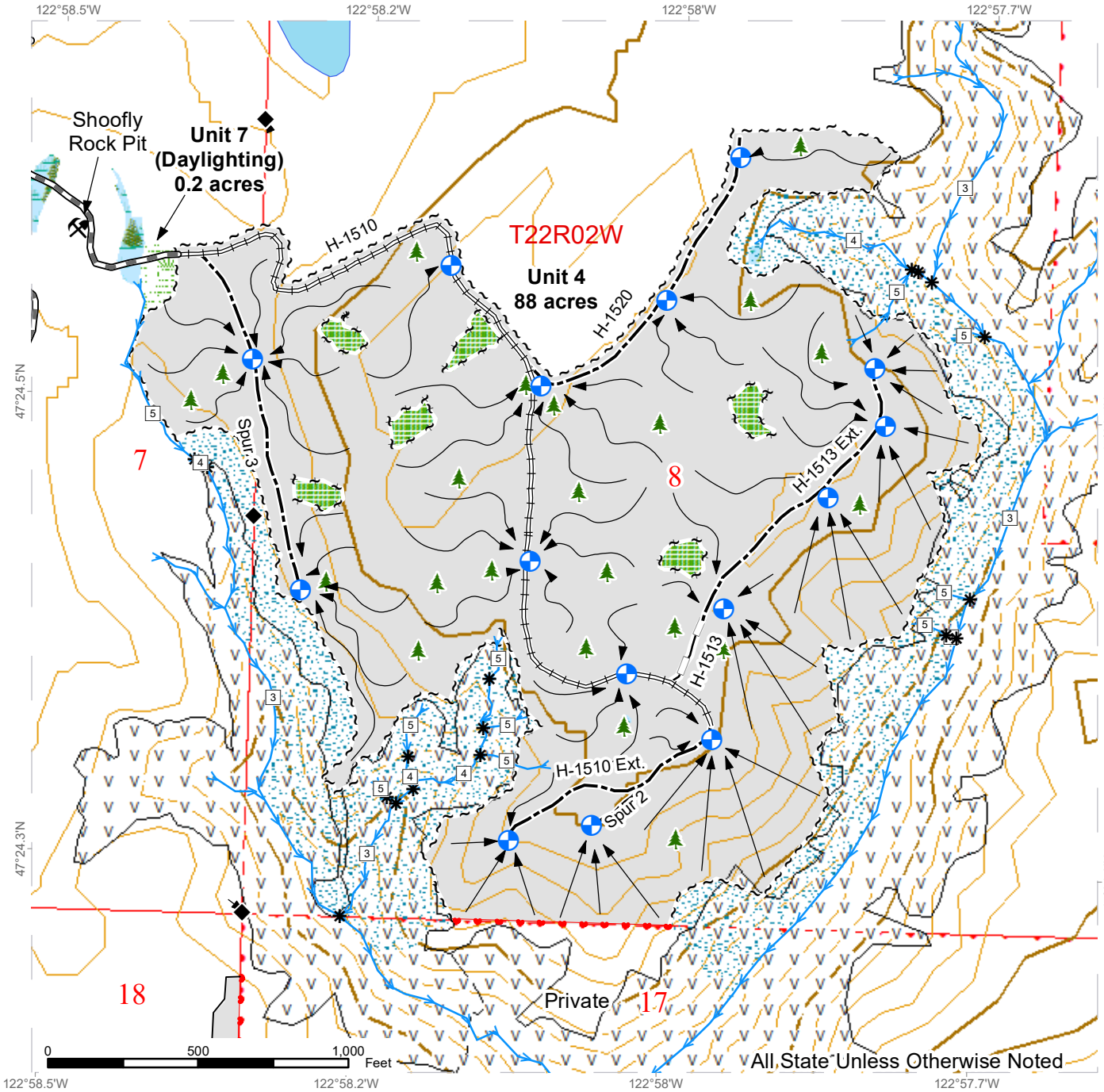
Prepared By: RHRT490

Modification Date: nchi490 1/22/2020

LOGGING PLAN MAP

SALE NAME: HURDLE
AGREEMENT#: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Scientific School (10), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 160-480



Ground Harvest	Required Pre-Haul Maintenance	Landing - Proposed	Leave Tree Area
Cable Harvest	Required Reconstruction	Leave Tree Area <1/4-acre	Riparian Mgt Zone
Sale Boundary Tags	Optional Construction	Rock Pit	\Wetlands
Timber Type Change	Optional Reconstruction	Survey Monument	Wetland Mgt Zone
Leave Tree Tags	Streams		Tailhold Restriction Area
Property Line			

N

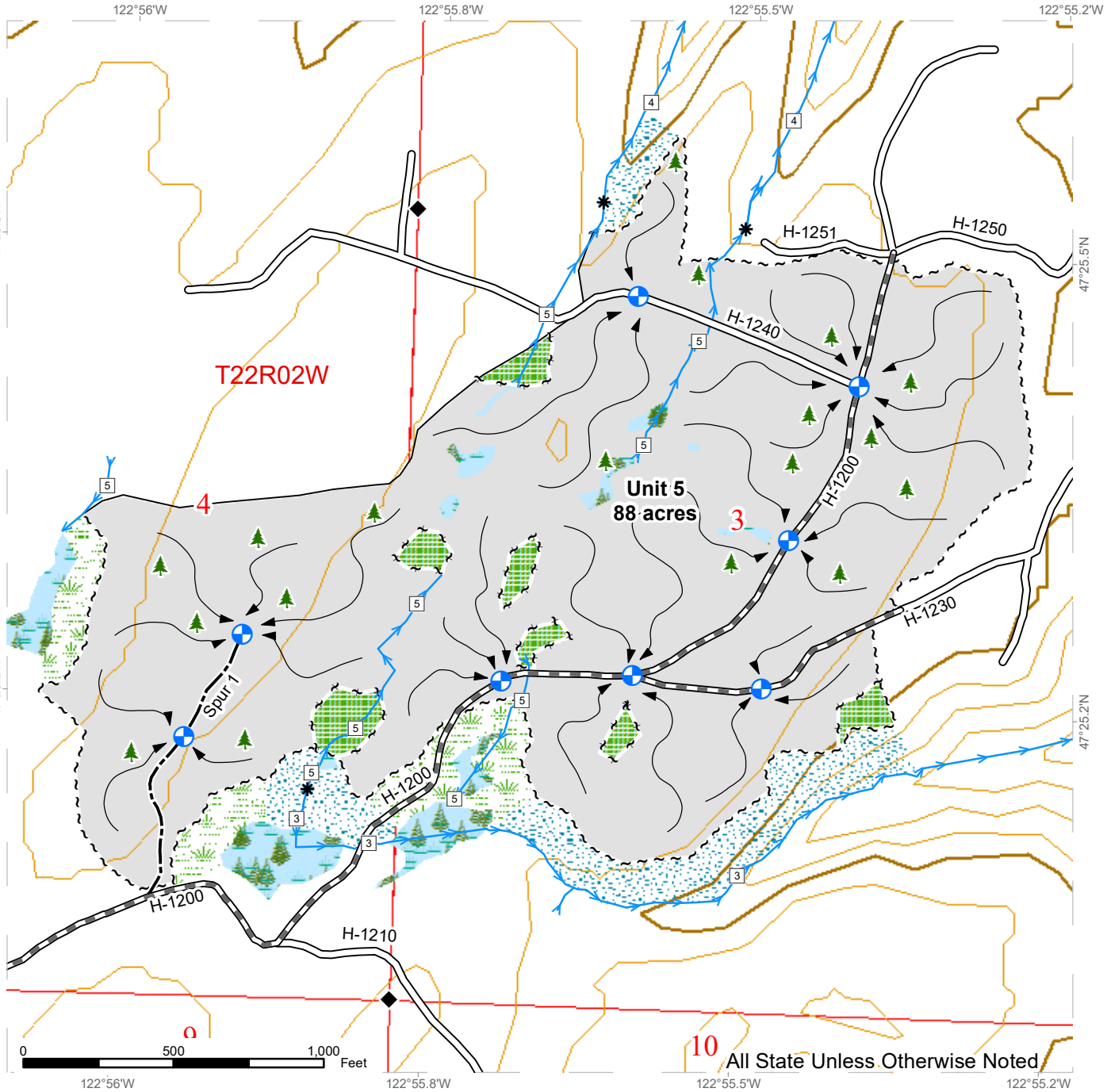
Prepared By: RHRT490

Modification Date: nchi490 1/22/2020

LOGGING PLAN MAP

SALE NAME: HURDLE
AGREEMENT#: 30-097377
TOWNSHIP(S): T22R2W, T22R3W
TRUST(S): Charitable/Educational/Penal & Reformatory Instit. (6), Scientific School (10), State Forest Transfer (1)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 160-480



Ground Harvest
Sale Boundary Tags
Timber Type Change
Leave Tree Tags
Existing Roads
Required Pre-Haul Maintenance
Optional Construction
Streams
Landing - Proposed
Leave Tree Area <1/4-acre
Survey Monument
Leave Tree Area
Riparian Mgt Zone
\Wetlands
Wetland Mgt Zone

N

Prepared By: RHRT490

Modification Date: nchi490 1/22/2020