Road Use Permit

R10-FS 7700-41 (6/94)

U.S. Department of Agriculture - Forest Service **ROAD USE PERMIT** (Re: FSM 7730)	Authority: Acts of October 13, 1964 and October 21, 1976 (16 U.S.C. 532-38 and 43 U.S.C. 1761-71)

Alaska Dept. of Natural Resources Division of Forestry & Fire Protection (Name) of 2417 Tongass Avenue, Suite 213 Ketchikan, AK 99901 (Address & Zip Code)

(hereafter called the permittee) is hereby granted use of the following road(s) or road segments, and/or related transportation facilities: **National Forest System Road (NFSR) 1525000 between mileposts 0.25 – 1.39 and East Edna Bay Log Transfer Facility and associated Sort Yard** on the Thorne Bay Ranger District, subject to the provisions of this permit including clauses 1 through 20 and exhibits A, B and C on page(s) 6 through 38 for the purpose of hauling timber on the State of Alaska East Edna Bay Timber Sale.

The exercise of any of the privileges granted in this permit constitutes acceptance of all the conditions of the permit.

1. **ROAD USE PERMIT, LTF & SORTYARD FEES.** The rate for sharing under this permit is $1.725/MBF/Mile. This rate is a form of investment sharing where the permittee shares in the original cost of the road based on the log haul volume.

Fee calculations are as follows:
7.717 MBF x $1.725/MBF/Mile x 1.14 miles = $15,175
7,717 MBF x $0.75/MBF = $5,788
7,717 MBF x $3.25/MBF = $25,080

Permittee's share of investment will be met as provided for in Clause 2.

Rate for sharing maintenance is shown in Clause 9.

2-1. **WORK REQUIRED TO ACCOMMODATE PERMITTED USE**. In accordance with this use, the permittee shall perform the work described below and in accordance with plans and specifications attached hereto: See Exhibits A, B & C

2-2. **COOPERATIVE WORK.** Although not required to accommodate the use herein permitted, it is desirable to the Forest Service and the permittee to have certain construction or reconstruction work accomplished coincident to use of the road.

The permittee shall perform the work described below in accordance with plans and specifications attached hereto.

Upon satisfactory performance, credit will be allowed in the total of **$ 46,043** to the share to be borne by the permittee. This figure is the sum of investment sharing for use of NFS road 1525000 ($15,175), plus the LTF and sort yard fees ($30,868).

2-3. **CASH DEPOSITS REQUIRED IN LIEU OF WORK PERFORMANCE**. The permittee will deposit $ with the Forest Service on or before NA. The amount deposited will be credited to the share to be borne by the permittee.

2-4. **ROAD USE FEE.** In consideration for this use, the permittee shall deposit with the Forest Service, the sum of $ NA (and thereafter in individual deposits, equivalent to estimated charges before

next payment is made, as called for by the Forest Service in advance of current road use).* When preferred by a permittee, a payment guarantee may be furnished in lieu of advance deposits. **This clause is not applicable when the permittee opts to perform work in lieu of payment.**

This permit is accepted subject to all of its terms and conditions.

ACCEPTED	Greg Staunton Digitally signed by Greg Staunton Date: 2024.03.21 14:43:06 -08'00' Permitee (Name and Signature)	Date
APPROVED	KENNETH OSTROM Digitally signed by KENNETH OSTROM Date: 2024.03.21 11:29:03 -08'00' Issuing Officer: Kenneth Ostrom, Deputy District Ranger	Date 3/21/2024

PAYMENT GUARANTEE. Notwithstanding the provisions of clause 1, if the permittee furnishes and maintains an acceptable payment bond in a penal sum of not less than $ NA guaranteeing payments for road use up to this amount, or in lieu thereof deposits in a Federal depository, through the Regional Fiscal Agent, and maintains therein negotiable securities of the United States having a market value in like sum and agreement authorizing the bond approving officer to sell or collect such securities if payment is not made within NA ( ) days of request therefor, the Forest Service shall permit road use in advance of cash payment up to the penal sum of such bond, or market value at time of deposit of negotiable securities; provided that regardless of penal sum of such payment bond, or the value of such deposited securities, the permittee shall pay cash within NA ( ) days of request therefor, for all performed road use. If any payment is not received within NA ( ) days of request therefor, the Forest Service may suspend all hauling under this permit until payments due are received, and may take such action as is necessary to collect such payments from the payment guarantee surety, or by sale or collection of securities guaranteeing payments. In the event the permittee fails to make payment and collection is obtained from the surety, or from the sale or collection of the deposited securities, the Forest Service may thereafter require the permittee to make payments in advance of road use.

3. **USE PLANS.** Prior to NA each year this permit is in effect, permittee shall notify the in writing of the approximate time when such use will commence, the anticipated duration of such use, the names and addresses of permittee's contractors or agents who will use the road on behalf of permittee, the estimated extent of use, and such other information relative to permittee's anticipated use as the Forest Service may from time to time reasonably request. If and when during the year there is any significant change with respect to the information so supplied by permittee, the permittee will notify the promptly in writing of such change. Plans and changes will be approved by the NA before use may commence.

4. **USE RECORDS.** The permittee shall NA, or at other Forest Service approved intervals when the permittee is hauling over this road, furnish the NA scale records, or other records satisfactory to the which give the volume of road use in terms related to rates in clause 1 under the authority of this permit.

5. **COMPLIANCE WITH LAWS AND REGULATIONS.** The Permittee, in exercising the privileges granted by this permit, shall comply with the regulations of the Department of Agriculture and all Federal, State, county and municipal laws, ordinances or regulations which are applicable to the area or operations covered by this permit.

6. **USE NONEXCLUSIVE.** The privileges granted in this permit to use this road are not exclusive. The Forest Service may use this road and authorize others to use it at any and all times. The permittee shall use said road in such manner as will not unreasonably or unnecessarily interfere with the use thereof by other authorized persons, including Forest Service.

7. **RULES GOVERNING USE.** The permittee, its agents, employees, contractors or employees of contractors, shall comply with all reasonable rules prescribed by the Forest Service for control and safety in the use of this road and to avoid undue damage to the road. Such rules will include:

(1) Closing the road or restricting its use when, due to weather conditions or the making of alterations or repairs, unrestricted use would in Forest Service judgement, cause excessive damage, or create hazardous conditions;

(2) Closing the road during periods when, in Forest Service judgement, there is extraordinary fire danger;

(3) Traffic controls, which in Forest Service judgement, are required for safe and effective use of the road by authorized users thereof;

(4) Prohibiting the loading of logs on trucks while such trucks are standing on the roadway surface, except to recover lost logs; and

(5) Prohibiting the operation on this road of any vehicles or equipment having cleats or other tracks which will injure the surface thereof;

(6) Prohibiting the operation of log-hauling vehicles (of a width in excess of 14' and a gross weight of vehicles and load in excess of 52 tons for a 2 axle vehicle, 72 tons for a 3 axle vehicle, or 80 tons for a 5 axle vehicle. For tracked vehicles the average ground pressure shall be less than 2000 pounds per square foot)* (not in excess of limits established by Regional Road Order or lower limits established by Forest Supervisor's Road Order)

(7) Regulating the number of vehicles so as to prevent undue congestion of this road.

(8) Prohibiting the use of an "active ingredient" as defined in Section 2 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 973), in violation of said act on the Land described in this permit.

(9) Other - Specify (Optional)

8. **INSURANCE**. Permittee or his contractors and assigns shall be required to carry public liability and property damage insurance for the operation of vehicles in the amounts established by applicable state laws, cooperative agreements, or easements issued on the subject road or roads. In any event, the permittee must carry liability insurance and property damage insurance of not less than $250,000 for injury or death to one person, $500,000 for injury or death to two or more persons, and $250,000 for damage to property. The permittee itself shall be responsible for furnishing to the Thorne Bay Ranger District proof of satisfactory insurance when said insurance is to be furnished by other than the permittee. Proof of satisfactory insurance may be required by the Thorne Bay Ranger District prior to hauling over the road(s) and will be for the duration of the permit and such insurance policy shall bear an endorsement requiring the issuing company to give 10 days prior written notice to the Thorne Bay District Ranger, of cancellation or material change.

9. **MAINTENANCE**. The permittee shall bear the expense of maintenance proportionate to his use. This expense will be borne by

When deposit or payments are required in lieu of performance of maintenance the rate will be which is agreed to be the cost of such works; the deposits or payments to be made at such times and in such amounts as requested by the NA ; Provided, however, that the rate shall be revised upward or downward on NA of each year hereafter, based on estimated costs and uses anticipated; Provided further, that payment shall not relieve the permittee from liability for repair of damages due to carelessness or negligence on its part or on the part of its contracts or agents.

Maintenance shall be performed in accordance with Forest Service specifications or requirements for maintenance as hereinafter listed, or as may be mutually agreed upon from time to time and shall consist of (1) current maintenance as necessary to preserve, repair, and protect the roadbed, surface and all structures and appurtenances, and (2) resurfacing equivalent in extent to the wear and loss of surfacing caused by operations authorized by this permit.

9a. **MAINTENANCE REQUIREMENTS AND SPECIFICATIONS**. (Specify)

See attached maintenance specifications and drawings.

10. **PERFORMANCE BOND.** In the event the permittee is to perform its proportionate share of road maintenance, road resurfacing, or betterment, as determined and within time periods established by the Forest Supervisor, the Forest Service may require as a further guarantee of the faithful performance of such work that the permittee furnish and maintain a surety bond satisfactory to the Forest Service in the sum of dollars ($ NA), or in lieu of a surety bond , deposit into a Federal depository, as directed by the Forest Service, and maintain therein cash in the sum of NA dollars ($ NA), or negotiable securities of the United States having market value at time of deposit of not less than NA ($ NA). As soon as security for the performance of road maintenance (and betterment) requirements or the settlement of claims incident thereto is completed, unencumbered cash guarantees or negotiable securities deposited in lieu of surety bond will be returned to the permittee. **Because the permittee is a State of Alaska Agency, no bond shall be required.**

11. **FIRE PREVENTION AND SUPPRESSION.** The permittee shall take all reasonable precautions to prevent and suppress Forest fires. No material shall be disposed of by burning in open fires during the closed season established by law or regulation without a permit from the Forest Service.

12. **DAMAGES**. The permittee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and promptly upon demand shall pay the United Sates for any damage resulting from negligence, or from violation of the terms of this permit or of any law or regulation applicable to the National Forests, by the permittee, or by his agents, contractors, or employees of the permitee acting within the scope of their agency, contract, or employment.

13. **OFFICIALS NOT TO BENEFIT.** No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.

14. **OUTSTANDING RIGHTS.** This permit is subject to all outstanding rights.

15. **SUSPENSION.** Upon the failure of the permittee, its agents, employees or contractors to comply with any of the requirements of this permit, the officer issuing the permit may suspend operations in pursuance of this permit.

16. **TERMINATION.** This permit shall terminate on **September 30, 2024** unless extended in writing by the Forest Service. It may be terminated upon breach of any conditions herein.

17. **CLAUSE CONTROL.** In the event of any conflict between any of the preceding printed clauses or any provision thereof and any of the following clauses or any provisions thereof, the following clauses will control.

18. **SAFETY.** Unless otherwise agreed in writing, when Permittee's Operations are in progress adjacent to or on Forest Service controlled roads and trails open to public travel, Permittee shall provide the use with adequate warning of hazardous or potentially hazardous conditions associated with Permittee's Operation. A specific traffic control plan for each individual project shall be agreed to by Permittee and Forest Service prior to commencing operations. Devices shall be appropriate to current conditions and shall be covered or removed when not needed. Except as otherwise agreed, flager and devices shall be as specified in the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD), and in specifications attached hereto.

19. **DRIVER'S COPY.** Drivers of all vehicles hauling logs shall have a copy of page 1 of this agreement in their possession. This copy will be presented, on request, to any Forest Officer.

20. **LOAD MARKING.** Unless stated otherwise in writing by the District Ranger, all wood products shall be painted with a blue letter "P" on each log across the top layer on the front and back of the load.

21. **SNOW REMOVAL.** Snow removal shall be done in a manner to preserve and protect the roads, to the extent necessary to ensure safe and efficient transportation of materials, and to prevent excessive erosion damage to roads, streams, and adjacent lands. Permittee shall:

(1) Remove snow from the entire road surface width including turnouts.

(2) Remove snow slides, earth slides, fallen timber, and boulders that obstruct normal road surface width.

(3) Remove snow, ice, and debris from culverts so that the drainage system will function efficiently at all times.

(4) Perform all items of snow removal currently to ensure safe, efficient transportation. Work shall be done in accordance with the following minimum standards of performance:

(5) Deposit all debris, except snow and ice, removed from the road surface and ditches at agreed locations and away from stream channels.

(6) Not undercut roadbanks nor remove gravel or other selected surfacing material off the roadway surface.

(7) Assure that ditches and culverts are kept functional during and following roadway use.

(8) Not leave snow berms on the road surface. Berms on the shoulder of road shall be removed and/or drainage holes shall be opened and maintained. Drainage holes shall be spaced as required to obtain satisfactory surface drainage without discharge on erodible fills.

(9) Not use dozers to plow snow on system roads without written approval of the Forest Service.

(10) Leave a minimum of 2-inches of snow depth to protect the roadway.

(11) Restore any damage resulting from the snow removal in a timely manner.

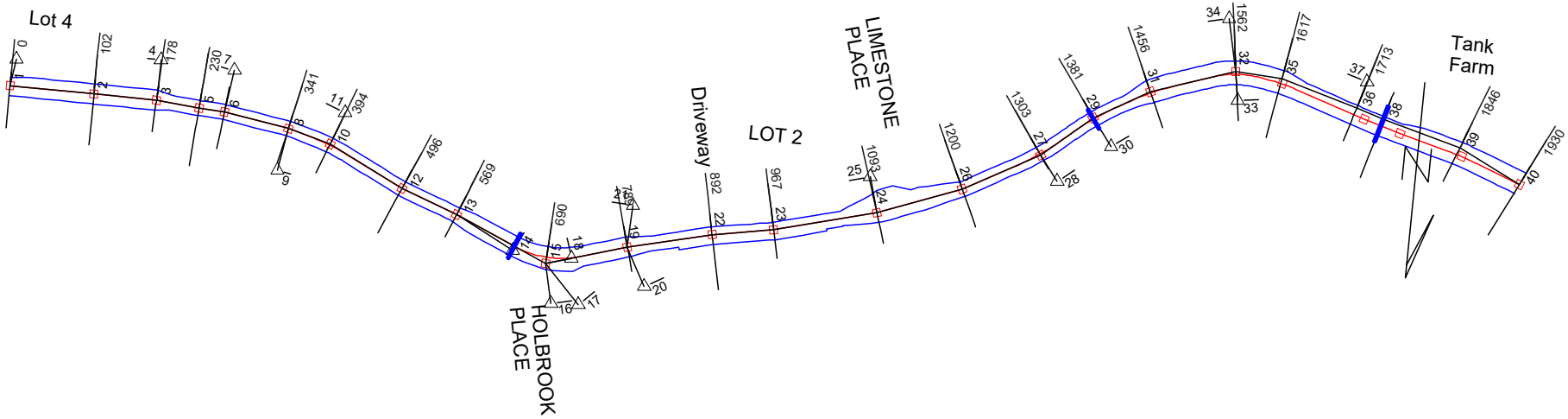
EXHIBIT A

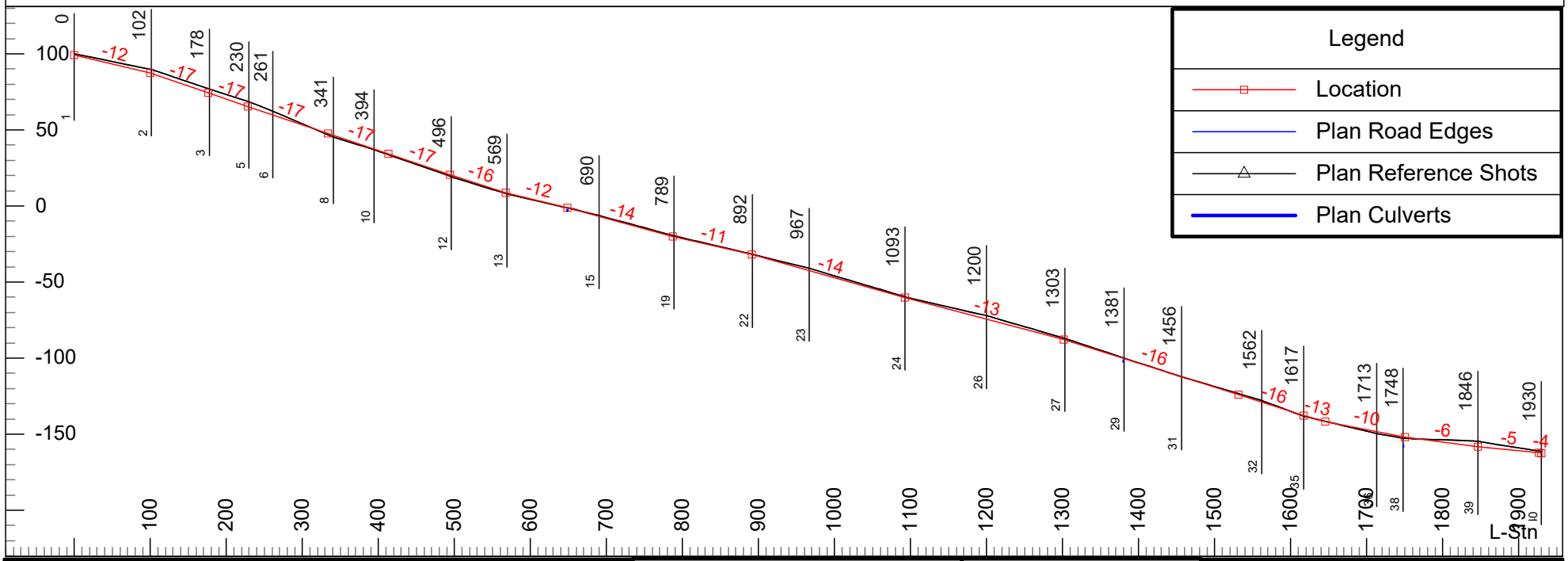
Kosciusko Island			Date:	2/26/2024					
1525 Road Design Summary									
Field Label		Survey Comment	Side Shot HD (FT)	Existing Conditions	Layout Station	Description of Finish Road Width	Notes		
0		Side Shot	32.9	Lot 4BLK13/ROW Mon					
1		Centerline Road			0	20FT Road	State Forest Line		
2		Centerline Road			102	20FT Road	Match access to Lot 4 LT		
3		Centerline Road			178	20FT Road	Match access to Lot 4 LT		
4		Centerline Road			195	14 FT Road			
5		Centerline Road			230	14 FT Road			
6		Centerline Road			261	14 FT Road			
7		Side Shot	51.5	Lot3/L4/ROW Mon					
8		Centerline Road			341	14 FT Road			
9		Side Shot	52.1	Lot1/2/ROW					
10		Centerline Road			394	14 FT Road			
11		Side Shot	42.1	CTR. Driveway/ Old Blue Truck					
					648		18" CPP Relief		
12		Centerline Road			496	14 FT Road			
13		Centerline Road			569	14 FT Road			
14		Centerline Road				14 FT Road			
					590	20FT Road	Curve/ Intersection Widening		
15		Centerline Road		Intersection	690	20FT Road	Curve/ Intersection Widening		
16		Side Shot	48.4	Centerline Holbrook Place					
17		Side Shot	63.3	ROW/ TR O					
18		Centerline Road				20FT Road	Curve/ Intersection Widening		
19		Centerline Road			789	20FT Road	Curve/ Intersection Widening		
					815	14 FT Road			
					850	14 FT Road			
					850	20FT Road			
20		Side Shot	51.7	TRQ/ ROW Mon					
21		Side Shot	50.9	Lot2 BLK13/ ROW PC					
22		Centerline Road		Driveway LT	892	20FT Road	Match access to Lot 2 LT		
23		Centerline Road			967	20FT Road	Existing width		
					1030	20FT Road	Existing width		
24		Centerline Road		Intersection	1093	20FT Road	Existing width		
25		Side Shot	44.4	Centerline Limestone Place					
					1100	Turnout LT (24FT total width)	Transition to Intersection		

Kosciusko Island			Date:	2/26/2024					
1525 Road Design Summary									
Field Label		Survey Comment	Side Shot HD (FT)	Existing Conditions	Layout Station	Description of Finish Road Width	Notes		
					1150	Turnout LT (24FT total width)	Transition to Intersection		
26		Centerline Road			1200	14 FT Road			
27		Centerline Road			1303	14 FT Road			
28		Side Shot	37.2	3248S/TRQ/ROW					
29		Centerline Road			1381	14 FT Road	18" CPP Relief		
30		Side Shot	41.1	ROW PT Mon					
					1430	14 FT Road			
31		Centerline Road			1456	Turnout LT (24FT total width)	Transition to existing width		
32		Centerline Road			1562	Turnout LT (24FT total width)	Ditch RT ahead		
33		Side Shot	35.2	PC 3" monument			Ditch RT ahead		
34		Side Shot	64.6	L12/L13 BLK 14			Ditch RT ahead		
35		Centerline Road			1617	Turnout LT (24FT total width)	Ditch RT ahead		
					1620	Turnout LT (24FT total width)	Transition to existing width		
					1645	20FT Road	Ditch RT ahead		
36		Centerline Road			1713	20FT Road	Shift RT 9, Ditch RT ahead		
37		Side Shot	33.7	ROW /TRK A / ROW			Shift RT 9, Ditch RT ahead		
38		Centerline Road		Low PT 18" CMP	1748	20FT Road	Replace existing with 18" CPP		
					1773	20FT Road	Shift RT 9, Ditch RT ahead		
39		Centerline Road		Perpendicular. to BT C6	1846	20FT Road	Shift RT 9, Ditch RT ahead		
40		Centerline Road		EOS CL road (tank farm crn. LT 3	1930	20FT Road	Match existing surface		
	Notes:								
	(er)	Edge of existing road from DOF traverse 10/28/2023.							
		Tapers not specified explicitly in this summary.							
		Turnouts are 14 FT road width, additional 10 FT on the side indicated.							

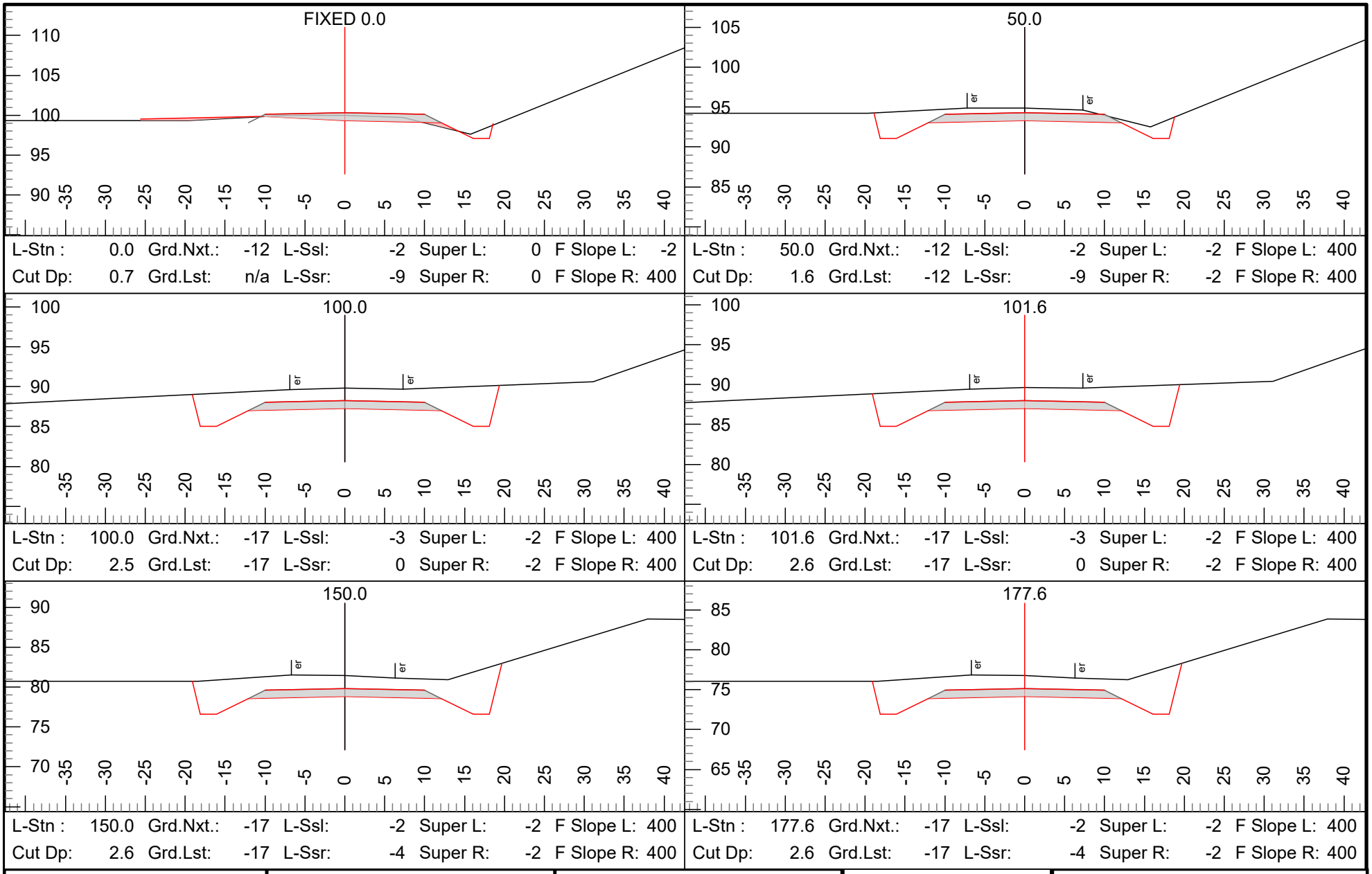
EXHIBIT B

FDR 1525/ Kosciusko Drive

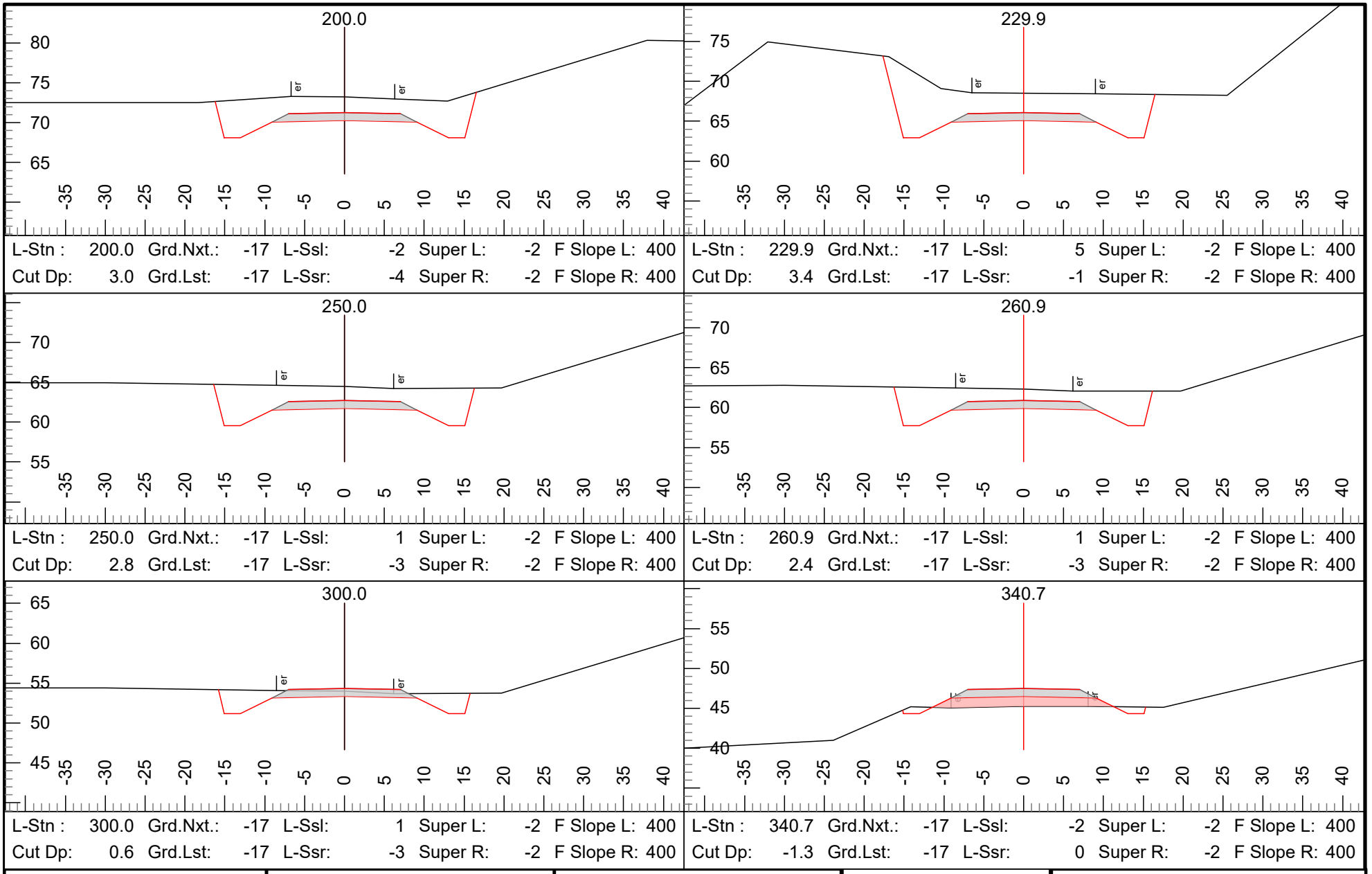




Station Range		Profile Vert Scale 1:1200 Profile Horz Scale 1:2400	USFS Design Level II DOF Site Specific	Notes: Draft Plan and Profile	Designed By: ADNR/ DOF (GS)	
0.0	1933	Plan Scale 1:2400			Sheet 1 of 12	24/02/26



Station Range		C:\Users\gdstaunton\Documents\Files\STATEWIDE\Projects\1525_Kosciusko\1525_Reconstruction_v6.dsnx	USFS Level II/ DOF Site Specific		Designed By: GS Department of Natural Resources Division of Forestry and Fire Protection	
0.0	188.8	Section Scale 1:200			Sheet 2 of 12	24/02/26



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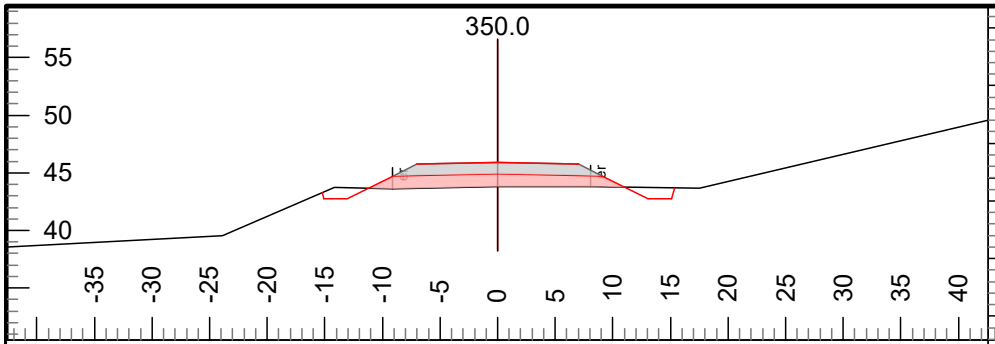
188.8	345.3	Section Scale 1:200			Sheet 3 of 12	24/02/26



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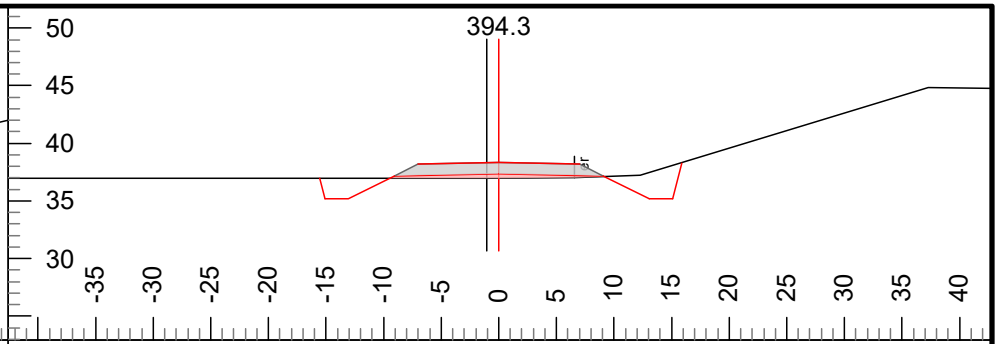

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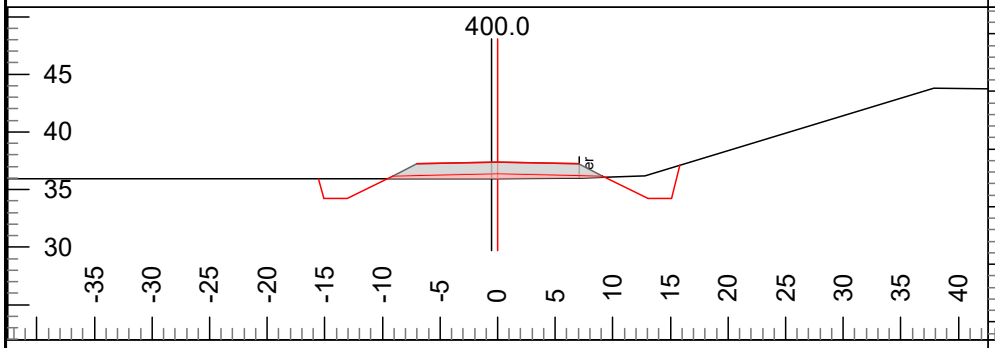

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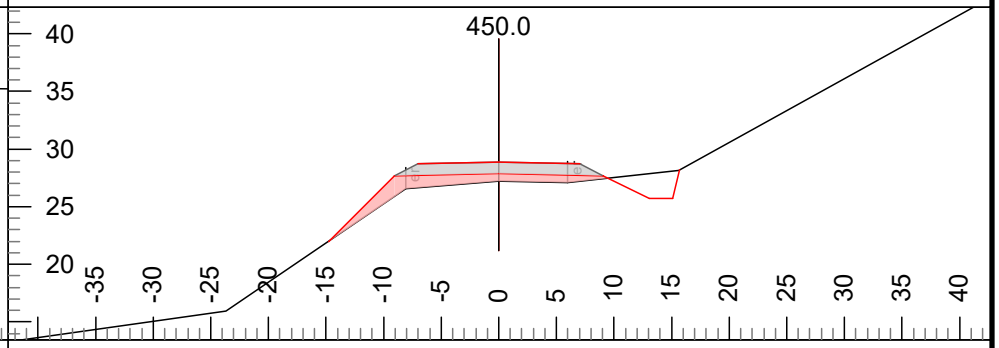

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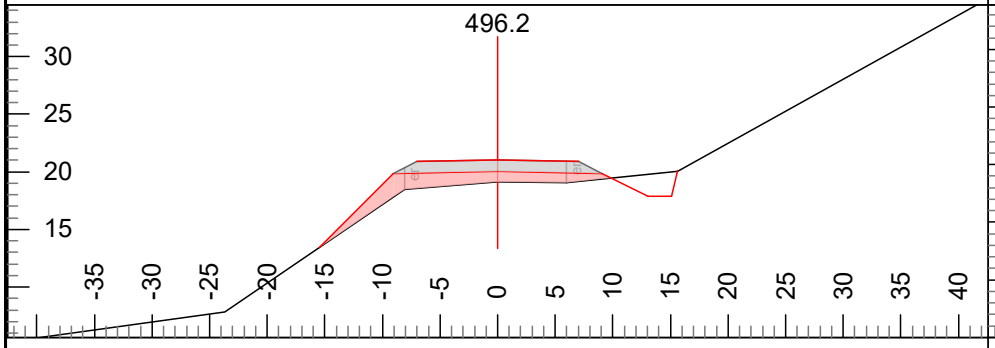

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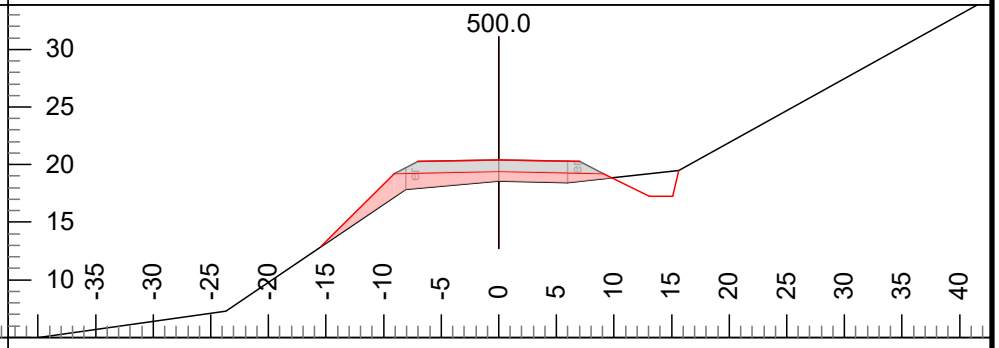

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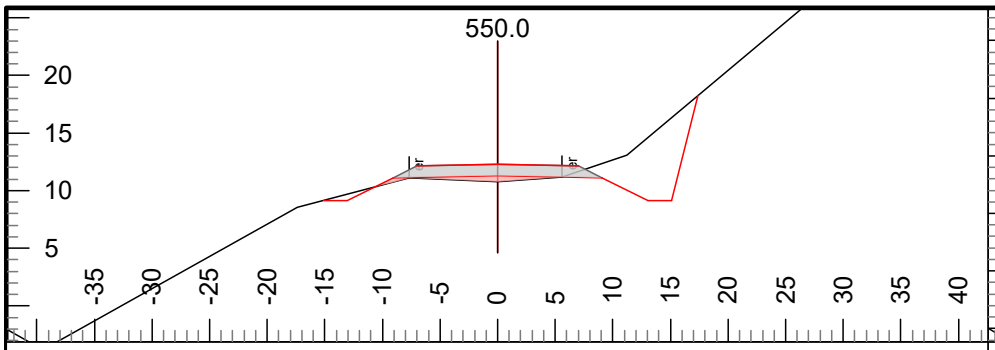
Station Range		C:\Users\gdstaunton\Documents\Files\STATEWIDE\Projects\1525_Kosciusko\1525_Reconstruction_v6.dsnx	USFS Level II/ DOF Site Specific		Designed By: GS Department of Natural Resources Division of Forestry and Fire Protection	
345.3	525.0	Section Scale 1:200			Sheet 4 of 12	24/02/26



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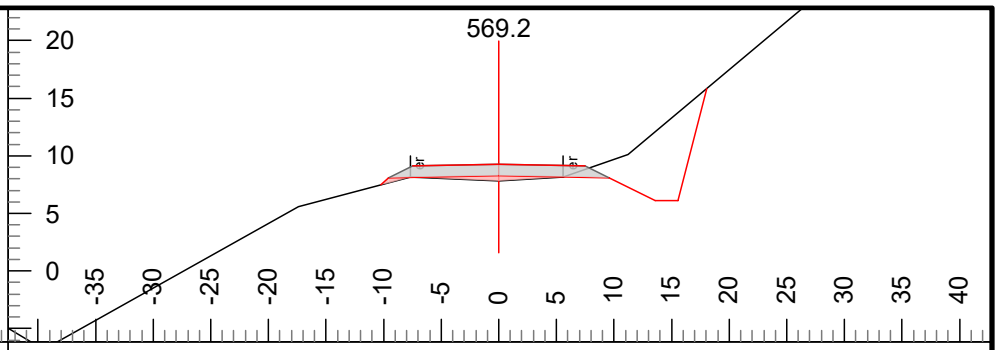

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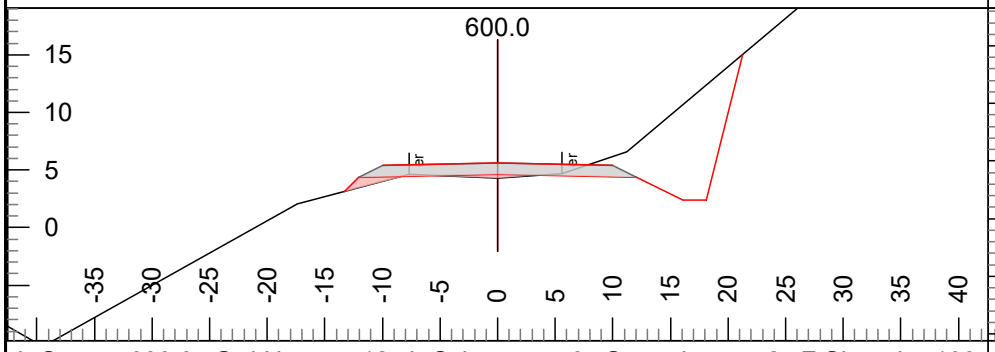

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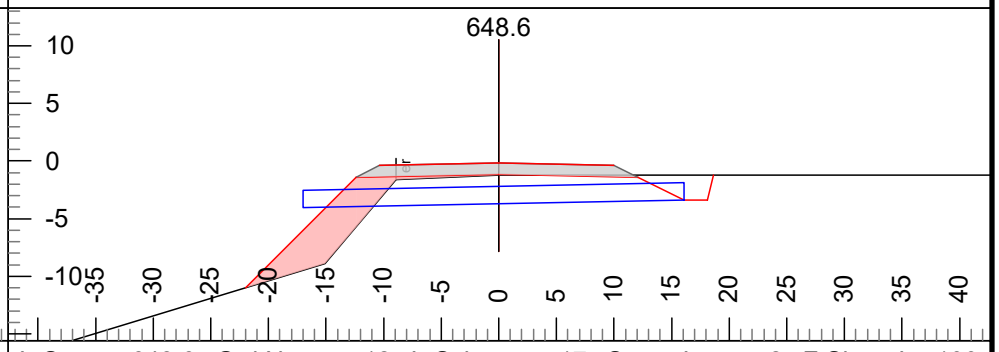

L-Stn :	648.6	Grd.Nxt.:	-12	L-Ssl:	-17	Super L:	-2	F Slope L:	-100
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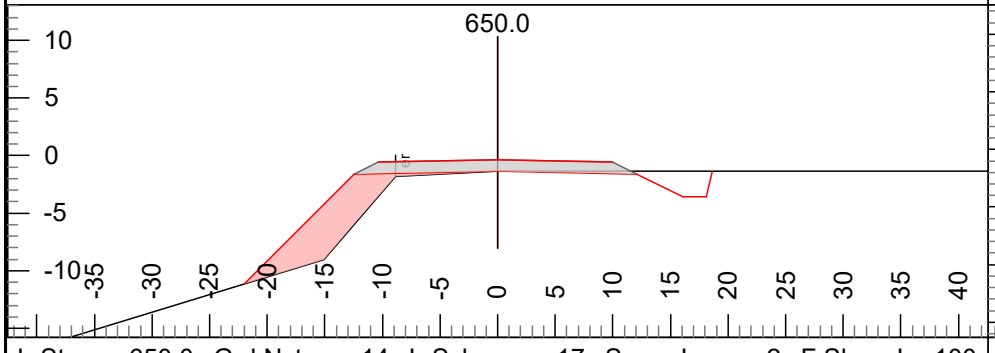

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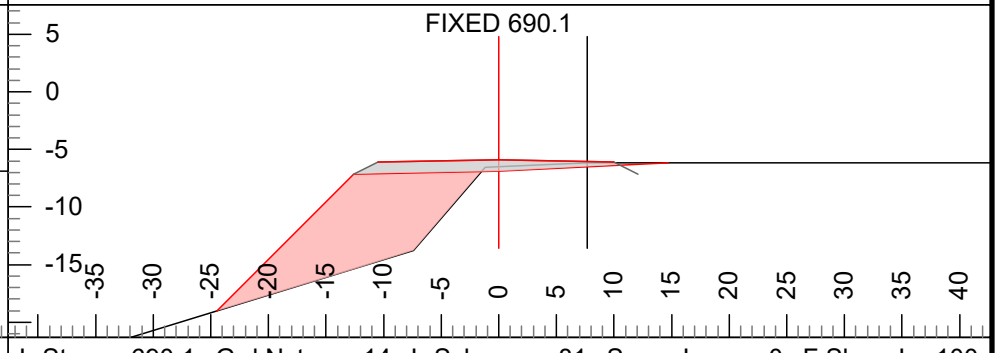

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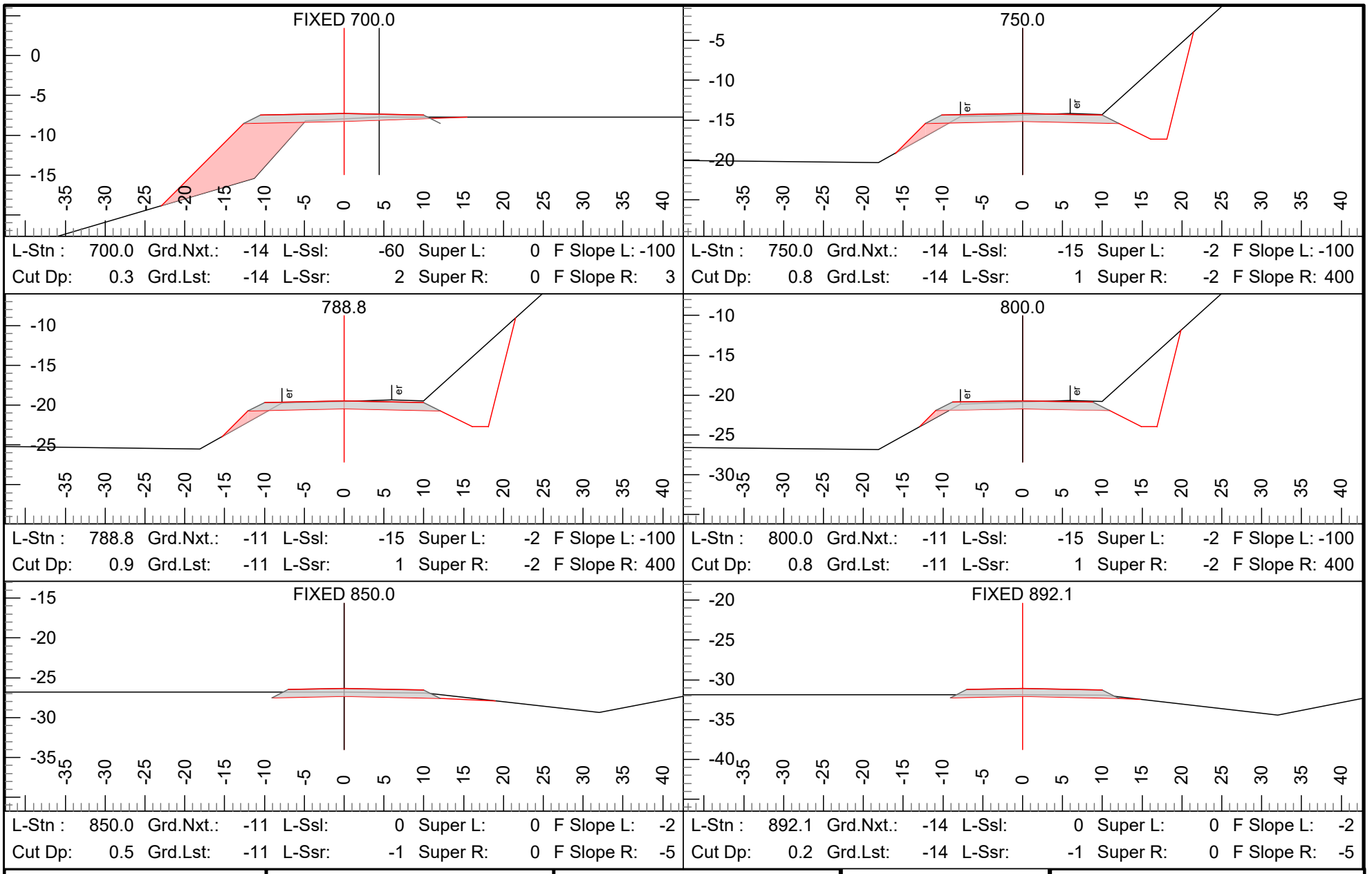
Station Range		C:\Users\gdstaunton\Documents\Files\STATEWIDE\Projects\1525_Kosciusko\1525_Reconstruction_v6.dsnx	USFS Level II/ DOF Site Specific		Designed By: GS Department of Natural Resources Division of Forestry and Fire Protection
525.0	695.0	Section Scale 1:200			Sheet 5 of 12 | 24/02/26



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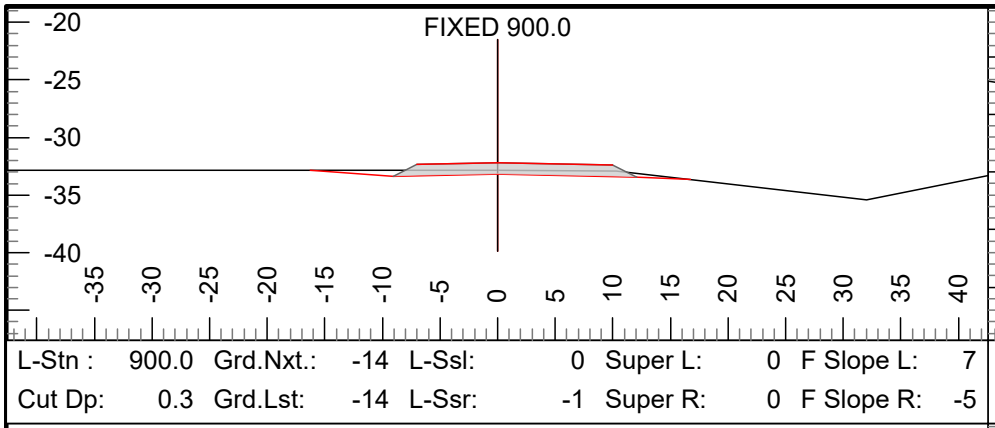
695.0	896.0	Section Scale 1:200			Sheet 6 of 12 | 24/02/26



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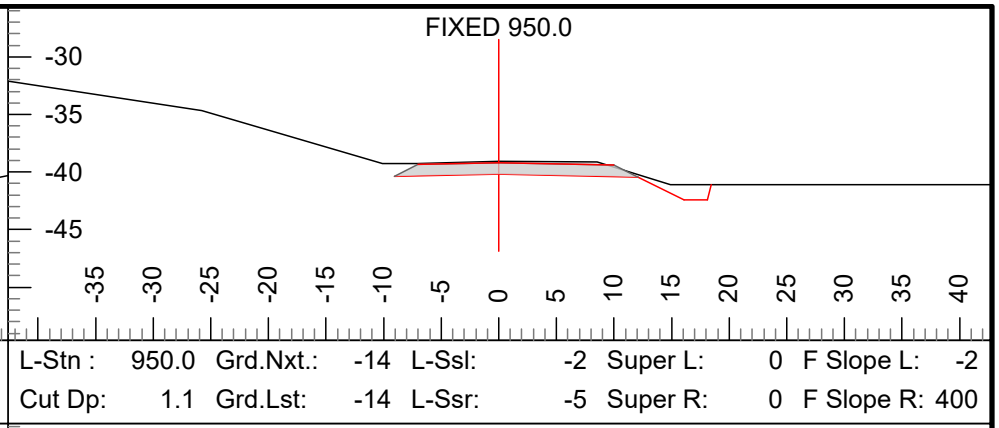

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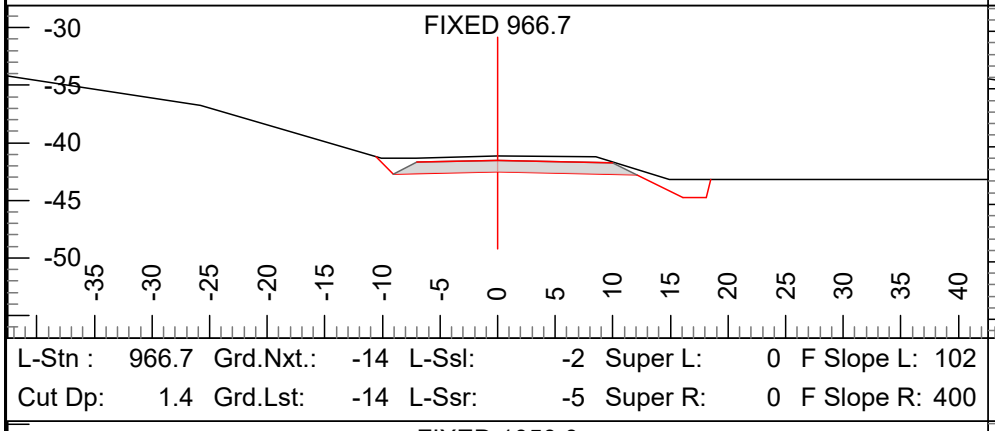

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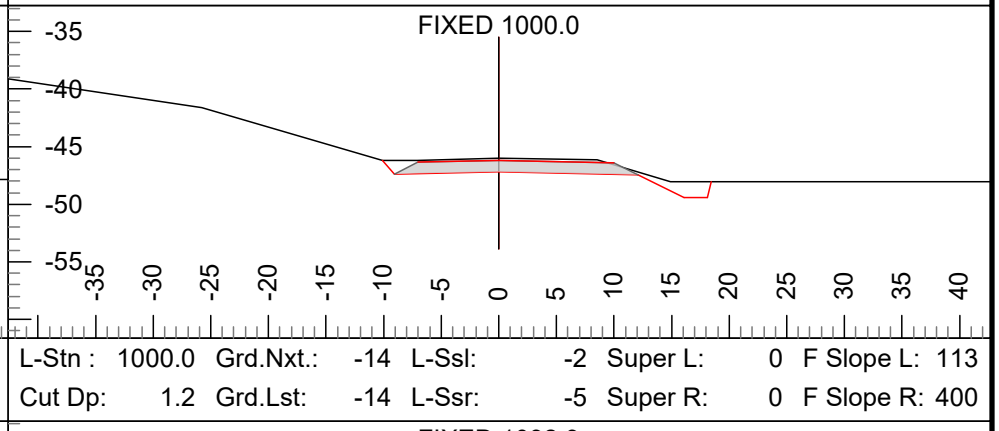

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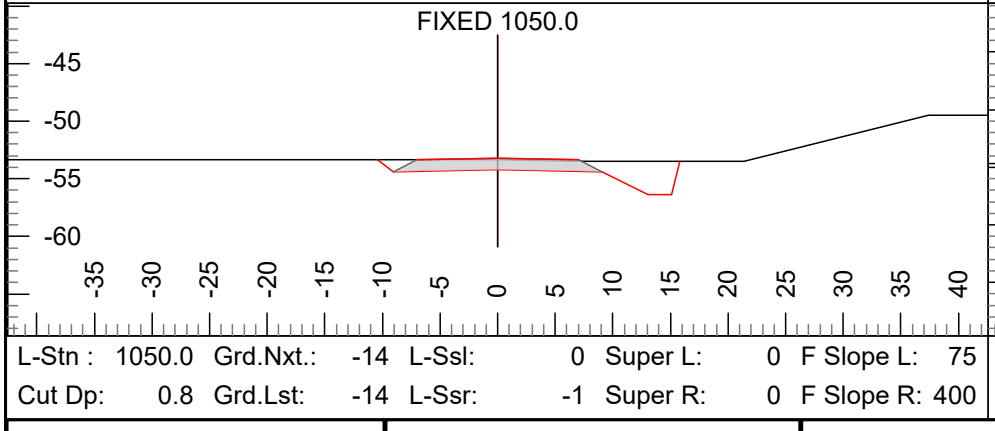

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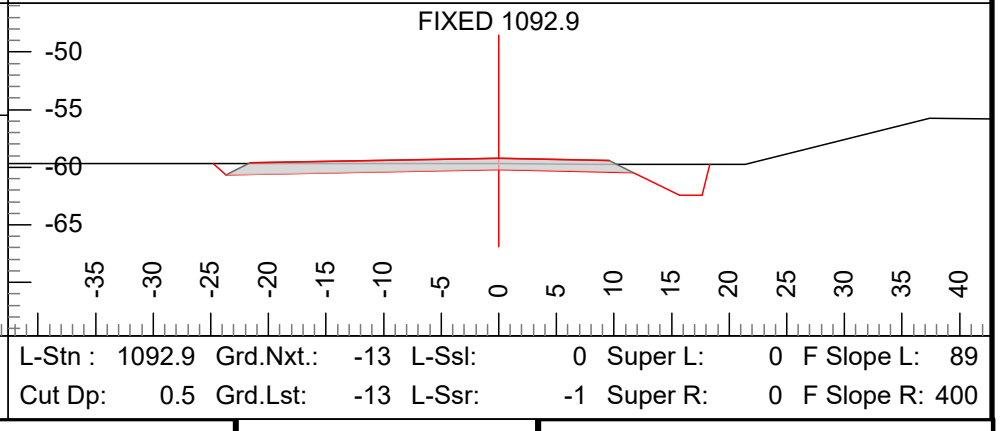

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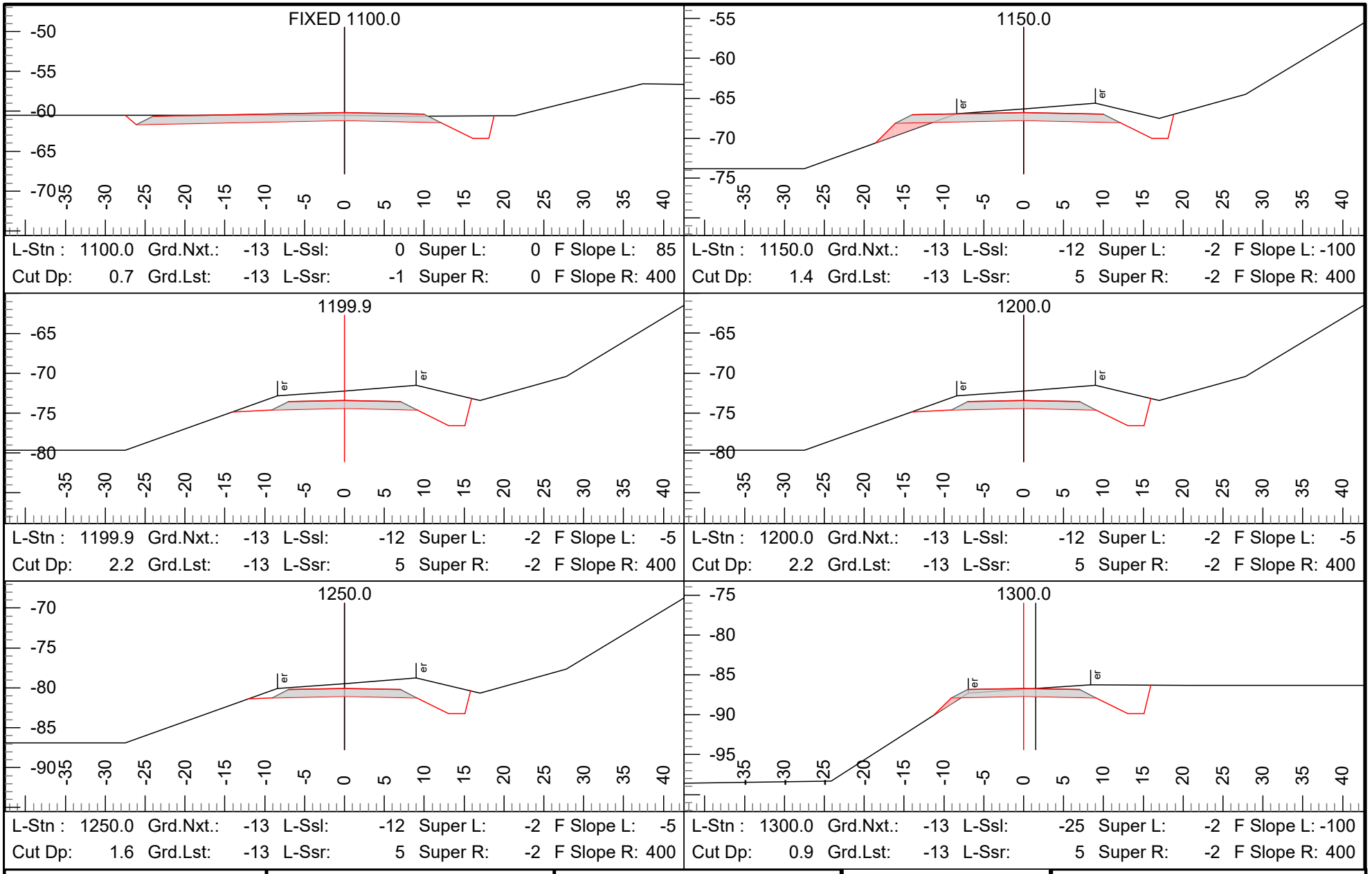
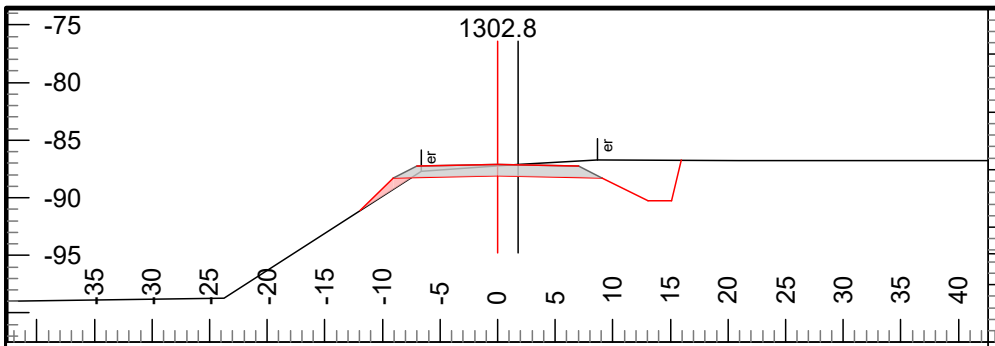
Station Range		C:\Users\gdstaunton\Documents\Files\STATEWIDE\Projects\1525_Kosciusko\1525_Reconstruction_v6.dsnx	USFS Level II/ DOF Site Specific	Designed By: GS Department of Natural Resources Division of Forestry and Fire Protection
896.0	1096.4	Section Scale 1:200		Sheet 7 of 12 | 24/02/26



Station Range		C:\Users\gdstaunton\Documents\Files\STATEWIDE\Projects\1525_Kosciusko\1525_Reconstruction_v6.dsnx	USFS Level II/ DOF Site Specific		Designed By: GS Department of Natural Resources Division of Forestry and Fire Protection	
1096.4	1301.4	Section Scale 1:200			Sheet 8 of 12	24/02/26



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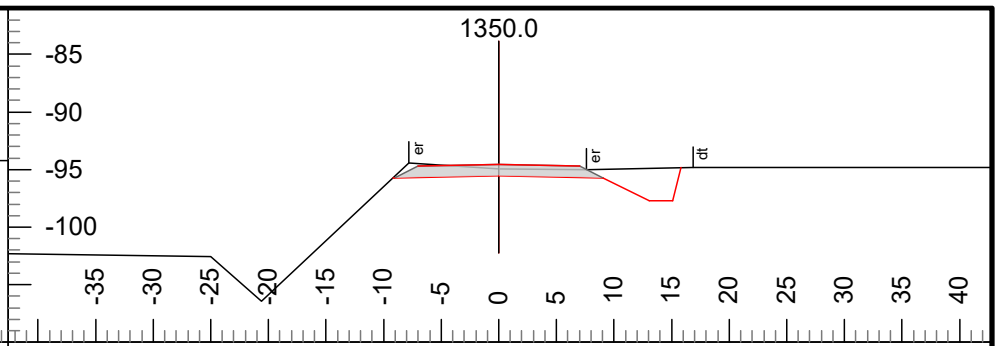

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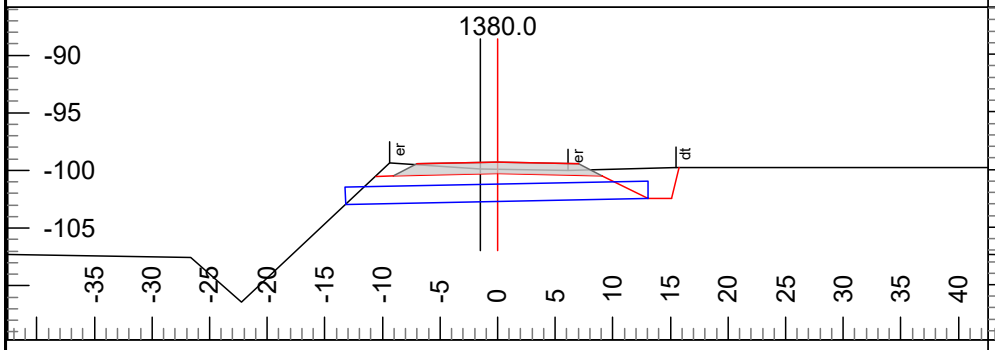

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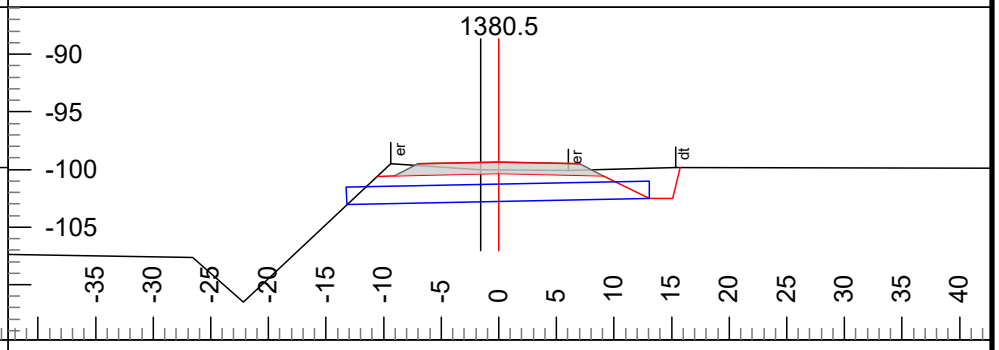

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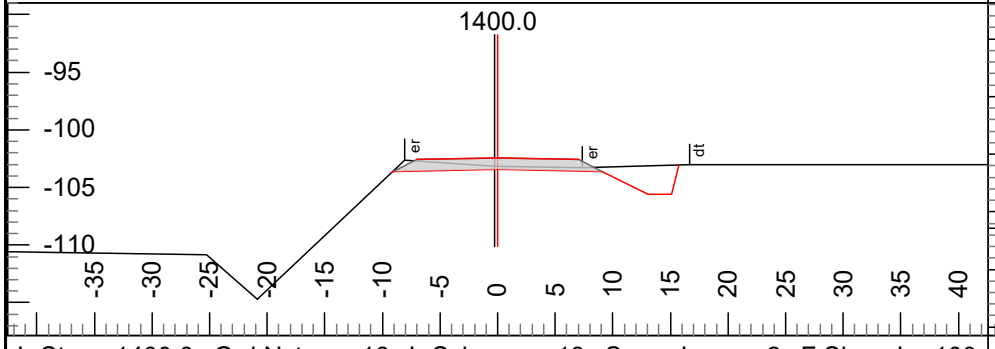

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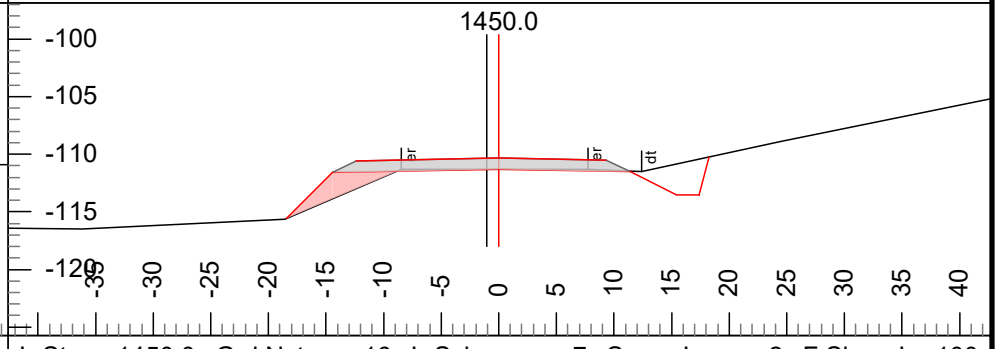

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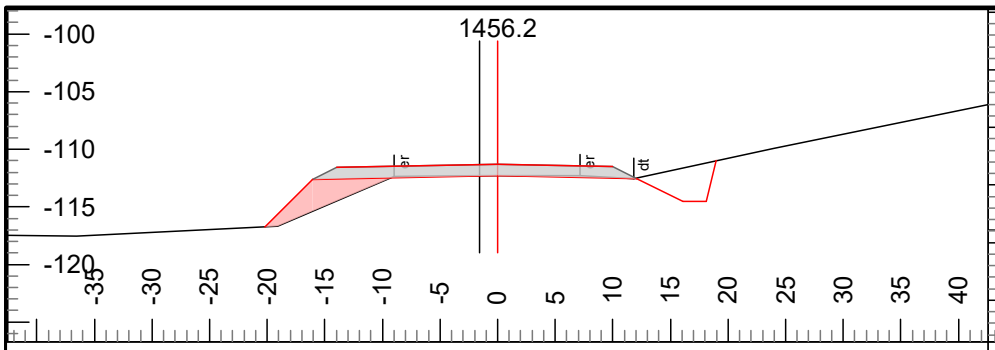
Station Range		C:\Users\gdstaunton\Documents\Files\STATEWIDE\Projects\1525_Kosciusko\1525_Reconstruction_v6.dsnx	USFS Level II/ DOF Site Specific	Designed By: GS Department of Natural Resources Division of Forestry and Fire Protection
1301.4	1453.1	Section Scale 1:200		Sheet 9 of 12 | 24/02/26



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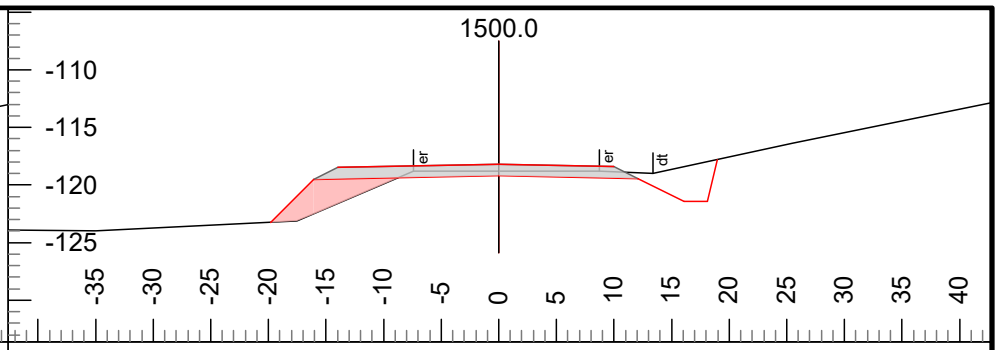

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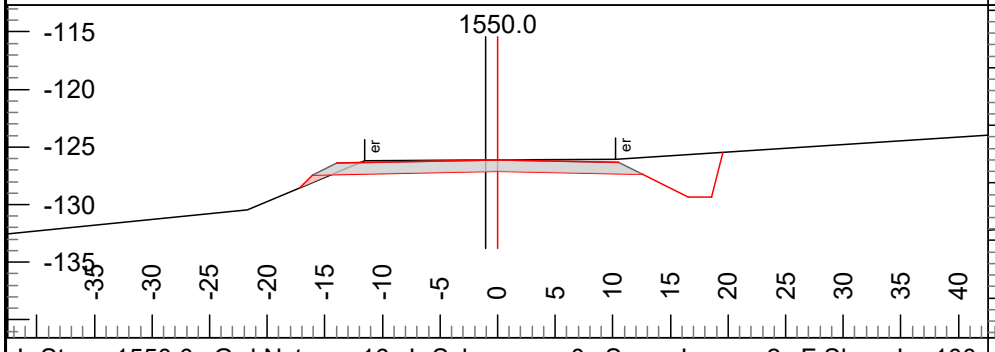

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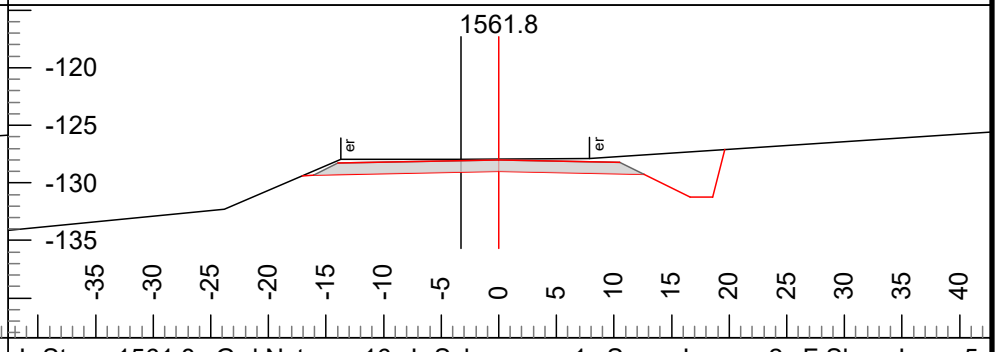

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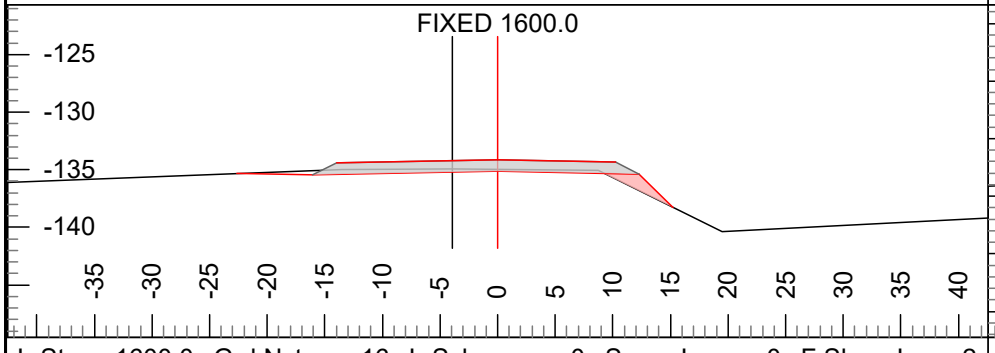

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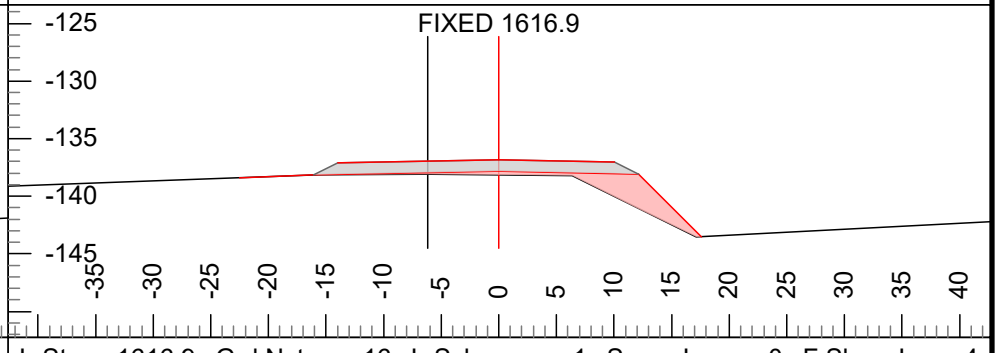

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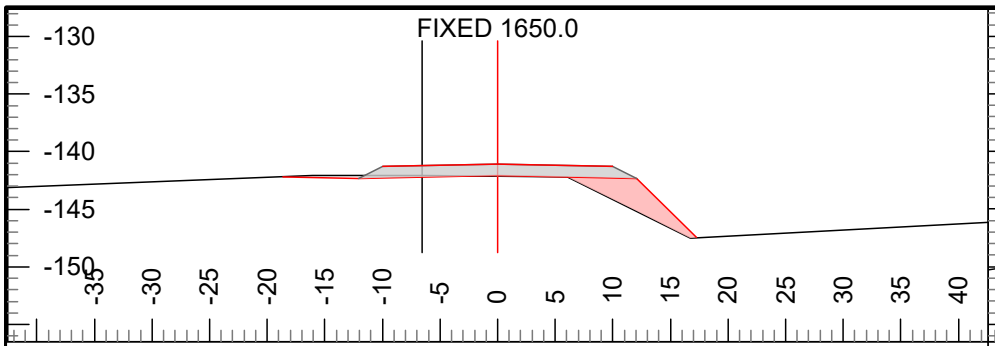
Station Range		C:\Users\gdstaunton\Documents\Files\STATEWIDE\Projects\1525_Kosciusko\1525_Reconstruction_v6.dsnx	USFS Level II/ DOF Site Specific		Designed By: GS Department of Natural Resources Division of Forestry and Fire Protection	
1453.1	1633.5	Section Scale 1:200			Sheet 10 of 12	24/02/26



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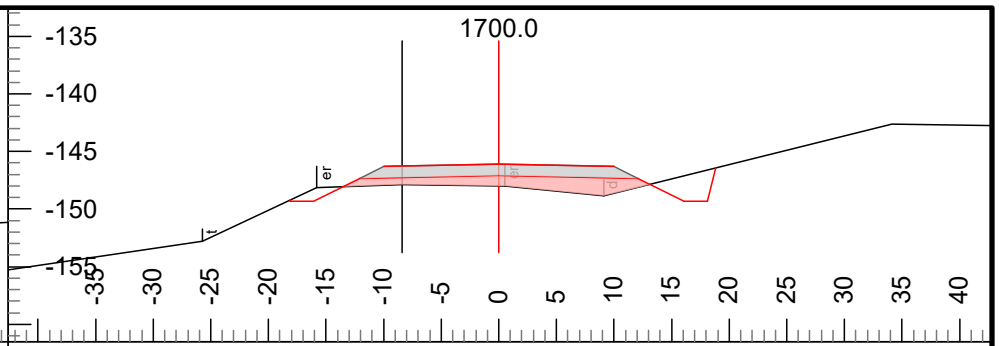

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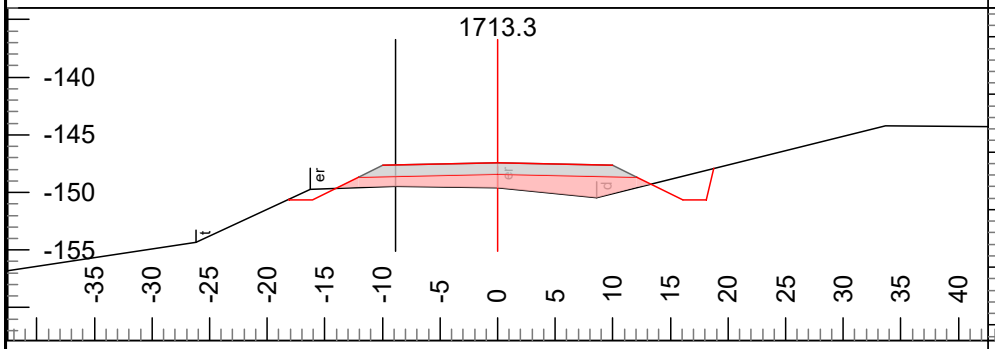

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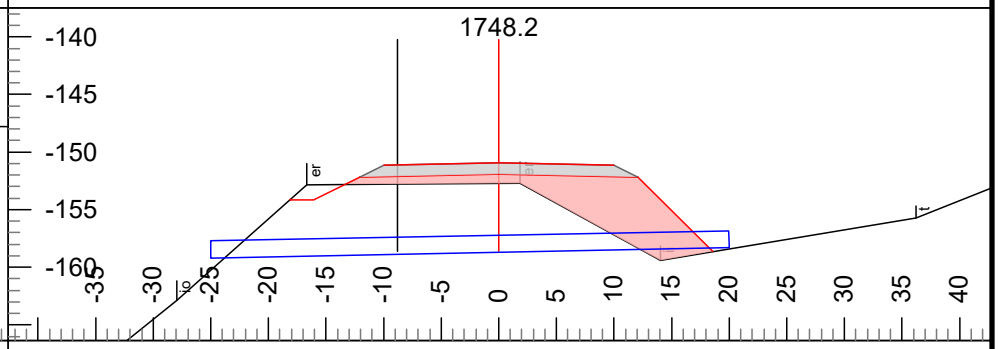

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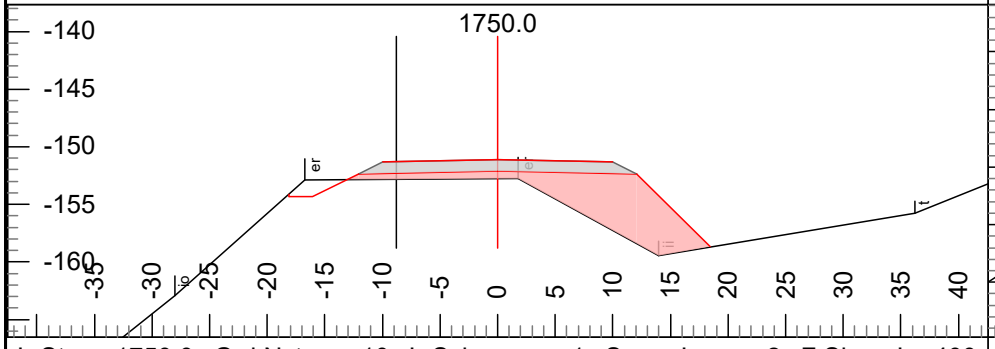

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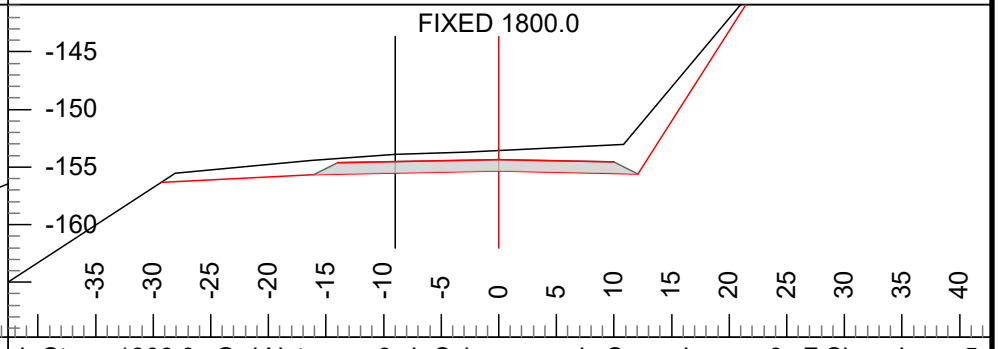

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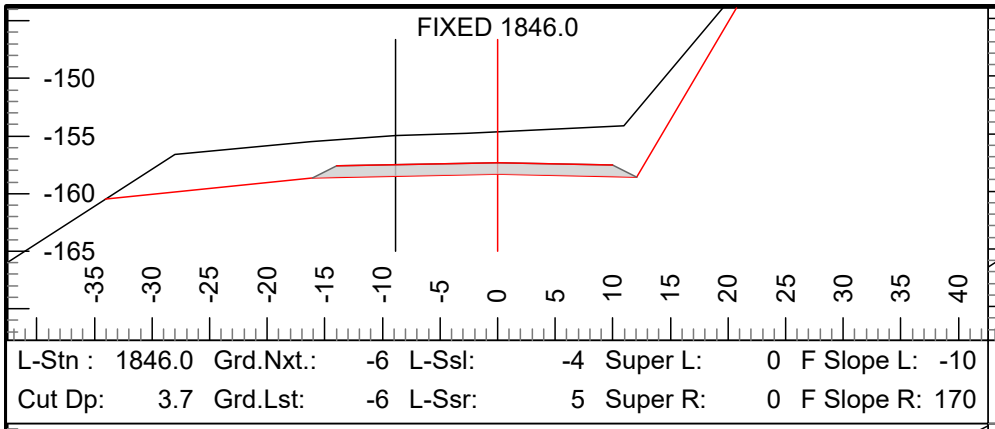
Station Range		C:\Users\gdstaunton\Documents\Files\STATEWIDE\Projects\1525_Kosciusko\1525_Reconstruction_v6.dsnx	USFS Level II/ DOF Site Specific	Designed By: GS Department of Natural Resources Division of Forestry and Fire Protection
1633.5	1823.0	Section Scale 1:200		Sheet 11 of 12 | 24/02/26



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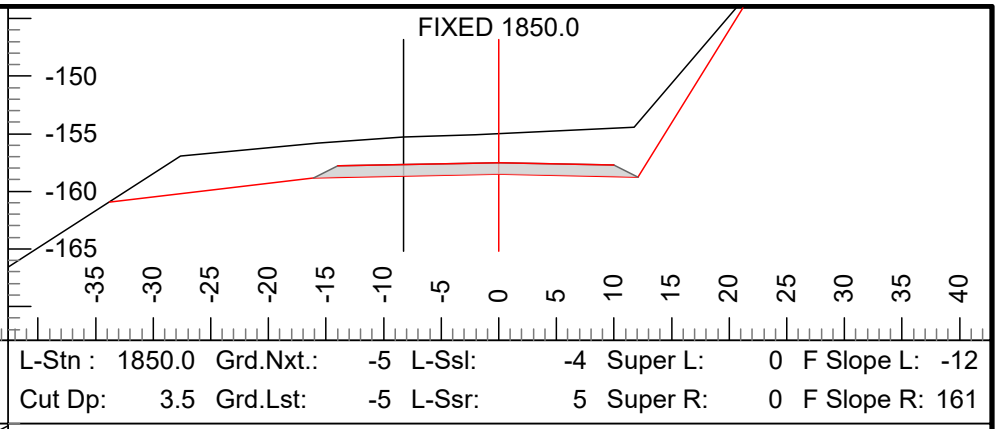

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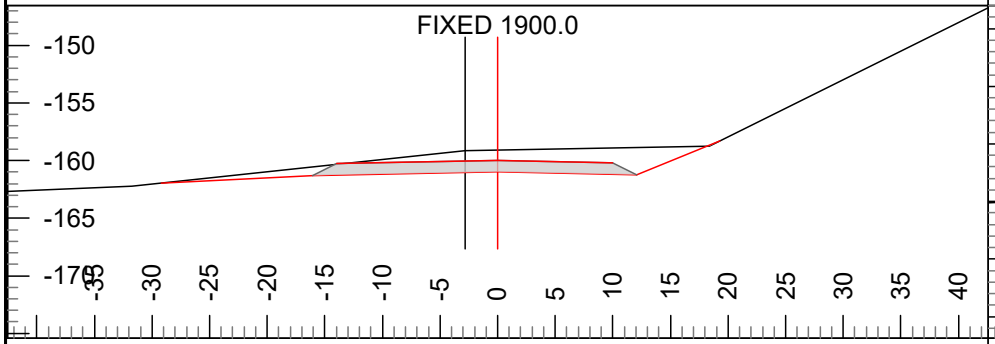

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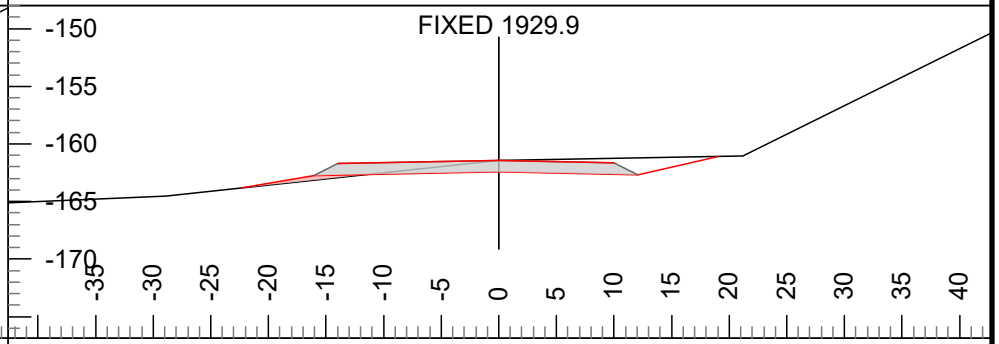

L-Stn :	1929.9	Grd.Nxt.:	n/a	L-Ssl:	-11	Super L:	0	F Slope L:	-17
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1823.0	1929.9	Section Scale 1:200			Sheet 12 of 12	24/02/26

Exhibit C
East Edna Bay Sortyard and LTF work list

Notify District Ranger 72 hours prior to hauling logs to site. Written permission from District Ranger is required annually prior to hauling logs to site. Notification is required prior to use each calendar year. Forest Service representative will review site to ensure work items have been completed.

WORK REQUIRED TO ACCOMMODATE PERMITTED USE.

1. Settling pond
    1) Grade/groom front edge to remove any berm and debris.
    2) Remove any logs and wood debris from within pond and dispose of off federal lands.
    3) Remove rock and other accumulated debris from within the pond area.
    4) If necessary, clean & recondition culvert to ensure there is no obstruction or failure. Replace culvert if needed.
2. Fabric lined settling pond
    1) Carefully remove rock and sediment so as not to tear fabric. Replace fabric if not functional.
    2) Remove grass and other debris from perimeter.
3. LTF
    1) Grade and shape LTF area so all water drains away from the saltwater and into the settling ponds.
    2) Ensure there are no low areas for pooling of water. Place aggregate in low areas as needed.
    3) Place skids to keep all logs or log bundles off the ground.
4. Sortyard
    1) Ensure proper grading of the sortyard so water flows away from the LTF.
    2) Ensure all channelized water is properly settled. Before leaving the area construct settling ponds as required.
    3) Place skids or roll-out logs to keep all logs and log bundles off the ground.

Exhibit B
East Edna Bay Maintenance Items

MAINTENANCE AND RESURFACING REQUIREMENTS AND SPECIFICATIONS.

1) Take necessary actions to ensure Best Management Practices 14.26 Daily LTF Cleanup and 14.27 Log Storage/Sort Yard Erosion Control are met. See excerpt from Forest Service Handbook 2509.22, attached.
2) LTF and sortyard will be graded to maintain water flow into settling ponds and not directly into saltwater or other waterways.
3) Construct diversion ditches or berms as required to ensure proper drainage patterns.
4) Ensure the use of and replacement (as needed) of skids or roll out logs to minimize loose bark and wood and to minimize churning of compacted aggregate.
5) Cleanup bark, debris, or other solid materials daily when accumulations are present at the LTF and dispose of materials in an acceptable manner and off federal lands.
6) The generation of fine materials at sortyards are expected but can be minimized by the use of skids. Clean debris and other loose material on a regular basis and before the depth of rutting reaches 6 inches if material is liquifying. Dispose of materials in an acceptable manner and off federal lands.
7) Ensure settling ponds are functioning properly, clean out settling ponds weekly during operations, clean culvert outflow, and add or replace filter fabric when required.
8) If excessive breakdown of the aggregate surfacing or rutting occurs, spot surfacing or resurfacing will be required. Surface shall be graded and surfacing material added to ensure ruts are no deeper than 4 inches.
9) If operations cease for an extended duration (the off season or due to market conditions), the LTF and sortyard will be left clean of bark, debris, or other solid materials, left in a self-maintaining state with proper drainage patterns, clean and functioning settling ponds, and generally tidy and orderly.

MAINTENANCE AND RESURFACING REQUIREMENTS PRIOR TO CLOSEOUT.

1) All improvements will be removed, unless explicitly requested otherwise by the District Ranger.
2) All garbage, cable, buckets, or other refuse will be removed from the facilities and disposed of properly.
3) All logs and wood chunks will be removed from the facilities.
4) Bark, wood debris, and any muck generated from operations will be scraped up and disposed of in an acceptable manner off federal lands.
5) Settling ponds and culvert outflow will be cleaned and will be properly functioning. Outflow culvert will be replaced if additional damage is sustained during operations.
6) LTF and sortyard will be left in a manner as good or better than found. Grade surfacing to ensure drainage into settling ponds and away from saltwater and other water bodies. Compact surface with vibratory roller.

14.26 – PRACTICE: Daily LTF Cleanup

1. OBJECTIVE. Assure cleanup of bark, debris, or other solid materials daily when accumulations are present. Dispose of the materials in an acceptable manner, to prevent water quality degradation.

2. EXPLANATION. This is a preventive practice. It reflects stipulations in permits and housekeeping requirements in pollution prevention plans that are common in recent LTF permits. Disposal methods may vary with the contents collected. Much of the material removed will function as lightweight fill and may be used for reclamation or recycling by land placement. Hazardous wastes, and oil-contaminated materials are not included in this BMP. See BMP 12.16 for additional discussion.

3. IMPLEMENTATION: The objective is to minimize the bark and the other small materials being introduced into marine waters. Daily cleanup when accumulations are present is intended to keep the site clean and avoid repeated wheel traffic over loose bark. A permit from Alaska Department of Environmental Conservation may be required prior to placement of the removed materials.

4. REFERENCES. T-845 Log Transfer Facility Operation, Maintenance, and Monitoring; 402 Permits issued for Log Transfer Facilities.

14.27 – PRACTICE: Log Storage/Sort Yard Erosion Control

1. OBJECTIVE. To avoid generation of fine particles, and control the overland flow of particles carrying hazardous materials into waterways.

2. EXPLANATION. This is a preventive practice. Log storage and log sort yards, including log-scaling areas, involve the handling and movement of logs and bundles of logs. Loose bark, small limbs, and needles are dislodged in the handling, and are ground into fine particles under the wheels of equipment. Some fine particulate material may also come from trucks, or may be developed by breakdown of the rock surfacing of the yard. If these sites are essential to National Forest Management and cannot be avoided, the following mitigation measures should be employed:

a. Clean debris and bark and other loose material from log storage areas/yards before the depth of loose materials reaches 6 inches (depth of rutting) if the material is liquefying. Cleanup of accumulations will prevent excessive churning of overland flows of water and the generation of fine particulate materials in the yard.

b. Placement of materials removed from log storage/sort yards must be done in a manner that assures water quality protection. Petroleum and solvent contaminated material and hazardous substances must be kept separated from the materials that are removed and treated appropriately (see BMPs 12.8 12.9). Loose materials removed from log storage/sort yards are to be placed in locations where water may decant without direct discharges to streams or other water bodies (see BMP 12.16). Slope the materials to drain and seed slopes and surfaces to maintain stability. Look for sites that can be reclaimed, such as unneeded rock pits, old landings, and similar locations to place loose materials. Assure future needs are considered before reclaiming rock pits and landing. Avoid depositing materials at the edge of sort yards or LTF clearings to prevent killing trees and extending the yard size.

c. Use filter strips where possible along log sort yards and log storage areas. Filter strips have good efficiency in settling and removing small particulate material from overland flows. Directly disperse overland flows from log storage/sort yards through vegetated filter strips. Assure filter strips are large enough to perform for several years. Where filter strips are not practicable, provide settling ponds or sediment traps.

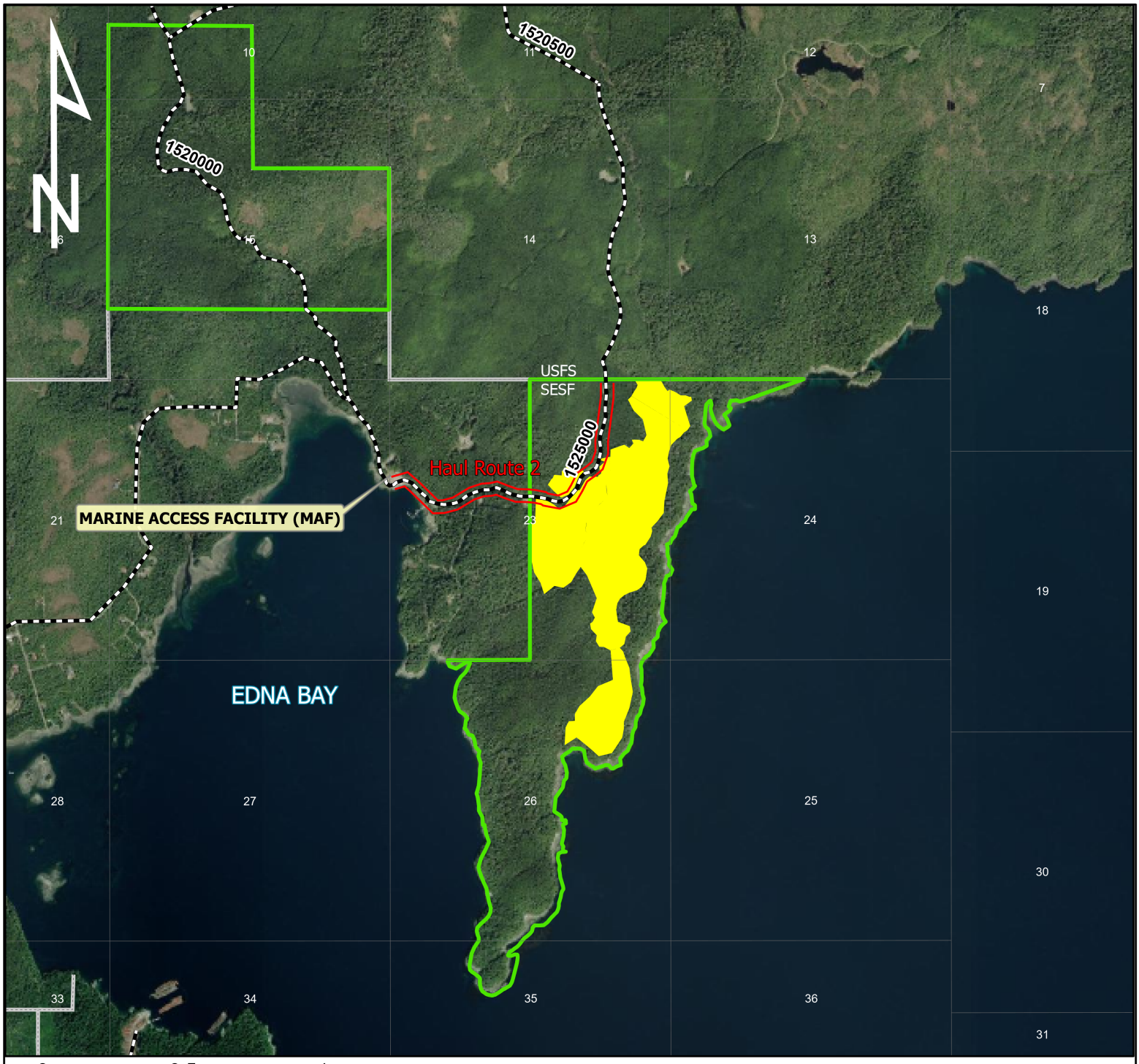
3. IMPLEMENTATION. The avoidance practice suggests that in the planning and implementation of timber sales, log sort yards will not be constructed unless essential. Log scaling prior to rafting is generally preferred, but may not be practicable at sites with limited space or small amounts of use.

The practices for management of sort yards and storage yards provide for keeping loose materials from accumulating into mire in the yard areas. Decanting the excess water while keeping the solids in place is the objective of the practice.

Loose materials removed can be used as lightweight fill. It can effectively be used to reclaim areas that have been disturbed, such as rock pits and landings. A permit for the placement of the removed material may be required from the Alaska Department of Environmental Conservation. Utilize the IDT process to select sites for the placement of sort yard material that minimizes water quality concerns.

Oil contaminated wastes should not be included in the lightweight fill material, and should be disposed in accordance with applicable regulations. Hazardous substances are not included in these practices.

4. REFERENCES. 40 CFR 122.27; NPDES general permit for storm water discharges, Federal Register Vol 57, No. 175, Sept 9, 1992; Timber Sale Contract Provisions B(T)6.66.

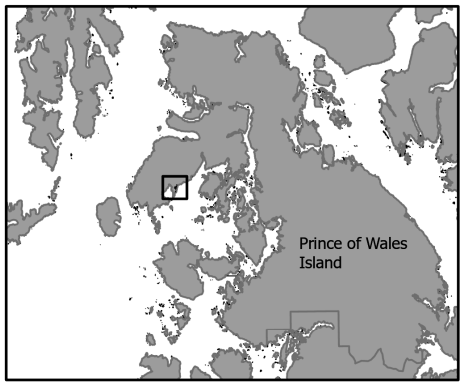


0 0.5 1 Miles

AREA MAP 1 IN = 1/2 MILE

T68S R76E, Section(s) 23, 24, 26
Copper River Meridian

HAUL ROUTE MAP
ROUTE 2
SSE-1384-K
KOSCIUSKO EAST TIMBER SALE



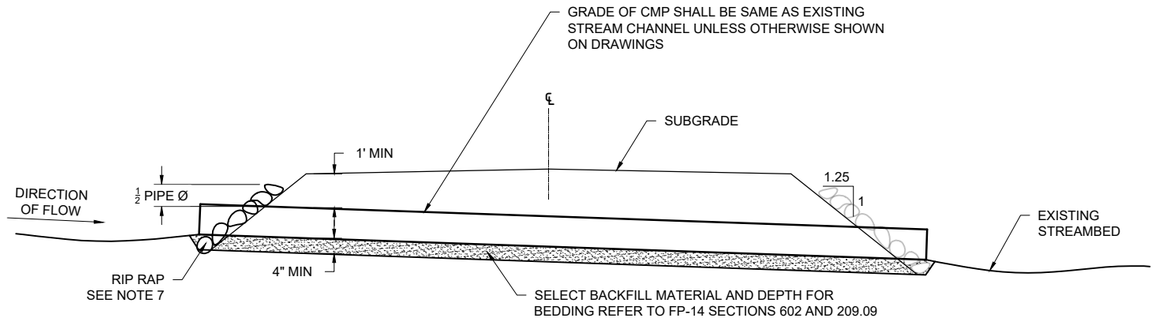
Vicinity Map 1 in = 32 miles

Legend

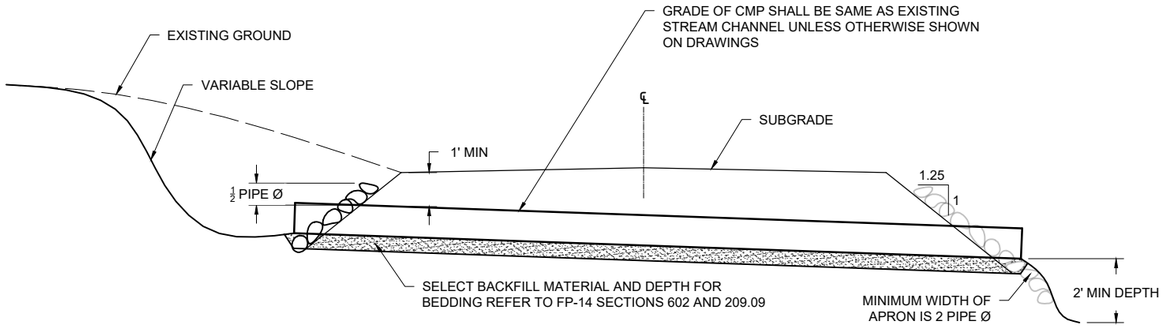
- Proposed Harvest Unit
- Southeast State Forest (SESF)
- Property Line
- Proposed Haul Route #2

ALASKA DIVISION OF FORESTRY & FIRE PROTECTION

TC 2/7/2024



TYPICAL CULVERT INSTALLATION AT LIVE STREAMS



TYPICAL CULVERT INSTALLATION FOR DITCH RELIEF

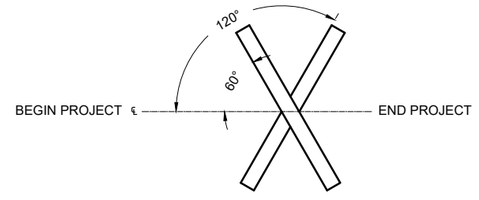
ALUMINUM & STEEL CULVERT CORRUGATIONS SHALL CONFORM TO THE FOLLOWING:			
PIPE SIZE (IN)	MINIMUM (IN./GAGE)		CORRUGATIONS
	STEEL	ALUMINUM	
18 TO 36	0.064"/16	0.060" / 16	2 2/3" X 0.5"
48	0.079" / 14	0.075" / 14	2 2/3" X 0.5"
60	0.079" / 14	0.075" / 14	5" X 1"
72	0.109" / 12	0.105" / 12	5" X 1"

POLYETHYLENE (PE) CULVERT PER ASTM D 3350 CORRUGATED			
PIPE SIZE Ø	MIN COVER	CELL CLASS NO. 315412C	CELL CLASS NO. 324420C
		MAX FILL HEIGHT IN FEET	
18"	12"	12'	10'
24"	12"	12'	10'
30"	12"	12'	10'
36"	12"	11'	10'

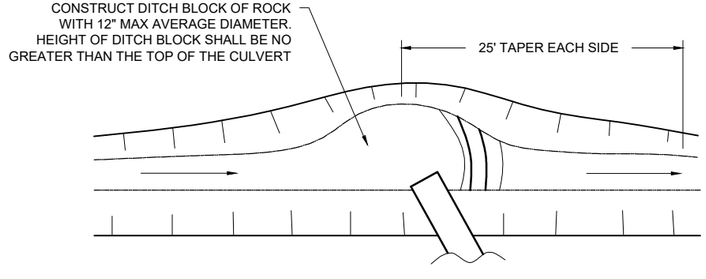
POLYETHYLENE (PE) CULVERT PER ASTM D 3350 RIBBED			
PIPE SIZE Ø	MIN COVER	CELL CLASS NO. 334433C	CELL CLASS NO. 335434C
		MAX FILL HEIGHT IN FEET	
18"	12"	18'	24'
24"	12"	22'	28'
30"	12"	22'	28'
36"	12"	25'	31'
40"	12"	21'	27'
48"	12"	21'	26'

NOTES

1. PLACE CULVERT IN ALIGNMENT WITH THE NATURAL STREAM CHANNEL. WHERE NO CHANNEL IS APPARENT, INSTALL CULVERTS AT SKEWS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE CO.
2. MINIMUM CULVERT GRADES SHALL BE 5% OR ½ OF THE TRIBUTARY DITCH GRADE.
3. CAMBER WILL DEPEND ON SITE CONDITIONS. MAXIMUM CAMBER IS 2% (STEEL OR ALUMINUM CULVERTS) OR 1% (POLYETHYLENE CULVERTS) OF CULVERT LENGTH BY NO MORE THAN 2.5" AT CENTER.
4. CATCH BASIN CONSTRUCTION IS REQUIRED WHEN SHOWN ON THE DRAWINGS AND AT ALL INSTALLATIONS WHERE THE INLET IS LOWER THAN NATURAL GROUND.
5. CULVERT INLETS AND OUTLETS SHALL EXTEND 24" BEYOND THE TOE OF THE FILL UNLESS AGREED TO BY THE CO.
6. MINIMUM COVER OVER CULVERTS UNLESS OTHERWISE SHOWN ON THE DRAWINGS IS 12".
7. PLACE RIPRAP AT SITES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE CO. MINIMUM WIDTH OF RIPRAP IS 1.5 PIPE Ø. MINIMUM RIPRAP SIZE IS CLASS 4.
8. THE CONTRACTOR SHALL PROVIDE THE CO A LIST OF AS-SLOPE STAKED CULVERT LENGTHS AND LOCATIONS.



CULVERT SKEW DIAGRAM



TYPICAL CATCH BASIN WITH DITCH BLOCK

USDA FOREST SERVICE

United States Department of Agriculture
Forest Service

R10
ALASKA REGION

PROJECT NAME

EAST EDNA BAY RUP

TONGASS NATIONAL FOREST

DISTRICT NAME

DRAWING TITLE

TYPICAL CULVERT DETAILS

DATE
XX/XX/XXXX

ARCHIVE NO.
FS090523_R102013_L1-002.dwg

DESIGNER
TNF

DWG SHEET NO.
C-03

DRAWN
K. CHERRY

CHECKED
TNF ENG

PROJECT NO.

SHEET **XXX**

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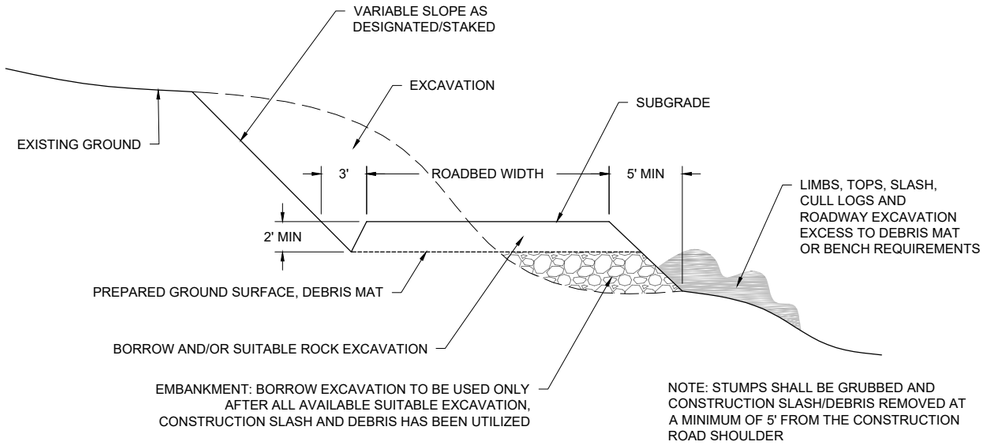
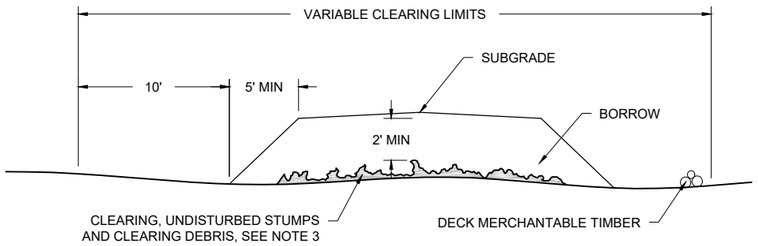


TYPICAL SIDEHILL SECTION

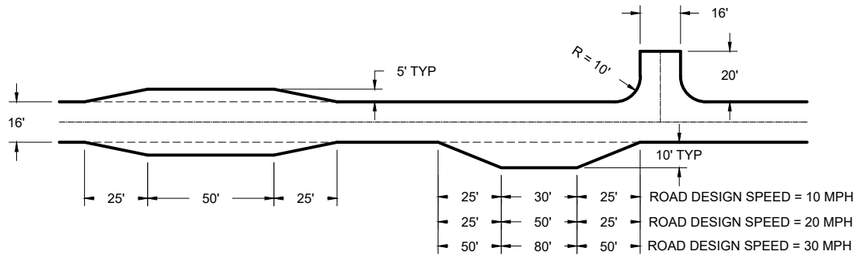
NOTES

1. PROFILE ELEVATIONS ARE SHOWN TO SUBGRADE.
2. CROWN TRAVELED WAY OR ROADBED 2%.
3. UNDISTURBED STUMPS AND OTHER CLEARING DEBRIS IN EMBANKMENT AREAS MAY BE LEFT IN PLACE IF THEY DO NOT EXTEND CLOSER THAN 24" TO ANY SUBGRADE. (REFERENCE SPEC. 201.05B)
4. UNLESS OTHERWISE INDICATED OR STAKED, ALL FILL SLOPES SHALL BE 1:1.25 AND ALL CUT SLOPES SHALL BE 1:1 OR AS SHOWN IN THE STAKING NOTES.

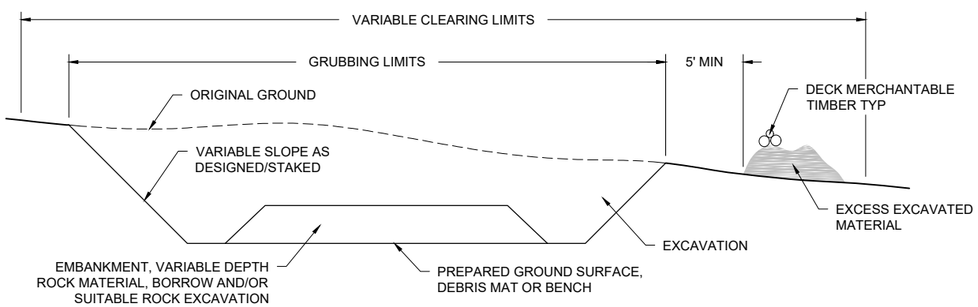
5. ROAD NO.	STA. TO STA.	TOLERANCE CLASS	FINISH METHOD
1525000	0.25 - 1.39	K	A



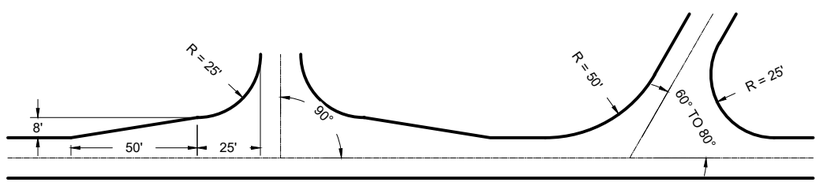
TYPICAL OVERLAY SECTION



TURNOUT/PULLOUT DETAILS



TYPICAL THROUGH CUT SECTION



INTERSECTION DETAILS

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United States Department of Agriculture
Forest Service

R10
ALASKA REGION

PROJECT NAME

EAST EDNA BAY RUP

TONGASS NATIONAL FOREST

DISTRICT NAME

DRAWING TITLE

TYPICAL CROSS-SECTION

DATE
XX/XX/XXXX

ARCHIVE NO.
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DESIGNER
TNF

DRAWN
K. CHERRY

CHECKED
TNF ENG

PROJECT NO.

DWG SHEET NO.
C-01

SHEET XXX

204 - Excavation and Embankment

Delete Section 204 in its entirety and replace with the following.

Section 204. — EXCAVATION AND EMBANKMENT

Description

204.01 This work consists of excavating material and constructing embankments. This work also includes furnishing, hauling, stockpiling, placing, disposing, sloping, shaping, compacting, and finishing earthen and rocky material.

204.02 Definitions.

(a) Excavation. Excavation consists of the following:

(1) Roadway excavation. Material excavated from within the right-of-way or easement areas, except subexcavation covered in Subsection 204.02(a)(2) and structure excavation covered in Sections 208 and 209. Roadway excavation includes all material encountered regardless of its nature or characteristics.

(2) Subexcavation. Material excavated from below subgrade elevation in cut sections or from below the original ground-line in embankment sections. Subexcavation excludes the work required by Subsection 204.05 or 204.06.

(3) Borrow excavation. Material used for embankment construction that is obtained from outside the roadway prism. Borrow excavation includes unclassified borrow, and topping.

(b) Embankment construction. Embankment construction consists of placing and compacting roadway or borrow excavation. This work includes:

(1) Preparing foundation for embankment;

(2) Constructing roadway embankments;

(3) Benching for side-hill embankments;

(4) Constructing dikes, ramps, mounds, and berms; and

(5) Backfilling subexcavated areas, holes, pits, and other depressions.

(c) Conserved topsoil. Excavated material conserved from the roadway excavation and embankment foundation areas that is suitable for growth of grass, cover crops, or native vegetation.

(d) Waste. Excess and unsuitable roadway excavation and subexcavation that cannot be used.

Material

204.03 Conform to the following Subsections:

Topping	704.05

Unclassified borrow	704.06
Water	725.01(c)

Construction Requirements

204.04 Preparation for Roadway Excavation and Embankment Construction. Clear the area of vegetation and obstructions according to Sections 201 and 203.

Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation and embankment. Maintain drainage during pioneering operations.

204.05 Conserved Topsoil. When designated, conserve topsoil from roadway excavation and embankment foundation areas. Stockpile conserved topsoil in low windrows immediately beyond the rounding limits of cut and embankment slopes or in other approved locations. Separate conserved topsoil from other excavated material. When designated, place conserved topsoil on completed slopes according to Section 624.

204.06 Roadway Excavation. Excavate as follows:

(a) Rock cuts. Blast rock according to Section 205. Excavate rock cuts to 6 inches below subgrade within the roadbed limits. Backfill to subgrade with topping or other suitable material. Compact the material according to Subsection 204.11.

(b) Earth cuts. Scarify earth cuts to 6 inches below subgrade within the roadbed limits. Compact the scarified material according to Subsection 204.11.

(c) Pioneer Roads. Conduct excavation and placement operations so material to be treated under Section 201 will not be incorporated into the roadway unless specified in the slash treatment method. Maintain drainage during pioneering operations.

Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation.

Remove snow and ice in advance of the work and deposit beyond the roadway limits in a manner that will not waste material or generate sediment. Do not incorporate snow and ice into embankments. Place snow or ice in a manner to prevent resource damage.

During pioneering operations prevent undercutting of final excavation slopes.

(d) Drainage Feature. Drainage feature includes construction of all ditches, minor channel changes, drainage dips, catch basins, surface water deflectors, and other minor drainage structures. Compact the material according to Subsection 204.11. Excavate on a uniform grade between control points.

Do not disturb material and vegetation outside the construction limits. Retrieve material deposited outside the construction limits. Dispose of unsuitable or excess excavation material according to Subsection 204.14. Replace shortage of suitable material caused by premature disposal of roadway excavation.

Shape to drain and compact the work area to a uniform cross-section at the end of each day's operations.

204.07 Subexcavation. Excavate material to the required limits. Dispose of unsuitable material according to Subsection 204.14. Take cross-sections according to Section 152. Backfill subexcavated area with suitable material in horizontal layers not exceeding 12 inches in compacted thickness and compact according to Subsection 204.11. Prevent unsuitable material from mixing with suitable backfill material.

204.08 Borrow Excavation. Use suitable roadway excavation in embankment construction. Do not use borrow excavation when it results in excess roadway excavation. Deduct excess borrow excavation from the total borrow excavation quantity.

Obtain borrow source approval according to Subsection 105.02. Develop and restore borrow sources according to Subsections 105.03 and 105.06. Do not excavate beyond the established limits. When applicable, shape the borrow source to permit accurate measurements when excavation is complete.

204.09 Preparing Foundation for Embankment Construction. Prepare foundation for embankment construction as follows:

(a) Embankment over natural ground. Remove topsoil and break up the ground surface to a minimum depth of 6 inches by plowing or scarifying. Compact the ground surface according to Subsection 204.11.

(b) Embankments over an existing asphalt, concrete, or gravel road surface. Scarify gravel roads to a minimum depth of 6 inches. Scarify or pulverize asphalt and concrete roads to 6 inches below the pavement. Reduce particles to a maximum size of 6 inches and produce a uniform material. Compact the surface according to Subsection 204.11.

(c) Embankment across ground not capable of supporting equipment. Dump successive loads of embankment material in a uniformly distributed layer to construct the lower portion of the embankment. Limit the layer thickness to the minimum depth necessary to support the equipment.

(d) Embankment on an existing slope steeper than 1V:3H. Cut horizontal steps in the existing slope to a sufficient width to accommodate placement and compaction operations and equipment. Step the slope as the embankment is placed and compacted in layers. Begin each step at the intersection of the original ground and the vertical cut of the previous step.

204.10 Embankment Construction. Incorporate only suitable roadway excavation material into the embankment. When the supply of suitable roadway excavation is exhausted, furnish unclassified borrow to complete the embankment. Obtain written approval before beginning construction of embankments over 6 feet high at subgrade centerline. Construct embankments as follows:

(a) General. At the end of each day's operations, shape to drain and compact the embankment surface to a uniform cross-section. Eliminate ruts and low spots that could hold water.

During all stages of construction, route and distribute hauling and leveling equipment over the width and length of each layer of material.

Compact embankment side slopes with a tamping foot roller, by walking with a dozer, or by over-building the fill and then removing excess material to the final slope line. For slopes 1V:1¾H or steeper, compact the slopes as embankment construction progresses.

Operate spreading equipment and **loaded** hauling equipment over the entire surface of embankment.

(b) Embankment within the roadway prism. Place embankment material in horizontal layers not exceeding 12 inches in compacted thickness. Incorporate oversize boulders or rock fragments into the 12-inch layers by reducing them in size or placing them individually as required below. Compact each layer according to Subsection 204.11 before placing the next layer.

Material composed predominately of boulders or rock fragments too large for 12-inch layers may be placed in layers up to 24 inches thick. Incorporate oversize boulders or rock fragments into the 24-inch layer by reducing them in size or placing individual rock fragments and boulders greater than 24 inches in diameter as follows:

(1) Distribute rock within the embankment to prevent nesting;

(2) Place layers of embankment material around each rock to a depth not greater than that permitted above. Fill voids between rocks; and

(3) Compact each layer according to Subsection 204.11(a) before placing the next layer.

(c) Embankment outside of roadway prism. When placing embankment outside the staked roadway prism, place material in horizontal layers not exceeding 24 inches in compacted thickness. Compact each layer according to Subsection 204.11.

204.11 Compaction. Compact the embankment using one of the following methods as specified.

(a) Placement Method 1. Use AASHTO T 27 to determine the quantity of material retained on a No. 4 sieve. Compact as follows:

(1) More than 80 percent retained on a No. 4 sieve. Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation:

(a) Four roller passes of a vibratory roller having a minimum dynamic force of 40,000 pounds impact per vibration and a minimum frequency of 1000 vibrations per minute;

(b) Eight roller passes of a 20-ton compression-type roller; or

(c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches as follows:

- For each additional 6 inches or fraction thereof, increase the number of roller passes in Subsection 204.11(a)(1)(a), by four passes; or

- For each additional 6 inches or fraction thereof, increase the number of roller passes in Subsection 204.11(a)(1)(b) and (c), by eight passes.

(2) 50 to 80 percent retained on a No. 4 sieve. Classify the material according to AASHTO M 145. Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content. Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 sieve. Multiply this number by the percentage of material passing a No. 4 sieve, and add 2 percent to determine the optimum moisture content of the material.

Use nonvibratory rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width according to Subsection 204.11(a)(1).

(3) Less than 50 percent retained on a No. 4 sieve. Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 99, Method C.

Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type or vibratory rollers. Compact each layer of material full width to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures. When required, use AASHTO T 224 to correct for coarse particles.

(b) Placement Method 2. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate roller compaction equipment over the full width of each layer until there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller "walks out" of the layer. Make at least three complete passes. Use compression-type rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Ensure rollers meet the following requirements:

(1) Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch of width of the compression roll or rolls.

(2) Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum dynamic force of 30,000 pounds impact per vibration, specifically designed to compact the material on which it is used.

(3) Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi.

(4) Sheepsfoot, tamping, or grid rollers capable of exerting a force of 250 pounds per inch of width of roller drum.

(c) Placement Method 3. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer until there is no visible evidence of further consolidation. Make at least three complete passes.

(d) Placement Method 4. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer.

(e) Placement Method 5. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact the complete surface with a bucket of an excavator larger than 39,000 pounds Gross Vehicle Weight using a minimum of three blows. Overlap compaction by ½ width of bucket.

(f) Placement Method 6. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact using an approved mechanical tamper for a minimum of three complete passes.

When compacting with rollers or hauling and spreading equipment is not practical, use approved mechanical tampers for a minimum of three complete passes.

204.12 Drainage Features. Slope, grade, and shape all drainage features. Remove projecting roots, stumps, rock, or similar matter. Maintain all drainage features in an open condition and without sticks, and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place excavated material on the downhill side so the bottom of the ditch is approximately 18 inches below the crest of the loose material. Clean the ditch using a hand shovel or other suitable method. Shape to provide drainage without overflow.

204.13 Sloping, Shaping, and Finishing. Complete subgrade, slopes, drainage features, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish to the designated tolerance class as defined in Table 204-2 as follows:

(a) Sloping. Leave earth slopes with uniform roughened surfaces, except as described in Subsection 204.13(b), with no noticeable break as viewed from the road. Except in solid rock, round tops and bottoms of slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical. Scale rock slopes. Slope rounding is not required on tolerance class D through M roads.

If a slide or slipout occurs on a cut or embankment slope, remove or replace the material and repair or restore damage to the work. Bench or key the slope to stabilize the slide. Reshape the cut or embankment slope to an acceptable condition.

(b) Stepped slopes. Where required, construct steps on slopes of 1⅓V:1H to 1V:2H. Construct the steps approximately 18 inches high. Blend the steps into natural ground at the end of the cut. If the slope contains non-rippable rock outcrops, blend steps into the rock. Remove loose material found in transitional area. Except for removing large rocks that may fall, scaling stepped slopes is not required.

(c) Shaping. Shape the subgrade to a smooth surface and to the cross-section required. Shape slopes to gradually transition into slope adjustments without noticeable breaks. At the ends of cuts and at intersections of cuts and embankments, adjust slopes in the horizontal and vertical planes to blend into each other or into the natural ground.

(d) Finishing. Ensure that the subgrade is visibly moist during shaping and dressing; smooth and uniform, and shaped to conform to the typical sections. Remove unsuitable material from the roadbed, and replace it with suitable material. Finish roadbeds to the tolerance class shown in table 204-2. Scarify to 6 inches below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material.

Maintain proper ditch drainage.

For surfaced roads, remove material larger than 6 inches from the top 6 inches of the roadbed.

For unsurfaced roads, use one of the following methods to finish the roadbed:

Method A. Remove material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.

Method B. Use a vibratory grid roller or approved equal with a minimum weight of 10 tons. Roll at least 5 full width passes or until there is no evidence of further consolidation.

Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate the rock berms.

204.14 Disposal of Unsuitable or Excess Material. Dispose of unsuitable or excess material at designated sites or according to Subsection 203.05(a)

When there is a pay item for waste, shape and compact the waste material in its final location. Do not mix clearing or other material not subject to payment with the waste material.

204.15 Acceptance. See Table 204-1 for sampling, testing, and acceptance requirements.

Material for embankment and conserved topsoil will be evaluated under Subsections 106.02 and 106.04.

Excavation and embankment construction will be evaluated under Subsections 106.02 and 106.04.

Subexcavation will be evaluated under Subsections 106.02 and 106.04.

Measurement

204.16 Measure the Section 204 pay items listed in the bid schedule according to Subsection 109.02 and the following as applicable:

(a) Roadway excavation. Measure roadway excavation in its original position as follows:

(1) Include the following volumes in roadway excavation:

(a) Roadway prism excavation;

(b) Rock material excavated and removed from below subgrade in cut sections;

(c) Unsuitable material below subgrade and unsuitable material beneath embankment areas when a pay item for subexcavation is not listed in the bid schedule;

(d) Ditches, except furrow ditches measured under a separate pay item;

(e) Conserved topsoil;

(f) Borrow material used in the work when a pay item for borrow is not listed in the bid schedule;

(g) Loose scattered rocks removed and placed as required within the roadway;

(h) Conserved material taken from pre-existing stockpiles and used in Section 204 work, except topsoil measured under 624; and

(i) Slide and slipout material not attributable to the Contractor's method of operation.

(2) Do not include the following in roadway excavation:

(a) Overburden and other spoil material from borrow sources;

(b) Overbreakage from the backslope in rock excavation;

(c) Water or other liquid material;

(d) Material used for purposes other than required;

(e) Roadbed material scarified in place and not removed;

(f) Material excavated when stepping cut slopes;

(g) Material excavated when rounding cut slopes;

(h) Preparing foundations for embankment construction;

(i) Material excavated when benching for embankments;

(j) Slide or slipout material attributable to the Contractor's method of operation;

(k) Conserved material taken from stockpiles constructed at the option of the Contractor;

(l) Material excavated outside the established slope limits; and

(m) Road pioneering for the convenience of the Contractor.

(3) When both roadway excavation and embankment construction pay items are listed in the bid schedule, measure roadway excavation only for the following:

(a) Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not listed in the bid schedule;

(b) Slide and slipout material not attributable to the Contractor's method of operations; and

(c) Drainage ditches, channel changes, and diversion ditches.

(b) Unclassified borrow, and topping. When measuring by the cubic yard (cubic meter) measure in its original position. If borrow excavation is measured by the cubic yard (cubic meter) in-place, take initial cross-sections of the ground surface after stripping overburden. Upon completion of excavation and after the borrow source waste material is returned to the source, retake cross-sections before replacing the overburden. Do not measure borrow excavation until suitable roadway excavation is depleted.

(c) Embankment construction. Measure embankment construction in its final position. Do not make deductions from the embankment construction quantity for the volume of minor structures.

(1) Include the following volumes in embankment construction:

(a) Roadway embankments;

(b) Material used to backfill subexcavated areas, holes, pits, and other depressions;

(c) Material used to restore obliterated roadbeds to original contours; and

(d) Material used for dikes, ramps, mounds, and berms.

(2) Do not include the following in embankment construction:

(a) Preparing foundations for embankment construction;

(b) Adjustments for subsidence or settlement of the embankment or of the foundation on which the embankment is placed; and

(c) Material used to round fill slopes.

(d) Rounding cut slopes. If a pay item for slope rounding is included in the bid schedule measure rounding cut slopes horizontally along the centerline of the roadway. If a pay item is not included for slope rounding is not included in the bid schedule payment will be considered indirect to roadway excavation.

(e) Waste. Measure waste by the cubic yard in its final position. Take initial cross-sections of the ground surface after stripping over-burden. Upon completion of the waste placement, retake cross-sections before replacing overburden.

(f) Slope scaling. Measure slope scaling by the cubic yard in the hauling vehicle.

(g) Subexcavation. Measure subexcavation by the cubic yard in its original position.

(h) Drainage features. Measurement includes all excavation, embankment, shaping, and grading necessary for a completed drainage feature.

Payment

204.17 The accepted quantities will be paid at the contract price per unit of measurement for the Section 204 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Table 204-1
Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Source								
Topping (704.05)	Measured and tested for conformance (106.04 & 105)	Classification[1]	–	AASHTO M 145	1 per soil type and source of material	Processed material	Yes	Before using in work
Unclassified borrow (704.06)	"	"	–	"	"	"	"	"
Production								
Topping (704.05) and (204.11(a))	Measured and tested for conformance (106.04)	Moisture-density	–	T 99, Method C[2]	1 per soil type, but not less than 1 per each 13,000 yd^3	Processed material	Yes	Before using in work
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd^2, but not less than 3 per layer	In-place	No	Before placement of next layer
Unclassified borrow (704.06) and (204.11(a))	"	Moisture-density	–	T 99, Method C[2]	1 per soil type, but not less than 1 per each 13,000 yd^3	Processed material	Yes	Before using in work
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd^2, but not less than 3 per layer	In-place	No	Before placement of next layer

Table 204-1
Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Production (continued)								
Earth embankment (204.11(a))	Measured and tested for conformance (106.04)	Classification	–	AASHTO M 145	1 per soil type	Source of material	Yes	Before using in work
		Moisture-density	–	T 99, Method C(2)	1 per soil type, but not less than 1 per each 13,000 yd^3	"	"	"
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd^2, but not less than 3 per layer	In-place	No	Before placement of next layer
Top of subgrade (204.11(a))	"	Density	–	AASHTO T 310 or other approved procedures	1 per 2500 yd^2, but not less than 3 per layer	In-place	No	Before placement of next layer
Finished Product								
Roadbed (204.13)	Measured and tested for conformance (106.04)	Final line & grade	–	Field measured	Determined by the CO	Determined by the CO	No	Before placement of next layer

(1) Not required when using Government-provided source.
(2) Minimum 5 points per proctor.

Table 204-2
Construction Tolerances

Location Description	Tolerance Class (a)												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Roadbed width (ft)	+0.5	+0.5	+1.0	+1.0	+1.0	+1.0	+1.5	+1.0	+2.0	+2.0	+2.0	+2.0	+2.0
Subgrade elevation (ft)	±0.1	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±2.0	±3.0	±2.0	±3.0	(c)
Centerline alignment (ft)	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±1.5	±2.0	±3.0	±3.0	±5.0	(c)
Slopes, excavation, and embankment (% slope[b])	±3	±5	±5	±5	±5	±5	±10	±10	±10	±10	K±20	±20	±20

(a) Maximum allowable deviation from construction stakes and drawings.
(b) Maximum allowable deviation from staked slope measured from slope stakes or hinge points.
(c) Unless otherwise shown the centerline alignment and subgrade elevation, as built, have no horizontal curves with a radius of less than 80 feet, and no vertical curves with a curve length of less than 80 feet when the algebraic difference in the grade change is less than 10 percent, or a curve length of less than 100 feet when the algebraic difference of the grade change is greater than or equal to 10 percent. The centerline grade is not to exceed 20 percent in 100 feet of length.