

CONSTRUCTION OF SPECIFIED ROADS

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SCHEDULE OF ITEMS

(Timber Sale)

Timber Sale FINLEY U5

Road No. 4100375

Road Name N/A

Length (Miles) 0.36

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	LUMP SUM	1.00	\$ 511.77	\$ 511.77
20103	Clearing and grubbing, disposal of tops and limbs f , logs f , stumps f	CQ	MILE	0.36	\$ 732.02	\$ 263.53
20429	Endhaul	CQ	Cubic yard	98.00	\$ 4.79	\$ 469.42
30318	Road reconditioning, roadbed, compaction method d	CQ	MILE	0.36	\$ 1,269.36	\$ 456.97

SUB-TOTAL: \$ 1,701.69

TOTAL ALL ROADS: \$ 1,701.69

STANDARD SPECIFICATION FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS

FP03

FINLEY U5 TIMBER SALE

ROAD NUMBER

SECTION NO & TITLE	REV DATE	4100 375					
101 - Terms, Format, and Definitions	2005	X					
101 01 Meaning of Terms	1/22/2009	X					
101 01 Meaning of Terms	1/22/2009	X					
101 03 Abbreviations and Symbols	6/16/2006	X					
101 04 Symbols	3/29/2007	X					
101 04 Definitions	11/6/2007	X					
102 - Bid, Award, and Execution of Contract	2005	X					
102 00 Delete 102 in its entirety	2/16/2005	X					
103 - Scope of Work	2005	X					
103 00 Intent of Contract	2/16/2005	X					
104 - Control of Work	2005	X					
104 00 Deletions to 104	6/16/2006	X					
104 03 Specifications and Drawings.	1/22/2009	X					
104 03 Specifications and Drawings	2/22/2005	X					
104 06 Use of Roads by Contractor	2/17/2005	X					
105 - Control of Material	2005	X					
105 02 Material Sources	1/18/2007	X					
105 05 Use of Material Found in the Work	5/12/2004	X					
106 - Acceptance of Work	2005	X					
Conformity with Contract							
106 01 Requirements	7/31/2007	X					
106 07 Partial and Final Acceptance	5/11/2004	X					
107 - Legal Relations and Responsibility to the Publ	2005	X					
107 05 Responsibility for Damage Claims	5/11/2004	X					
107 06 Contractor Responsibility for Work	6/16/2006	X					
107 08 Sanitation, Health & Safety	3/29/2005	X					
107 09 Legal Relationship of the Parties	6/16/2006	X					
107 10 Environmental Protection	6/16/2006	X					
108 - Prosecution and Progress	2005	X					
108 00 Delete Section 108 in entirety	2/16/2005	X					
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109 00 Deletions	2/17/2005	X					
Measurement Terms and							
109 02 Definitions	6/16/2006	X					
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Contractor Quality Control Plan,							
155 00 Records	5/11/2004	X					
201 - Clearing and Grubbing	2005	X					
201 01 Description	2/18/2005	X					
201 04 Clearing	2/22/2005	X					
201 04 Clearing	3/3/2005	X					
201 06 Disposal	2/18/2005	X					
203 - Removal of Structures and Obstructions	2003						
203 01 Description	2/25/2005	X					
203 08 Payment	2/24/2005	X					
204 - Excavation and Embankment	2005	X					
204 06 Roadway Excavation	3/2/2005	X					

STANDARD SPECIFICATION FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS

FP03

FINLEY U5 TIMBER SALE

ROAD NUMBER

SECTION NO & TITLE	REV DATE	4100 375					
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204 09 Preparing Foundation for Embankment Construction	3/2/2005	X					
204 10 Embankment Construction	3/2/2005	X					
204 11 Compaction	4/11/2005	X					
204 13 Sloping, Shaping, and Finishing	3/2/2005	X					
204 13 Sloping, Shaping, and Finishing	3/2/2005	X					
204 14 Disposal of Unsuitable or Excess Material	3/2/2005	X					
204 15 Acceptance	2/7/2007	X					
303 - Road Reconditioning	2005	X					
303 01 Description	3/2/2005	X					
303 06 Aggregate & Asphalt Surface Reconditioning	8/5/2008	X					
303 07 Roadway Reconditioning	3/2/2005	X					
303 11 Measurement	3/29/2005	X					
718 - Traffic Signing and Marking Material	2005	X					
718 05 Aluminum Panels	8/5/2009	X					
725 - Miscellaneous Material	2005	X					
725 02 Calcium Chloride, Calcium Chloride Flakes and Magnesium Chloride	3/2/2005	X					
725 20 Lignin Sulfonate	3/2/2005	X					
725 30 Bentonite	3/2/2005	X					

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Preface

Preface_wo_03_15_2004_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.00_nat_us_07_25_2005

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

Delete all references to the FAR (Federal Acquisition Regulations) in the specifications.

101.03_nat_us_06_16_2006

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	<u>National Institute of Standards and Technology</u>
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

.

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04_nat_us_03_29_2007

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

Contractor--The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the “purchaser”.

Culvert--No definition.

Right-of-Way--A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Add the following:

Adjustment in Contract Price--“Equitable adjustment,” as used in the Federal Acquisition Regulations, or “construction cost adjustment,” as used in the Timber Sale Contract, as applicable.

Change--“Change” means “change order” as used in the Federal Acquisition Regulations, or “design change” as used in the Timber Sale Contract.

Design Quantity--“Design quantity” is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term “Contract Quantities”.

Forest Service--The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

Neat Line--A line defining the proposed or specified limits of an excavation or structure.

Pioneer Road--Temporary construction access built along the route of the project.

Purchaser--The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

Protected Streamcourse--A drainage shown on the plans or timber sale area map that requires designated mitigation measures.

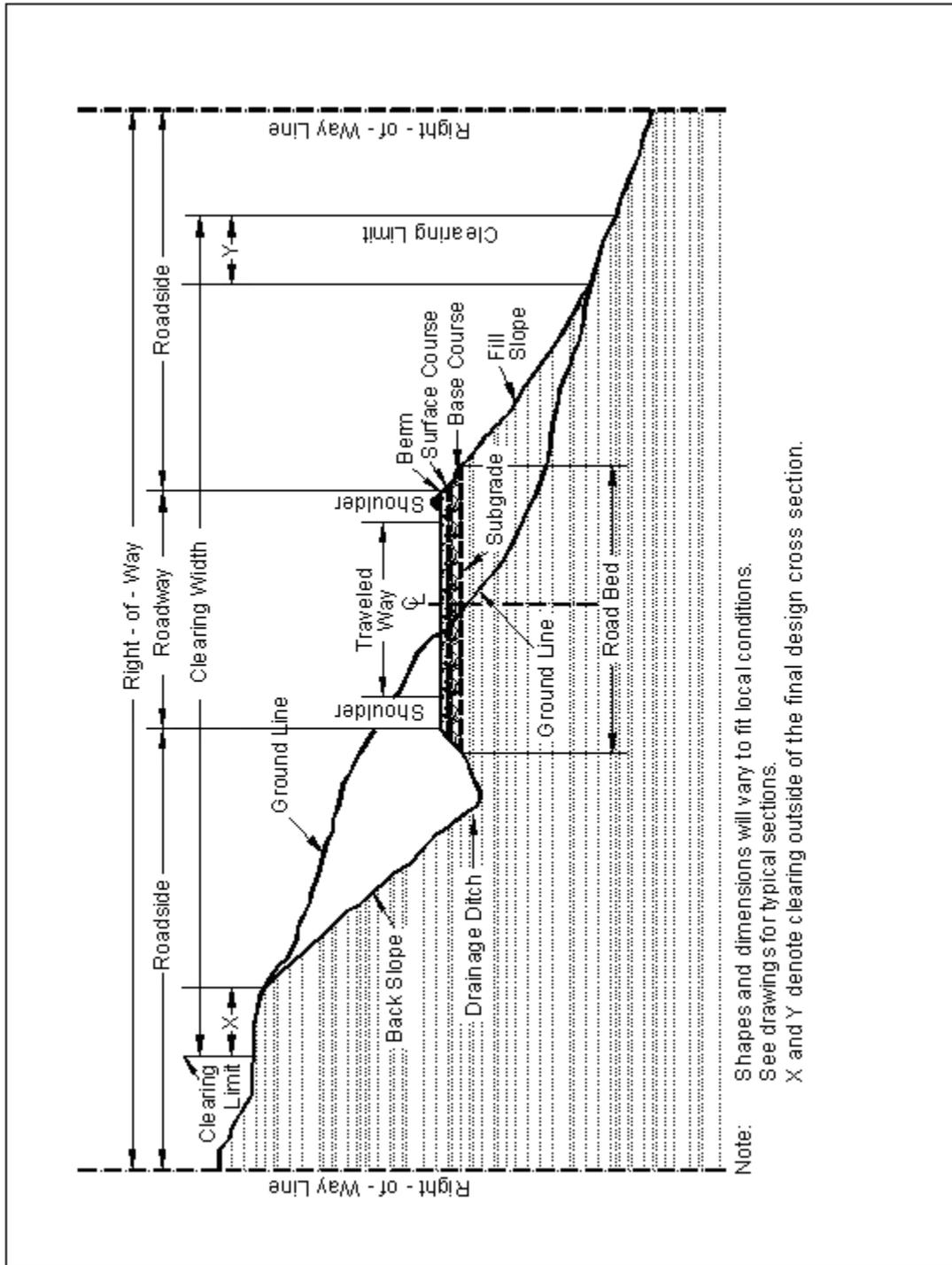
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

Utilization Standards--The minimum size and percent soundness of trees described in the specifications to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Figure 101-1—Illustration of road structure terms.



Finley U5 Timber Sale, Methow Valley Ranger District

101.04 Definitions.

Delete the following definitions:

Contract Modification

Day

Notice to Proceed

Solicitation

102 - Bid, Award, and Execution of Contract

102.00_nat_us_02_16_2005

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.03_nat_us_02_22_2005

104.03 Drawings and Specifications

Delete subsection 104.03

104.03_nat_us_01_22_2009

104.03 Specifications and Drawings.

Delete 104.03.

104.06_nat_us_02_17_2005

Add the following subsection:

104.06 Use of Roads by Contractor

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

105 - Control of Material

105.02_nat_us_01_18_2007

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

105.05_nat_us_05_12_2004

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.

106 - Acceptance of Work

106.01_nat_us_07_31_2007

106.01 Conformity with Contract Requirements.

Delete Subsection 106.01 and substitute the following:

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove and replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted, at no cost to the Government.

(a) Disputing Government test results. **If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:**

- (1) Sampling method;
- (2) Number of samples;
- (3) Sample transport;
- (4) Test procedures;
- (5) Testing laboratories;
- (6) Reporting;
- (7) Estimated time and costs; and
- (8) Validation process.

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

(b) Alternatives to removing and replacing non-conforming work. As an alternative to removal and replacement, the Contractor may submit a written request to:

- (1) Have the work accepted at a reduced price; or
- (2) Be given permission to perform corrective measures to bring the work into conformity.

Finley U5 Timber Sale, Methow Valley Ranger District

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

107.05_nat_us_05_11_2004

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06_nat_us_06_16_2006

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

“except as provided in Subsection 106.07”.

107.08_nat_us_03_29_2005

107.08 Sanitation, Health, and Safety

Delete the entire subsection.

107.09_nat_us_06_16_2006

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10_nat_us_06_16_2006

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.

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- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

109 - Measurement and Payment

109.00_nat_us_02_17_2005

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02_nat_us_06_16_2006

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

“(b) Cubic yard” to “(c) Cubic yard”.

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

201 - Clearing and Grubbing

201.01_nat_us_02_18_2005

201.01 Description

Replace with the following

This work consists of clearing and grubbing within clearing limits and other designated areas.

201.04_nat_us_03_03_2005

Construction Requirements

201.04_nat_us_02_22_2005

201.04 Clearing. (c)

Delete paragraph (c) and replace with the following:

(c) In areas outside the excavation, embankment, and slope rounding limits, cut stumps to within 12 inches or one-third of the stump diameter of the ground, whichever is higher, measured on the side adjacent to the highest ground. For timber sales, stump heights will meet the requirements of the Timber Sale contract.

201.04 Clearing.

Delete subsection (d) and replace with the following:

(d) Do not cut vegetation less than 3 feet tall and less than 3 inches in diameter, that is within the clearing limits but beyond the roadway and not in a decking area, and that does not interfere with sight distance along the road.

Add the following:

(e) Trim branches of remaining trees or shrubs to give a clear height of 14 feet above the roadbed unless otherwise indicated. Trim tree limbs as near flush with the trunk as practicable.

(f) Remove brush from log decks. Deck logs so that logs are piled parallel to one another; can be removed by standard log loading equipment; will not damage standing trees; will not interfere with drainage, and will not roll. Keep logs in log decks free of brush and soil.

201.06 Disposal.

Delete the first sentence of this subsection and substitute the following:

Dispose of merchantable timber designated for removal according to the provisions of the timber sale contract.

203 - Removal of Structures and Obstructions

203.01_nat_us_02_25_2005

203.01 Description.

Delete and replace with the following:

This work consists of disposing of construction slash and debris, salvaging, removing, and disposing of buildings, fences, structures, pavements, culverts, utilities, curbs, sidewalks, and other obstructions.

203.05_nat_us_02_18_2005

203.05 Disposing of Material.

Add the following:

(e) Windrowing Construction Slash. Place construction slash outside the roadway in neat, compacted windrows approximately parallel to and along the toeline of embankment slopes. Do not permit the top of the windrows to extend above subgrade. Use construction equipment to matt down all material in a windrow to form a compact and uniform pile. Construct breaks of at least 15 feet at least every 200 feet in a windrow. Do not place windrows against trees. Obtain approval for pioneer roads. A pioneer road may be constructed to provide an area for placement of windrows, provided the excavated material is kept within the clearing limits and does not adversely affect the road construction.

(f) Scattering. Scatter construction slash outside the clearing limits without damaging trees. Limb all logs. Place logs and stumps away from trees, positioned so they will not roll, and are not on top of one another. Limb and scatter other construction slash to reduce slash concentrations.

(g) Chipping or Grinding. Use an approved chipping machine to grind slash and stumps greater than 3 inches in diameter and longer than 3 feet. Deposit chips or ground woody material on embankment slopes or outside the roadway to a loose depth less than 6 inches. Minor amounts of chips or ground woody material may be permitted within the roadway if they are thoroughly mixed with soil and do not form a layer.

(h) Debris Mat. Use tree limbs, tops, cull logs, split stumps, wood chunks, and other debris to form a mat upon which construction equipment is operated. Place stumps upside down and blend stumps into the mat.

(i) Decking Firewood Material. Remove brush from decks. Limb and deck logs that do not meet Utilization Standards according to Subsection 201.04 as directed by the CO. Cut logs to lengths less than 30 feet. Ensure that logs stacks are stable and free of brush and soil.

(j) Removal to designated locations. Remove construction slash to designated locations.

(k) Piling. Pile construction slash in designated areas. Place and construct piles so that if the piles are burned, the burning will not damage remaining trees. Keep piles free of dirt from stumps. Cut unmerchantable logs into lengths of less than 20 feet.

(l) Placing Slash on Embankment Slopes. Place construction slash on completed embankment slopes to reduce soil erosion. Place construction slash as flat as practicable on the completed slope. Do not place slash closer than 2 feet below subgrade. Priority for use of available slash is for: (1) through fills; (2) insides of curves; and (3) ditch relief outlets.

(m) Hydrological Sensitive Placement. Where required use this method in combination with other designated methods to dispose of material to reduce erosion and to aid in re-vegetation:

1. Place windrow segments on contours, wrap in type I geotextile.
2. Place logs as log erosion barriers on contours. Place logs so that 80% of their length is on the ground surface.
3. Scatter slash on bare or disturbed areas within or outside the clearing limits as directed.
4. Scatter chips or ground woody material on bare or disturbed areas within or outside the clearing limits as directed.

Place stumps in swales or on sites to form planting pockets. Place windrow segments on contours, wrap in type I geotextile.

203.05_nat_us_02_24_2005

203.05 Disposing of Material.

Add the following:

(e): Scattering. Scatter pieces of wood less than 3 inches in diameter and 3 feet in length within the clearing limits. Do not place construction slash in lakes, meadows, streams, or streambeds. Immediately remove construction slash that interferes with drainage structures.

203.08_nat_us_02_24_2005

203.08 Payment

Add the following:

Disposal of construction slash will be compensated under the designated pay item in Section 201.

204 - Excavation and Embankment

204.06_nat_us_03_02_2005

204.06 Roadway Excavation

(a) General.

Add the following:

Retrieve material deposited outside of the clearing limits as directed by the CO. Place unsuitable material in designated areas.

204.06_nat_us_03_02_2005

204.06 Roadway Excavation.

Add the following:

d) Pioneer Roads. Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation. 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.

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.

204.09_nat_us_03_02_2005

204.09 Preparing Foundation for Embankment Construction.

Delete subsection (a) and replace it with the following:

(a) Embankment less than 4 feet high over natural ground. When designated, 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.

204.10_nat_us_03_02_2005

204.10 Embankment Construction.

Add the following:

Obtain written approval before beginning construction of embankments over 6 feet high at subgrade centerline.

(a) General.

Delete the third paragraph and add the following:

Compact embankment side slopes flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

204.11_nat_us_04_11_2005

204.11 Compaction.

Delete the first paragraph and replace it with the following:

For compaction according to method (a), (b), or (c), use AASHTO T 27 to determine the amount of material retained on a Number. 4 sieve. For compaction methods (d) or (e) no sieve test is required.

Add the following compaction methods:

(d) Layer Placement Method (Hauling and Spreading Equipment). Place material by end dumping to the minimum depth needed for operation of spreading equipment. Level and smooth each embankment layer before placing the next layers. Operate hauling and spreading equipment uniformly over the full width of each layer. Construct a solid embankment with adequate compaction by working smaller rock and fines in with the larger rocks to fill the voids, and by operating hauling and spreading equipment uniformly over the full width of each layer as the embankment is constructed.

(e) Layer Placement (Roller Compaction) Method. Place material by end dumping to the minimum depth needed for operation of spreading equipment. Adjust the moisture content of the material to obtain a mass that will not visibly deflect under the load of the hauling and spreading equipment. Operate compaction equipment over the full width of each layer until visible deformation of the layer ceases or, in when a sheepsfoot roller is used, the roller “walks out” of the layer. Make at least three complete passes.

204.13_nat_us_03_02_2005

204.13 Sloping, Shaping, and Finishing.

(a) Sloping.

Add the following:

Slope rounding is not required on tolerance class D though M roads.

204.13_nat_us_03_02_2005

204.13 Sloping, Shaping, and Finishing.

Delete section (d) and add the following:

Finley U5 Timber Sale, Methow Valley Ranger District

(d) Finishing. For surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed. For all roads, finish the roadbed to be 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.

Ensure that the subgrade for both surfaced and unsurfaced roads is visibly moist during shaping and dressing. 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 unsurfaced roads, use one of the following methods to finish the roadbed:

- (1) Method A. Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.
- (2) 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 visible displacement ceases.
- (3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

Add Table 204-2—Construction Tolerances:

Table 204-2 Construction tolerances.

	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	±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.

204.14 Disposal of Unsuitable or Excess Material.

Delete the text of the first paragraph and substitute the following:

Dispose of unsuitable or excess material at designated sites or legally off of the project.

204.15_nat_us_02_07_2007

204.15 Acceptance

Table 204-1 Sampling and Testing Requirements.

Add the following note to the table:

(2) When compaction methods (d) or (e) are used AASHTO M 145, T 99, T 180, and T 310 are not required for earth embankment test methods.

303 - Road Reconditioning

303.01_nat_us_03_02_2005

303.01 Work.

Delete and add the following:

This work consists of reconditioning ditches, shoulders, roadbeds, cattleguards, asphalt surfaces, and aggregate surfaces.

303.06_nat_us_08_05_2008

303.06 Aggregate Surface Reconditioning.

Delete and replace with the following:

303.06 Asphalt and Aggregate Surface Reconditioning.

Repair soft and unstable areas to the full depth of the aggregate surface and according to Subsection 204.07. Scarify to the depth of the aggregate surface or to a depth of 6 inches, whichever is less, and remove surface irregularities. Reshape, finish, and compact the entire aggregate surface according to Subsection 301.05, Subsection 321.05, or Subsection 322.05 as applicable.

For asphalt surfaces, clean the existing surface of all loose material, dirt, or other deleterious substances by approved methods. Remove and dispose of unsuitable material that shows evidence of distress, excess asphalt material, or settlement in the roadbed. Patch the areas with approved material that conforms to and is compatible with the adjacent pavement structure. Perform the patch work according to Section 301, 404, 430, or other sections as applicable for the layer or courses being repaired. Clean and seal cracks in the existing asphalt surface according to Subsection 414.05. Correct surface irregularities exceeding 6 inches in depth with a specified aggregate. Place and compact the aggregate according to Subsections 301.04 and 301.05. Prelevel other dips, depressions, sags, excessive or nonexistent crown, or other surface irregularities with asphalt concrete according to Section 404. Spread and compact the asphalt concrete in layers parallel to the grade line not to exceed 2 inches in compacted depth.

Delete Table 303-1 and replace with the following:

**Table 303-1
Sampling and Testing Requirements**

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time	
Existing Roadway	Measured and tested for conformance (106.04)	Moisture-density Method D	—	AASHTO T 99 (1)	1 per each mixture or change in material	Processed material before incorporating in work	Yes, when requested	Before using in work	
		Moisture-density Method E	—	R-1 Marshall	“	“	“	“	
		Moisture-density Method F	—	AASHTO T 180(1)	“	“	“	“	“
		Moisture-density Method G	—	R-1 Marshall	“	“	“	“	“
		In-place density & moisture content	—	AASHTO T 310 or other approved procedures	1 per 3000 yd ²	In-place	—	Before placing next layer	

(1) Minimum of 5 points per proctor.

303.07 Roadway Reconditioning.

Add the following:

Remove cattleguard decks. Clean the deck and the area beneath the cattleguard of soil and other material to the bottom of the original foundation over the entire width of the installation.
Reinstall the cattleguard deck.

303.11_nat_us_03_29_2005

303.10 Measurement

Modify the second paragraph as follows:

Measure ditch reconditioning and shoulder reconditioning by the mile, station, or foot horizontally along the centerline of the roadway for each side of the roadway.

718 - Traffic Signing and Marking Material

718.05_nat_us_08_05_2009

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.

725 - Miscellaneous Material

725.02_nat_us_03_02_2005

725.02 Calcium Chloride, Calcium Chloride Flakes and Magnesium Chloride.

Add the following:

Ensure that the material does not exceed the following chemical constituents: phosphorous, 25.00 ppm; cyanide, 0.20 ppm; arsenic, 5.00 ppm; copper 0.20 ppm; lead 1.00 ppm; mercury 0.05 ppm; chromium 0.50 ppm; cadmium 0.20 ppm; barium 10.00 ppm; selenium 5.00 ppm; zinc 10.00 ppm; sulfate 4.3 percent maximum; nitrate 5.0 percent maximum.

725.20 Lignin Sulfonate.

Add the following:

Ensure that the material does not exceed the following chemical constituents: phosphorous, 25.00 ppm; cyanide, 0.20 ppm; arsenic, 5.00 ppm; copper 0.20 ppm; lead 1.00 ppm; mercury 0.05 ppm; chromium 0.50 ppm; cadmium 0.20 ppm; barium 10.00 ppm; selenium 5.00 ppm; zinc 10.00 ppm.

725.30 Bentonite.

Add:

Furnish bentonite as sodium montmorillonite (sodium bentonite) in the form of a powder that meets the following requirements:

- a) Ensure that colloid content by AASHTO T88 is 60 percent minimum.
- b) Ensure that a sieve analysis in accordance with AASHTO T27 on a dry, unwashed, pulverized sample yields the following:
- c) A minimum of 95% passing the No. 4 sieve.

A minimum of 15 percent passing the No. 200 sieve.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION 6

OKANOGAN - WENATCHEE NATIONAL FORESTS

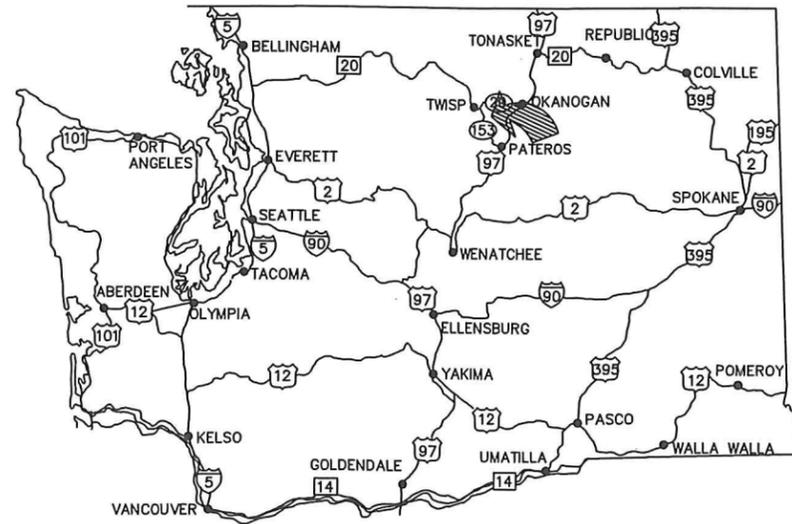
Methow Valley Ranger District

CONSTRUCTION DRAWINGS FOR

Finley U5 Timber Sale

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE
2	VICINITY MAP
3	ESTIMATE OF QUANTITIES
4	NOTES, SYMBOLS, & TYPICAL DETAILS
5	ROAD STRUCTURE DETAILS
6	CLEARING FOR RECONSTRUCTION
7	TYPICAL RECONSTRUCTION SECTION



KEY MAP OF WASHINGTON SHOWING LOCATION OF PROJECT

ROAD NO.	LENGTH MILES	RECONST./CONST.	SHEET NO.
4100 375	0.36	RECONST	7

TOTAL CONSTRUCTION _____ MILES
TOTAL RECONSTRUCTION 0.36 MILES

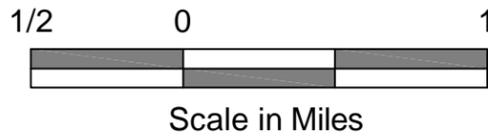
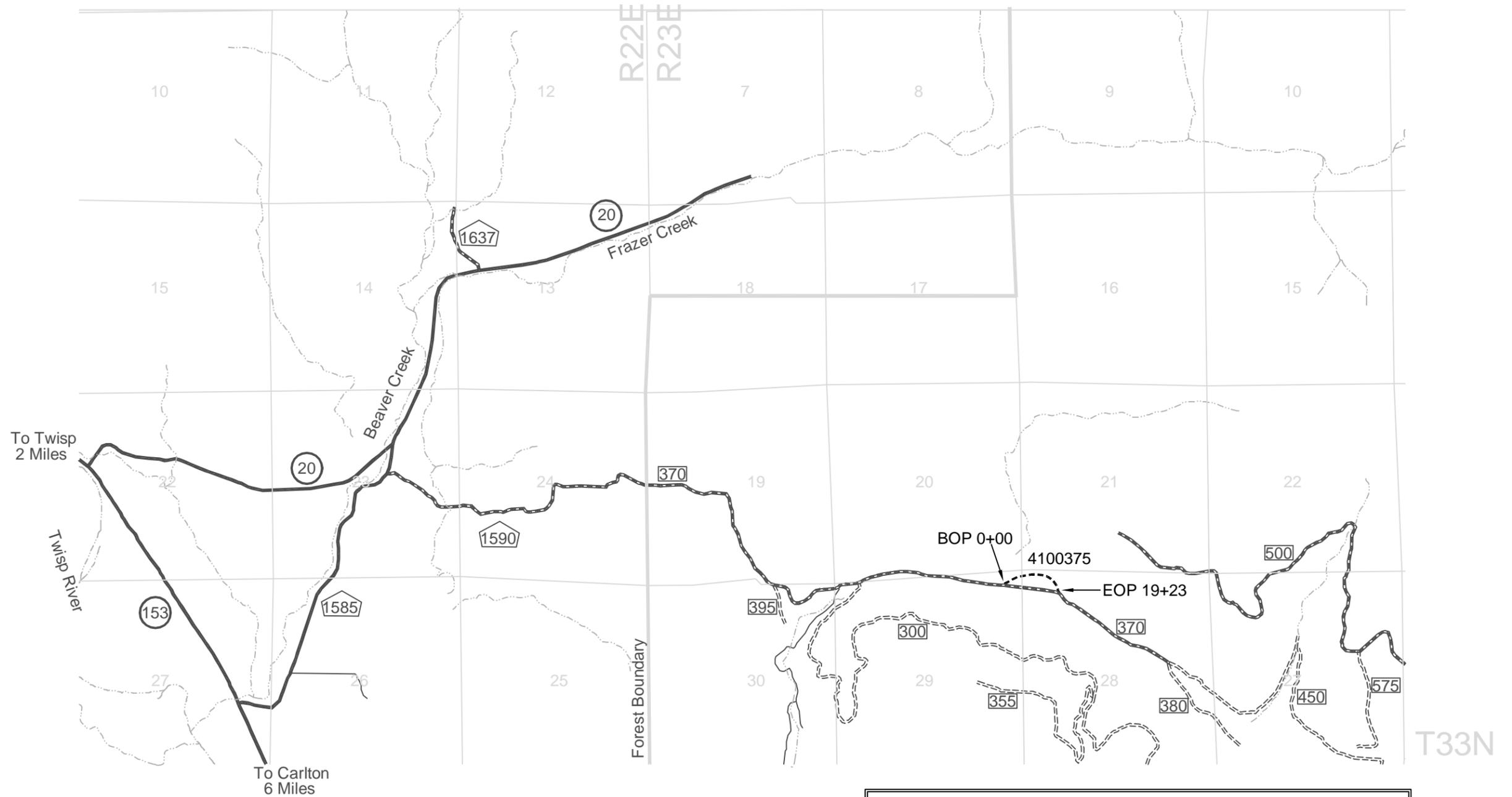
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R-6
PACIFIC NORTHWEST REGION

Reviewed and Approved By
[Signature]
District Ranger
[Signature]
Forest Engineer
Date: 12/5/12
Date: 1/20/2012

Reviewed and Approved By
[Signature]
Zone Engineer
Date: 1/18/2012

Designed By
[Signature]
Reviewed By
[Signature]
Date: 12/15/11
Date: 12/15/11

Sheet
Title
Sheet
1



LEGEND	
	State Highway
	County Road
	Forest Road
	Pavement Surface
	Aggregate Surface
	Project Road
	Native Surface Streams

Notes, Symbols & Typical Details

DISPOSAL OF MERCHANTABLE TIMBER (TIMBER MEETING UTILIZATION STANDARDS):

Merchantable timber (timber Meeting Utilization Standards) will be decked in locations shown on drawings, within reach of standard loading equipment.

To meet minimum tree specifications, trees must be equal or exceed 5-inches DBH and contain at least one minimum piece. Such timber will be felled and bucked into log lengths not exceeding 52 ft. Pieces (logs) will also be considered as meeting Utilization Standards, and be required to be decked, when such pieces would have met Utilization Standards if bucking lengths were varied to include such material. Merchantable timber shall be limbed and bucked. Log decks shall be free of slash and debris. Material not meeting Utilization Standards, including any material remaining after deck removal, shall be disposed of as other construction slash pursuant to Specification 201.04.

MINIMUM UTILIZATION STANDARDS ARE:

LENGTH	DIAMETER	OTHER
12 feet	(Inside bark at the small end) 4 inches Lodgepole Pine - 4 inches	40 Net Scale in Percent Gross

STANDARD BUCKING LENGTHS

PONDEROSA PINE and LODGEPOLE PINE: Multiples of 16 feet plus trim. See footnotes 1/ and 2/.
DOUGLAS-FIR, WESTERN LARCH, and OTHER SPECIES: Multiples of 8 FEET plus trim.

1/ Unless otherwise agreed upon, logs shall be cut to the above specified log lengths wherever possible. Where other lengths are necessary to obtain maximum utilization due to breaks or to specified top diameters, logs should be bucked to multiples of 2 feet plus trim.

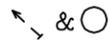
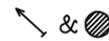
2/ Trim allowance is 6-inches for each 20 feet of log length as shown below:

8 to 20 foot lengths	- 6-inches of trim
21 to 40 foot lengths	- 12-inches of trim
+41 foot plus	- 18-inches of trim

DISPOSAL OF UNMERCHANTABLE TIMBER: Logs not meeting Utilization Standards which are suitable for use as firewood, may be scattered or decked. Material not suitable for firewood shall be treated by other slash methods.

STAKES: All stakes shall have the following minimum nominal dimensions. Hubs shall be 2 in X 2 in X 8 in, Guard, reference, slope, and other stakes shall be 0.3 in X 1.5 in X 18 in. Lath shall be 0.4 in X 1.5 in X 3 ft. Other dimensions and materials may be used, such as steel reinforcing bars and metal pins, if approved by the Engineer. The color of paint or flagging, as well as the colors for use on stakes for clearing, reference, structures, slope staking, and shall be fluorescent orange. Other colors may be used if approved in writing by the Engineer.

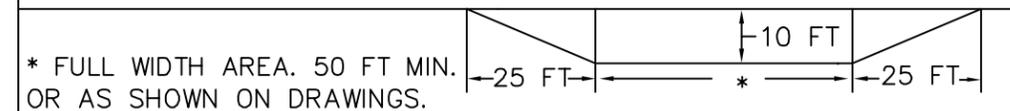
SYMBOLS

SYMBOLS	DESCRIPTION
BOP, EOP	BEGINNING OF PROJECT, END OF PROJECT
CW	CURVE WIDENING
FW	FULL WIDTH AREA*
TOL, TOR, TOS	TURNOUT LEFT/RIGHT/SPLIT
V	DRAIN DIP
LOD	LEAD-OUT DITCH
	CULVERT (EXISTING)
	CULVERT (INSTALL)

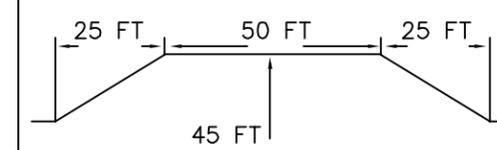
TURNOUT



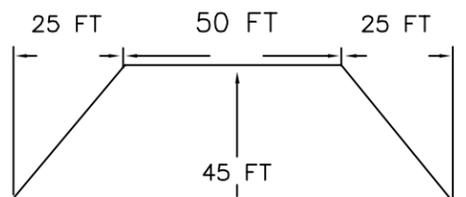
ROAD



TURNAROUND

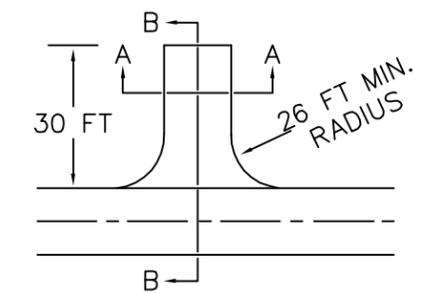


SPLIT

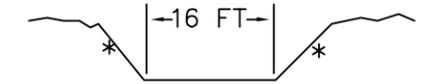


LT./RT.

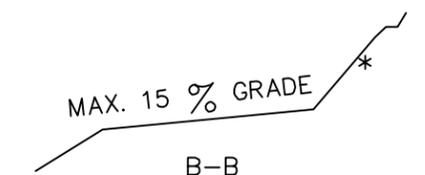
"J" HOLE



A-A

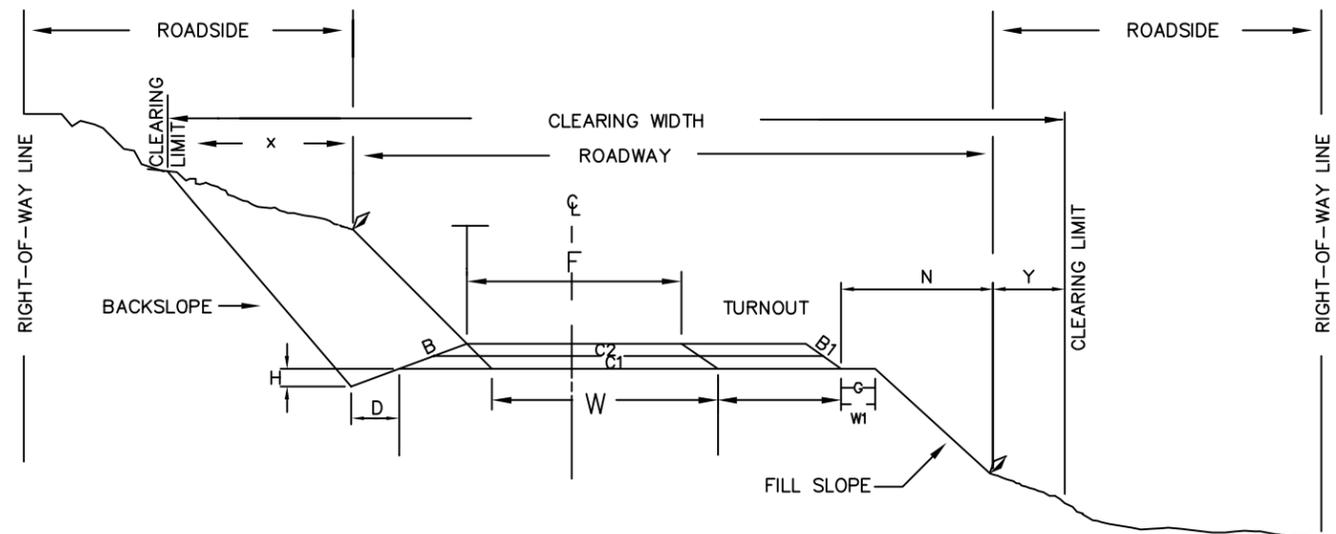


B-B



* BACKSLOPES SHALL CONFORM TO CONSTRUCTION TOLERANCES ON ROAD STRUCTURE DETAILS SHEET.

Road Structure Details



Limbs overhanging the roadway shall be trimmed to a minimum height of 16 feet above the roadbed.

W1 - EXTRA ROADBED WIDTH WHEN SUBBASE, BASE COURSE, SURFACE COURSE, CURVE WIDENING, FILL WIDENING AND/OR TURNOUTS ARE SPECIFIED.

- * CLEARING DIMENSIONS FOR ROADS TO BE RECONSTRUCTED ARE SHOWN ON SHEET 6.
- (1) CURVE WIDENING, WHEN SPECIFIED, SHALL BE ADDED TO THE INSIDE OF THE CURVE.
- (2) ROADBED WIDTH, FILL WIDENING, TURNOUT LENGTHS, FILL AND BACKSLOPE RATIO SHALL BE AS SPECIFIED IN CONSTRUCTION STAKING NOTES AND/OR DRAWINGS.
- (3) SEEDING, FERTILIZING AND/OR MULCHING AREA INCLUDES M, N, X & Y SHOWN ON THE TYPICALS AND ALL OTHER AREAS DISTURBED BY CONSTRUCTION (INCLUDES BURN BAYS AND DECKING AREAS).
- (4) TURNOUTS, TURNAROUNDS AND CURVE WIDENING SHALL BE SURFACED TO THE SAME DEPTH AS THE TRAVELED WAY AND TO THE DIMENSIONS SPECIFIED IN CONSTRUCTION STAKING NOTES AND/OR DRAWINGS.
- (5) ROADBED TEMPLATE TYPES ARE SHOWN ON THE DRAWINGS AND SHALL BE CONSTRUCTED TO THE FOLLOWING TOLERANCE:
 - OUTSLOPE (OUT): 0 TO 5 %
 - INSLOPE (IN): 2 TO 5 %
 - CROWN (CR): 2 TO 4 %
- (6) FINISHING ROADBED:
 - d. ROCKS PROTRUDING MORE THAN 2.0 INCHES ABOVE THE SUBGRADE SHALL BE REDUCED TO THE FINISHED SUBGRADE OR REMOVED. NO OVERSIZE MATERIAL SHALL BE LEFT ON THE SHOULDERS OR IN THE DITCHES. OVERSIZE MATERIAL IS DEFINED AS ROCKS 2 in OR GREATER IN DIMENSION.
- (7) DITCHES ARE TO BE CONSTRUCTED ONLY WHERE NOTED ON THE RECONSTRUCTION SUMMARY SHEETS OR PLAN AND PROFILE SHEETS.

ROAD NUMBER	SEGMENT	STATION TO STATION	CLEARING			GRADING				PAVEMENT STRUCTURE								
			WHICHEVER IS GREATER feet	BEYOND SLOPE STAKE		CONSTRUCTION TOLERANCE	FINISH ROADBED	ROADBED WIDTH FEET	FILL WIDENING FEET	DITCH DIMENSIONS INCHES	TRAVELED WAY WIDTH FEET	GRADATION		COMPACTED DEPTH INCHES		SLOPE RATIO		
				MINIMUM BEYOND SHOULDER	X							Y	C1	C2	C1	C2	B	B1
4100375	I	P 0+000 TO P 19+23	3	3	3	SP	6d	12		D	H	F	C1	C2	C1	C2	B	B1

(SP) CONSTRUCTION TOLERANCE: Where construction stakes are not specified and clearing limit marking is the only control required, the following shall govern, unless otherwise shown on the drawings.

Grub stumps within roadway and in accordance with Spec. 201.05.

ROADBED WIDTH: as shown in column "W", plus curve widening, turnout widths, and fill widening.

CENTERLINE ALIGNMENT - 50 FOOT MINIMUM RADIUS CURVE.

GRADE - CHANGE BETWEEN GRADES SHALL BE UNIFORM AND NOT EXCEED 10 PERCENT IN 25 FEET.

MAXIMUM GRADE: - 10 PERCENT FAVORABLE
- 10 ADVERSE

FILL - NATURAL CATCH OBTAINED USING SIDE CAST CONSTRUCTION METHOD.

BACKSLOPE - COMMON 1/4 V : 1 H, ON FLAT GROUND, CUTS UNDER 3 FEET

COMMON 1 V : 1 H, UNDER 55% TO 3/4 V : 1 H, OVER 55%

RIPPABLE 1/2 V : 1 H

SOLID 1/4 V : 1 H

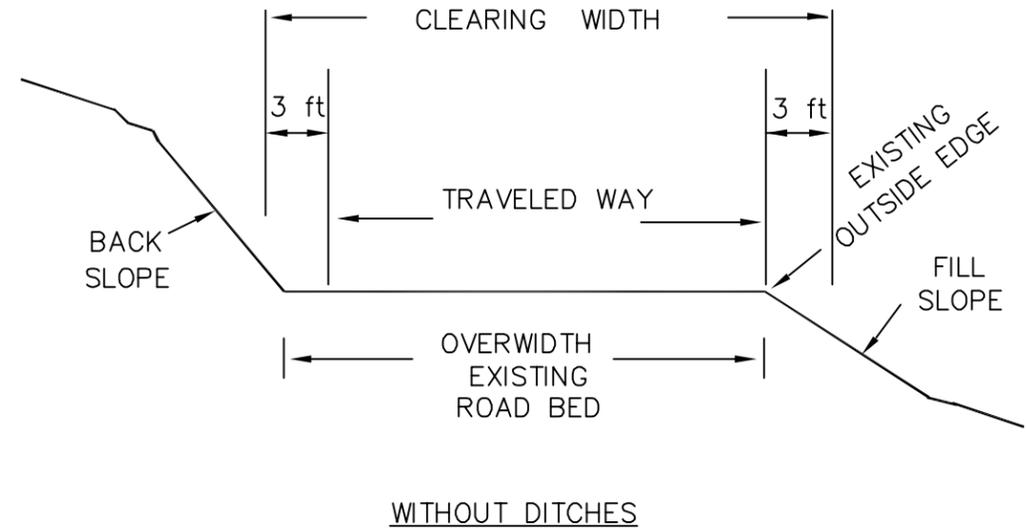
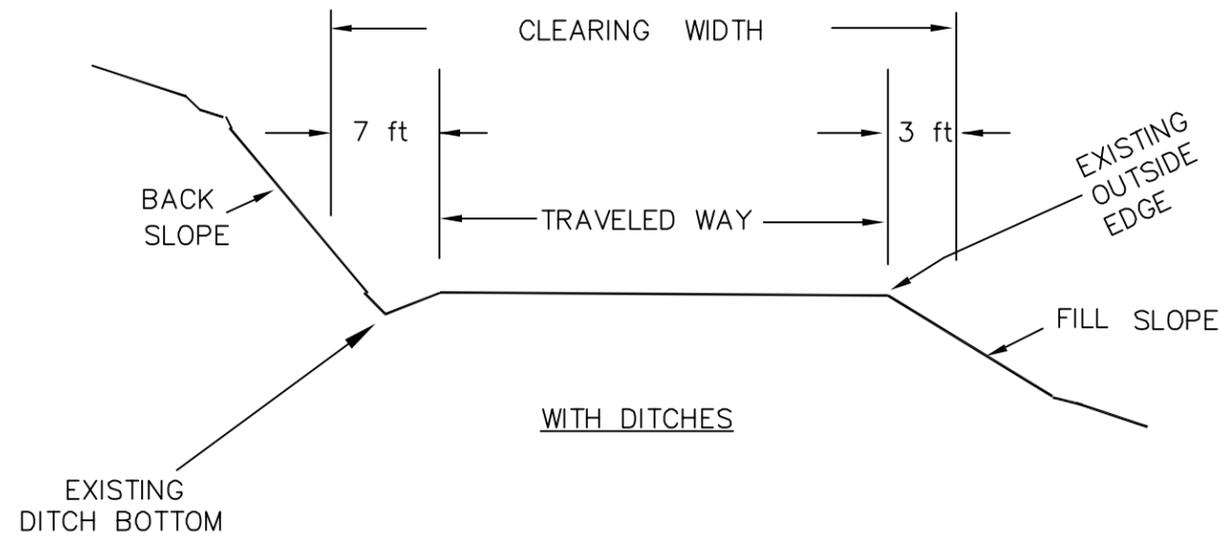


Drawn By: _____
Reviewed By: _____

Forest **Okanogan-Wenatchee National Forest**
Project **Finley U5 Timber Sale**

Sheet Title **Road Structure Details**
Road Number **4100375** Sheet **5**

TYPICAL CLEARING FOR RECONSTRUCTION ONLY



CROSS SECTIONAL VIEWS NOT TO SCALE

WITHIN ROAD SEGMENTS WITH EXISTING DITCHES, OR DITCHES TO BE CONSTRUCTED:

CLEARING WIDTH SHALL BE A MINIMUM OF THE TRAVELED WAY WIDTH PLUS 10 FEET.

CLEARING LIMIT ON DITCHED SIDE OF ROAD SHALL BE THE TRAVELEDWAY WIDTH PLUS 7 FEET.

GENERAL NOTES:

1. REFER TO ROAD STRUCTURE DETAILS, SHEET 5 FOR TRAVELED WAY WIDTHS.
2. CLEARING LIMITS SHALL BE 3 FEET BEYOND THE EXISTING OUTSIDE EDGE OF ROAD.
3. All trees within the clearing limits on the fill slope that are 7 inches and larger at DBH shall remain. Trim branches on remaining trees to give clear height of 16 feet above roadbed.

WITHIN ROAD SEGMENTS WITHOUT EXISTING DITCHES:

CLEARING WIDTH SHALL BE A MINIMUM OF THE TRAVELED WAY WIDTH PLUS 7 FEET.

CLEARING LIMIT ON INSIDE OF ROAD SHALL BE THE TRAVELEDWAY WIDTH PLUS 3 FEET.

