UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE--REGION SIX
WILLAMETTE NATIONAL FOREST
MIDDLE FORK RANGER DISTRICT

Project located in Lane County, OR

PLANS FOR PROPOSED

THOR THIN TIMBER SALE

ROADS

ROAD NO.	NAME	LENGTH	TYPE OF WORK
1919	NO NAME	3.70 MILES	RECONSTRUCTION
1920	NO NAME	1.30 MILES	RECONSTRUCTION
1920-660	NO NAME	0.74 MILES	RECONSTRUCTION

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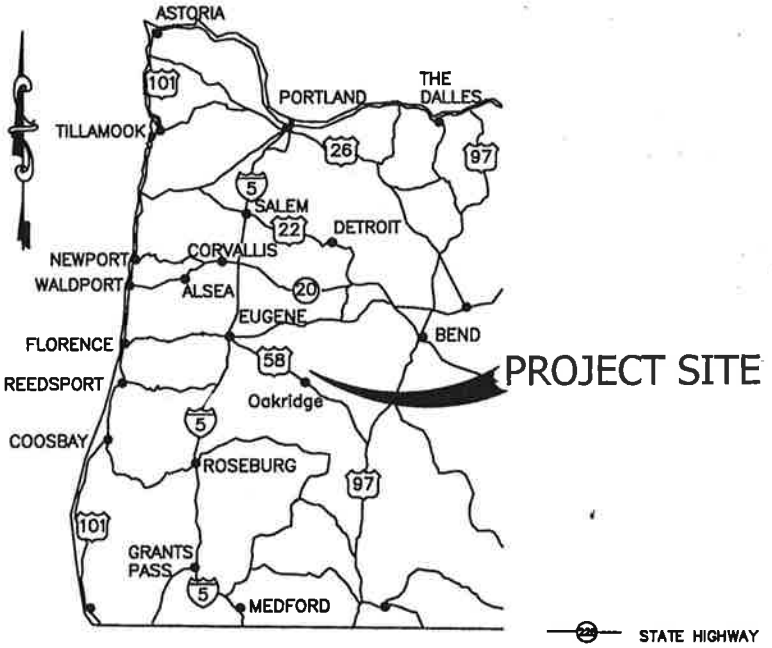
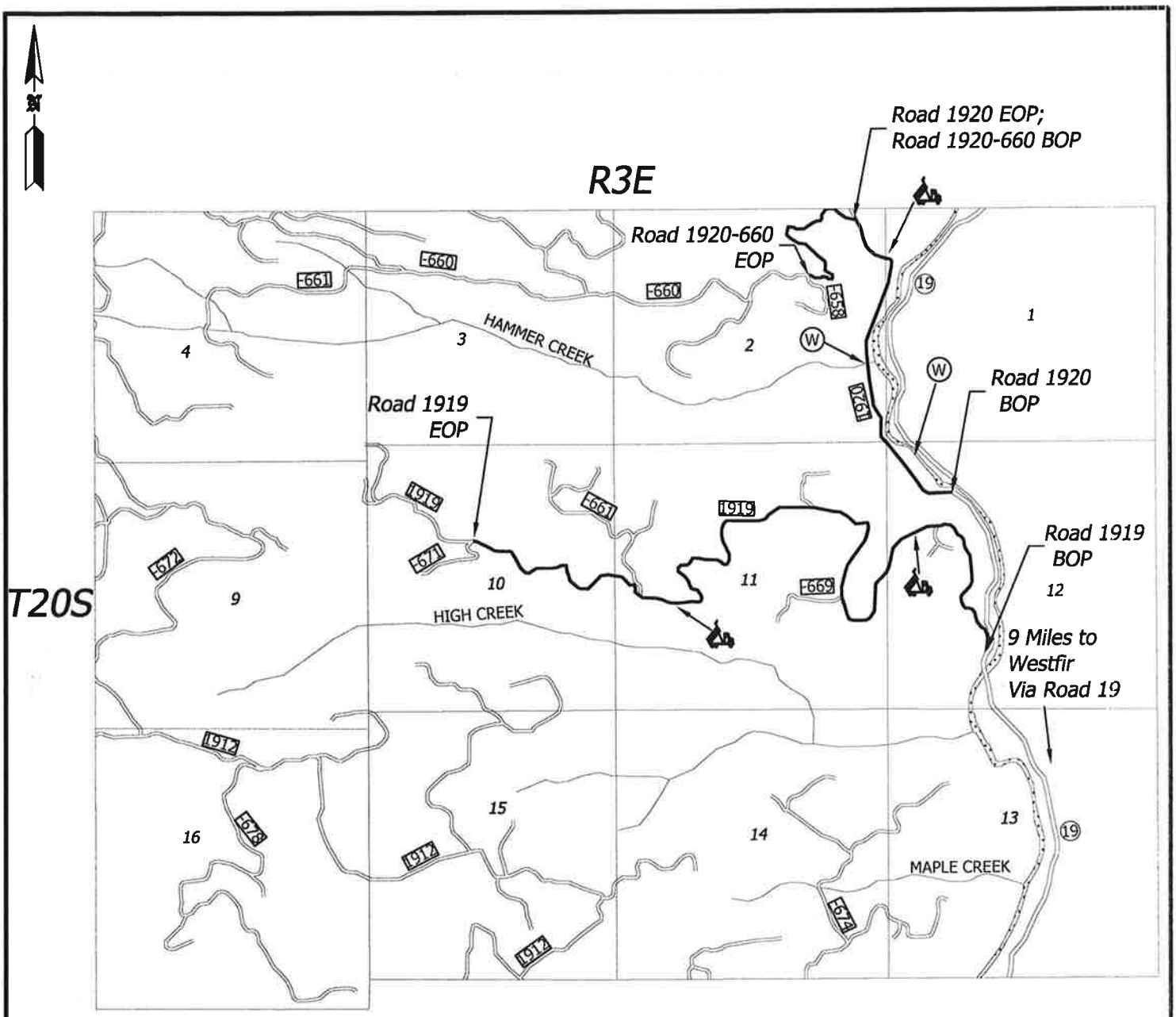


WESTERN OREGON PROJECT LOCATION MAP

STATE HIGHWAY
FEDERAL HIGHWAY
INTERSTATE HIGHWAY

WILLAMETTE NATIONAL FOREST

DESIGNED BY: Mike Larman Mike Larman	DATE 3/24/14
REVIEWED BY: Kenny Gabriel	DATE 3/25/14
For REVIEWED BY (DEVELOPMENT ENGINEER): Jeff Caswell	DATE 3/27/2014
RECOMMENDED BY (DISTRICT ENGINEER): Scott Ferre	DATE 3/24/14
APPROVED BY (DISTRICT RANGER): Duane Bishop	DATE 4/1/2014
For APPROVED BY (FOREST ENGINEER): Charlie McKenna	DATE 3/27/2014



0 1/2 1

Scale in miles

LEGEND

- Reconstruction Segment
- Other Roads
- Streams
- NF MF Willamette River
- Water source
- Disposal areas

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

SHEET NUMBER	TOTAL SHEETS
2	14

THOR THIN TIMBER SALE

VICINITY MAP

PACIFIC NORTHWEST REGION

ITEM NUMBER	DESCRIPTION	UNIT	QUANTITIES	REMARKS
15101	Mobilization	Lump Sum	All	Includes fire protection, equipment cleaning, and temporary traffic control.
20103	Clearing and grubbing, disposal of tops and limbs (f), logs (i), stumps (f)	Mile	0.78	Deck trees at locations designated by the Contracting Officer.
20358	Removal of corrugated metal pipe, disposal method (a)	Each	2	
20419	Drainage excavation, type culvert outlet ditch	Foot	90	
23051	Roadside brushing, disposal method (1)	Mile	3.70	
30359	Roadway reconditioning, compaction method E	Mile	3.70	Haul material pulled from ditch reconditioning, slough and slide removal, and logs in ditch to designated disposal areas located on Road 1919, MP 0.76 and MP 2.68, left side.
32203	Aggregate base, grading A, compaction method B	Cubic Yard*	40	Commercial Source.
60276A	18-inch corrugated aluminized steel pipe, 0.079-inch thickness, method B	Foot	54	Includes bands and necessary hardware.
60276B	24-inch corrugated aluminized steel pipe, 0.079-inch thickness, method B	Foot	46	Includes gaskets, bands, and necessary hardware.
62509	Mulching, dry method	Lump Sum	All	Government furnished. Includes mulching of entire project area.

* Denotes contract quantity

ITEM NUMBER	DESCRIPTION	UNIT	QUANTITIES	REMARKS
15755	Erosion control and pollution prevention	Each	1	Dewatering for culvert installations.
20358	Removal of corrugated metal pipe, disposal method (a)	Each	3	
20419	Drainage excavation, type culvert outlet ditch	Foot	20	
23051	Roadside brushing, disposal method (1)	Mile	0.69	
30359	Roadway reconditioning, compaction method E	Mile	0.69	Haul material pulled from ditch reconditioning, slough and slide removal, and logs in ditch to disposal area located on Road 1920, MP 1.01, right side.
32203	Aggregate base, grading D, compaction method B	Cubic Yard*	210	Commercial Source.
60276A	18-inch corrugated aluminized steel pipe, 0.079-inch thickness, method B	Foot	40	Includes bands and necessary hardware.
60276B	24-inch corrugated aluminized steel pipe, 0.079-inch thickness, method B	Foot	82	Includes gaskets, bands, and necessary hardware.
* Denotes contract quantity				

ITEM NUMBER	DESCRIPTION	UNIT	QUANTITIES	REMARKS
15755	Erosion control and pollution prevention	Each	1	Dewatering for culvert installations.
20358	Removal of corrugated metal pipe, disposal method (a)	Each	1	
20419	Drainage excavation, type culvert outlet ditch	Foot	60	
23051	Roadside brushing, disposal method 1	Mile	0.74	
30359	Roadway reconditioning, compaction method E	Mile	0.74	Haul material pulled from ditch reconditioning, slough and slide removal, and logs in ditch to disposal area located on Road 1920, MP 1.01, right side.
32203	Aggregate base, grading A, compaction method B	Cubic Yard*	10	Commercial Source.
60276	24-inch corrugated aluminized steel pipe, 0.079-inch thickness, method B	Foot	40	Includes gaskets, bands, and necessary hardware.
* Denotes contract quantity				

General Notes:

1. Salvage existing aggregate during culvert installation and use as bedding and initial backfill material.

2. Designated disposal site(s) are identified on the plans. The Contracting Officer will stake the disposal areas prior to placement of material. For all excess or unsuitable materials, layer place, smooth uniformly, and shape to drain. Disposal area development and shaping is indirect to item 30359.

3. All culvert installations/replacements with flowing water are considered stream channels. Replace culverts when stream channels are dry or during instream work period. Dewatering will be deleted if there is no water in the stream when work is done. The instream work period is July 1 to August 31. Additional timing / date restrictions, if applicable are included in C6.24 and C6.315 of the timber sale provisions and specification FSSS 156.05.

4. All new culvert installations require partial inlet bevel cut (indirect cost to corresponding culvert installation).

5. Rebuild fills over pipes with a minimum of 1.5'V : 1'H fill slope and 1' shoulders.

6. Do not undercut existing backslopes when cleaning and/or reconstructing roadway ditch.

7. Maintain all construction staking on the project, until final inspection and acceptance.

8. Spread government furnished straw over disturbed soil at all culvert installations, disposal areas and other disturbed soil work areas, excluding ditchs. Cover areas completely. Straw is stored at the Flat Creek Work Center, located on Forest Service Road 24, 2 miles east of the town of Oakridge. Contact the Contracting Officer to arrange pick up.

9. Dispose of inlet and outlet beveled cut culvert pieces by removing from government land according to FSSS 203.05, method (a).

10. Recondition turnouts and curve widening with the basic roadbed, to dimensions existing of the ground.

11. Any required clearing and grubbing of trees during culvert installations and culvert outlet ditch construction is considered indirect to corresponding culvert work. Prior to clearing and grubbing of any trees, contractor shall notify the Contracting Officer for approval. Logs meeting utilization standards (see section 201.04) are to be limbed, separated, and decked adjacent to the work area as designated by the Contracting Officer. Dispose of slash according to subsection FSSS 203.05, disposal method (f).

12. Construction tolerance class D, for all roads.

ROAD NUMBER	MILE POST	DESIGNED				AS-BUILT			INSTALLATION DETAILS			OUTLET DITCH (FT)	DEWATER	REMARKS
		CMP			CMP OUTLET PIPE	PIPE		OUTLET PIPE						
		DIAMETER (INCH)	LENGTH (FT)	THICKNESS (INCH)	FULL CIRCLE	DIAMETER	LENGTH		TYPE	SKEW (°)	GRADE (%)			
1919	0.17	18										20		Remove large rock in outlet ditch.
	0.82	18										20		
	2.08	18										25		
	2.56	18	54	0.079					#	#	#			
	2.60	24	46	0.079					#	#	#			
	3.05	18										25		
1920	0.83	24	42	0.079					#	#	#			
	0.87	18										20		
	0.96	18	40	0.079					#	#	#			
	1.13	24	40	0.079					#	#			X	Lower culvert outlet 1 ft (to ground line).
1920-660	0.03	18										15		
	0.23	24	40	0.079					#	#	#		X	
	0.28	18										25		
	0.69	18										20		

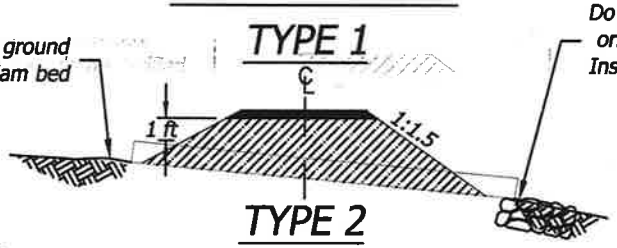
Skew, grade and type shall match removed installation unless otherwise noted.

NOTE: Standard pipe corrugations will be 2 2/3 inch x 1/2 inch unless otherwise noted.

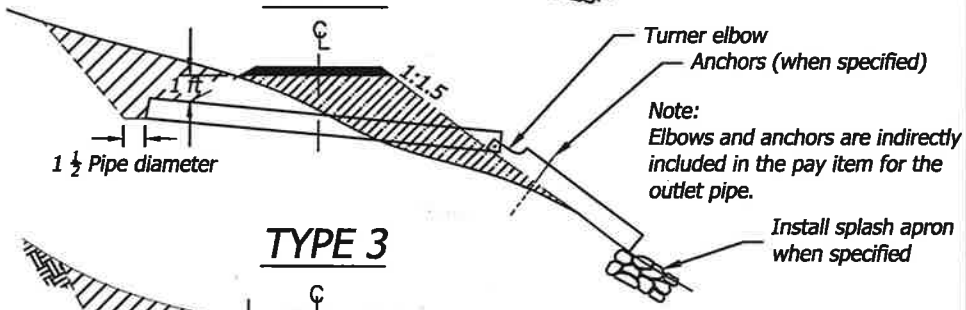
Some installations of culverts may require additional excavation below grade line (Indirect to pay item 602).

CULVERT TYPES

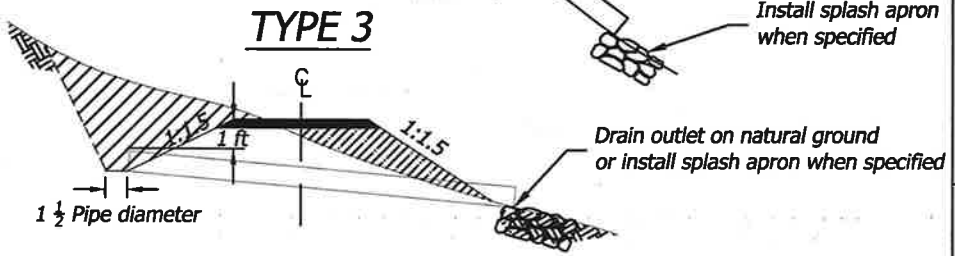
TYPE 1



TYPE 2



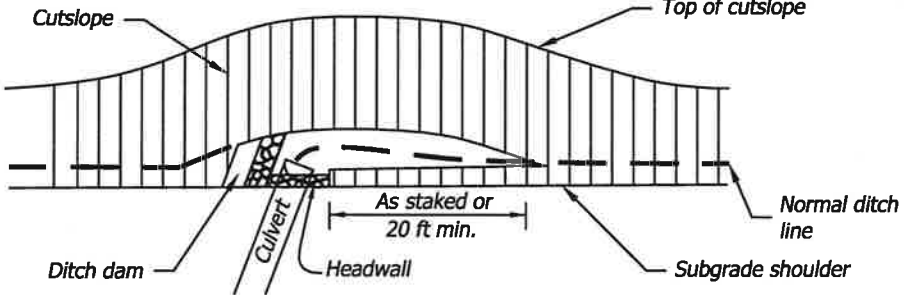
TYPE 3



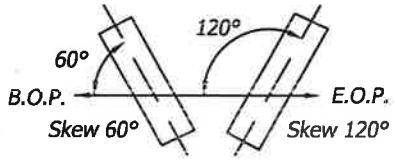
Some installations of culverts may require additional excavation below grade line.

CATCH BASIN DETAIL

PLAN VIEW
Type 2 & 3 culvert installation

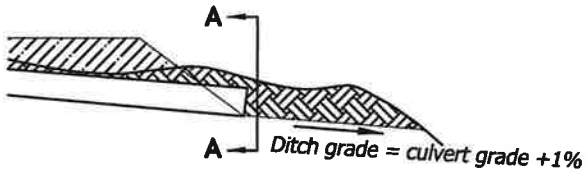


SKEW DIAGRAM



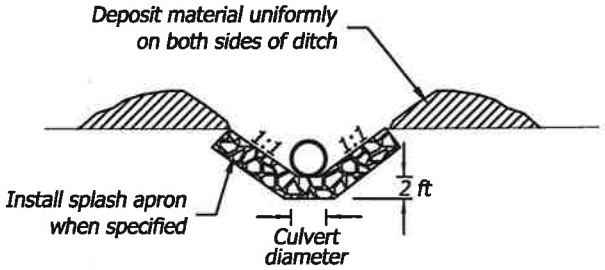
Drawings not to scale

OUTLET DITCH

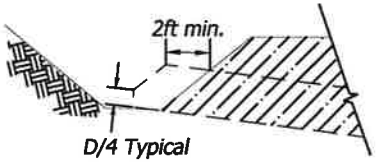


Note: Seed ditch and berm when specified

OUTLET DITCH SECTION A-A

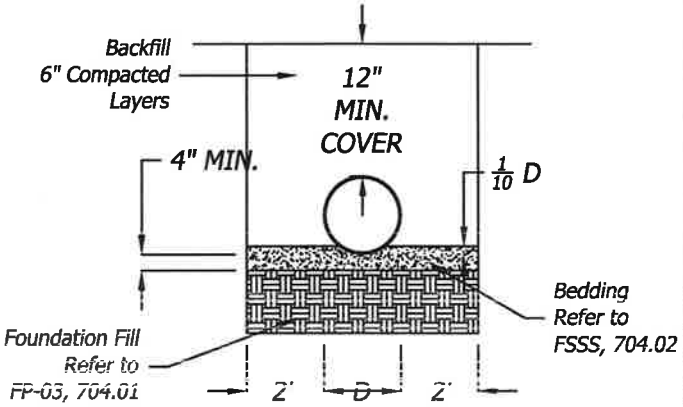


PARTIAL BEVELED INLET DETAIL



Note: Bevel cut to match existing fill slopes as specified

CULVERT BEDDING & BACKFILL TYP.



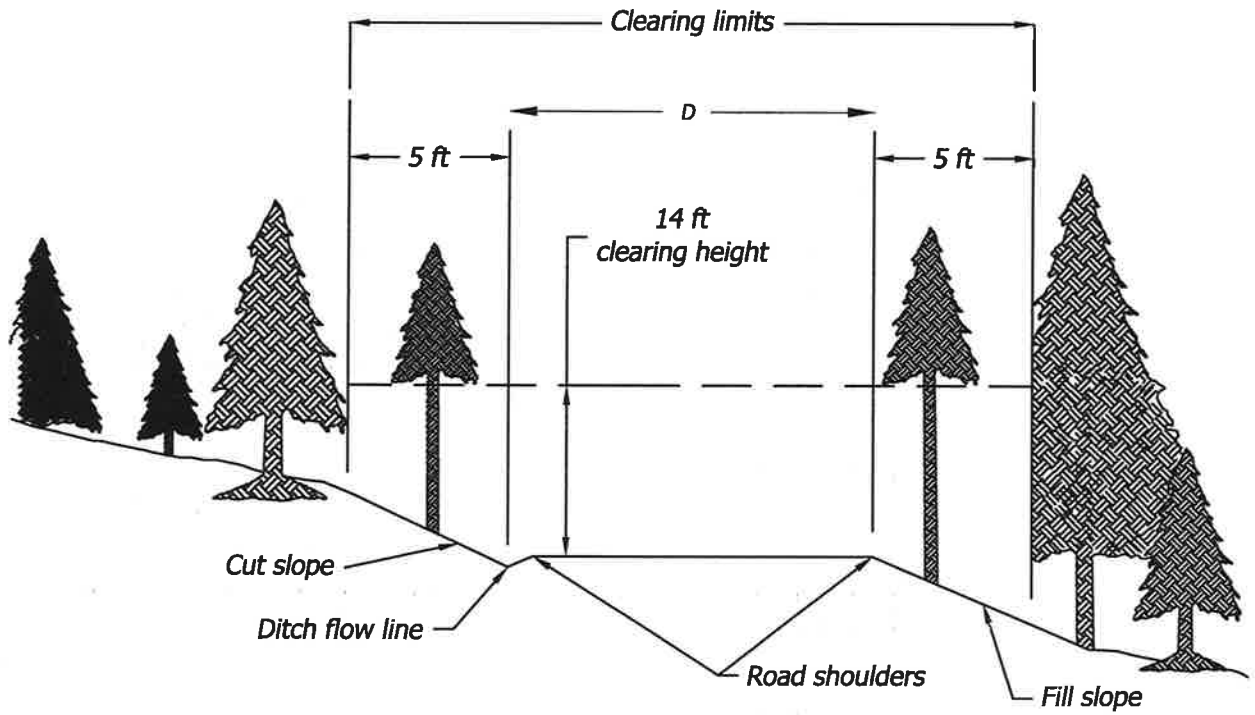
THOR THIN TIMBER SALE

DRAINAGE CONSTRUCTION DETAILS

PACIFIC NORTHWEST REGION

U.S.D.A FOREST SERVICE

SHEET NUMBER	TOTAL SHEETS
8	14



NOTES:

1. Remove trees outside of "D" up to 8 inches in diameter (measured at 4.5 ft above the ground on the downhill side) and all vegetation within the clearing limits.
2. Cut all vegetation within the clearing limits to a maximum height of 6 inches above the ground surfaces.
3. Grub all trees and stumps within "D" above. Deck logs at designated locations by the Contracting Officer and scatter tops, limbs, and stumps outside the clearing limits.
4. Drawings not to scale.

THOR THIN TIMBER SALE

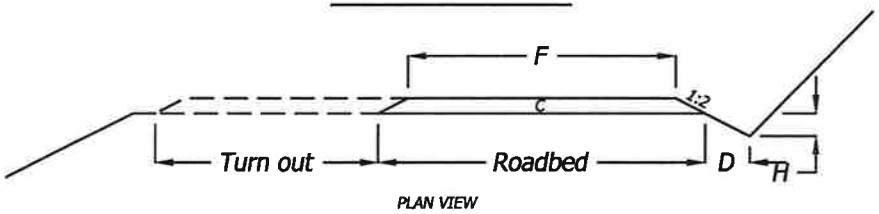
ROADSIDE BRUSHING AND CLEARING AND GRUBBING TYPICAL

U.S.D.A FOREST SERVICE

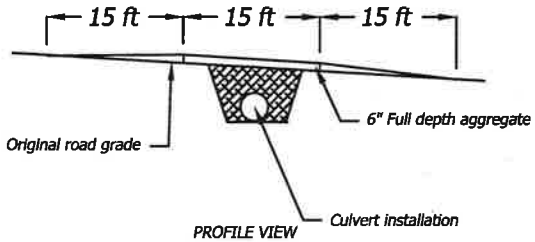
PACIFIC NORTHWEST REGION

SHEET NUMBER	TOTAL SHEETS
9	14

TYPICAL SECTION



CULVERT SURFACE ROCK REPLACEMENT FOR AGGREGATE ROADS ONLY



Note: Top width dimension is 12 ft unless noted otherwise

ROAD NUMBER	BEGINNING MILE POST	ENDING MILE POST	CONSTRUCTION TOLERANCE	OUTSLOPED INSLOPED CROWNED	ROADBED WIDTH (FT)	DITCH DIMENSIONS (FT)		PAVEMENT STRUCTURE		
								TRAVELED WAY WIDTH (FT)	COMPACTED DEPTH (IN)	SLOPE RATIO AGG
				%		D	H	F	C	V:H
1919	0.00	3.70	D	2 C	14*	2	1	12*	6	1V:2H
1920	0.00	1.30	D	2 C	14*	2	1	12*	6	1V:2H
1920-660	0.00	0.74	D	2 C	14*	2	1	12*	6	1V:2H

** Widths varies. Reconstruct roadbed to match existing conditions.*

Drawings not to scale.

THOR THIN TIMBER SALE

RECONSTRUCTION TYPICALS

PACIFIC NORTHWEST REGION

U.S.D.A FOREST SERVICE

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

SHEET NUMBER	TOTAL SHEETS
10	14

MILE POST	ITEM NUMBER	QUANTITY	UNIT	DESCRIPTION OF WORK
0.00				Junction with Road 19 at MP 8.61, left side.
				Beginning of project.
	23051	3.70	Mile	Begin roadside brushing.
	30359	3.70	Mile	Begin roadway reconditioning. Recondition ditch for full length of project. Haul material from ditch reconditioning, slough and slide removal, and boulders to designated disposal areas. Scatter all logs and woody debris from top of cutbank to the opposite road shoulder outside clearing limits. Scarify minimum 1" below the depth of all potholes, washboards or surface irregularities.
0.17				Existing 18-inch CMP.
	20419	20	Foot	Construct culvert outlet ditch (removal of rock from outlet is considered indirect to pay item).
0.64				Junction with un-named road, left side.
0.76				Designated disposal area, left side.
0.82				Existing 18-inch CMP.
	20419	20	Foot	Construct culvert outlet ditch.
1.27				Junction with Road 1919-669, left side.
1.48				Remove boulders in ditchline (indirect to pay item 30359).
1.79				Junction with Road 1919-665, right side.
2.08				Existing 18-inch CMP.
	20419	25	Foot	Construct culvert outlet ditch.
2.56	20358	1	Each	Remove existing 18-inch CMP.
	60276A	54	Foot	Install 18-inch CMP at same skew and grade.
	32203	10	Cubic Yard*	Place 6-inch depth of crushed aggregate over culvert installation. Blend to adjacent surfaces and widths to provide for smooth transition.
2.60	20358	1	Each	Remove existing 18-inch CMP.
	60276B	46	Foot	Install 24-inch CMP at same skew and grade.
	32203	10	Cubic Yard*	Place 6-inch depth of crushed aggregate over culvert installation. Blend to adjacent surfaces and widths to provide for smooth transition.
2.68				Designated disposal area, left side.
2.92				Junction with Road 1919-661, right side.
	20103	0.78	Mile	Begin clearing and grubbing.

MILE POST	ITEM NUMBER	QUANTITY	UNIT	DESCRIPTION OF WORK
3.05				Existing 18-inch CMP.
	20419	25	Foot	Construct culvert outlet ditch.
3.70				Junction with Road 1919-671, left side.
				End clearing and grubbing.
				End roadway reconditioning.
				End roadside brushing.
	32203	20	Cubic Yard*	Place spot rock at locations designated by the Contracting Officer.
				End of project.

MILE POST	ITEM NUMBER	QUANTITY	UNIT	DESCRIPTION OF WORK
0.00				Junction with Road 19 at MP 9.30, left side.
				Beginning of project.
0.61				Hammer Creek crossing.
	23051	0.69	Mile	Begin roadside brushing.
	30359	0.69	Mile	Begin roadway reconditioning. Recondition ditch for full length of project. Haul material from ditch reconditioning, slough and slide removal, and boulders to designated disposal areas. Scatter all logs and woody debris from top of cutbank to the opposite road shoulder outside clearing limits. Scarify minimum 1" below the depth of all potholes, washboards or surface irregularities.
0.68				Remove slide material as staked by the Contracting Officer (indirect to pay item 30359). Shape cutbank to match existing cut slopes.
0.76				Remove slide material as staked by the Contracting Officer and pulled culvert (indirect to pay item 30359). Shape cutbank to match existing cut slope.
0.83	20358	1	Each	Remove existing 18-inch CMP.
	60276B	42	Foot	Install 24-inch CMP at same skew and grade.
	32203	10	Cubic Yard*	Place 6-inch depth of crushed aggregate over culvert installation. Blend to adjacent surfaces and widths to provide for smooth transition.
0.87				Junction with un-named road, right side.
				Existing 18-inch CMP.
	20419	20	Foot	Construct culvert outlet ditch.
0.96	20358	1	Each	Remove existing 18-inch CMP.
	60276A	40	Foot	Install 18-inch CMP at same skew and grade.
	32203	15	Cubic Yard*	Place 6-inch depth of crushed aggregate over culvert installation. Blend to adjacent surfaces and widths to provide for smooth transition.
1.01				Designated disposal area, right side.
1.13	20358	1	Each	Remove existing 18-inch CMP.
	15755	1	Each	Install dewatering system.
	60276B	40	Foot	Install 24-inch CMP at same skew.
				Lower culvert outlet 1 ft (to ground line).
	32203	10	Cubic Yard*	Place 6-inch depth of crushed aggregate over culvert installation. Blend to adjacent surfaces and widths to provide for smooth transition.
1.20				Junction with Road 1920-660, left side.
1.30				End roadside brushing.
				End roadway reconditioning.
	32203	175	Cubic Yard*	Place spot rock at locations designated by the Contracting Officer.
				End of project.

MILE POST	ITEM NUMBER	QUANTITY	UNIT	DESCRIPTION OF WORK
0.00				Junction with Road 1920 at MP 1.20, left side.
				Beginning of project.
	23051	0.74	Mile	Begin roadside brushing.
	30359	0.74	Mile	Begin roadway reconditioning. Recondition ditch for full length of project. Haul material from ditch reconditioning, slough and slide removal, and boulders to designated disposal areas. Scatter all logs and woody debris from top of cutbank to the opposite road shoulder outside clearing limits. Scarify minimum 1" below the depth of all potholes, washboards or surface irregularities.
0.03				Existing 18-inch CMP.
	20419	15	Foot	Construct culvert outlet ditch.
0.23	20358	1	Each	Remove existing 18-inch CMP.
	15755	1	Each	Install dewatering system.
	60276	40	Foot	Install 24-inch CMP at same skew and grade.
	32203	10	Cubic Yard*	Place 6-inch depth of crushed aggregate over culvert installation. Blend to adjacent surfaces and widths to provide for smooth transition.
0.28				Existing 18-inch CMP.
	20419	25	Foot	Construct culvert outlet ditch.
0.69				Existing 18-inch CMP.
	20419	20	Foot	Construct culvert outlet ditch.
0.74				Junction with 1920-658, left side.
				End roadside brushing.
				End road reconditioning.
				End of project.