

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE TIMBER SALE CONTRACT (Applicable to Sales to be Measured before Felling)		Name of Purchaser	
National Forest Hiawatha	Ranger District Munising	Region Eastern	Contract Number
Sale Name Pagoda		Award Date	Termination Date 11/01/2020

The parties to this contract are The United States of America, acting through the Forest Service, United States Department of Agriculture, hereinafter called Forest Service, and _____ hereinafter called Purchaser.

Forest Service having advertised a sale at which either (1) Purchaser, whose required bid deposit is now held by Forest Service as an initial deposit, was the successful bidder, or (2) no bids were received and Purchaser having subsequently offered at least the minimum advertised price and made an initial deposit in the same amount as the bid deposit specified in the sale advertisement; and the parties hereto desiring to record their agreement; now therefore,

Unless provided otherwise herein, Forest Service agrees to sell and permit Purchaser to cut and remove Included Timber and Purchaser agrees to purchase, cut, and remove Included Timber.

This contract consists of three Divisions: AT - Specific Conditions, BT - Standard Provisions, and CT - Special Provisions, together with Sale Area Map, Plans and specifications for developments (if any), and such attachments as may be provided for in Division CT. Specific Conditions are numbered and apply to the Part, Section, Subsection, or Item of the Standard Provisions, as indicated hereunder. Other conditions of this contract are stated in Division CT - Special Provisions.

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the award date.

UNITED STATES OF AMERICA

Two Witnesses:^{1/}

(Name)

(Address)

(Name)

(Address)

By: _____
Contracting Officer

(Title)

By: _____^{2/}
(Purchaser)

(Title)

(Business Address)

I, ^{3/} _____, certify that I am the _____ Secretary of the corporation named as Purchaser herein; that _____ who signed this contract on behalf of Purchaser, was then _____ of the corporation; that the contract was duly signed for and in behalf of the corporation by authority of its governing body, and is within the scope of its corporate powers.

CORPORATE SEAL ^{4/}

INSTRUCTIONS:

- 1/ The signatures and addresses of two witnesses are required if Purchaser is other than a corporation.
- 2/ If Purchaser is a co-partnership, the signatures should be: XYZ Company, by John Doe, a member of the firm. If Purchaser is a corporation, form of signature should be: XYZ Company, by John Doe, President (or other officer or agent) and the seal of the corporation must be impressed or indicated.
- 3/ The certificate must be completed if Purchaser is a corporation.
- 4/ If the corporation has no corporate seal that fact shall be stated, in which case a scroll or adhesive seal shall follow the corporate name.

EXAMPLE 1/	
<u>Subcontractor Certification</u> <u>Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion</u>	
Timber Sale Name: _____ National Forest: _____	
The prospective subcontractor (participants in lower tier covered transactions) certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this timber sale by any Federal department or agency.	
Where the prospective subcontractor is unable to certify to any of the statements in this certification, such prospective subcontractor shall attach an explanation to this proposal.	
Name of Subcontractor: _____ Business Address: _____ _____	
_____ Date	_____ Signature
1/ It is the Purchaser's responsibility to have subcontractors complete this certification and to maintain a file of completed certifications. This certification does not need to be returned to the Forest Service, except at the written request of the Contracting Officer.	

The following conditions apply to the indicated portions of Division BT - Standard Provisions issued June 2006.

AT1 - Location and Area, applicable to BT1.1

This Sale Area of 2184 acres more or less is located in:

Compartments 62, 64, and 88, and located in Alger County, Michigan, T45N R19W Sec. 7, 16, 17, 18, 19, 20, 21, 29, 30 and 31

AT2 - Volume Estimate and Utilization Standards, applicable to BT2.1, BT2.2, BT2.4, and BT6.4

Species	Product	Estimated Quantity *	Unit of Measure	Minimum Specifications				
				Merchantable Tree		Piece Required to be Removed		
				Diameter Breast High (d.b.h.) (inches)	Number of Minimum Pieces per Tree	Length (feet)	Diameter Inside Bark at Small End (inches)	Net Scale in % of Gross Scale
Jack Pine	Sawtimber	98.00	CCF	9.0	1	8	7.6	50
Mixed Conifer	Sawtimber	87.00	CCF	9.0	1	8	7.6	50
Mixed Hardwood	Sawtimber	409.00	CCF	11.0	1	8	9.6	50
Red Pine	Sawtimber	2,528.00	CCF	9.0	1	8	7.6	50
Aspen	Pulpwood	46.00	CCF	5.0	1	8	4.0	70
Jack Pine	Pulpwood	77.00	CCF	5.0	1	8	4.0	70
Mixed Conifer	Pulpwood	373.00	CCF	5.0	1	8	4.0	70
Mixed Hardwood	Pulpwood	1,405.00	CCF	5.0	1	8	4.0	70
Red Pine	Pulpwood	359.00	CCF	5.0	1	8	4.0	70
Total Quantity		5,382.00	CCF					

* Quantities not included here are described in BT2.4.

AT3- Timber Designations, applicable to BT2.3; acres are approximate:

	Number	Acres
Clearcutting Units (BT2.31)		
Specified Road Clearing (BT2.32)	1	1
Overstory Removal Units (BT2.33)		
Understory Removal Units (BT2.34)		
Individual Trees (BT2.35)		602
Incompletely Measured Payment Units (BT2.36)		

AT4 - Timber Payment Rates, applicable to BT3.1 and BT4.0

AT4a - For Species and Products to be Paid for at Rates Escalated under BT3.2

Not Applicable

AT4b- For Species and Products to be Paid for at Flat Rates

Species	Product	Unit of Measure	Rates per Unit of Measure				Required Deposits Slash Disposal \$
			Base \$	Advertised \$	Bid Premium \$	Bid (Flat) \$	
Jack Pine	Sawtimber	CCF	20.85	59.00			.00
Mixed Conifer	Sawtimber	CCF	12.92	37.60			.00
Mixed Hardwood	Sawtimber	CCF	21.13	64.15			.00
Red Pine	Sawtimber	CCF	19.52	54.80			.00
Aspen	Pulpwood	CCF	9.35	27.19			.00
Jack Pine	Pulpwood	CCF	20.87	59.06			.00
Mixed Conifer	Pulpwood	CCF	9.39	27.19			.00
Mixed Hardwood	Pulpwood	CCF	14.03	41.88			.00
Red Pine	Pulpwood	CCF	19.84	55.82			.00

For purposes of convenience in collection and bookkeeping, Bid Rates stated in AT4 include payment of deposits for sale area betterment required pursuant to 16 USC 576b. Such deposits are not included as Required Deposits defined hereunder.

AT4c - Schedule of Payment Units

Payment Unit No.	App rox. Acres	Quantity of Species and Products to be Escalated under AT4a	Total Tentative Payment \$	Quantity of Species and Products to be Paid for at Flat Rates under AT4b	Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
01	22.4			Mixed Conifer Sawtimber 10.00 CCF		.00
				Mixed Hardwood Sawtimber 13.00 CCF		
				Mixed Conifer Pulpwood 51.00 CCF		
				Mixed Hardwood Pulpwood 59.00 CCF		
				Total PU Quantity And Value 133.00 CCF		
02	9.7			Mixed Conifer Sawtimber 7.00 CCF		.00
				Mixed Hardwood Sawtimber 11.00 CCF		
				Mixed Conifer Pulpwood 10.00 CCF		
				Mixed Hardwood Pulpwood 27.00 CCF		
				Total PU Quantity And Value 55.00 CCF		
03	105.2			Mixed Conifer Sawtimber 9.00 CCF		.00
				Mixed Hardwood Sawtimber 230.00 CCF		
				Mixed Conifer Pulpwood 55.00 CCF		
				Mixed Hardwood Pulpwood 565.00 CCF		
				Total PU Quantity And Value 859.00 CCF		
04	13.1			Mixed Conifer Sawtimber 13.00 CCF		.00
				Mixed Hardwood Sawtimber 10.00 CCF		
				Mixed Conifer Pulpwood 28.00 CCF		
				Mixed Hardwood Pulpwood 22.00 CCF		
				Total PU Quantity And Value 73.00 CCF		
05	22.9			Mixed Conifer Sawtimber 16.00 CCF		.00
				Mixed Hardwood Sawtimber 10.00 CCF		
				Mixed Conifer Pulpwood 58.00 CCF		
				Mixed Hardwood Pulpwood 38.00 CCF		
				Total PU Quantity And Value 122.00 CCF		
06	19.7			Mixed Conifer Sawtimber 1.00 CCF		.00
				Mixed Hardwood Sawtimber 36.00 CCF		
				Red Pine Sawtimber 0.00 CCF		
				Mixed Conifer Pulpwood 6.00 CCF		
				Mixed Hardwood Pulpwood 87.00 CCF		
				Red Pine Pulpwood 0.00 CCF		
		Total PU Quantity And Value 130.00 CCF				
07	4.4			Mixed Conifer Sawtimber 1.00 CCF		.00
				Mixed Hardwood Sawtimber 1.00 CCF		
				Mixed Conifer Pulpwood 7.00 CCF		
				Mixed Hardwood Pulpwood 7.00 CCF		
				Total PU Quantity And Value 16.00 CCF		
08	46.6			Mixed Conifer Sawtimber 0.00 CCF		.00
				Mixed Hardwood Sawtimber 16.00 CCF		
				Red Pine Sawtimber 20.00 CCF		
				Mixed Conifer Pulpwood 16.00 CCF		
				Mixed Hardwood Pulpwood 137.00 CCF		
				Red Pine Pulpwood 4.00 CCF		
		Total PU Quantity And Value 193.00 CCF				
09	49.1			Mixed Hardwood Sawtimber 43.00 CCF		.00
				Red Pine Sawtimber 0.00 CCF		
				Mixed Conifer Pulpwood 12.00 CCF		
				Mixed Hardwood Pulpwood 263.00 CCF		
				Red Pine Pulpwood 0.00 CCF		
		Total PU Quantity And Value 318.00 CCF				

Payment Unit No.	Approx. Acres	Quantity of Species and Products to be Escalated under AT4a	Total Tentative Payment \$	Quantity of Species and Products to be Paid for at Flat Rates under AT4b	Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
10	77.3			Red Pine Sawtimber 801.00 CCF Mixed Conifer Pulpwood 1.00 CCF Mixed Hardwood Pulpwood 1.00 CCF Red Pine Pulpwood 95.00 CCF		.00
				Total PU Quantity And Value 898.00 CCF		
11	5.3			Mixed Conifer Sawtimber 5.00 CCF Mixed Hardwood Sawtimber 3.00 CCF Aspen Pulpwood 5.00 CCF Mixed Conifer Pulpwood 35.00 CCF Mixed Hardwood Pulpwood 23.00 CCF		.00
				Total PU Quantity And Value 71.00 CCF		
12	7.7			Mixed Conifer Sawtimber 0.00 CCF Mixed Hardwood Sawtimber 2.00 CCF Red Pine Sawtimber 0.00 CCF Mixed Conifer Pulpwood 14.00 CCF Mixed Hardwood Pulpwood 42.00 CCF Red Pine Pulpwood 0.00 CCF		.00
				Total PU Quantity And Value 58.00 CCF		
13	7.5			Mixed Conifer Sawtimber 1.00 CCF Mixed Hardwood Sawtimber 2.00 CCF Red Pine Sawtimber 1.00 CCF Mixed Conifer Pulpwood 9.00 CCF Mixed Hardwood Pulpwood 16.00 CCF Red Pine Pulpwood 0.00 CCF		.00
				Total PU Quantity And Value 29.00 CCF		
14	3.1			Jack Pine Sawtimber 2.00 CCF Mixed Conifer Sawtimber 0.00 CCF Red Pine Sawtimber 21.00 CCF Aspen Pulpwood 0.00 CCF Jack Pine Pulpwood 1.00 CCF Mixed Conifer Pulpwood 1.00 CCF Mixed Hardwood Pulpwood 0.00 CCF Red Pine Pulpwood 21.00 CCF		.00
				Total PU Quantity And Value 46.00 CCF		
15	10.4			Jack Pine Sawtimber 23.00 CCF Mixed Conifer Sawtimber 0.00 CCF Red Pine Sawtimber 14.00 CCF Aspen Pulpwood 1.00 CCF Jack Pine Pulpwood 34.00 CCF Mixed Conifer Pulpwood 1.00 CCF Mixed Hardwood Pulpwood 1.00 CCF Red Pine Pulpwood 26.00 CCF		.00
				Total PU Quantity And Value 100.00 CCF		
16	2.7			Jack Pine Sawtimber 6.00 CCF Mixed Conifer Sawtimber 0.00 CCF Red Pine Sawtimber 8.00 CCF Aspen Pulpwood 0.00 CCF Jack Pine Pulpwood 7.00 CCF Mixed Conifer Pulpwood 0.00 CCF Mixed Hardwood Pulpwood 0.00 CCF Red Pine Pulpwood 7.00 CCF		.00
				Total PU Quantity And Value 28.00 CCF		

Payment Unit No.	Approx. Acres	Quantity of Species and Products to be Escalated under AT4a	Total Tentative Payment \$	Quantity of Species and Products to be Paid for at Flat Rates under AT4b	Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
17	4.4			Jack Pine Sawtimber 5.00 CCF		
				Mixed Conifer Sawtimber 1.00 CCF		
				Aspen Pulpwood 6.00 CCF		
				Jack Pine Pulpwood 4.00 CCF		
				Mixed Conifer Pulpwood 4.00 CCF		
				Mixed Hardwood Pulpwood 12.00 CCF		
18	10.6			Jack Pine Sawtimber 60.00 CCF		
				Mixed Conifer Sawtimber 8.00 CCF		
				Mixed Hardwood Sawtimber 2.00 CCF		
				Red Pine Sawtimber 14.00 CCF		
				Aspen Pulpwood 27.00 CCF		
				Jack Pine Pulpwood 30.00 CCF		
				Mixed Conifer Pulpwood 6.00 CCF		
				Mixed Hardwood Pulpwood 18.00 CCF		
				Red Pine Pulpwood 2.00 CCF		
			Total PU Quantity And Value 167.00 CCF			
20	17.7			Jack Pine Sawtimber 0.00 CCF		
				Mixed Conifer Sawtimber 6.00 CCF		
				Mixed Hardwood Sawtimber 11.00 CCF		
				Red Pine Sawtimber 8.00 CCF		
				Aspen Pulpwood 7.00 CCF		
				Jack Pine Pulpwood 0.00 CCF		
				Mixed Conifer Pulpwood 35.00 CCF		
				Mixed Hardwood Pulpwood 39.00 CCF		
				Red Pine Pulpwood 1.00 CCF		
23	76.4			Red Pine Sawtimber 887.00 CCF		
				Mixed Conifer Pulpwood 2.00 CCF		
				Mixed Hardwood Pulpwood 0.00 CCF		
				Red Pine Pulpwood 106.00 CCF		
			Total PU Quantity And Value 995.00 CCF			
24	79.3			Red Pine Sawtimber 726.00 CCF		
				Mixed Conifer Pulpwood 5.00 CCF		
				Mixed Hardwood Pulpwood 0.00 CCF		
				Red Pine Pulpwood 93.00 CCF		
			Total PU Quantity And Value 824.00 CCF			
25	6.5			Mixed Conifer Sawtimber 1.00 CCF		
				Mixed Hardwood Sawtimber 1.00 CCF		
				Red Pine Sawtimber 0.00 CCF		
				Mixed Conifer Pulpwood 10.00 CCF		
				Mixed Hardwood Pulpwood 17.00 CCF		
				Red Pine Pulpwood 0.00 CCF		
			Total PU Quantity And Value 29.00 CCF			

Sale Name: Pagoda

Contract No:

Payment Unit No.	Approx. Acres	Quantity of Species and Products to be Escalated under AT4a	Total Tentative Payment \$	Quantity of Species and Products to be Paid for at Flat Rates under AT4b	Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
ROW	1			Jack Pine Sawtimber 2.00 CCF Mixed Conifer Sawtimber 8.00 CCF Mixed Hardwood Sawtimber 18.00 CCF Red Pine Sawtimber 28.00 CCF Aspen Pulpwood 0.00 CCF Jack Pine Pulpwood 1.00 CCF Mixed Conifer Pulpwood 7.00 CCF Mixed Hardwood Pulpwood 31.00 CCF Red Pine Pulpwood 4.00 CCF		.00
				Total PU Quantity And Value	99.00 CCF	

The following definitions are established for the terms used in AT4:

Base Rates are the lowest rates of payment for timber that are authorized by this contract. Base Rates remain constant throughout the life of this contract and are not subject to change by rate redetermination, except for reduction under BT3.31, BT3.32, or BT3.33.

Advertised Rates are the minimum acceptable Bid Rates for timber, exclusive of Required Deposits. These rates are those indicated by appraisal, with a cost allowance made for construction of Specified Roads listed in AT7, but are never less than Base Rates.

Bid Premium Rates are the amounts by which Purchaser's bid is in excess of Advertised Rates. The Bid Premium Rates are constant during this contract, except as provided in BT3.31, BT3.32, and BT3.33.

Bid Rates are the rates bid by Purchaser (exclusive of Required Deposits for slash disposal and road maintenance) and are the sum of Advertised Rates and Bid Premium Rates. Until a rate redetermination becomes effective, the Bid Rate for species and products in AT4a is the Tentative Rate that is subject to quarterly adjustment under BT3.2; for species and products in AT4b, the Bid Rate is the Flat Rate.

Required Deposits are deposits that Purchaser may be required to pay for slash disposal (16 USC 490) and road maintenance (16 USC 537). Required Deposits may be adjusted as part of a rate redetermination or a Contract Term Extension. The table shows only Required Deposits for slash disposal; road maintenance deposits, if any, are given in CT5.32#.

Base Index is the specified average of the lumber or other product selling value index used as the basis for computing adjustment in rates for variance in product selling value, as provided in BT3.2.

AT5 - Indices Used in Quarterly Adjustment, applicable to BT3.2

Not Applicable

AT6 - High Stumps, applicable to BT6.412

Species	Product	Maximum Stump Height (inches)
All	Sawtimber	12
All	Pulpwood	6

AT7 - Specified Roads, applicable to BT5.2

Name and Date of Governing Road Specifications: Federal Highway Administration Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects(2003)-english

Project		Design Class	Approx. Length (mi./km.)	Sheet Numbers and Approval Date	Performance Responsibility		
					Survey	Design	Construction Staking ^{1/}
Road No.	Name						
Back-In	Back-In (C) (segment 0 to .02)	Single Lane - 5 mph	.02 / .03	HI-670 08/23/2016	FS	FS	FS BC
2179	INDIAN HEAD (R) (segment 0 to .99)	Single Lane - 10 mph	.99 / 1.59	HI-670 08/23/2016	FS	FS	FS BC
2179A	INDIAN HEAD SPUR A (R) (segment 0 to .5)	Single Lane - 10 mph	.5 / .8	HI-670 08/23/2016	FS	FS	FS BC
2179AA	INDIAN HEAD SPUR AA (R) (segment 0 to .3)	Single Lane - 10 mph	.3 / .48	HI-670 08/23/2016	FS	FS	FS BC
2459	NORTH HEMLOCK (R) (segment 0 to 1.28)	Single Lane - 10 mph	1.28 / 2.06	HI-670 08/23/2016	FS	FS	FS BC
2459A	NORTH HEMLOCK SPUR A (R) (segment 0 to .58)	Single Lane - 10 mph	.58 / .93	HI-670 08/23/2016	FS	FS	FS BC
2368	RIVER BEND (R) (segment 0 to .55)	Single Lane - 10 mph	.55 / .89	HI-670 08/23/2016	FS	FS	FS BC
2561	SHALLOW LAKE (R) (segment 0 to 2.75)	Single Lane - 10 mph	2.75 / 4.43	HI-670 08/23/2016	FS	FS	FS BC
2561A	SHALLOW LAKE SPUR A (R) (segment 0 to .48)	Single Lane - 10 mph	.48 / .77	HI-670 08/23/2016	FS	FS	FS BC
2561E	SHALLOW LAKE SPUR E (R) (segment 0 to .3)	Single Lane - 10 mph	.3 / .48	HI-670 08/23/2016	FS	FS	FS BC
2561G	SHALLOW LAKE SPUR G (R) (segment 0 to .25)	Single Lane - 10 mph	.25 / .4	HI-670 08/23/2016	FS	FS	FS BC
2561H	SHALLOW LAKE SPUR H (R) (segment 0 to .24)	Single Lane - 10 mph	.24 / .39	HI-670 08/23/2016	FS	FS	FS BC

^{1/} Indicate timing, i.e., before clearing (BC) or after clearing (AC). Applicable to BT5.212.

AT8 - Forest Service Engineering Completion Schedule, applicable to BT5.21

Road No.	Road Name	Type of Work	Completion Date
NOT APPLICABLE			

AT9 - Fire Precautionary Period, applicable to BT7.2

April 01 to December 01, inclusive

AT10 - Purchaser Responsibility to Furnish Crews and Equipment for:

Initial Fire Suppression, applicable to BT7.3

Within 5 road miles

Fire Suppression Reinforcement, applicable to BT7.312 and BT7.313

Within 10 road miles

AT11 - Purchaser's Obligation per Operations Fire, applicable to BT7.41

Maximum Amount: \$ \$1,300

AT12 - Termination Date, applicable to BT8.2

November 01, 2020

AT13 - Normal Operating Season, applicable to BT6.31, BT6.66, BT8.21 and BT9.3

First Period: July 16 to February 28, inclusive

Second Period: _____ to _____, inclusive

AT14 - Performance Bond, applicable to BT9.1

Performance Bond Amount: _____

AT15 - Downpayment, applicable to BT4.211

Downpayment Amount: _____

AT16 - Periodic Payment Amount, applicable to BT4.213

	<u>Periodic Payment Determination Date</u>	<u>Amount</u>
Initial Payment:	_____	_____
Additional Payment:	_____	_____

AT17 - Market-Related Contract Term Addition Producer Price Index, applicable to BT8.212Index Name: Softwood Lumber Index Number: 0811**AT18 - Inapplicable Standard Provisions**

The following listed Sections, Subsections, or Items of Division BT - Standard Provisions - are hereby made inapplicable. (Instructions: List by reference number and title.)

BT4.211	DOWNPAYMENT
BT4.4	PAYMENTS NOT RECEIVED
BT8.212	MARKET-RELATED CONTRACT TERM ADDITION

AT19 - List of Special Provisions

The following listed special provisions are attached to and made a part of this contract as Division CT. Provisions with reference numbers followed by # contain blanks into which data have been entered for this sale. (Instructions: List by reference number, title, and date.)

CT2.301#	PROTECTED AREAS (06/2009)
CT2.302#	BOUNDARY TREES (06/2009)
CT2.352#	DESIGNATION BY SPECIES AND DIAMETER (04/2004)
CT2.355#	INDIVIDUAL TREES, CUT TREE MARKING (06/2009)
CT4.211	DOWNPAYMENT (06/2007)
CT4.212	TEMPORARY REDUCTION OF DOWNPAYMENT (08/2009)
CT4.4	PAYMENTS NOT RECEIVED (08/2012)
CT5.12#	USE OF ROADS BY PURCHASER (06/1999)
CT5.213#	DEPOSIT FOR RECONSTRUCTION ENGINEERING SERVICES (04/2004)
CT5.221#	MATERIAL SOURCES (04/2004)
CT5.31#	ROAD MAINTENANCE REQUIREMENTS (07/2001)
CT5.32#	ROAD MAINTENANCE DEPOSIT SCHEDULE (08/2012)
CT5.33#	SNOW REMOVAL (06/2009)
CT6.2#	FACILITIES TO MANUFACTURE INCLUDED TIMBER (06/2009)
CT6.24#	SITE SPECIFIC SPECIAL PROTECTION MEASURES (04/2004)
CT6.313#	CUTTING SCHEDULE (06/2009)
CT6.314#	OPERATING REQUIREMENTS (06/2009)
CT6.412	STUMP MARKS (06/2009)
CT6.42#	SKIDDING AND YARDING REQUIREMENTS (06/2009)
CT6.63#	TEMPORARY ROAD CLOSURE (06/2009)
CT6.7#	SLASH DISPOSAL MEASURES (06/2009)

CT7.2

FIRE PRECAUTIONS (06/2009)

CT8.212

MARKET-RELATED CONTRACT TERM ADDITION (11/2008)

Sale Name: Pagoda

CT2.301# - PROTECTED AREAS (06/2009)

Notwithstanding the designations for cutting under standard provisions BT2.31, BT2.33, BT2.34 and BT2.35, trees within the area to be protected in Payment Unit(s) 8, 17, and between 11, 12, and 24 shall be left uncut. Boundary trees along the perimeter of Protected Areas have been identified by 3 vertically arranged dots of orange paint facing away from the protected area, with 2 vertical slashes facing the boundary direction. BOUNDARY TREES ARE NOT TO BE CUT. Sale Area Map indicates, with symbol "PA," units within which Protected Areas are identified on the ground and are to be left uncut.

CT2.302# - BOUNDARY TREES (06/2009)

Boundary trees for all harvest units have been designated with orange paint marks above and below stump height. Boundary trees shall not be cut.

CT2.352# - DESIGNATION BY SPECIES AND DIAMETER (04/2004)

Trees that meet Utilization Standards are designated for cutting, as shown on the Tree Designation Table and Sale Area Map, except trees Marked with orange paint or described to be left uncut.

See Tree Designation Table.

Additional trees to be cut, if any, are Marked with N/A paint.

All dead shall be left as leave trees, unless Marked with N/A paint. Leave N/A trees of the designated cut species, N/A inches stump diameter or greater, to avoid leave tree spacing greater than N/A feet. Cutting unit boundaries and other trees that shall be left uncut are Marked with orange paint.

Distances are measured horizontal distance, outside bark stump height to outside bark stump height. Stump diameter is measured outside bark at stump height in a horizontal and is the average of a measurement across the short axis through the true center of the stump and a second measurement at right angles to the short axis.

Purchaser and Forest Service shall agree to skid trail location under BT6.422. Skid trails shall be no greater than N/A feet wide with a N/A foot spacing. Quantities of trees located in skid trails are not Included Timber under AT2.

Tree Designation Table
CT2.352# - Designation by Species and Diameter

Payment Unit	Designated Species	More than Stump Diameter (inches)	Less than Stump Diameter (inches)
11	All species EXCEPT white pine, red pine, black cherry, and any trees marked with orange bands.	6.0	No Maximum
18	All species EXCEPT red oak, and any trees marked with orange bands.	6.0	No Maximum

Sale Name: Pagoda

CT2.355# - INDIVIDUAL TREES, CUT TREE MARKING (06/2009)

Individual trees to be cut are Marked with indicated color above and below stump height in all or parts of the following Payment Unit(s). Areas of cut tree marking are shown on the Sale Area Map with the symbol "CTM."

PAYMENT UNIT(S)

PAINT COLOR

Cut Tree Marking Table
CT2.355# Individual Trees

Payment Unit	Paint Color
1	Blue
2	Blue
3	Blue
4	Blue
5	Blue
6	Blue
7	Blue
8	Blue
9	Blue
10	Blue
12	Blue
13	Blue
14	Blue
15	Blue
16	Blue
17	Blue
20	Blue
23	Blue
24	Blue
25	Blue
ROW	Green

Sale Name: Pagoda

CT4.211 - DOWNPAYMENT (06/2007)

The downpayment amount shown in AT15 may not be applied toward any other payment required under the provisions of this contract, except damages determined pursuant to BT9.4, transferred to other timber sales, or refunded until (a) stumpage value representing 25 percent of the total bid value of the timber sale is shown on Timber Sale Account to have been cut, removed, and paid for, or (b) the estimated value remaining to be cut and removed, as shown on Timber Sale Account, is equal to or less than the amount of the downpayment, or (c) if 36 CFR 223.49(e) is applicable, the estimated value remaining to be cut and removed, as shown on Timber Sale Account, is equal to or less than the amount of the downpayment. For lump sum timber sales, the downpayment may be applied to payment for release of the single payment unit.

If Forest Service makes a determination that this contract should not have been included under increased downpayment requirements (36 CFR 223.49(e)), the downpayment shall be revised and applied in accordance with 36 CFR 223.49(f).

CT4.212 - TEMPORARY REDUCTION OF DOWNPAYMENT (08/2009)

Notwithstanding BT4.211 or CT4.211, upon the Purchaser's written request Forest Service may temporarily reduce the downpayment when Purchaser's scheduled operations are delayed or interrupted for 30 or more consecutive days, or the contract term is extended for 30 or more consecutive days for any of the following reasons:

- (1) Forest Service requests or orders Purchaser to delay or interrupt scheduled operations for reasons other than breach;
- (2) Purchaser interrupts or delays scheduled operations to work on a sale designated by the Forest Service as in urgent need of harvesting; or
- (3) An adjustment of the contract term authorized upon a determination of substantial overriding public interest, including a market-related contract term addition, or an urgent removal contract term extension under 36 CFR 223.53.

When Purchaser is not cutting or removing timber under contract during a qualifying period of delay, interruption, or extension listed above the downpayment may be reduced to \$1000 or 2 percent of the downpayment amount stated in the contract, whichever is greater. The Purchaser must restore the downpayment to the full amount stated in the contract within 15 days from receipt of the bill for collection and written notice from the Contracting Officer that the basis for temporarily reducing the downpayment no longer exists. Purchaser shall not cut or remove timber on a contract where the downpayment has been temporarily reduced until the downpayment amount stated in the contract is fully restored.

Sale Name: Pagoda

CT4.4 - PAYMENTS NOT RECEIVED (08/2012)

(a) Payments are due and payable on the date of issue indicated on the bill for collection. When a payment for timber cut and other charges is not received at the location designated by Forest Service by the date specified in the bill for collection, Contracting Officer will suspend all or any part of Purchaser's Operations until payment or acceptable payment guarantee is received. Other charges include, but are not limited to:

- (i) Slash disposal and road maintenance deposits;
- (ii) Cooperative work at rates established by specific agreement under BT4.218;
- (iii) Damages pursuant to BT9.4;
- (iv) Road use fees;
- (v) Restoration of downpayment pursuant to BT4.22;
- (vi) Periodic payments pursuant to BT4.213;
- (vii) Extension Deposits pursuant to BT4.217; and
- (viii) Other mandatory deposits.

(b) Failure to pay amounts due by the date specified in the bill for collection shall be considered a breach under BT9.3. The 30-day notice period prescribed therein shall begin to run as of the end of business on the date specified for receipt of payments. If the performance or payment is guaranteed by surety bond, the surety will receive a copy of the written notification of breach. Demand will be made on the surety or other institution providing the guarantee or bond instrument for immediate payment 10 days after issuance of written notification of the breach.

(c) Pursuant to the Debt Collection Improvement Act of 1996, as amended, if payment is not received by Forest Service within 15 days after the date of issue indicated on the bill for collection:

(i) Simple interest shall be assessed at the Current Value of Funds Rate as established by the Secretary of the Treasury. Interest will begin to accrue as of the date of issue indicated on the initial bill for collection.

(ii) Debtors will be assessed administrative charges, in addition to the delinquent amount due. Administrative charges are those additional costs incurred by the Government in processing, handling, and collecting delinquent debts.

(iii) A penalty charge of six (6) percent per annum will be assessed on any portion of a debt delinquent more than 90 days. This penalty charge is in addition to interest and administrative charges under paragraphs (c) (i) and (c) (ii). The penalty charge shall accrue from the date of issue indicated on the bill for collection and shall be assessed on all outstanding amounts, including interest and administrative costs assessed under paragraphs (c) (i) and (c) (ii).

(iv) Payments will be credited on the date received by the Federal Depository or Collection Officer designated on the bill for collection.

(d) Forest Service remedies for Purchaser's failure to make payment for timber cut and other charges when due, except for accrual of interest, suspension of all or any part of Purchaser's Operations, and administrative offset, shall be stayed for so long as:

- (i) A bona fide dispute exists as to Purchaser's obligation to make such payment and
- (ii) Purchaser files and prosecutes a timely Claim.

Sale Name: Pagoda

CT5.12# - USE OF ROADS BY PURCHASER (06/1999)

Purchaser's use of existing roads identified on Sale Area Map by the following codes is prohibited or subject to restrictive limitations, unless agreed otherwise:

Code	Use Limitations
X	Hauling prohibited
R	Hauling restricted
U	Unsuitable for hauling prior to completion of agreed reconstruction
P	Use prohibited
A	Public use restriction
W	Regulation waiver

Roads coded A will be signed by the Forest Service to inform the public of use restrictions. Purchaser's use of roads coded R, A, or W shall be in accordance with the following restrictions:

See Restricted Road List Table.

Restricted Road List
CT5.12# - Use of Roads by Purchaser

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
2561	Shallow Lake	2268	POE	R	Hauling prohibited March 1 to July 15
2561A	Shallow Lake Spur A	2561	POE	R	Hauling prohibited March 1 to July 15
2561C	Shallow Lake Spur C	2561	POE	R	Hauling prohibited March 1 to July 15
2561D	Shallow Lake Spur D	2561	POE	R	Hauling prohibited March 1 to July 15
2561E	Shallow Lake Spur E	2561	POE	R	Hauling prohibited March 1 to July 15
2561G	Shallow Lake Spur G	2561	POE	R	Hauling prohibited March 1 to July 15
2561H	Shallow Lake Spur H	2561G	POE	R	Hauling prohibited March 1 to July 15
2561F	Shallow Lake Spur F	Private boundary	POE	P	Use prohibited
2367	Hovey Lake Campground	2473	POE	X	Hauling prohibited

Sale Name: Pagoda

CT5.213# - DEPOSIT FOR RECONSTRUCTION ENGINEERING SERVICES (04/2004)

Purchaser shall make a cash deposit for engineering services (preconstruction and construction) provided by Forest Service for reconstruction of National Forest system roads necessary to accommodate Purchaser's use under this contract, pursuant to 16 USC 537.

The total amount to be deposited by Purchaser for reconstruction related engineering services to be completed by Forest Service personnel or by public works contract is \$4,444.00. Purchaser shall make this deposit at the end of the first full Normal Operating Season or 12 months from contract award, whichever occurs first. In the event a different deposit schedule is agreed to, such deposit shall be due within 15 days after the date of issue indicated on the initial bill for collection, pursuant to BT4.4.

The amount of the required deposit will be shown as an associated charge on Purchaser's Timber Sale Account. Forest Service shall retain any unexpended deposit for reconstruction related engineering services.

The deposit for reconstruction related engineering services shall be commensurate with project need and Purchaser's road use. Forest Service shall complete reconstruction related engineering services on the following schedule unless a different completion schedule is agreed in writing:

Road or Facility No.	Termini		Engineering Services Completion Date
	From	To	
Road-2179	0	.99	11/14/2017
Road-2179A	0	.5	11/14/2017
Road-2179AA	0	.3	11/14/2017
Road-2368	0	.55	11/14/2017
Road-2459	0	1.28	11/14/2017
Road-2459A	0	.58	11/14/2017
Road-2561	0	2.75	11/14/2017
Road-2561A	0	.48	11/14/2017
Road-2561E	0	.3	11/14/2017
Road-2561G	0	.25	11/14/2017
Road-2561H	0	.24	11/14/2017

Reconstruction related engineering services may consist of some or all of the engineering work and expense of: preparing, setting out, controlling, inspecting, and measuring the reconstruction of a National Forest system road.

Sale Name: Pagoda

CT5.221# - MATERIAL SOURCES (04/2004)

Sources of local materials are designated on Plans and Sale Area Map. Forest Service assumes responsibility for the quality and quantity of material in designated sources. Purchaser shall determine the equipment and work required to produce the specified product, including the selection of acceptable material that is reasonably available in the source that meets specifications. The designation of source includes the rights of Purchaser to use certain area(s) for plant site, stockpiles, and haul roads.

Should the designated source, due to causes beyond the control of Purchaser, contain insufficient acceptable material, Forest Service will provide another source with adjustment in accordance with BT5.253.

When Purchaser elects not to use designated sources, Purchaser shall furnish the specified product with no adjustment in unit rates. Quality testing shall be the responsibility of Purchaser. Test results shall be furnished to Forest Service.

When Purchaser elects not to use designated sources and the Schedule of Items lists pit development separately, cost allowance will be reduced under BT5.253 when Forest Service determines the work will not be required.

When materials are subject to a weight measurement, the specific gravity or weight/volume relationship used as a basis for determination of estimated quantities shall be:

Source I N/A, Source II N/A, and Source III N/A.

Purchaser may, when agreed in writing, use on the project such suitable stone, gravel, and sand, or other material found in the excavation, and will earn a cost allowance for the excavation of such materials at the corresponding contract unit price and for the pay items for which the excavated material is used. Purchaser shall replace, without additional cost allowance, sufficient suitable materials to complete the portion of the work, which was originally contemplated to be constructed with such material. Purchaser shall not excavate or remove any material, except that which is within the excavation limits, without written authorization from Forest Service.

When material is appraised from non-National Forest designated sources, owner charges for the material in terms of unit cost for royalties, purchase of raw materials, or finished products shall be as follows until N/A:

See Material Source Table.

Should quantity vary from that estimated, payment to owners shall be for units actually obtained. Purchaser shall make arrangements with owner(s) for measurement and payment for royalties, purchase of raw materials, or finished products, as shown above.

Materials produced or processed from National Forest lands in excess of the quantities required for performance of this contract are the property of Forest Service, unless prior written agreement has been obtained to use excess material on other National Forest sales. Forest Service is not obligated to reimburse Purchaser for the cost of their production.

Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials shall be located to facilitate their prompt inspection. Sites on Forest Service administered land, approved by Forest Service, may be used for storage purposes and for the placing of Purchaser's plant equipment. All storage sites provided by Forest Service shall be restored at Purchaser's expense. Purchaser shall be responsible for making arrangements for storage on other than Forest Service adminis-

Sale Name: Pagoda

tered lands.

When the construction of the portion of the project for which Temporary Roads used for hauling materials is completed, all such Temporary Roads shall be restored as nearly as practicable to their original ground profile, unless otherwise agreed in writing.

Material Source Table, CT5.221#

3" Breaker Run	Nebel Pit T45N, R18W, NW ¼ of NE ¼, Section 31
MDOT23A	Nebel Pit T45N, R18W, NW ¼ of NE ¼, Section 31
All Other Material Sources	Nebel Pit T45N, R18W, NW ¼ of NE ¼, Section 31

Sale Name: Pagoda

CT5.31# - ROAD MAINTENANCE REQUIREMENTS (07/2001)

Purchaser shall maintain roads in accordance with the following Contract Road Maintenance Requirements Summary:

See Contract Road Maintenance Requirements Summary Table.

CT5.31# Road maintenance Requirements

Sections 1, 2, and 4, of the Road Maintenance Requirements are attached at the end of this provision.

SECTION 3. ROAD MAINTENANCE REQUIREMENTS SUMMARY TABLE

Contract Road Maintenance Requirements Summary Table

Road Number	Termini		Miles	Applicable Pre-Haul Road Maintenance Specifications
	From	To		T-8110
2179	2459	POE	0.9	P
2179A	2179	POE	0.5	P
2179AA	2179A	POE	0.3	P
2368	2473	M.P. 0.6	0.6	P
2368A	2368	2473C	0.7	P
2368B	2368	POE	0.6	P
2473	2368	2254	0.9	D
2473C	2473	POE	0.7	P
2459	2267	POE	1.3	P
2459A	2459	POE	0.6	P
2561	2268	POE	3.0	P
2561A	2561	POE	0.5	P
2561C	2561	POE	0.6	P
2561D	2561	POE	0.2	P
2561E	2561	POE	0.4	P
2561G	2561	POE	0.3	P
2561H	2561	POE	0.3	P
2367	2473	POE	0.3	P
M64A	2368B	POE	0.1	P
Back-In	2473	POE	0.1	P

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

SECTION 3. ROAD MAINTENANCE REQUIREMENTS SUMMARY TABLE

Contract Road Maintenance Requirements Summary Table

Road Number	Termini		Miles	Applicable During-Haul Road Maintenance Specifications
	From	To		T-8110
2179	2459	POE	0.9	P
2179A	2179	POE	0.5	P
2179AA	2179A	POE	0.3	P
2368	2473	M.P. 0.6	0.6	P
2368A	2368	2473C	0.7	P
2368B	2368	POE	0.6	P
2473	2368	2254	0.9	D
2473C	2473	POE	0.7	P
2459	2267	POE	1.3	P
2459A	2459	POE	0.6	P
2561	2268	POE	3.0	P
2561A	2561	POE	0.5	P
2561C	2561	POE	0.6	P
2561D	2561	POE	0.2	P
2561E	2561	POE	0.4	P
2561G	2561	POE	0.3	P
2561H	2561	POE	0.3	P
2367	2473	POE	0.3	P
M64A	2368B	POE	0.1	P
Back-In	2473	POE	0.1	P

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

SECTION 3. ROAD MAINTENANCE REQUIREMENTS SUMMARY TABLE

Contract Road Maintenance Requirements Summary Table

Road Number	Termini		Miles	Applicable Post-Haul Road Maintenance Specifications	
	From	To		T-8110	T-8620
2179	2459	POE	0.9	P	
2179A	2179	POE	0.5	P	
2179AA	2179A	POE	0.3	P	
2368	2473	M.P. 0.6	0.6	P	
2368A	2368	2473C	0.7	P	
2368B	2368	POE	0.6	P	
2473	2368	2254	0.9	D	
2473C	2473	POE	0.7	P	
2459	2267	POE	1.3	P	
2459A	2459	POE	0.6	P	P
2561	2268	POE	3.0	P	
2561A	2561	POE	0.5	P	P
2561C	2561	POE	0.6	P	
2561D	2561	POE	0.2	P	
2561E	2561	POE	0.4	P	
2561G	2561	POE	0.3	P	P
2561H	2561	POE	0.3	P	P
2367	2473	POE	0.3	P	
M64A	2368B	POE	0.1	P	
Back-In	2473	POE	0.1	P	P

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

SECTION 1. GENERAL

Purchaser's main Road Maintenance responsibility begins: (1) after Purchaser performs Prehaul Maintenance on a road listed in the Road Maintenance Requirements Schedule; or (2) for all other roads, when Purchaser begins to use the road. Occasional travel by Purchaser's light vehicles, prior to beginning of construction clearing or logging operations in the area accessed by the road, does not constitute beginning of use. Purchaser is not required to perform routine maintenance during periods of inactivity. During periods of inactivity, Forest Service will perform maintenance only as required to meet its needs.

The Purchaser shall maintain roads, commensurate with the Purchaser's use, in accordance with the Road Maintenance Requirements Summary and Road Maintenance Specifications. Performance of road maintenance work by the Purchaser may be required prior to, during, or after each period of use. The timing of work accomplishment shall be based on the Purchaser's operating schedule under Standard Provision BT6.31.

If the Purchaser elects to use different roads than those listed in the Road Maintenance Requirements Summary, the Contracting Officer (CO) or designee shall determine the Purchaser's commensurate share of road maintenance and/or revise road maintenance deposits.

Unless the CO or designee agrees in writing, all Prehaul Maintenance requirements shall be completed on any portion of road prior to hauling on that portion.

The Forest Service shall prepare a revised Road Maintenance Requirements Schedule to reflect changes in the original haul routes when needed.

Any work or materials that are determined to no longer be needed and are waived shall have the estimated cost charged to the Timber Sale Account as described in BT8.31.

SECTION 2. ROAD MAINTENANCE DEFINITIONS

Wherever the following terms are used in the Road Maintenance Specifications, the meaning shall be:

Base Course. Material placed on the Subgrade to distribute concentrated wheel loads.

Borrow. Select Material taken from designated borrow sites.

Crown, Inslope, and Outslope. The cross slope of the Traveled Way to aid in drainage and traffic maneuverability.

Culverts. A conduit or passageway under a road, trail, or other obstruction. A culvert differs from a bridge in that it is usually entirely below the elevation of the Traveled Way.

Drainage Dip. A dip in the Traveled Way which intercepts surface runoff and diverts the water off the Traveled Way. A Drainage Dip does not block the movement of traffic.

Drainage Structures. Manufactured structures which control the runoff of water from the Roadway including Inslope, overside drains, aprons, flumes, downdrains and downpipes.

During Haul Maintenance. Road maintenance work to be accomplished during the period of timber removal.

Geotextile. A group of construction fabrics with varying attributes designed for different purposes.

Lead-off Ditches. A ditch used to transmit water from a Culvert, Drainage Structure or Drainage Dip outlet to the natural drainage area.

Maintenance Activity. Items of work leading to the restoration and upkeep of a road and necessary to sustain the road's anticipated traffic.

Material. Any substance specified for use in the performance of the work.

Post Haul Maintenance. Road maintenance work to be accomplished after timber removal is completed.

Prehaul Maintenance. Road maintenance work to be accomplished prior to the roads use. Roads receiving prehaul maintenance shall be shown on the Sale Area Map.

Road Maintenance Cost. An estimate of the cost to perform road maintenance activities; as determined by the Forest Service. Estimates may include any or all of the work activities listed in Section 4, Road Maintenance Activity Specifications.

Roadbed. The portion of a road between the intersection of Subgrade and sideslopes, excluding that portion of the ditch below Subgrade.

Roadside. A general term denoting the area adjoining the outer edge of the Roadway.

Roadway. The portion of a road within the limits of excavation and embankment.

Sand Hole. A hole that develops in the running surface of the road which is quite soft and dangerous in nature. Usually found in very sandy soils.

Shoulder. That portion of Roadway contiguous with Traveled Way for accommodation of stopped vehicles, for emergency use, and lateral support of Base and Surface Course, if any.

Slide. A concentrated deposit of materials from above or on backslope extending onto the Traveled Way or Shoulders, whether caused by mass land movements or accumulated raveling.

Slough. Material eroded from the backslope which partially or completely blocks the ditch, but does not encroach on the Traveled Way so as to block passage of traffic.

Slump. A localized portion of the Roadbed which has slipped or otherwise become lower than that of the adjacent Roadbed and constitutes a hazard to traffic.

Subgrade. Top surface of Roadbed upon which Base Course or Surface Course is constructed. For roads without Base Course or Surface Course, that portion of Roadbed prepared as the finished wearing surface.

Surface Course. The Material placed on the Base Course or Subgrade to enhance traction, distribute concentrated wheel loads and resist abrasion and the effects of climate. Surface Course may be referred to as surfacing.

Traveled Way. That portion of Roadway, excluding Shoulders, used for the movement of vehicles.

Turnouts. That portion of the Traveled Way constructed as additional width on single lane roads to allow for safe passing of vehicles.

SECTION 4. ROAD MAINTENANCE SPECIFICATIONS

INCLUDED SPECIFICATIONS

<u>Specification No.</u>	<u>Specification Title</u>
T-8110	Maintenance Blading/Grading
T-8620	Miscellaneous Maintenance

T-8110 Maintenance Blading/Grading

DESCRIPTION

1.1 Maintenance Blading/Grading is keeping an aggregate surfaced Roadbed in a condition to facilitate traffic and provide proper drainage. It includes maintaining the Crown, Inslope or Outslope of the Traveled Way, Turnouts, and Shoulder; repairing Berms; blending approach road intersections; and cleaning Drainage Dips and Lead-off Ditches.

REQUIREMENTS

- 3.1 Maintenance Blading/Grading shall be performed to facilitate traffic and proper drainage before, during, or after Purchaser's use as required by Section 3. Road Maintenance Requirements Schedule.
- 3.2 The surface blading shall preserve the existing cross-section. Surface irregularities shall be eliminated and the surface left in a smooth, free-draining state needed to facilitate traffic. Surface Course Material which has been displaced to the Shoulders or Turnouts shall be returned to the Traveled Way. The blading operation shall be conducted to conserve Surface Material and to provide for a thorough mixing of the Material being worked.
- 3.3 On aggregate surfaced roads Material generated from back slope Sloughing and ditch cleaning shall not be blended with Surface or Base Course Material unless agreed otherwise
- 3.4 Roadway back slopes shall not be undercut.
- 3.5 Drainage Dips and Lead-off Ditches shall be cleaned and maintained to retain the existing line, grade, and cross-section.
- 3.6 Intersecting roads shall be bladed for a distance of 50 feet to assure blending of the surfaces.

T-8620 Miscellaneous Maintenance

DESCRIPTION

1.1 Maintenance of miscellaneous structures includes cattle guards, gates (this includes all types of closure devices such as logs, rocks, dirt berms, dirt and slash berms, metal gates, etc), signs, and other similar structures that have been previously installed to insure safe and efficient operation of the road.

MATERIALS

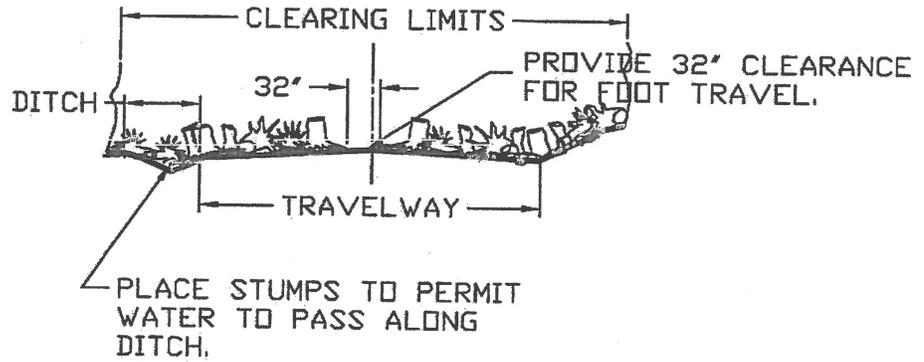
2.1 Any Materials needed in the maintenance of miscellaneous structures shall be similar in type and quality to the Material in the structure being maintained.

REQUIREMENTS

- 3.1 Cattle guards. Loose rails shall be welded or bolted back in place. Excess Material carried into the cattle guard shall be removed when drainage is blocked or when it reaches six inches from the bottom of the cattle guard frame. Drainage into and from the cattle guard shall be kept open.
- 3.2 Gates (and other closure devices). Gates shall be kept in good repair and made to swing easily. Hinges or latches shall be repaired if not operating properly. Brush and debris shall be removed from within the swinging radius. Weathered berms or wood piles shall be reconstructed to a height which discourages use and blocks the road.
- 3.3 Signs. Any signs needing repair or replacement shall be installed per sign placement detail or MUTCD direction. All roads shall have legible sign numbers. ML 3-5 roads shall have horizontal numbering and ML 1-2 roads shall have vertical numbers. The material used shall be as directed by the Forest Service Representative. All new signs must meet retroreflectivity requirements.

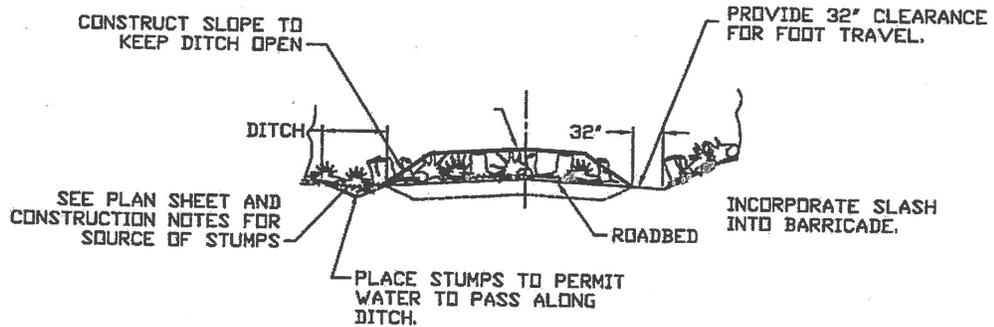
Road Number	Road Name	Location	Remove/Install	Type of Item	Size	Quantity
2459A	North Hemlock	2459	Install	Berm	N/A	2
2561A	Shallow Lake Spur A	2561	Install	Berm	N/A	1
2561G	Shallow Lake Spur G	2561	Install	Berm	N/A	1
2561H	Shallow Lake Spur H	2561	Install	Berm	N/A	1
Back-In	Back-In Spur	2473	Install	Berm	N/A	1

Typical Road Closure

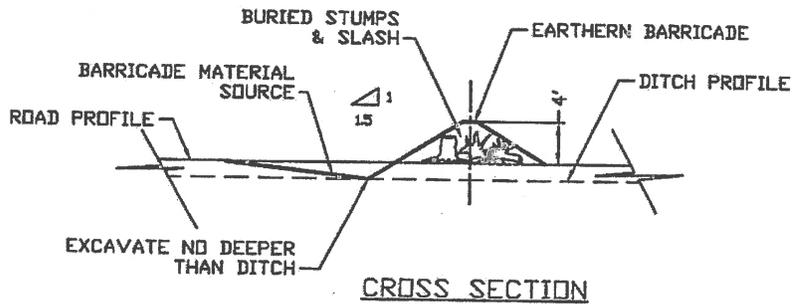


PRE-HAUL ROAD CLOSURE DEVICE STUMP BARRIER

NO SCALE



PROFILE



CROSS SECTION

POST-HAUL ROAD CLOSURE DEVICE TYPE 1 STUMP & EARTHEN BARRICADE

NO SCALE

Sale Name: Pagoda

CT5.32# - ROAD MAINTENANCE DEPOSIT SCHEDULE (08/2012)

Other provisions herein notwithstanding, when Forest Service requests payment in lieu of Purchaser's performance of road maintenance, Purchaser shall make Required Deposits (16 USC 537) for current and/or deferred road maintenance. Such deposits are based on the estimated volume and distance hauled and Purchaser's commensurate use of each road listed in the Road Maintenance Plan in CT5.31#.

Purchaser and Forest Service may agree in writing on adjustment of such rates. If Purchaser uses roads under jurisdiction of Forest Service other than those listed in the Road Maintenance Plan, Forest Service shall establish rates commensurate with Purchaser's use of such roads.

The Required Deposits for Forest Service work in lieu of Purchaser performance are \$.02 per CCF for recurrent maintenance, and \$.02 per CCF for deferred maintenance.

The following table lists who Purchaser will make deposits for road maintenance to, and the rate per unit of measure of the deposit. The Road Maintenance Agreement is available for inspection at the Forest Supervisor's office.

Deposit Made To	Rate	Unit of Measure
N/A		

CT5.33# - SNOW REMOVAL (06/2009)

Snow removal shall be done in a manner that will preserve and protect roads, provide for safe and efficient transport of timber, and prevent erosion damage to streams and adjacent lands. In performing snow removal, Purchaser shall adhere to the following performance standards, unless otherwise agreed:

1. Blade will be equipped with skid shoes to prevent loss of surfacing and damage to the road bed. On gravel and native surface roads, a minimum 1-inch depth compacted snow mat will be maintained on the roadbed during blading.
2. Snow shall be removed from the entire road width, including turnouts.
3. Snow berms will be reduced at road intersections where plowed road segments join unplowed road segments. Reduce the piled snow in the roadway to create a smooth transition from plowed road to normal snow depth.
4. Openings will be created in snow berms as needed for proper drainage. Remove snow, ice, and debris from culverts and other drainage structures as needed to ensure efficient flow of water.
5. Tracked or cleted vehicles will not be used for snow removal without prior written approval of Forest Service Representative.

Sale Name: Pagoda

CT6.2# - FACILITIES TO MANUFACTURE INCLUDED TIMBER (06/2009)

Purchaser may construct or operate facilities, including portable chippers, to manufacture or process Included Timber when approved in writing by Forest Service and when facilities are constructed and used in a manner which will protect National Forest values. Written approval shall specify suitable locations and specify standards of design, construction, use, maintenance of the facilities, and proper disposal of waste and debris.

CT6.24# - SITE SPECIFIC SPECIAL PROTECTION MEASURES (04/2004)

Special protection measures needed to protect known areas identified on Sale Area Map or on the ground include:

Cultural Resource Protection Measures: N/A

Wildlife and Botanical Protection Measures: N/A

Cave Resource Protection Measures: N/A

Within Payment Unit 17, operations shall not be permitted within the Oakwood Trailhead.

Within Payment Units 8, 11, 12, and 24, Purchaser's logging operations shall not be permitted within the adjacent PA.

CT6.313# - CUTTING SCHEDULE (06/2009)

Unless changed by written agreement, only 4, in addition to Payment Unit ROW Payment Units may be released at one time, and the sequence of cutting Payment Units shall be: N/A.

Unless there is agreement in writing to postpone specific requirements, all contractual requirements on a Payment Unit shall be accepted by Forest Service prior to the release of an additional Payment Unit.

Sale Name: Pagoda

CT6.314# - OPERATING REQUIREMENTS (06/2009)

Within Sale Area, unless changed by written agreement, the following operating requirements apply:

Restricted operations/activities:

Within Payment Units 4, 5, and 7, operations will only occur during the winter season, normally judged to be 6 inches of frozen soil and /or 12 inches of compacted snow.

Within Payment Units 8, 9, 10, 11, 12, 13, 20, 23, and 24, no operations shall be permitted March 1 through July 15.

-
Prohibited operations/activities:

N/A

CT6.412 - STUMP MARKS (06/2009)

Trees designated for cutting under BT2.35 have been marked with paint at breast height and below stump height. Trees shall be felled so as to leave paint on stump.

CT6.42# - SKIDDING AND YARDING REQUIREMENTS (06/2009)

As used in this provision, skidding equipment includes rubber-tire and track-mounted skidders, forwarders, fell bunchers, processors and any other mechanized equipment that is used off of landings and roads.

Within Payment Unit(s)

17, 18,

whole tree harvesting is not permitted.

Within portions of Payment Unit(s)

N/A, as shown on Sale Area Map with symbol "SYR," N/A.

CT6.63# - TEMPORARY ROAD CLOSURE (06/2009)

Notwithstanding Standard Provision BT6.63, measures to effectively block temporary roads to normal vehicular traffic shall consist of the following:

At locations designated by the Forest Service, the Purchaser shall effectively block the temporary road in a manner agreed to in writing, at the time of approval.

Sale Name: Pagoda

CT6.7# - SLASH DISPOSAL MEASURES (06/2009)

Slash resulting from Purchaser's operations shall be removed from lakes, ponds, private land, right-of-way clearings for telephone lines, power lines, pipelines, and other authorized facilities, and landings to be seeded under Special Provision CT6.6#.

The tops of felled trees shall not be left hanging in standing trees. All trees cut or pushed for landing and other construction clearings shall be completely felled and not left leaning. Slash resulting from construction clearing shall be treated concurrent with operations.

Slash Disposal treatment zones are shown on the Sale Area Map with symbol "SDZ."

Other specific slash disposal requirements are as follows:

All slash resulting from Purchaser's operations must lay within four feet of the ground. Windrowing of slash is to be avoided.

Within Payment Units 17 and 18, all slash as a result of Purchaser's operations shall be removed 0-5 feet off the Oakwood Trail, and not windrowed.

CT7.2 - FIRE PRECAUTIONS (06/2009)

Unless other methods are agreed to in writing between the Purchaser and the Contracting Officer, the following specific precautionary measures are applicable during Purchaser's Operations in Fire Precautionary Period indicated in AT9.

1. Purchaser shall maintain Forest Service-approved spark arresting device on any piece of equipment operated by an internal combustion motor. In addition, each piece of motorized equipment shall be equipped with a serviceable round-pointed shovel and an operational fire extinguisher of at least five-pound rating suitable for the equipment being used. All chainsaw operators will have a serviceable round-pointed shovel and a one-pound multipurpose fire extinguisher readily available.
2. Purchaser shall require that smoking and the building of lunch or warming fires by Purchaser's employees, contractors, or employees of contractors be confined to designated safe places where flammable debris has been cleared away and where, at the option of the Purchaser, smoking or the building of lunch or warming fires may be permitted.
3. Adequate spark arresters shall be maintained on chimneys or stovepipes where wood or coal is being burned in an enclosed device.
4. Purchaser shall furnish serviceable firefighting tools. Location, numbers, and types of tools shall be specified in the Fire Prevention and Control Plan in accordance with BT7.1.

Sale Name: Pagoda

CT8.212 - MARKET-RELATED CONTRACT TERM ADDITION (11/2008)

The term of this contract may be adjusted when a drastic reduction in wood product prices has occurred in accordance with 36 CFR 223.52. The Producer Price Index used to determine when a drastic reduction in price has occurred is stated in AT17. Purchaser will be notified whenever the Chief determines that a drastic reduction in wood product prices has occurred. If the drastic reduction criteria specified in 36 CFR 223.52 are met for 2 consecutive calendar quarters, after contract award date, Contracting Officer will add 1 year to the contract term, upon Purchaser's written request. For each additional consecutive quarter such a drastic reduction occurs, Contracting Officer will, upon written request, add an additional 3 months to the term during Normal Operating Season, except that no single 3-month addition shall extend the term of the contract by more than one year. Contracting Officer must receive Purchaser's written request for a market-related contract term addition before the expiration of this contract.

No more than 3 years shall be added to a contract's term by market-related contract term addition unless the following conditions are met:

(i) The sale was awarded after December 31, 2006; and

(ii) A drastic reduction in wood product prices occurred in at least ten of twelve consecutive quarters during the contract term, but not including the quarter in which the contract was awarded.

For each qualifying quarter meeting the criteria in paragraphs (i) and (ii) of this provision, the Forest Service will, upon the Purchaser's written request, add an additional 3 months during the normal operating season to the contract, except no single 3-month addition shall extend the term of a contract by more than 1 year.

In no event shall a revised contract term exceed 10 years as a result of market-related contract term addition.

Additional contract time may not be granted for those portions of the contract that have a required completion date or for those portions of the contract where Contracting Officer determines that the timber is in need of urgent removal or that timber deterioration or resource damage may result from delay.

U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE - REGION 9
 HIAWATHA NATIONAL FOREST
 ALGER COUNTY, MICHIGAN
Pagoda Timber Sale HI-670
PROJECT AREA ROADS

THE INTENT OF CONTRACT: The intent of the contract is to provide for the complete construction/reconstruction of the project described in the contract. Unless otherwise provided, the Contractor shall furnish all labor, materials, equipment, transportation, and supplies, and shall perform all work required to complete the project, and to conform with the drawings and specifications, and in accordance with the provisions of the contract.

<u>ROAD NAME</u>	<u>ROAD NUMBER</u>	<u>LENGTH</u>		<u>INDEX OF SHEETS</u>
Indian Head	2179	0.99	R	1 Title
Indian Head Spur A	2179A	0.50	R	2 Location Map
Indian Head Spur AA	2179AA	0.30	R	3 Construction Notes
River Bend	2368	0.55	R	4-7 Details & Typicals
North Hemlock	2459	1.28	R	Tabulation of Quantities
North Hemlock Spur A	2459A	0.58	R	8 2179
Shallow Lake	2561	2.75	R	9 2179A
Shallow Lake Spur A	2561A	0.48	R	10 2179AA
Shallow Lake Spur E	2561E	0.30	R	11 2368
Shallow Lake Spur G	2561G	0.25	R	12 2459
Shallow Lake Spur H	2561H	0.24	R	13 2459A
	Back-In	0.02	C	14 2561
				15 2561A
				16 2561E
				17 2561G
				18 2561H
				19 Back-In
				20 Schedule of Items
				21 Engineers Estimate
				A1-A8 Specifications

Reconstruction = R	Total Miles =	8.22		
Construction = C	Total Miles =	0.02		

Aggregate Sources
 Nebel Pit (3" Breaker Run and MDOT 23A)
 T45N R18W
 NW1/4 of NE1/4, Sec 31

Plans, Specifications, and
 Estimates have been
 reviewed.

W. P. Dutter
 Date: July 2016

Forest Engineer

Gray Gault

Date: 8/23/16

For District Ranger

Cid H. Morgan
 Date: 8/25/2016
 Cid H. Morgan, Forest Supervisor

PAGODA TIMBER SALE CONSTRUCTION NOTES

LV203 – EXCAVATION

Construction Tolerances:

Roadbed width +1.0'
Alignment 2.0'
Slopes +/- 1/2:1

Cuts and fills will be offset staked by Forest Service.

LV 304 – AGGREGATE SURFACE COURSE

Breaker Run aggregate and MDOT 23A will be from the Nebel Pit, T45N R18W, NW1/4 of the NE1/4, Sec. 31.

Specified gradation of aggregate shall comply with the following:

Gradation A. 3/4" stone, complies with MDOT 23A specification

Gradation B. 3" Breaker Run

LV 304.03 – Thickness - The compacted thickness of the aggregate shall not vary more than +/- 1" from the specified thickness.

- Prior to aggregate placement, existing roadbed shall be reconditioned to applicable typical detail.

LV 603 – CULVERTS

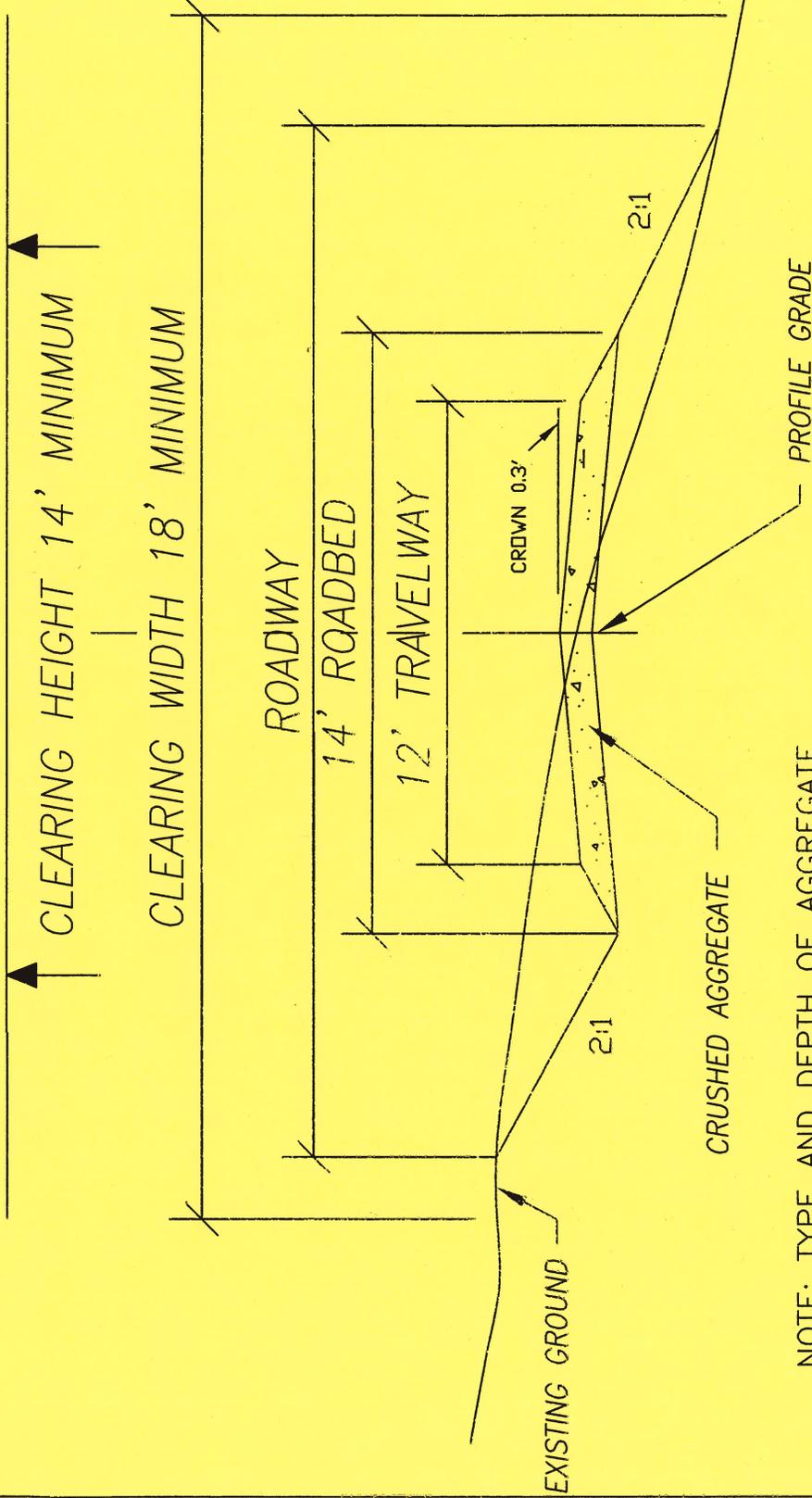
All culverts shall be placed in the presence of a Forest Service Construction Inspector or Engineer Representative with 48 hour notice before construction. Construction Inspector or ER will set invert elevations in field.

FOLLOW STATE OF MI BMP GUIDELINES FOR CULVERT PLACEMENT AND EROSION CONTROL.

CULVERT REMOVAL FROM PROJECT – Recycle or dispose of material legally off the project. Furnish a statement documenting the nature and quality of material processed or sold for recycling. Otherwise, furnish a signed copy of the disposal agreement before disposal begins, (FP-03, Sec 203.05(a)).

CONSTRUCTION STAKING – Construction stakes and clearing limit flagging will be set by the Forest Service. Construction stakes shall be maintained by the contractor throughout the life of the project. After final inspection the Contractor will be responsible for removing all flagging from the site and disposing of properly. Payment for flagging removal is included under Item LV 201(02).

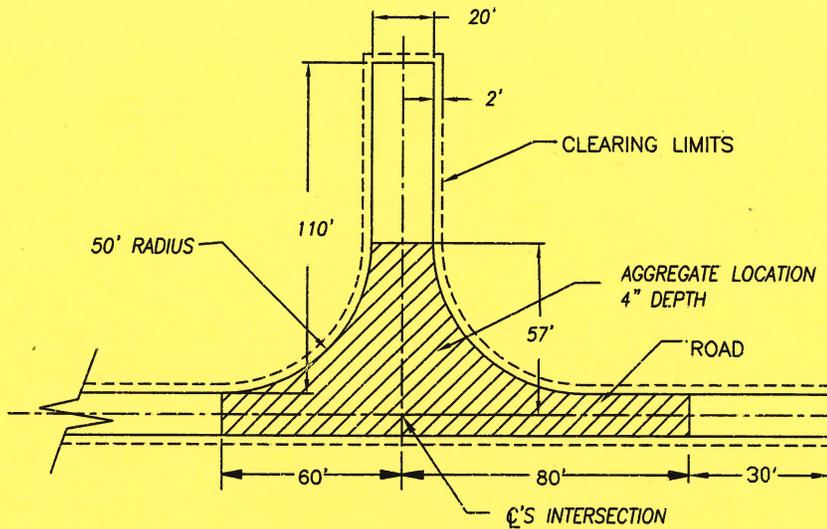
AGGREGATE BASE - Prior to the placement of aggregate base, the proposed portion of the roadbed shall be approved by Forest Service Construction Inspector or Engineering Representative.



NOTE: TYPE AND DEPTH OF AGGREGATE
MAY DIFFER, SEE TABULATION
OF QUANTITIES.

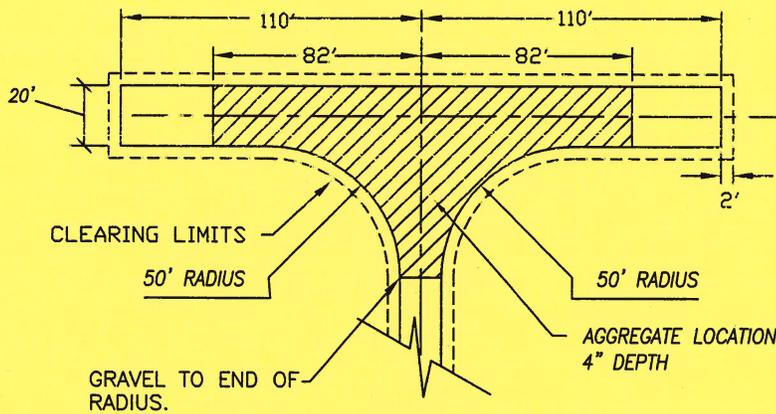
TYPICAL SECTION A

NO SCALE



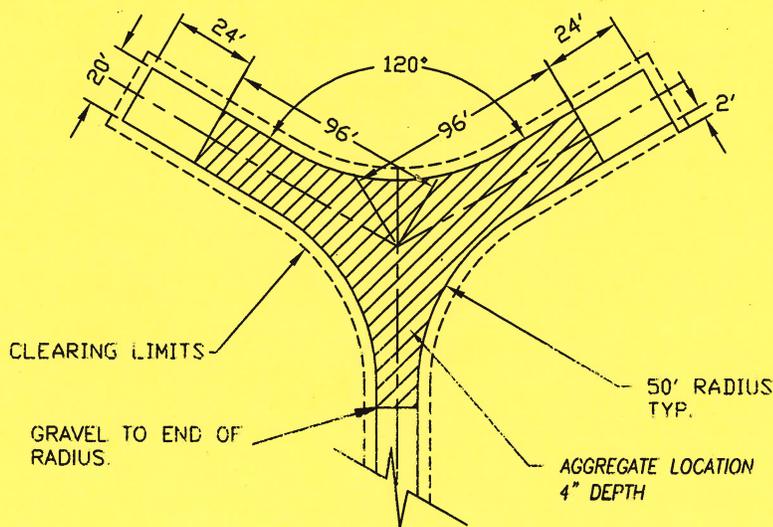
L-TURNAROUND DETAIL

NO SCALE



T-TURNAROUND DETAIL

NO SCALE

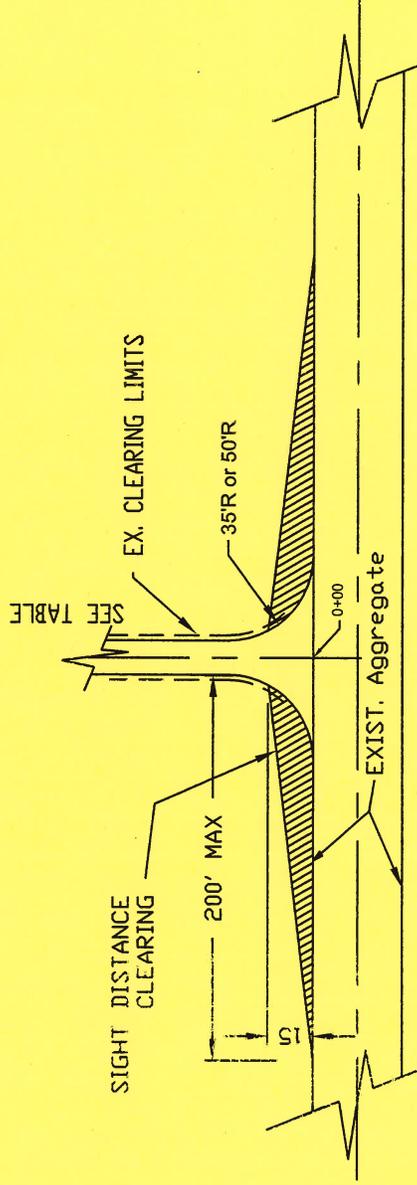


WYE-TURNAROUND DETAIL

NO SCALE

Typical Sight Distance Clearing

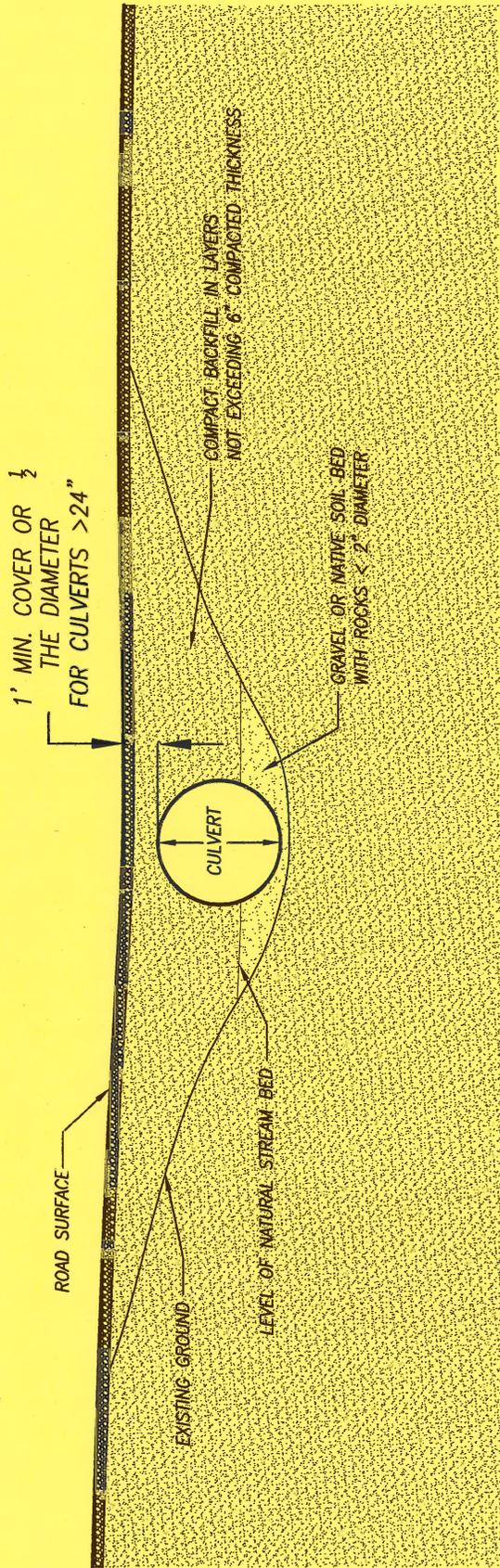
SIGHT DIST. CLEARING TABLE
Back-in



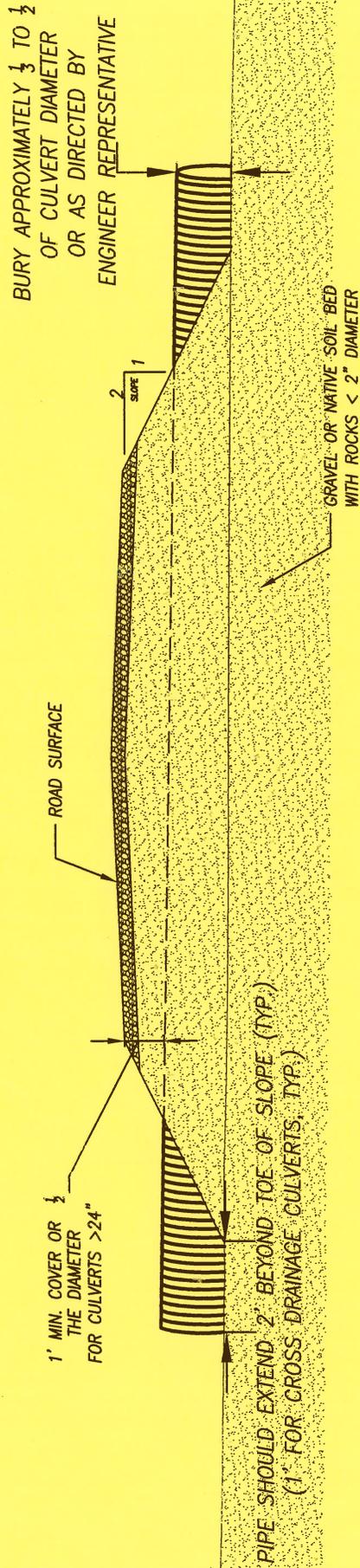
TYPICAL INTERSECTION

NO SCALE





FOLLOW STATE OF MI BMP GUIDELINES INCLUDING EROSION CONTROL MEASURES.



- NOTES:
- * SLOPE CROSS DRAIN CULVERTS AT LEAST 2% MIN.
 - * CULVERTS SET IN STREAM BEDS SHALL FOLLOW EXISTING SLOPE OF STREAM
 - * USE EROSION CONTROL DEVICES PER STATE OF MI BMP GUIDELINES

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2179

BEGIN STATION	END STATION	Description of Work	15101 Mobilization (LS)	20102A C & G (LSUM)	20102B Brushing (LSUM)	20302A Roadway Excavation (STA)	20302E Road recondition, Roadbed (STA)	30402B Aggregate, Brkr. Run (CYD)	60302 Culvert, metal pipe, 24 inch (LFT)	COMMENTS
POB	POE	Brushing, Clear and Grub		1	1					
2+00	5+00	Road Recondition					3			
6+50	7+80	Road Recondition					1.3			
10+10	11+30	4" of Breaker Run						24		
26+50	31+00	Road Recondition					4.5			
39+65		Replace Culvert - 24" x 36' CMP, Follow State of MI BMP Guidelines						24	36	
49+80	50+40	4" of Breaker Run						12		
51+00		Existing Turnaround Left, Excavation, Breaker Run				2.1		24		Excavate 2 - 50' Radii and back-in portion
	52+10	POE								
		Total Quantity	0.083	1	1	2.1	8.8	84	36	

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2179A

BEGIN STATION	END STATION	Description of Work	15101 Mobilization (LS)	20102A C & G (LSUM)	20102B Brushing (LSUM)	20302A Roadway Excavation (STA)	20302C Drainage Excavation, Lead Off Ditch(LSUM)	20302E Road recondition, Roadbed (STA)	COMMENTS
POB	POE	Brushing, Clear and Grub		1	1				
0+00	4+25	Road Recondition						4.25	
4+25		Increase Radius to 50' going Left, Excavation				1			
4+75	26+35	Road Recondition						21.6	
10+75		Lead Off Ditch Left					1		
	26+35	POE - End of Loop Turnaround							
		Total Quantity	0.083	1	1	1	1	25.85	

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2179AA

BEGIN STATION	END STATION	Description of Work	15101 Mobilization (LS)	20102A C & G (LSUM)	20102B Brushing (LSUM)	20302A Roadway Excavation (STA)	20302C Drainage Excavation, Lead Off Ditch(LSUM)	20302E Road recondition, Roadbed (STA)	30402B Aggregate, Brkr. Run (CYD)	COMMENTS
0+00		POB - Northeast Edge of FR 2179A at Station 4+25	0.083							
POB	POE	Brushing, Clear and Grub		1	1					
0+00	10+40	Road Recondition						10.4		
0+85	3+25	4" Breaker Run							48	
3+25		Lead-off Ditch Left					1			
10+40	16+00	Road Excavation				5.6				
	16+00	POE - Existing WYE Turnaround, Excavate, Clear and Grub				2.2				
		Total Quantity	0.083	1	1	7.8	1	10.4	48	

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2368

BEGIN STATION	END STATION	Description of Work	15101 Mobilization (LS)						COMMENTS
			20102A C & G (LSUM)	20102B Brushing (LSUM)	20302A Roadway Excavation (STA)	20302E Road recondition, Roadbed (STA)	30402B Aggregate, Brkr. Run (CYD)		
0+00		POB - West Edge of FR 2473	0.083						
POB	POE	Brushing, Clear and Grub	1	1					
27+80		Intersection w/FR 2368A, Construct L-turnaround Right, Excavation, 4" of Breaker Run, Recondition, Clear and Grub			1.6	1.7	48		
	28+90	POE							
		Total Quantity	0.083	1	1.6	1.7	48		

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2459

BEGIN STATION	END STATION	Description of Work	15101					COMMENTS
			Mobilization (LS)	20102A C & G (LSUM)	20102B Brushing (LSUM)	20302A Roadway Excavation (STA)	20302E Road recondition, Roadbed (STA)	
0+00		POB - East Edge of FR 2267	0.083					
POB	POE	Brushing, Clear and Grub		1	1			
2+00	2+80	Road Recondition					0.8	
28+35		Intersection w/FR 2179						
66+70		Construct L-Turnaround Left Using Existing Clearing				2.1		Excavate 2-50' Radli and back-in portion of turnaround.
	67+80	POE						
		Total Quantity	0.083	1	1	2.1	0.8	

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2459A

BEGIN STATION	END STATION	Description of Work	15101 Mobilization (L-S)	20102A C&G (LSUM)	20102B Brushing (L-SUM)	20302A Roadway Excavation (STA)	20302C Drainage Excavation, Lead Off Ditch(LSUM)	20302E Road recondition, Roadbed (STA)	30402B		COMMENTS
									Aggregate, Brkr. Run (CYD)		
0+00		POB - West Edge of FR 2459	0.083								
POB	POE	Brushing, Clear and Grub		1	1						
0+00	0+50	Excavate 2-50' Radii				1					
0+50	30+10	Road Recondition						29.6			
5+30	6+50	4" Breaker Run							24		
8+90		Lead-Off Ditch Right					1				
10+60		Lead-Off Ditch Left					1				
22+00	23+80	4" Breaker Run								36	
30+10	30+60	Excavate 2-50' Radii				1					
	30+60	POE - Meets Back With FR 2459									
		Total Quantity	0.083	1	1	2	2	29.6		60	

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2561

BEGIN STATION	END STATION	Description of Work	15101 Mobilization (LS)	20102A C&G (LSUM)	20102B Brushing (LSUM)	20302E Road recondition, Roadbed (STA)	30402A Aggregate, 23A (CYD)	30402B Aggregate, Bkr, Run (CYD)	COMMENTS
POB	POE	Brushing, Clear and Grub		1	1				
0+00	0+60	MDOT 23A					12		
3+60		12 CY Spot Agg						12	
5+80	7+20	Road Recondition			1.4				
11+60	14+60	Road recondition, 4" of Breaker Run			3			60	
23+20	28+30	Road Recondition			5.1				
31+00	32+90	Road Recondition			1.9				
31+70	32+90	4" of Breaker Run						24	
39+80	40+80	Road Recondition			1				
39+80	42+80	4" of Breaker Run						60	
57+10	59+50	4" Breaker Run						48	
77+20	79+00	4" Breaker Run						36	
81+50	145+50	Road Recondition			64				
128+20		Clear and Grub Left Side Small Island of Trees in Intersection.							
143+10	144+30	4" of Breaker Run						24	
144+30		Intersection w/FR 2561A, Use as Turnaround							
	145+40	POE							
		Total Quantity	0.083	1	1	76.4	12	264	

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2561A

BEGIN STATION	END STATION	Description of Work	15101		20102A	20102B	20302A	20302E	30402B		COMMENTS
			Mobilization (LS)	C&G (LSUM)					Brushing (LSUM)	Road recondition, Roadbed (STA)	
0+00		POB - South Edge of FR 2561	0.083								
POB		Brushing, Clear and Grub		1		1					
0+00	0+40	4" Breaker Run							24		Brushing is including in total brushing for road.
0+00	0+50	Recondition both 50' Radii					1				
1+50	25+25	Road Recondition					23.75				
	25+25	POE, Construct T Turnaround					2.2				Existing Turnaround needs excavation, Clearing and Grubbing
		Total Quantity	0.083	1	1	1	24.75		24		

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2561E

BEGIN STATION	END STATION	Description of Work	15101		20102A	20102B	20302A	30402B	COMMENTS
			Mobilization (LS)		C & G (LSUM)	Brushing (LSUM)	Roadway Excavation (STA)	Aggregate, Brkr. Run (CYD)	
0+00		POB - West edge of of FR 2561	0.083						
POB	POE	Brushing, Clear and Grub		1		1			
14+60		Construct L-turnaround Right, Clear and Grub, Excavation, Breaker Run					2.2	36	
	15+70	POE							
		Total Quantity	0.083	1	1	1	2.2	36	

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2561G

BEGIN STATION	END STATION	Description of Work	15101			COMMENTS
			Mobilization (LS)	20102A C & G (LSUM)	20102B Brushing (LSUM)	
0+00		POB - Northwest edge of FR 2561	0.083			
POB	POE	Brushing			1	
	13+35	POE - Construct T-Turnaround, Excavation, Clear and Grub		1		2.2
		Total Quantity	0.083	1	1	2.2

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

FR 2561H

BEGIN STATION	END STATION	Description of Work	15101		20102A	20102B	20302A	COMMENTS
			Mobilization (LS)		C & G (LSUM)	Brushing (LSUM)	Roadway Excavation (STA)	
0+00		POB - North edge of FR 2561G	0.083					
POB	POE	Brushing, Clear and Grub			1	1		
0+00	0+50	Excavate 2 - 50' Radii					1	
11+65		Existing L-turnaround Right, Excavate, Clear and Grub					2.2	
12+75		POE						
		Total Quantity	0.083		1	1	3.2	

Hiawatha National Forest
Pagoda HI-670
Tabulation of Quantities

BEGIN STATION	END STATION	Description of Work	15101	20102A	20102B	20302A	30402A	COMMENTS
			Mobilization (LS)	C & G (LSUM)	Brushing (LSUM)	Roadway Excavation (STA)	Aggregate, 23A (CYD)	
0+00		POB - West edge of FR 2473, 450' North of 2473C	0.083					
POB	POE	Clear and Grub, Sight Distance Brushing, Excavation		1	1	2.1		
0+00	0+40	Approach Aggregate 23A					24	
	1+10	POE						
		Total Quantity	0.083	1	1	2.1	24	

Hiawatha National Forest
Pagoda HI-670
Schedule of Items

Item No.	Description	Unit	Estimated Quantity by Road													Total Est. Quantity	
			2179	2179A	2179AA	2368	2459	2459A	2561	2561A	2561E	2561G	2561H	Back-In			
15101	Mobilization	Lump sum	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	1.0
20102A	Clearing and grubbing	Lump sum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
20102B	Brushing	Lump sum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
20302A	Roadway excavation, compaction method (d), finishing method A	Station	2.1	1.0	7.8	1.6	2.1	2.0	0.0	2.2	2.2	2.2	3.2	2.1	2.2	28.5	
20302C	Drainage excavation, Lead Off Ditch	Cubic Yard	0	1	1	0	0	2	0	0	0	0	0	0	0	4	
20302E	Roadway recondition, roadbed	Station	8.80	25.85	10.40	1.70	0.80	29.60	76.40	24.75	0.00	0.00	0.00	0.00	0.00	178.30	
30402A	Aggregate base (Haul & Place), grading MDOT 23A, compaction method (A)	Cubic Yard *	0	0	0	0	0	0	12	0	0	0	0	24	0	36	
30402A	Aggregate base (Processing), grading MDOT 23A	Cubic Yard	0	0	0	0	0	0	12	0	0	0	0	24	0	36	
30402B	Aggregate base (Haul & Place), Breaker Run, compaction method (A)	Cubic Yard *	84	0	48	48	0	60	264	24	36	0	0	0	0	564	
30402B	Aggregate base (Processing), Breaker Run	Cubic Yard	84	0	48	48	0	60	264	24	36	0	0	0	0	564	
60302	Culvert, 24-in Metal Pipe	Linear Foot	36	0	0	0	0	0	0	0	0	0	0	0	0	36	

* Quantity for items is shown as loose volume hauled. This was estimated by first calculating the compacted in place volume and then adding 25%.

All items are paid at Contract Quantities (CQ).

Hiawatha National Forest
Pagoda HI-670
Engineers Estimate

Item No.	Description	Unit Price	2179	2179A	2179AA	2368	2459	2459A	2561	2561A	2561E	2561G	2561H	Back-In	TOTAL COST
15101	Mobilization (LSUM)	\$900.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$900.00
20102A	Clearing and grubbing (LSUM)	LSUM	\$427.00	\$724.00	\$408.00	\$115.00	\$1,447.00	\$994.00	\$557.00	\$427.00	\$223.00	\$188.00	\$260.00	\$223.00	\$5,993.00
20102B	Brushing (LSUM)	LSUM	\$523.00	\$200.00	\$100.00	\$115.00	\$228.00	\$270.00	\$1,330.00	\$437.00	\$100.00	\$181.00	\$152.00	\$100.00	\$3,736.00
20302A	Roadway excavation, compaction method (A) (STA)	\$65.00	\$136.50	\$65.00	\$507.00	\$104.00	\$136.50	\$130.00	\$0.00	\$143.00	\$143.00	\$143.00	\$208.00	\$136.50	\$1,852.50
20302C	Drainage excavation, Lead Off Ditch	\$34.00	\$0.00	\$34.00	\$34.00	\$0.00	\$0.00	\$68.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$136.00
20302E	Roadway recondition, roadbed (STA)	\$49.00	\$431.20	\$1,266.65	\$509.60	\$83.30	\$39.20	\$1,450.40	\$3,743.60	\$1,212.75	\$0.00	\$0.00	\$0.00	\$0.00	\$8,736.70
30402A	Aggregate base (Haul & Place), grading MDOT 23A, compaction method (A) (CYD)	\$7.49	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$89.88	\$0.00	\$0.00	\$0.00	\$0.00	\$179.76	\$269.64
30402A	Aggregate base (Processing), grading MDOT 23A (CYD)	\$4.80	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$57.60	\$0.00	\$0.00	\$0.00	\$0.00	\$115.20	\$172.80
30402B	Aggregate base (Haul & Place), Breaker Run, compaction method (A) (CYD)	\$7.49	\$629.16	\$0.00	\$359.52	\$359.52	\$0.00	\$449.40	\$1,977.36	\$179.76	\$269.64	\$0.00	\$0.00	\$0.00	\$4,224.36
30402B	Aggregate base (Processing), Breaker Run (CYD)	\$4.80	\$403.20	\$0.00	\$230.40	\$230.40	\$0.00	\$288.00	\$1,267.20	\$115.20	\$172.80	\$0.00	\$0.00	\$0.00	\$2,707.20
60302	Culvert, 24-in Metal Pipe	\$35.00	\$1,260.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,260.00
Road Totals			\$3,885.06	\$2,364.65	\$2,223.52	\$1,082.22	\$1,925.70	\$3,724.80	\$9,097.64	\$2,589.71	\$983.44	\$587.00	\$695.00	\$829.46	\$29,988.20
CT 5.213# Engineering Costs (LSUM)															
Total															
			\$34,432.20												

HIAWATHA NATIONAL FOREST

SPECIFICATIONS FOR TIMBER SALE ROADWORK

Pagoda Timber Sale

INDEX OF INCLUDED SPECIFICATIONS:

Section 101 - Control of Work

Section 201-Clearing and Grubbing

Section 203 - Excavation

Section 304 - Aggregate

Section 603 – Culvert

SECTION 101 – CONTROL OF WORK

101.01 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.

101.02 Inspection of Construction.

Maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. Record the work and perform calculations to determine quantities for each work item. Maintain complete inspection records and make them available to the Government. Use an acceptable format for measurement records and include, at a minimum: project name, work item, date the work was performed, location of the work, measured quantity, calculations made to arrive at the quantity, and name of person(s) measuring the work.

The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

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

101.03 Public Traffic.

Description

This work consists of controlling and protecting public traffic adjacent to and with the project. All signing shall conform to the Michigan Manual on Uniform Traffic Control Devices (MMUTCD)

General

Unless otherwise provided for, keep existing roads open to all traffic during road improvement work, and maintain them in a condition that will adequately accommodate traffic. Delays may not exceed 30 minutes at any one time followed by an open period of no less than 5 minutes.

Perform no work that interferes or conflicts with traffic or existing access to the roadway surface until a traffic control plan has been approved. Post construction signs and traffic control devices in conformance with MUTCD. All required signs will be in place and approved prior to beginning work on project.

If the Contractor agrees in writing to allow public traffic to use a new road being constructed prior to completion, it will be considered an existing road for traffic control purposes.

SECTION 201 – CLEARING AND GRUBBING

DESCRIPTION

201.01 This work shall consist of clearing, grubbing, and disposing of or treatment of timber, construction slash, and debris.

CONSTRUCTION

201.02 CLEARING & GRUBBING. All debris, trees, stumps, roots, and other protruding vegetative material within the clearing limits shall be cleared, grubbed, removed, and disposed of, except that undisturbed stumps in locations SHOWN ON THE DRAWINGS may remain.

Cut stumps to be grubbed to 12” maximum height before or immediately after grubbing.

Roadway must be grubbed. Stump holes caused by grubbing shall be leveled. Areas outside the roadway but within the clearing limits need not be grubbed. Height of stumps left shall not exceed 12” above ground.

Branches on remaining trees or shrubs shall be trimmed to give a clear height of 14 feet above the roadbed.

Trim tree limbs as near flush with the trunk as practicable.

Clearing shall be done in such a manner to prevent damage to remaining trees and other property.

Grubbing shall include removal of stumps and exposed roots over 3” in diameter.

201.03 PIONEERING. Pioneering operations shall be conducted to minimize mixing of slash and excavated material. Final back slopes shall not be undercut, material shall not be deposited outside the fill and excavation limits, nor shall drainage be restricted.

201.04 DISPOSAL. Treatment of construction slash shall be accomplished by scattering slash outside the clearing limits without damaging trees. All logs shall be limbed. Logs and stumps shall be placed away from trees, positioned so they will not roll, and not be placed on top of one another. Scattered slash shall be lopped and scattered to reduce concentrations and made to lie within two feet of the ground concurrent with the clearing and grubbing operations unless other

requirements are STATED IN THE CONSTRUCTION NOTES. Grubbed and scattered stumps shall be turned upright with roots down.

Dispose of merchantable timber designated for removal according to the (BT) provisions of the timber sale contract. Deck merchantable timber adjacent to the roadway in areas approved by the Engineer.

MEASUREMENT

201.05 When Clearing & Grubbing is shown in the Schedule of Items, the work will be either on a lump sum basis where no measurement will be made, or on an area basis. For the area basis the original design quantity as shown on the Schedule of Items will be the final quantity, unless adjustments are made as specified in the changes provision. The design quantity is the number of acres calculated to be cleared and/or grubbed within the limits SHOWN ON THE DRAWINGS or as spelled out in the TABULATION OF QUANTITIES.

SECTION 203 – EXCAVATION

DESCRIPTION

203.01 This work shall consist of all excavation regardless of its nature, borrow excavation, embankment construction, and shaping of roadway including such items as drainage dips, ditches, turnarounds, and other subsidiary work.

CONSTRUCTION

203.02 All suitable excavated material shall be used to construct a roadway conforming to the typical section(s) and tolerances SHOWN ON THE DRAWINGS.

Side casting and end dumping will be permitted for embankment construction; however, excavation and embankment shall be confined within the roadway limits. Embankment material shall be placed in horizontal layers not exceeding 12 inches in compacted thickness. Compaction shall be accomplished by operating equipment over the full width of the traveled way. Rocks too large for incorporation shall be placed to the side of the embankment so they will not roll, obstruct drainage, or hinder use and maintenance of the road. Excess excavation and unsuitable material shall be disposed of as SHOWN ON THE DRAWINGS or in locations approved by the Engineer.

Location and requirements for borrow excavation are SHOWN ON THE DRAWINGS.

The finished slopes shall be left in a roughened condition to facilitate vegetative growth.

Rocks in the roadbed that protrude less than 2” above the finished road surface will be allowed to remain in place.

When Road Recondition, Roadbed is called for in the TABULATION OF QUANTITIES, the work will consist of blading, reshaping, and recompacting existing material to the specified typical cross section

When specified, topsoil shall be salvaged in sufficient quantity to meet the quantity requirements SHOWN IN THE SCHEDULE OF ITEMS. Topsoil shall consist of loose, friable, sandy loam, free of admixture of subsoil, refuse, stumps, roots, rocks, brush, weeds, of other material that would be detrimental to the development of vegetative growth. Topsoil, as used herein, shall mean that portion of the soil profile defined technically as the "A" horizon by the Soil Science Society of America.

MEASUREMENT

203.03 The method of measurement will be on a linear basis or cubic yard basis. In both cases the original design quantity as shown on the Schedule of Items will be the final quantity, unless adjustments are made as specified in the changes provision. For linear measurements the design quantity is the length of road measured along quantity is computed using the average end area method.

SECTION 304 – AGGREGATE

DESCRIPTION

304.01 This work shall consist of furnishing, hauling, and placing one or more courses of aggregate surface course on the approved subgrade. Aggregate shall be pit-run, screened, crushed, or furnished by the Government as STATED IN THE CONSTRUCTION NOTES.

MATERIALS

304.02 Materials shall be obtained from sources STATED IN THE CONSTRUCTION NOTES or other approved sources. Aggregate quality, production, and gradation requirements are SHOWN ON THE DRAWINGS.

When a gradation is specified, the Contractor shall submit test results and a Certificate of Compliance that states that the gradation of the aggregate meets the contract requirements. Aggregates shall be stockpiled, removed, transported, and placed in a manner that will preserve specified gradation and avoid contamination. Samples may be required at any time to validate gradation.

CONSTRUCTION

304.03 Prior to aggregate placement, the proposed portion of the roadbed shall (1) be reshaped in accordance with the specifications; (2) have hauling and spreading equipment operated uniformly over the full width; and (3) be approved in writing by the Engineering Representative.

The aggregate shall be spread in a uniform layer, with no segregation of size, and to a loose depth that shall have the required thickness when compacted. The maximum compacted thickness of any one layer shall not exceed six inches.

The aggregate shall be compacted by one of the following methods as specified on the Schedule of Items:

Compaction A. Aggregate shall be compacted by operating spreading and hauling equipment over the full width of each layer of the aggregate.

Compaction B. Each layer of aggregate shall be compacted to a density of at least 95 percent of the maximum density, as determined by AASHTO T 99, Method C or D.

The final compacted surface shall be smooth and the thickness shall not vary more than the tolerance SHOWN ON THE DRAWINGS. The compacted thickness shall not be consistently above or below the specified thickness.

MEASUREMENT

304.04 The method of measurement will be on a volume basis or a weight basis as shown in the Schedule of Items. The volume basis will be the computed number of cubic yards adjusted for compaction, that is loose volume. The original design quantity shown in the SCHEDULE OF ITEMS will be the final quantity unless adjustments are made as specified in the changes provision.

SECTION 603 – CULVERT

DESCRIPTION

603.01 This work shall consist of furnishing and installing, or installing only, steel, aluminum, or polyethylene culvert and appurtenances, including all excavation, bedding and backfilling required to complete the work.

MATERIALS

603.02 Culvert and coupling bands shall meet the following requirements: (1) metal coated corrugated steel culverts (CSC) shall comply with AASHTO M36, (2) corrugated aluminum alloy culverts (CAC) shall comply with AASHTO M196, and (3) corrugated polyethylene culvert (CPC) shall comply with AASHTO M294.

The materials used in each culvert installation shall be compatible with each other to prevent electrolysis or physical failure.

The lengths and locations of individual culverts SHOWN ON THE DRAWINGS are approximate. Culverts should not be ordered until locations are DESIGNATED on the ground and a written list of correct lengths is issued by the Engineer.

Riprap shall be obtained from sources SHOWN ON THE DRAWINGS or other approved sources. Riprap quality and size requirements are also SHOWN ON THE DRAWINGS.

CONSTRUCTION

603.03 EXCAVATION. Excavation for culverts shall be to the lines and grades DESIGNATED on the ground. The width of trenches shall permit satisfactory joining and thorough tamping of the bedding material under and around the culvert.

Unsuitable foundation material shall be excavated below the invert of the culvert to an approximate depth of 2 feet and a width of at least the culvert diameter plus 4 feet. Unsuitable material shall be replaced with selected granular foundation material and compacted in accordance with Subsection 603.05.

All suitable excavated material shall be utilized as backfill or embankment. No excavated material shall be placed in live streams. All surplus material shall be disposed of as SHOWN ON THE DRAWINGS.

603.04 BEDDING. The bedding for culverts shall consist of selected mineral soil meeting the requirement for backfill in Subsection 603.05. The bedding shall be uniformly compacted in accordance with Subsection 603.05. The cross section of the culvert bed shall be flat or shaped to fit the culvert.

603.04 LAYING CULVERT. Culverts shall be unloaded and handled with reasonable care. Culverts shall be placed on the bed starting at downstream end with any inside circumferential laps pointing downstream. Longitudinal laps on riveted or spot-welded culvert shall be positioned at any location between 45 degrees above or below horizontal. Lock-seam culvert shall be installed with the seam at the inlet end placed below the horizontal centerline. Culvert shall be firmly joined by form-fitting coupling bands. Dimpled bands shall not be used when the slope of the pipe is greater than 25 percent.

The centerline of the culvert shall not vary horizontally from a straight line drawn from inlet to outlet by more than 2% of the culvert length. The invert of the culvert shall not vary from the grade line by more than 2% of the culvert length. No reverse grades shall exist.

603.05 BACKFILLING. Backfill material shall be readily compactable material free of frozen lumps, chunks of highly plastic clay or other objectionable material. Rocks larger than 1 inch in diameter for CPC and 3 inches for metal culvert shall not be used within 1 foot of the culvert. After the bedding is prepared and the culvert is placed, selected material shall also be placed equally on both sides of the culvert in layers with a loose average depth of 6 inches, maximum depth 8 inches, thoroughly compacting each layer to the density STATED IN THE CONSTRUCTION NOTES. Such compacted layers shall extend for at least one diameter on each side of the culvert. Backfill shall be compacted without damaging or displacing the culvert. Backfilling and compacting shall be continued until the backfill is 12 inches above the top of the culvert. After being bedded and backfilled culvert shall be protected by an adequate cover of embankment before heavy equipment is permitted to cross during roadway construction.

Pipe distorted more than 5 percent of nominal dimensions, ruptured, or broken shall be displaced.

603.06 RIPRAP. Riprap shall be placed as SHOWN ON THE DRAWINGS.

MEASUREMENT

603.07 Culverts will be measured along the invert by the linear foot in place. Excavation, bedding and backfill will not be measured but will be considered a subsidiary obligation of the culvert item(s).

Riprap is measured by computing the number of cubic yards designed in place. The original design quantity shown in the Schedule of Items will be the final quantity unless adjustments are made as specified in the changes provision.