

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE INTEGRATED RESOURCE CONTRACT (Applicable to Contracts with Measurement before Harvest)		Name of Contractor	
National Forest Ottawa	Ranger District Ontonagon	Region Eastern	Contract Number
Contract Name North 16 Stewardship		Award Date	Termination Date 09/30/2020

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 Contractor.

Unless provided otherwise herein, Forest Service agrees to sell and permit Contractor to cut and remove Included Timber and Contractor agrees to purchase, cut, and remove Included Timber and complete required stewardship projects.

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

UNITED STATES OF AMERICA

Two Witnesses:^{2/}

(Name)

(Address)

(Name)

(Address)

By: _____
Contracting Officer

(Title)

By: _____
(Contractor) ^{3/}

(Title)

(Business Address)

I, ^{4/} _____, certify that I am the _____
 Secretary of the corporation named as Contractor herein; that _____
 who signed this contract on behalf of Contractor, 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 ^{5/}**

Contract Name: North 16 Stewardship

Contract No:

INSTRUCTIONS:

1/ If Contractor is a corporation, state a "corporation organized and existing under the laws of the State of _____" and specify the State; if Contractor is a partnership, state a "partnership consisting of _____" and specify the names of each partner; and if Contractor is a sole proprietor doing business under an assumed name, state "(n) individual doing business under the name of _____ City of _____, State of _____."

2/ The signatures and addresses of two witnesses are required if Contractor is other than a corporation.

3/ If Contractor is a co-partnership, the signatures should be: XYZ Company, by John Doe, a member of the firm. If Contractor 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.

4/ The certificate must be completed if Contractor is a corporation.

5/ For companies incorporated in States that require a corporate seal, 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/

Subcontractor Certification
Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion

Contract 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 contract 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 Contractor'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.

Contract Name: North 16 Stewardship

Contract No:

AT.0 - SPECIFIC CONDITIONS. The following conditions apply to the indicated portions of Division BT - Standard Provisions issued September 2004.

AT.1 - Location and Area, applicable to BT.1

This Contract Area of 1022 acres more or less is located in:

T50N-R37W, S. 1, 10, 11, & 12 Ontonagon County

AT.2 - Volume Estimate and Utilization Standards, applicable to CT.1, CT.2, CT.4, and GT.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
Mixed Conifer	Sawtimber	6.00	CCF	9.0	1	8	7.6	40
Mixed Hardwood	Sawtimber	299.00	CCF	11.0	1	8	9.6	50
Sugar Maple	Sawtimber	580.00	CCF	11.0	1	8	9.6	50
Aspen	Pulpwood	453.00	CCF	5.0	1	8	4.0	70
Mixed Conifer	Pulpwood	69.00	CCF	5.0	1	8	4.0	70
Mixed Hardwood	Pulpwood	3,350.00	CCF	5.0	1	8	4.0	70
Total Quantity		4,757.00	CCF					

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

AT.3- Timber Designations, applicable to CT.3; acres are approximate:

	Number	Acres
Clearcutting Units (CT.3.1)	_____	_____
Specified Road Clearing (CT.3.2)	_____	_____
Overstory Removal Units (CT.3.3)	_____	_____
Understory Removal Units (CT.3.4)	_____	_____
Individual Trees (CT.3.5)	_____	354
Incompletely Measured Payment Units (CT.3.6)	_____	_____

Contract Name: North 16 Stewardship

Contract No:

AT.4 - Timber Payment Rates, applicable to DT.1 and ET.0

AT.4.1 - Escalated Rates, applicable for Species and Products to be Paid for at Rates Escalated under DT.2

Species	Product	Unit of Measure	Rates per Unit of Measure				Required Deposits Slash Disposal \$	Base Index
			Base \$	Advertised \$	Bid Premium \$	Bid (Tentative) \$		
Not Applicable								

AT.4.2- Flat Rates, applicable 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) \$	
Mixed Conifer	Sawtimber	CCF	1.00	20.76			.00
Mixed Hardwood	Sawtimber	CCF	1.00	57.98			.00
Sugar Maple	Sawtimber	CCF	1.00	173.90			.00
Aspen	Pulpwood	CCF	1.00	26.66			.00
Mixed Conifer	Pulpwood	CCF	1.00	7.36			.00
Mixed Hardwood	Pulpwood	CCF	1.00	13.04			.00

For purposes of convenience in collection and bookkeeping, Bid Rates stated in AT.4 include payment of deposits for contract area betterment required pursuant to 16 USC 576b. Such deposits are not included as Required Deposits defined hereunder.

Contract Name: North 16 Stewardship

Contract No:

AT.4.3 - Schedule of Payment Units

Payment Unit No.	App rox. Acres	To be Escalated under AT.4.1				Total Tentative Payment \$	To be Paid for at Flat Rates under AT.4.2				Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
		Species	Product	Qty	UOM		Species	Product	Qty	UOM		
001	61					Mixed Conifer	Sawtimber	2.00	CCF			
						Mixed Hardwood	Sawtimber	27.00	CCF			
						Sugar Maple	Sawtimber	77.00	CCF			
						Aspen	Pulpwood	20.00	CCF			
						Mixed Conifer	Pulpwood	11.00	CCF			
						Mixed Hardwood	Pulpwood	479.00	CCF			
		Total PU Quantity And Value							616.00			CCF
002	37					Mixed Conifer	Sawtimber	0.00	CCF			
						Mixed Hardwood	Sawtimber	6.00	CCF			
						Sugar Maple	Sawtimber	11.00	CCF			
						Aspen	Pulpwood	95.00	CCF			
						Mixed Conifer	Pulpwood	15.00	CCF			
						Mixed Hardwood	Pulpwood	377.00	CCF			
		Total PU Quantity And Value							504.00			CCF
003	27					Mixed Conifer	Sawtimber	0.00	CCF			
						Mixed Hardwood	Sawtimber	9.00	CCF			
						Sugar Maple	Sawtimber	9.00	CCF			
						Aspen	Pulpwood	63.00	CCF			
						Mixed Conifer	Pulpwood	5.00	CCF			
						Mixed Hardwood	Pulpwood	242.00	CCF			
		Total PU Quantity And Value							328.00			CCF
004	35					Mixed Conifer	Sawtimber	0.00	CCF			
						Mixed Hardwood	Sawtimber	44.00	CCF			
						Sugar Maple	Sawtimber	76.00	CCF			
						Aspen	Pulpwood	9.00	CCF			
						Mixed Conifer	Pulpwood	0.00	CCF			
						Mixed Hardwood	Pulpwood	318.00	CCF			
		Total PU Quantity And Value							447.00			CCF
005	71					Mixed Conifer	Sawtimber	0.00	CCF			
						Mixed Hardwood	Sawtimber	95.00	CCF			
						Sugar Maple	Sawtimber	154.00	CCF			
						Aspen	Pulpwood	23.00	CCF			
						Mixed Conifer	Pulpwood	1.00	CCF			
						Mixed Hardwood	Pulpwood	631.00	CCF			
		Total PU Quantity And Value							904.00			CCF
006	50					Mixed Conifer	Sawtimber	0.00	CCF			
						Mixed Hardwood	Sawtimber	33.00	CCF			
						Sugar Maple	Sawtimber	125.00	CCF			
						Aspen	Pulpwood	25.00	CCF			
						Mixed Conifer	Pulpwood	2.00	CCF			
						Mixed Hardwood	Pulpwood	463.00	CCF			
		Total PU Quantity And Value							648.00			CCF
007	11					Mixed Conifer	Sawtimber	0.00	CCF			
						Mixed Hardwood	Sawtimber	8.00	CCF			
						Sugar Maple	Sawtimber	44.00	CCF			
						Aspen	Pulpwood	1.00	CCF			
						Mixed Conifer	Pulpwood	1.00	CCF			
						Mixed Hardwood	Pulpwood	109.00	CCF			
		Total PU Quantity And Value							163.00			CCF

Contract Name: North 16 Stewardship

Contract No:

Payment Unit No.	App rox. Acres	To be Escalated under AT.4.1		Total Tentative Payment \$	To be Paid for at Flat Rates under AT.4.2				Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
008	8				Mixed Conifer	Sawtimber	2.00	CCF		.00
					Mixed Hardwood	Sawtimber	6.00	CCF		
					Sugar Maple	Sawtimber	6.00	CCF		
					Aspen	Pulpwood	56.00	CCF		
					Mixed Conifer	Pulpwood	13.00	CCF		
					Mixed Hardwood	Pulpwood	119.00	CCF		
					Total PU Quantity And Value		202.00	CCF		
009	18				Mixed Conifer	Sawtimber	0.00	CCF		.00
					Mixed Hardwood	Sawtimber	13.00	CCF		
					Sugar Maple	Sawtimber	43.00	CCF		
					Aspen	Pulpwood	20.00	CCF		
					Mixed Conifer	Pulpwood	2.00	CCF		
					Mixed Hardwood	Pulpwood	179.00	CCF		
					Total PU Quantity And Value		257.00	CCF		
010	34				Mixed Conifer	Sawtimber	1.00	CCF		.00
					Mixed Hardwood	Sawtimber	19.00	CCF		
					Sugar Maple	Sawtimber	3.00	CCF		
					Aspen	Pulpwood	120.00	CCF		
					Mixed Conifer	Pulpwood	13.00	CCF		
					Mixed Hardwood	Pulpwood	243.00	CCF		
					Total PU Quantity And Value		399.00	CCF		
011	1				Mixed Conifer	Sawtimber	1.00	CCF		.00
					Mixed Hardwood	Sawtimber	37.00	CCF		
					Sugar Maple	Sawtimber	29.00	CCF		
					Aspen	Pulpwood	21.00	CCF		
					Mixed Conifer	Pulpwood	6.00	CCF		
					Mixed Hardwood	Pulpwood	177.00	CCF		
					Total PU Quantity And Value		271.00	CCF		
012	1				Mixed Conifer	Sawtimber	0.00	CCF		.00
					Mixed Hardwood	Sawtimber	2.00	CCF		
					Sugar Maple	Sawtimber	3.00	CCF		
					Aspen	Pulpwood	0.00	CCF		
					Mixed Conifer	Pulpwood	0.00	CCF		
					Mixed Hardwood	Pulpwood	13.00	CCF		
					Total PU Quantity And Value		18.00	CCF		

Contract Name: North 16 Stewardship

Contract No:

AT.4.4 - Stewardship Credits, applicable to ET.2.2 and KT-GT.9#

Mandatory Stewardship Projects					
Project Number	Project Description	Units of Measure	Quantity	Bid Rate \$	Total Credits
SC-01	Slash Closure	Each	1.00		
SC-02	Slash Closure	Each	1.00		
SC-03	Slash Closure	Each	1.00		
SC-04	Slash Closure	Each	1.00		
SC-05	Slash Closure	Each	1.00		
SC-06	Slash Closure	Each	1.00		
SC-07	Slash Closure	Each	1.00		
SC-08	Slash Closure	Each	1.00		

Optional Stewardship Projects						
Priority	Project Number	Project Description	Units of Measure	Quantity	Bid Rate \$	Total Credits
2	CB-01	Conifer Bundles	Each	10.00		
2	TF-01	Tree Felling Sudden Lake	Each	15.00		
2	TF-02	Tree Felling Bob Lake	Each	15.00		

Contract Name: North 16 Stewardship

Contract No:

The following definitions are established for the terms used in AT.4:

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 DT.3.1, DT.3.2, or DT.3.3.

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 AT.7, but are never less than Base Rates.

Bid Premium Rates are the amounts by which Contractor's bid is in excess of Advertised Rates. The Bid Premium Rates are constant during this contract, except as provided in DT.3.1, DT.3.2, and DT.3.3.

Bid Rates are the rates bid by Contractor (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 AT.4.1 is the Tentative Rate that is subject to quarterly adjustment under DT.2; for species and products in AT.4.2, the Bid Rate is the Flat Rate.

Required Deposits are deposits that Contractor 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 KT-FT.3.2#.

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 DT.2.

AT.5 - Indices Used in Quarterly Adjustment, applicable to DT.2

Species	Index Name and Date
Not Applicable	

AT.6 - High Stumps, applicable to GT.4.1.2

Species	Product	Maximum Stump Height (inches)
All	Sawtimber	14
All	Pulpwood	10

Contract Name: North 16 Stewardship

Contract No:

AT.7 - Specified Roads, applicable to FT.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		
Road No.	Name				Survey	Design	Construction Staking ^{1/}
1850	FDR1850 (C) (segment 0 to .06)	Single Lane - 15 mph	.06 / .1	SR-00 thru SR-33 05/04/2016	FS	FS	FS AC
1846	FDR1846 (R) (segment 0 to 1.32)	Single Lane - 15 mph	1.32 / 2.12	SR-00 thru SR-33 05/04/2016	FS	FS	FS AC
1850	FDR1850 (R) (segment .06 to 1.61)	Single Lane - 15 mph	1.55 / 2.49	SR-01 thru SR-33 05/04/2016	FS	FS	FS AC
1850-E	FDR1850-E (R) (segment 0 to .16)	Single Lane - 15 mph	.16 / .26	SR-01 thru SR-33 05/04/2016	FS	FS	FS AC
1850-F	FDR1850-F (R) (segment 0 to .37)	Single Lane - 15 mph	.37 / .6	SR-01 thru SR-33 05/04/2016	FS	FS	FS AC
1926-A	FDR1926-A (R) (segment 0 to .09)	Single Lane - 15 mph	.09 / .14	RS-01 thru SR-33 05/04/2016	FS	FS	FS AC

^{1/} Indicate timing, i.e., before clearing (BC) or after clearing (AC). Applicable to FT.2.1.2

AT.8 - Forest Service Engineering Completion Schedule, applicable to FT.2.1

Road No.	Road Name	Type of Work	Completion Date
	Not Applicable		

AT.9 - Fire Precautionary Period, applicable to HT.2

April 01 to November 15, inclusive

AT.10 - Contractor Responsibility to Furnish Crews and Equipment for:

Initial Fire Suppression, applicable to HT.3

Within 5.0 road miles

Fire Suppression Reinforcement, applicable to HT.3.1.2 and HT.3.1.3

Within 20.0 road miles

AT.11 - Contractor's Obligation per Operations Fire, applicable to HT.4.1

Maximum Amount: \$ \$1,000

AT.12 - Termination Date, applicable to IT.2

September 30, 2020

AT.13 - Normal Operating Season, applicable to GT.3.1, GT.6.6, IT.2.1, and JT.3

First Period: August 01 to September 30, inclusive

Second Period: December 15 to March 15, inclusive

Contract Name: North 16 Stewardship

Contract No:

AT.14 - Performance Bond, applicable to JT.1

Performance Bond Amount: _____

AT.15 - Downpayment, applicable to E.T.2.1.1

Downpayment Amount: Not Applicable

AT.16 - Periodic Payment Amount, applicable to ET.2.1.3

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

AT.17 - Market-Related Contract Term Addition Producer Price Index, applicable to IT.2.1.2

Index Name: Wood Chips **Index Number:** 3211135

AT.18 - Inapplicable Provisions

The following listed provisions are hereby made inapplicable. (Instructions: List by reference number and title.)

ET.2.1.5	DEPOSITS WHEN PAYMENT GUARANTEED
ET.4	PAYMENTS NOT RECEIVED
IT.2.1.2	MARKET-RELATED CONTRACT TERM ADDITION

AT.19 - List of Special Provisions in Part KT

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

KT-CT.3.0.1#	PROTECTED AREAS (06/2009)
KT-CT.3.5.5#	INDIVIDUAL TREES, CUT TREE MARKING (06/2009)
KT-CT.3.5.6#	INDIVIDUAL TREES, LEAVE TREE MARKING (06/2009)
KT-ET.2.1.5	DEPOSITS WHEN PAYMENT GUARANTEED (05/2010)
KT-ET.4	PAYMENTS NOT RECEIVED (08/2012)
KT-FT.1.0.3#	APPROACHES TO SURFACED ROADS (06/2009)
KT-FT.1.2#	USE OF ROADS BY CONTRACTOR (09/2004)
KT-FT.3.1#	ROAD MAINTENANCE REQUIREMENTS (09/2004)
KT-FT.3.3#	SNOW REMOVAL (06/2009)
KT-GT.3.1.4#	OPERATING RESTRICTIONS (06/2009)
KT-GT.4.1.2	STUMP MARKS (06/2009)
KT-GT.6.2#	SITE SPECIFIC WETLANDS PROTECTION MEASURES (09/2004)
KT-GT.6.3#	TEMPORARY ROAD CLOSURE (06/2009)
KT-GT.7#	SLASH DISPOSAL MEASURES (06/2009)
KT-GT.9#	STEWARDSHIP PROJECTS (09/2004)
KT-HT.2	FIRE PRECAUTIONS (06/2009)
KT-IT.2.1.2	MARKET-RELATED CONTRACT TERM ADDITION (11/2008)

There are no pages 10 & 11.

Contract Name: North 16 Stewardship

KT-CT.3.0.1# - PROTECTED AREAS (06/2009)

Notwithstanding the designations for cutting under CT.3.1, CT.3.3, CT.3.4, and CT.3.5, trees within the area to be protected in Payment Unit 005, 010 AND north and south of FR 1850 between PU 002 and PU 003 shall be left uncut. Boundary trees along the perimeter of Protected Areas have been identified by 3 ORANGE paint slashes and "PA" at eye level (facing AWAY from the Protected Area), and painted at the stump. Between PU 002 and PU 003 along FR 1850 the "PA" is identified with orange carsonite markers. . Boundary trees are not to be cut. Contract Area Map indicates with the symbol "PA" units within which Protected Areas are identified on the ground and are to be left uncut.

KT-CT.3.5.5# - 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 Units. Areas of Cut Tree Marking are shown on the Contract Area Map with the symbol "CTM."

PAYMENT UNIT(S)	PAINT COLOR
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Contract Name: North 16 Stewardship

KT-CT.3.5.5# - INDIVIDUAL TREES. (02/2008)

Cut Tree Marking Table

Payment Unit(s)	Paint Color(s)
001 – 007, 009 and 010	BLUE
011 and 012 (Roads)	YELLOW

Contract Name: North 16 Stewardship

KT-CT.3.5.6# - INDIVIDUAL TREES, LEAVE TREE MARKING (06/2009)

Individual trees which are NOT TO BE CUT are Marked with indicated color above and below stump height in all or parts of the following Payment Units. Areas of Leave Tree Marking are shown on the Contract Area Map with the symbol "LTM."

Payment Unit	Paint Color
--------------	-------------

Contract Name: North 16 Stewardship

KT-CT.3.5.6# - INDIVIDUAL TREES, LEAVE TREE MARKING. (06/2009)

Leave Tree Marking Table

Payment Unit(s)	Paint Color(s)
08	ORANGE

Contract Name: North 16 Stewardship

KT-ET.2.1.5 - DEPOSITS WHEN PAYMENT GUARANTEED (05/2010)

To the extent payment guarantee is provided under ET.3, requirements for advance cash deposits under ET.2.1.2 shall be waived for the value of Included Timber removed except for:

(a) Base Rates,

(b) associated charges, and

(c) the value of Included Timber exceeding the sum of stewardship credits that have not been established under ET.2.2 for mandatory stewardship projects listed in AT.4.4 plus optional stewardship projects listed in AT.4.4 authorized by Contracting Officer.

Charges for (a), (b) and (c) shall be waived for not more than a monthly billing period, subject to the provisions of ET.4.

Contract Name: North 16 Stewardship

KT-ET.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 Contractor'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 ET.2.1.8;
- (iii) Damages pursuant to JT.4;
- (iv) Road use fees;
- (v) Restoration of downpayment pursuant to ET.2.2;
- (vi) Periodic payments pursuant to ET.2.1.3;
- (vii) Extension Deposits pursuant to ET.2.1.7; 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 JT.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 Contractor'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 Contractor's Operations, and administrative offset, shall be stayed for so long as:

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

KT-FT.1.0.3# - APPROACHES TO SURFACED ROADS (06/2009)

Contractor shall apply and maintain 4 inches of 22A crushed gravel on all Temporary Road approaches to surfaced roads for a distance of 50 feet (or as directed by the Forest Service) feet back from the surfaced road. Surfaced roads include those with:

gravel, crushed rock, asphalt

Contract Name: North 16 Stewardship

KT-FT.1.2# - USE OF ROADS BY CONTRACTOR (09/2004)

Contractor's use of existing roads identified on Contract 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. Contractor's use of roads coded R, A, or W shall be in accordance with the following restrictions:

See Restricted Road List Table.

FS-2400-13T (94/04)

WO-KT-FT.1.2# – USE OF ROADS BY CONTRACTOR. (09/04)

Restricted Road List

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
1842	FR 1842	MP 0.23	POE	X	Hauling Prohibited
1846	FR 1846	MP 0.00	POE	U	Unsuitable for Hauling Prior to Required Road Reconstruction
1850	FR 1850	MP 0.06	POE	U	Unsuitable for Hauling Prior to Required Road Reconstruction
1850-E	FR 1850-E	MP 0.00	POE	U	Unsuitable for Hauling Prior to Required Road Reconstruction
1850-F	FR 1850-F	MP 0.00	POE	U	Unsuitable for Hauling Prior to Required Road Reconstruction
1926-A	FR 1926-A	MP 0.00	POE	U	Unsuitable for Hauling Prior to Required Road Reconstruction

POE = Point of Ending

Note: “Hauling” includes empty or loaded log trucks.

Contract Name: North 16 Stewardship

KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS (09/2004)

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

See Contract Road Maintenance Requirements Summary Table.

FS-2400-13T (9/04)

WO-KT-FT.3.1# – ROAD MAINTENANCE REQUIREMENTS. (09/04)

Contract Road Maintenance Requirements Summary

Road	Termini		Miles	Applicable Prehaul Road Maintenance Specifications									
	From	To		T-8030	T-8110	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620	
1842-A	0.00	0.09	0.09			P	P	P		P			

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

Road	Termini		Miles	Applicable During Haul Road Maintenance Specifications									
	From	To		T-8030	T-8110	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620	
1842-A	0.00	0.09	0.09	P			P	P		P			
1846	0.00	1.32	1.32	P			P	P		P			
1850	0.00	1.61	1.61	P			P	P		P			
1850-E	0.00	0.16	0.16	P			P	P		P			
1850-F	0.00	0.37	0.37	P			P	P		P			
1926-A	0.00	0.09	0.09	P			P	P		P			
1842	0.00	0.23	0.23	P	D	D	D	D		D	D		

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

Road	Termini		Miles	Applicable Post Haul Road Maintenance Specifications									
	From	To		T-8030	T-8110	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620	
1842-A	0.00	0.09	0.09				P	P	P	P		P	
1846	0.00	1.32	1.32				P	P	P	P		P	
1850	0.00	1.61	1.61				P	P	P	P		P	
1850-E	0.00	0.16	0.16				P	P	P	P			
1850-F	0.00	0.37	0.37				P	P	P	P			
1926-A	0.00	0.09	0.09				P	P	P	P		P	
1842	0.00	0.23	0.23		D	D	D	D		D	D		

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

Contract Name: North 16 Stewardship

KT-FT.3.3# - 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, Contractor shall adhere to the following performance standards, unless otherwise agreed:

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 4 -inch depth compacted snow mat shall be maintained on the roadbed during blading.

Snow shall be removed from the entire road width, including turnouts.

Snow berms shall 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.

Openings shall 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.

Tracked or clefted vehicles shall not be used for snow removal without prior written approval of Forest Service Representative.

KT-GT.3.1.4# - OPERATING RESTRICTIONS (06/2009)

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

Restricted operations/activities:

Payment Units 001 thru 010: Purchasers operations are restricted during the period of October 1 through December 14 AND March 16 through July 31 (due to soils and protection of residual stems).

Within the Contract Area, decked pine and other conifer material must be removed from the Contract Area within 30 days of cutting to minimize the potential breeding areas for pine beetles during the period of May 1 thru September 30.

Prohibited operations/activities:

N/A

KT-GT.4.1.2 - STUMP MARKS (06/2009)

Trees designated for cutting under CT.3.5 have been marked with paint at breast height and below stump height. Trees shall be felled so as to leave paint on stump.

KT-GT.6.2# - SITE SPECIFIC WETLANDS PROTECTION MEASURES (09/2004)

Measures needed to protect wetlands identified on the Sale Area Map or on the ground include:

All equipment, vehicles, and logging slash are prohibited from these areas. Any logging slash that falls within these areas shall be removed or treated, as directed by the Forest Service.

KT-GT.6.3# - TEMPORARY ROAD CLOSURE (06/2009)

In addition to GT.6.3, measures to effectively block temporary roads to normal vehicular traffic shall consist of the following:

Berm will be placed at an angle of 30 to 45 degrees, relative to the road. Dig a trench, 12 to 18 inches below the surface of the road or trail, and extend it to both sides of the road to prevent runoff from bypassing the berm/waterbar. The uphill end should extend beyond the side ditch of the road and into the earth berm to intercept any ditch flows. The outflow end is to be fully open and extended far enough beyond the edge of the road or trail to safely disperse runoff onto the undisturbed forest floor. When placement of the closure device does not require the berm to also function as a waterbar for drainage, the trench will not be required. Height of the berm will be approx 4 feet. Rocks/boulders, logging slash, cull logs, and stumps may be incorporated into the ridge of earth during construction as long as proper drainage is maintained and the road is completely blocked, unless otherwise agreed in writing.

Contract Name: North 16 Stewardship

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

Slash resulting from Contractor'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 KT-GT.6#.

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

Other specific slash disposal requirements are as follows:

SDZ - shown on Contract Area Map for Payment Units 001-012. Slash resulting from construction clearing (such as from landings, temporary roads, ROW clearing associated with pre-haul road maintenance requirements listed in KT-FT.3.1#), including Specified Road construction, shall be lopped and scattered to lie within 3 feet of the ground. All root wads will be severed from the stem and righted on the ground or otherwise disposed of as directed by the Forest Service, concurrent with operations.

SDZ(2) - shown on the Contract Area Map in Payment Units 001-010 - All slash resulting from Purchaser's operations shall either be 1) left at the stump when severed from the merchantable portion of the stem, 2) delimbed in place when bunched with processor-type equipment prior to skidding/forwarding to a central processing point, or 3) spread back evenly across the payment unit, concurrent with operations.

Slash incorporated into closure berms is NOT included in the above described SDZ and SDZ(2) requirements.

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

KT-GT.9# - STEWARDSHIP PROJECTS (09/2004)

Performance of stewardship projects shall be in accordance with the following specifications.

Stewardship Projects

Contract Name: North 16 Stewardship

KT-GT.9# - STEWARDSHIP PROJECTS. (09/2004)

Stewardship Projects

Mandatory Stewardship Projects		
Project Number	Project Description	Specification Pages
SC-01	Road Decommissioning (Slash Closure)	RD-1 through RD-3; SR-9 through SR-33
SC-02	Road Decommissioning (Slash Closure)	RD-1 through RD-3; SR-9 through SR-33
SC-03	Road Decommissioning (Slash Closure)	RD-1 through RD-3; SR-9 through SR-33
SC-04	Road Decommissioning (Slash Closure)	RD-1 through RD-3; SR-9 through SR-33
SC-05	Road Decommissioning (Slash Closure)	RD-1 through RD-3; SR-9 through SR-33
SC-06	Road Decommissioning (Slash Closure)	RD-1 through RD-3; SR-9 through SR-33
SC-07	Road Decommissioning (Slash Closure)	RD-1 through RD-3; SR-9 through SR-33
SC-08	Road Decommissioning (Slash Closure)	RD-1 through RD-3; SR-9 through SR-33

Optional Stewardship Projects			
Priority	Project Number	Project Description	Specification Pages
2	CB-01	Conifer Bundles (Sudden Lake)	CB-01 through CB-03
2	TF-01	Sudden Lake Tree Felling	TF-01
2	TF-02	Bob Lake Tree Felling	TF-01

Contract Name: North 16 Stewardship

KT-HT.2 - FIRE PRECAUTIONS (06/2009)

Unless otherwise agreed in writing between the Contractor and the Contracting Officer, the following are specific precautionary measures applicable during Contractor's Operations in Fire Precautionary Period as indicated in AT.9:

1. Contractor shall maintain Forest Service-approved spark arresting devices 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 one-pound multipurpose fire extinguisher readily available.
2. Contractor shall require that smoking and the building of lunch or warming fires by Contractor's employees, contractors, or subcontractors be confined to designated safe places where flammable debris has been cleared away and where, at the option of the Contractor, 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. Contractor shall furnish serviceable firefighting tools. Location, numbers, and types of tools shall be specified in the Fire Prevention and Control Plan in accordance with HT.1.

KT-IT.2.1.1.2 - 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 AT.17. Contractor 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 Contractor'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 Contractor'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 contract 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 Contractor'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.

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04) WO-KT-FT.3.1# Special Provisions

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 **GT.3.1**.

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 **IT.3.3**.

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.

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04) WO-KT-FT.3.1# Special Provisions

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 ravelling.

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.

**NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS
 FS-2400-13T Contracts (09/04)
 WO-KT-FT.3.1# Special Provisions**

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 3. ROAD MAINTENANCE REQUIREMENTS SCHEDULE

See **WO-KT-FT.3.1#** Summary Table.

SECTION 4. ROAD MAINTENANCE SPECIFICATIONS

INCLUDED SPECIFICATIONS

<u>Specification No.</u>	<u>Specification Title</u>
T-8030	Snow Removal
T-8110	Maintenance Blading/Grading
T-8130	Spot Surface Course Placement/Replenishment
T-8310	Ditch Cleaning
T-8340	Drainage Structure Maintenance
T-8350	Roadway Drainage Maintenance
T-8360	Composite High Clearance Road Maintenance
T-8420	Cutting Roadway Vegetation
T-8620	Miscellaneous Maintenance

T-8030 Snow Removal

DESCRIPTION

1.1 This Section provides for removal of snow from roads to facilitate logging operations and safe use. Remove snow from all or part of the traveled way, including sufficient turnouts for safe and efficient use for timber transportation and to protect the road. Remove intruding windfalls, debris or slough and slide material and dispose of only as necessary to provide passage for timber transportation. Removed materials may be deposited off the traveled way or outside the traveled way at locations designated by the Forest Service Representative (FSR). Snow may also be compacted as needed to freeze down soft areas or wet areas. This work is considered part of this specification. Equipment used for this work shall be in accordance with this specification and approved in advance by the FSR.

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04) WO-KT-FT.3.1# Special Provisions

EQUIPMENT

- 2.1 Purchaser may use any type of equipment to remove snow, providing:
- a. Type or use of equipment is not restricted in **CT5.12#** or Schedule document.
 - b. Equipment is of the size and type commonly used to remove snow and will not cause damage to the road. Tracked or cleated vehicles shall not be used unless approved in writing by the FSR.
 - c. The 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 4 -inch depth compacted snow mat will be maintained on the roadbed during blading.

REQUIREMENTS

- 3.1 Erect signs required by the Sign Plan in the SUPPLEMENTAL SPECIFICATIONS or as shown on the Section 3. Road Maintenance Requirements Schedule. Perform work in a manner to preserve and protect roads and appurtenances, and prevent erosion damage to roads, streams, and other forest values.
- 3.2 Space, construct, and maintain drainage holes in the dike of snow or berm caused by snow removal operations. Place drain holes to obtain surface drainage without discharging on erodible fills.
- 3.3 Upon seasonal completion of Purchaser's Operations, effectively block the road by a snow barricade, unless otherwise approved by the Contracting Officer.
- 3.4 Ice control may be performed by Purchaser when approved by the FSR in writing. Such approval will include ice control materials, application rates, and any specific requirements of use.
- 3.5 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.

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

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

Outslope of the Traveled Way, Turnouts, and Shoulder; repairing Berms; blending approach road intersections; and cleaning Drainage Dips and Lead-off Ditches.

EQUIPMENT

2.1 The equipment required to shape, spread, and compact surfacing is listed below.

Road Number	Road Termini - From	Road Termini - To	Equipment Description
1842	FH-16	MP 0.23	Motor-grader (or equivalent)

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.

3.7 Rocks or other Material remaining on the Traveled Way after the final pass that are 4 inches in diameter or larger shall be removed. The unsuitable Material shall be disposed of by side casting unless agreed otherwise. Side casting into streams, lakes, or water courses will not be permitted.

3.8 Material resulting from this activity shall not remain on or in structures, such as Culverts, cattle guards, ditches, bridges, and Drainage Dips.

3.9 Material resulting from this activity, plus any accumulated debris, shall be removed from roadway structures, such as concrete low-water crossings or fords.

T-8130 Spot Surface Course Placement/Replenishment

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

DESCRIPTION

1.1 Spot Surface Course Placement/Replenishment includes Subgrade preparation, furnishing, hauling, spreading and shaping materials in accordance with the requirements.

MATERIALS

2.1 Surface Course Material will be in accordance with the subsection 3.2 of these specifications. Only commercial sources of aggregate will be accepted, except surfacing material may also be purchased from the government, where available, by filling out a form 2600, paying the required fees, and obtaining a permit.

REQUIREMENTS

3.1 Subgrade Preparation. Prepare Subgrade to receive Surface Course Material at locations as designated on-the-ground by the Forest Service on roads listed below. Prepare the Subgrade by shaping the Roadbed to approximately the original cross-section and consistent with adjacent sections.

3.2 Furnish, haul and spread Material at locations designated on the ground by the Forest Service (FS). Compact the aggregate by operating spreading and hauling equipment over the full width of each layer of the aggregate, or by other methods as specified below.

Road Number	Type Material	Finished Compacted Thickness Specified	Total Quantity (Tons or cu.yds.)	Compaction Method
1842-A (MP 0.00)	Crushed Aggregate ^{1/}	Surface Entrance	20 CY (26 CY) ^{2/}	See 3.2 Above
1842-A (MP 0.06)	Pit Run Gravel ^{3/}	Construct Hardened Dip	20 CY (26 CY) ^{2/}	See 3.2 Above
1842-A (MP 0.08)	Pit Run Gravel ^{3/}	As Directed by Forest Service	30 CY (39 CY) ^{2/}	See 3.2 Above

^{1/} Furnish, Haul, Place. Must meet M-DOT Designation 22A.

^{2/} Quantity of material in () is the approximate loose volume.

^{3/} Furnish, Haul, Place. Must 100% small than 8” diameter.

3.3 Variations. The Purchaser will be required to furnish weight tickets to the FS for each load of commercially obtained crushed aggregate prior to the final inspection. For aggregate purchased from the government, a count of truck loads will be required in addition to finished depth checks for the placed and compacted aggregate. Widths and lengths will be as staked or from schedule. When it is mutually agreed that all or part of the Surface Course Material is not needed, the estimated cost of surfacing not placed shall be charged to the Timber Sale Account in accordance with **IT.3.3**.

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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T-8310 Ditch Cleaning

DESCRIPTION

- 1.1 Ditch cleaning is the removal and disposal of all accumulated organic and Slough Material from Roadway ditches to provide a positive draining waterway of uniform width, depth, and grade.

REQUIREMENTS

- 3.1 Ditch cleaning shall be repeated during sale operations as often as necessary to facilitate proper drainage.
- 3.2 All Slough Material or other debris which might obstruct water flow in the Roadway ditch shall be removed. Material removed from ditches that are not suitable for blending into the existing surface course shall be disposed of in places agreed to in writing by the FSR.
- 3.3 Roadway back slopes shall not be undercut.

T-8340 Drainage Structure Maintenance

DESCRIPTION

- 1.1 This work consists of maintaining and/or installation/removal of Drainage Structures and related items such as: inlet and outlet channels, existing riprap, trash racks, necessary geotextiles, pipes, and drop-inlets.

MATERIALS

- 2.1 All Materials used in the maintenance and/or installation/removal of Drainage Structures shall conform by type and specification to the Material in the structure being maintained or as indicated in the subsection 3.3 below.

REQUIREMENTS

- 3.1 Drainage Structures and related items shall be cleared of all foreign Material deposited above the bottom of the structure and all vegetative growth which interferes with the water flow. Material removed that cannot be incorporated into maintenance work shall be uniformly placed on fill slopes unless agreed otherwise.
- 3.2 Perform maintenance to insure the proper functioning of the head walls, aprons, inlet assemblies, riprap, trash racks and other facilities related to the Drainage Structure.

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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WO-KT-FT.3.1# Special Provisions

3.3 Install/remove ditches, drainage dips, rock crossings and/or culverts as shown below, and as marked on the ground. Installation of structures shall not begin without the presence of a FSR unless agreed to in writing by the FSR.

3.4 Installation shall be in accordance with construction industry standards and practices.

3.5 Culverts designated for removal/disposal shall become the property of the Purchaser and shall be disposed of properly.

3.5 Temporary culverts provided by the USFS shall remain the property of the government.

3.7 Bridges. Any miscellaneous parts needing repair or replacement during normal use of any bridge during haul shall be considered maintenance. This includes minor items such as object markers, running planks that have loosened or cracked deck boards, or drainage structures which may become plugged. Bridge decks that are dirt and dust covered shall be cleaned to allow for proper drainage and for safety of the user.

T-8350 Roadway Drainage Maintenance

DESCRIPTION

1.1 This work consists of providing Post Haul drainage on roads.

MATERIALS

2.1 All Materials used in the maintenance and/or installation/removal of Drainage Structures shall conform by type and specification to the Material in the structure being maintained, or as indicated in subsection 3.3.

REQUIREMENTS

3.1 Upon completion of work, shape the roadway to provide for the removal of surface water. The roadway need not be passable to vehicles (ML-1 roads). Repair and reinstall waterbars, barriers or berms existing prior to the Purchaser's operation. Areas where water is ponded by existing centerline profile sags in through cuts may be left untreated.

3.2 Any of the following methods are acceptable for use at eroded or rutted locations:

- (a) Method A: Outsloping the roadbed at not less than ½ inch per yard of width.
- (b) Method B: Insloping the roadbed at not less than ½ inch per yard of width.
- (c) Method C: Water bar roadbed at locations staked on the ground and construct as shown on the enclosed detail.
- (d) Method D: Crown the roadbed as shown in the attached detail as the typical section for that length of road.

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

- 3.3 Drainage structures located in roadbed through fills and natural watercourses shall be fully functional without obstructions, including inlet and outlet channel within 20 feet of the structure. **(All structures within termini indicated in WO-KT-FT.3.1# Summary Table).**
- 3.4 Entrance Devices. Upon completion of work, replace entrance devices to effectively eliminate access by motorized vehicles (ML-1).
- 3.5 Seed and fertilize all disturbed areas in accordance with requirements set forth in T-8410 Vegetation Establishment.

T-8360 Composite High Clearance Road Maintenance

DESCRIPTION

- 1.1 This work consists of making limited use roads passable for project use by Purchaser and providing drainage from the traveled way and roadbed.

MATERIALS

- 2.1 Required materials are listed in subsection 3.2.

REQUIREMENTS

3.1 Traveled Way

A. Purchaser may smooth or fill existing cross ditches and waterbars and, by agreement, modify existing road junction to enable vehicle access. Prior to beginning haul and resumption of haul after an extended stoppage:

1. Remove brush, fallen trees, rocks, and other debris from traveled way, including turnouts, turnarounds, and other locations that interfere with needed maintenance. No object extending over 4 inches above the road surface shall remain within the 12 feet usable traveled way.
2. Center the usable width of the roadbed or position away from the fill slope.
3. Cut and remove standing or down trees, logs, brush, and limbs from within the 12 feet usable traveled way. Remove encroaching limbs to a height of 14 feet above the traveled way surface. Scatter material not meeting utilization standards outside and below the roadbed on the fill side. Limb and remove designated timber which meets utilization standards or deck at agreed locations.
4. Place all removed material away from drainages and in locations previously agreed to in writing by the FSR.
5. During use, maintain drainage structures including dips, ditches and culverts in a usable condition and surface in a flat, Insloped or Outsloped, or Crowned usable condition, **per Typical Drawing.**

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

3.2 Drainage Facilities. Clean and recondition drainage facilities in accordance with T-8310 Ditch Cleaning and T-8340 Drainage Structure Maintenance; **maintain all other structures per 3.1, Item 5 above within termini indicated in WO-KT-FT.3.1# Summary Table.**

3.3 Slough and Slides

1. Slough and Slides may be left in place provided surface drainage is adequately provided and at least 12 feet of width is available for vehicle passage.
2. Purchaser may reposition or ramp over Slides and Slough when the Traveled Way is less than 12 feet providing the material is capable of supporting vehicles. Limit Outslope to no more than six percent.
3. Reposition Slough or Slide materials, which are not capable of supporting a vehicle, on the roadbed to provide the 12 feet width. When directed by Forest Service, Slough or Slide material will be removed under Section T-8320 Slide, Slump, and Erosion Repair.

3.4 Slumps, Eroded areas, and Washouts

1. Drain the roadbed immediately upgrade of Slumps and longitudinal cracks to prevent water from entering Slump area.
2. Slumps and longitudinal cracks at the edge of the roadbed shall not be considered a part of the usable width. Usable width may be reduced to ten feet in the area of the Slump.
3. Unless Forest Service agrees to material being placed on Slumps, ramp the Slumps on both ends into undisturbed roadbed to provide at least ten feet usable width. Use removed materials to guide vehicles to the ramp location or to aid in draining the area.
4. Eroded areas/washouts may be filled with suitable material and compacted by operating equipment over the fill area.

3.5 Posthaul

A. At the end of hauling or prior to entering into seasonal shutdowns or a period of extended inactivity:

1. Shape the traveled way and disturbed roadbed to provide functional drainage.
2. Reinstall removed cross ditches and waterbars and provide any additional drainage structures necessary to offset changes caused through use and maintenance.
3. Leave roads useable for high clearance vehicles. Remove or reshape Purchaser modifications at road junctions to leave the entrance as it was before use, or as agreed at the time of improvement.
4. Close all roads which were closed previously, using prior existing methodology.

T-8420 Cutting Roadway Vegetation

DESCRIPTION

- 1.1 This work includes removal of brush, trees and other vegetative growth from within the clearing limits. This may include brush mowing of shoulders to prevent larger growth which would inhibit travel in the future.

EQUIPMENT

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

2.2 Equipment use may include farm tractor mounted mowing or brushing equipment.

If brushing equipment is required it must be of a size and power to cut off and masticate stems up to four inches in diameter. Larger growth may require hand clearing with a chainsaw or mechanized equipment able to handle larger trees.

REQUIREMENTS

3.1 Vegetative matter within the Roadway which impedes vehicular travel, and/or interferes with road maintenance operations, such as surface blading and ditch and culvert cleaning shall be removed. Downed timber meeting utilization standards shall be cut in appropriate lengths and decked in locations where agreed upon and the Traveled Way or sight distances will not be impaired.

3.2 Vegetative matter removed from the clearing limits shall be scattered outside the clearing limits at least 3 (and lopped to within 3 feet of ground) feet perpendicular to the road surface.

3.3 Trim tree branches that extend over the road surface and shoulders to attain a clear height of 14 feet. Trim branches flush with the tree or as close as possible without causing damage or scarring to the bole. Area shall be left neatly trimmed.

3.4 Any stump removed shall be placed in an upright position out of the clearing limits.

3.5 Area shall not be left in an unsightly condition. The FSR shall have the final say over how the area is left.

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.

NORTH 16 STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

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
1842-A	1842-A	1/, 2/	Install	Berm	4/	1
1846	1846	1/, 2/	Install	Berm ^{3/}	4/	1
1850	1850	1/, 2/	Install	Berm	4/	1
1926-A	1926-A	1/, 2/	Install	Berm	4/	1

^{1/} **Shown on Contract Area Map**

^{2/} **At Location Designated by Forest Service**

^{3/} **ATV Passable Berm**

^{4/} **Per Typical Drawing – Earthen Berms/Road Closure Devices**

Supplemental Specifications to Special Provision KT-GT.9# - Stewardship Projects

Stewardship Project: Slash Closure – Road Decommissioning

Objective: Permanently make unauthorized roads impassable.

Stewardship Credits Earned: Will be based on the Unit of Measure listed below.

Mandatory Service Projects

Project Number	Road #	Location of Slash Closure Work	Unit of Measure	Estimated Quantity
SC-01	1846	FR 1846 road – South Segment	Each	1
SC-02	1846	FR 1846 road – North Segment	Each	1
SC-03	0506632	Off of FR 1850 to South	Each	1
SC-04	0506630	Off of FR 1850 to South	Each	1
SC-05	1850-E	FR 1850-E – South End	Each	1
SC-06	1850-F	FR 1850-F – North End	Each	1
SC-07	1850	FR 1850 – East End	Each	1
SC-08	1926-A	FR 1926-A-South End	Each	1

Material and Placement Requirements

- Debris material including stumps, trees, logging slash, rocks, and brush should be used to obstruct the travel way on the eight (8) road sections designated by Forest Service for decommissioning, as listed in the above table. This material may have to be hauled or moved from locations agreed to with Forest Service and placed on designated road segments.
- Material must be scattered across travel way with a minimum of 100% of the road surface covered with material for a distance of 150 feet and an average depth of 36 inches on each road section.
- Material shall be placed parallel, diagonal, and perpendicular to motorized travel direction.

SUPPLEMENTAL SPECIFICATIONS (KT-GT.9#)

Statement of Work

The Contractor shall provide any and all equipment, labor, supplies, tools, supervision, transportation, materials including safety and other incidentals necessary to perform all work activities located within the boundaries of the Contract Area, in accordance with the specifications, exhibits and clauses contained or referenced herein.

Schedule of Work

Project No.	Spec. No.	Road #Location/ Milepost	Work Description	Unit of Measure & M of M¹	Quantity
Mandatory					
SC-01			Slash Closure		
	650	0.00-0.03	Haul and place stumps, slash, tops and debris in roadbed for 150' - FR 1846 –South Segment.	EA	1
SC-02			Slash Closure		
	650	0.00-0.03	Haul and place stumps, slash, tops and debris in roadbed for 150' - FR 1846 – North Segment.	EA	1
SC-03			Slash Closure		
	650	0.00-0.03	Haul and place stumps, slash, tops and debris in roadbed for the first 150' from intersection of FR 1850 and 0506632.	EA	1
SC-04			Slash Closure		
	650	0.00-0.03	Haul and place stumps, slash, tops and debris in roadbed for the first 150' from FR 1850 and 0506630.	EA	1
SC-05			Slash Closure		
	650	0.00-0.03	Haul and place stumps, slash, tops and debris in roadbed for the last 150' on FR 1850-E.	EA	1
SC-06			Slash Closure		
	650	0.00-0.03	Haul and place stumps, slash, tops and debris in roadbed for the last 150' on FR 1850-F	EA	1
SC-07			Slash Closure		
	650	0.00-0.03	Haul and place stumps, slash, tops and debris in roadbed for the last 150' on FR 1850.	EA	1
SC-08			Slash Closure		
	650	0.00-0.03	Haul and place stumps, slash, tops and debris in roadbed for the last 150' on FR 1926-A.	EA	1

NORTH 16 STEWARDSHIP

Road Decommission Stewardship Notes

Note: Logging slash, stumps, rocks and debris placed on road surface on the designated sections by the Forest Service with materials placed on an average of 36 inches in depth and 150 feet in length. Material must be scattered across travel way width with a minimum of 100% of the road surface covered with material. Material shall be placed parallel, diagonal and perpendicular to motorized travel direction.

Note: The decommissioning material may have to be hauled and placed on certain road segments.

Note: Additional debris materials will be generated for use during the clearing and grubbing of roads throughout project. This material may also be used for slash closure of decommissioned roads.

Note: See Stewardship Service Item map for specific slash closure locations.

Supplemental Specifications to Special Provision KT-GT.9# - Stewardship Projects**Fisheries Projects – Construction and Placement of Conifer Bundles: Sudden Lake**

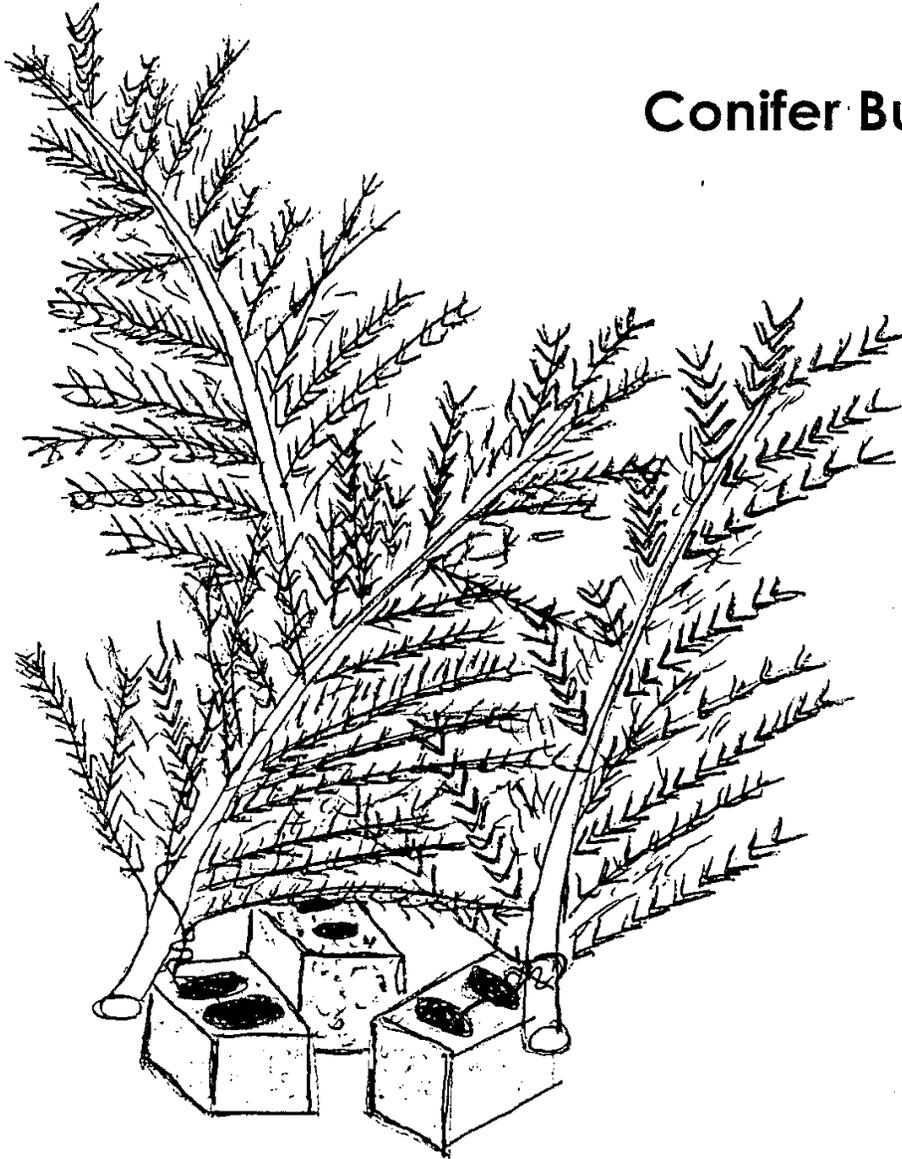
Project Number	Construction Product	Unit of Measure	# of Structures	Construction Location
CB-001	Conifer Bundle	Structure	10	Sudden Lake

Objective: Provide materials, construct, and place 10 conifer bundles for fish habitat on Sudden Lake. Conifer bundles are small live conifer trees which are cut, grouped together, and placed in lakes.

Specifications:

1. Construction Materials:
 - a. Utilize 2” to 4” diameter and 4’ to 15’ long balsam or spruce trees. Tops of designated trees that have been harvested that meet this dimension are acceptable. Harvest area for trees have been determined by the Forest Service on the Contract Area Map in the lower half of P.U. 8.
2. Bundle Creation
 - b. Per bundle, any number of conifers will be placed together to create the bundle that averages an 8”- 10” in diameter. For example, a bundle could be made up of many small trees or one large tree to achieve this. Tree branches will be left on the trunk of the tree.
 - c. Harvested trees will be lashed together with 16 gauge or larger wire. Wire shall be wrapped around the conifers and used to attach the conifers to the masonry concrete blocks (see attached diagram).
 - d. There will be a gap of no more than 5” of wire between the conifers and masonry blocks.
 - e. 1 – 40# masonry concrete block per structure (for a total of 10 blocks) will be used to attach the woody material and anchor structures to the bottom.
3. Placement: (see attached map)
 - a. Place conifer bundles in water 10’ or greater in depth. Approximate placement locations are identified on the following map.
 - b. Structures can be placed in open water with a boat or on the ice.

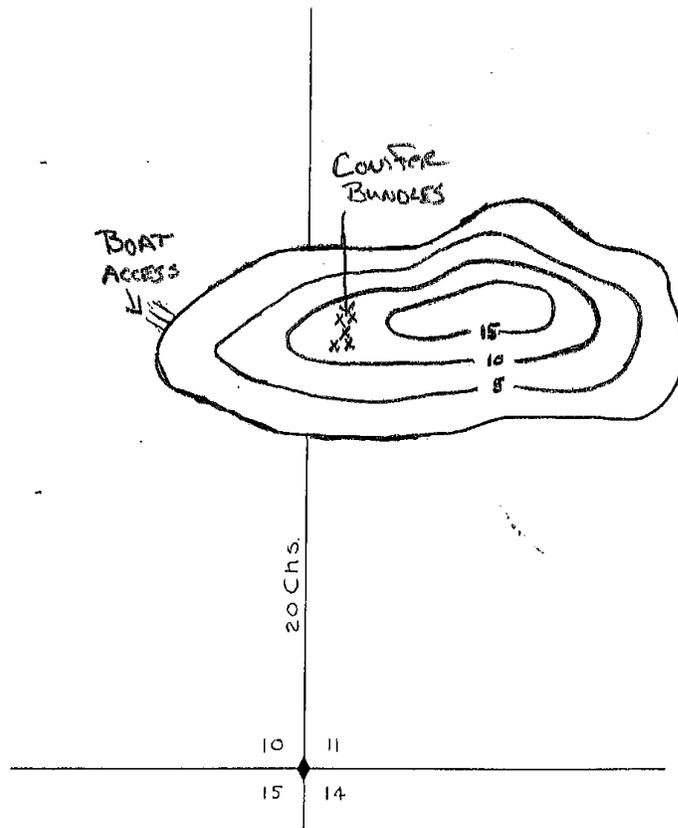
Conifer Bundles



Conifer bundles are simply weighted "Christmas tree" sized evergreens placed in groups of three to five trees each for fish cover and fish spawning habitat. These "Christmas tree reefs" are quite effective toward improving spawning habitat for perch and northern pike with their sticky eggs that they attach to vegetation or on other vertical substrates.

R-9
U.S. Department of Agriculture
Forest Service
LAKE AND STREAM SURVEY
SUDDEN LAKE
Ottawa National Forest
Michigan

Location: Sec. 10411, T.50N. R.37W.
Scale: 8 Inches = 1 Mile



Contour Map
Contour Interval = 5'

Supplemental Specifications to Special Provision KT-GT.9# - Stewardship Projects

Fisheries Projects – Tree Felling: Bob and Sudden Lake

Project Number	Construction Product	Unit of Measure	# of Structures	Construction Location
TF-001	Trees felled into lake	Structure (trees)	15	Sudden Lake
TF-002	Trees felled into lake	Structure (trees)	15	Bob Lake

Objective: Provide the service of felling trees into the water along the shorelines of Bob and Sudden Lakes. This project will provide high quality fish habitat. Tree drops involve the cutting and dropping of selected shoreline trees with chainsaws into waterbodies that emulate natural tree falls. The cutting and placing of the trees should look as natural possible.

Specifications:

1. Fell 15 trees along the shoreline of Bob Lake.
2. Fell 15 trees along the shoreline of Sudden Lake.
3. All trees to be felled are pre-determined and marked with pink paint. (Double band around the tree). The service contract map with GPS locations of the pre-determined trees will be provided to the contractor.
4. Some trees have multiple large stems and may be counted as one tree with the GPS points, but all trees with pink paint are to be cut for a total of 15 trees per lake.
5. Trees shall be felled perpendicular to the shoreline; in most cases this will leave a tree that is partially on land.
6. Attention will be given to the visual appearance of the remaining stumps as viewed from the water. After each tree is felled the remaining stump will need to be re-cut to slope away from the shoreline. Each remaining stump should not exceed 30” in height.
7. Work may be accomplished year-round with access via land, ice or water.

**NORTH 16 STEWARDSHIP
SPECIFIED ROAD SCHEDULE OF ITEMS**

Item Number	Item Description & Milepost	C or R ¹	Road Std. (W,D,S) ²	Unit & M of M ³	Quantity	Unit Allowance	Estimated Allowance
FR 1846		R	D				
MP 0.0-0.46							
249(02)	Composite Road Construction: Reconstruct existing road in accordance with the specifications and standard plans.			Mile DQ	0.46	\$ 4,000.00	\$ 1,840.00
MP 0.0							
301 (13)	Furnish, haul and place 20 CY of crushed aggregate for surfacing entrance. (26 CY loose material)			CY DQ	20	\$ 30.00	\$ 600.00
MP 0.01							
203 (01)	Remove existing culvert and dispose of off Forest Service property.			EA DQ	1	\$ 200.00	\$ 200.00
602 (01)	Furnish and install 30' of 15" HDPE smooth lined corrugated culvert pipe.			FT DQ	30	\$ 21.00	\$ 630.00
MP 0.02							
301(22)	Furnish haul and place 30 CY of pitrun 8" thick with a 12' wide finished surface. (39 CY loose material)			CY DQ	30	\$ 25.00	\$ 750.00
MP 0.08-0.12							
301(22)	Furnish haul and place 70 CY of pitrun 8" thick with a 12' wide finished surface. (91 CY loose material)			CY DQ	70	\$ 25.00	\$ 1,750.00
MP 0.08-0.12 Right							
249 (03)	Reconstruct ditch to drain to culvert at MP 0.10.			LS DQ	1	\$ 400.00	\$ 400.00
MP 0.10							
602 (01)	Furnish and install 30' of 15" HDPE smooth lined corrugated culvert pipe.			FT DQ	30	\$ 21.00	\$ 630.00
MP 0.14							
301(22)	Furnish haul and place 30 CY of pitrun 8" thick with a 12' wide finished surface. (39 CY loose material)			CY DQ	30	\$ 25.00	\$ 750.00
MP 0.18							
301(22)	Furnish haul and place 30 CY of pitrun 8" thick with a 12' wide finished surface. (39 CY loose material)			CY DQ	30	\$ 25.00	\$ 750.00
MP 0.22							
301(22)	Furnish haul and place 30 CY of pitrun 8" thick with a 12' wide finished surface. (39 CY loose material)			CY DQ	30	\$ 25.00	\$ 750.00

¹C = Construction, R = Reconstruction²W = Winter, D = Dry Summer, S = Summer³Method of Measure

**NORTH 16 STEWARDSHIP
SPECIFIED ROAD SCHEDULE OF ITEMS**

Item Number	Item Description & Milepost	C or R ¹	Road Std. (W,D,S) ²	Unit & M of M ³	Quantity	Unit Allowance	Estimated Allowance
FR 1846 Cont.		R	D				
MP 0.27							
249 (05)	Excavate 100 CY from FR 1846-B place on FR 1846 to improve grade.			CY DQ	100	\$ 5.00	\$ 500.00
301(22)	Furnish haul and place 70 CY of pitrun to surface intersection. (91 CY loose material)			CY DQ	70	\$ 25.00	\$ 1,750.00
MP 0.46-1.32		R	W				
249(02)	Composite Road Construction: Reconstruct existing road in accordance with the specifications and standard plans.			Mile DQ	0.86	\$ 4,000.00	\$ 3,440.00
MP 0.61 Left							
203 (01)	Remove portions of beaver dams to allow drainage to existing channel.			EA DQ	2	\$ 300.00	\$ 600.00
MP 0.61							
602 (01)	Furnish and install 40' of 24" HDPE smooth lined corrugated culvert pipe.			FT DQ	40	\$ 35.00	\$ 1,400.00
249 (05)	Excavate 70 CY of local borrow to backfill culvert.			CY DQ	70	\$ 5.00	\$ 350.00
203 (01)	Remove culvert upon completion of post haul maintenance and dispose of off Forest Service property.			EA DQ	1	\$ 200.00	\$ 200.00
FR 1846 TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS							\$ 17,290.00
FR 1850		C	W				
MP 0.00-0.06							
249(02)	Composite Road Construction: Construct new road in accordance with the specifications and standard plans.			Mile DQ	0.06	\$ 7,000.00	\$ 420.00
MP 0.02							
249(05)	Additional excavation required for embankment to construct approach off of FFH-16.			CY DQ	60	\$ 5.00	\$ 300.00
MP 0.0							
301 (13)	Furnish, haul and place 30 CY of crushed aggregate for surfacing entrance. (39 CY loose material)			CY DQ	30	\$ 30.00	\$ 900.00
MP 0.06-1.61		R	W				
249(02)	Composite Road Construction: Reconstruct existing road in accordance with the specifications and standard plans.			Mile DQ	1.55	\$ 4,000.00	\$ 6,200.00

¹C = Construction, R = Reconstruction²W = Winter, D = Dry Summer, S = Summer³Method of Measure

**NORTH 16 STEWARDSHIP
SPECIFIED ROAD SCHEDULE OF ITEMS**

Item Number	Item Description & Milepost	C or R ¹	Road Std. (W,D,S) ²	Unit & M of M ³	Quantity	Unit Allowance	Estimated Allowance
	FR 1850 Cont.	R	W				
MP 0.09 Right							
203 (01)	Remove portion of beaver dam to allow drainage to existing channel.			EA DQ	1	\$ 300.00	\$ 300.00
MP 0.09							
602 (01)	Furnish and install 40' of 24" HDPE smooth lined corrugated culvert pipe.			FT DQ	40	\$ 35.00	\$ 1,400.00
MP 0.10							
602 (01)	Furnish and install 40' of 24" HDPE smooth lined corrugated culvert pipe.			FT DQ	40	\$ 35.00	\$ 1,400.00
MP 0.11 Left							
249(05)	Borrow excavation for embankment over culvert at MP 0.09 and 0.10.			CY DQ	40	\$ 5.00	\$ 200.00
MP 0.09 and 0.10							
203 (01)	Remove culverts upon completion of post haul maintenance and dispose of off Forest Service property.			EA DQ	2	\$ 200.00	\$ 400.00
MP 0.59							
602(01)	Furnish and install 24' of 15" HDPE smooth lined corrugated culvert pipe.			FT DQ	24	\$ 21.00	\$ 504.00
MP 0.93							
602(01)	Furnish and install 24' of 15" HDPE smooth lined corrugated culvert pipe.			FT DQ	24	\$ 21.00	\$ 504.00
MP 1.06-1.09							
249 (03)	Minor road realignment.			LS DQ	1	\$ 300.00	\$ 300.00
MP 1.35-1.39 Right							
249 (03)	Reconstruct ditch to drain to culvert at MP 1.39.			LS DQ	1	\$ 400.00	\$ 400.00
MP 1.39							
602(01)	Furnish and install 36' of 15" HDPE smooth lined corrugated culvert pipe. Skew left side forward.			FT DQ	36	\$ 21.00	\$ 756.00
FR 1850 TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS							\$ 13,984.00
	FR 1850-E	R	W				
MP 0.0-0.16							
249(02)	Composite Road Construction: Reconstruct existing road in accordance with the specifications and standard plans.			Mile DQ	0.16	\$ 4,000.00	\$ 640.00
FR 1850-E TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS							\$ 640.00

¹C = Construction, R = Reconstruction²W = Winter, D = Dry Summer, S = Summer³Method of Measure

**NORTH 16 STEWARDSHIP
SPECIFIED ROAD SCHEDULE OF ITEMS**

Item Number	Item Description & Milepost	C or R ¹	Road Std. (W,D,S) ²	Unit & M of M ³	Quantity	Unit Allowance	Estimated Allowance
FR 1850-F		R	W				
MP 0.0-0.37							
249(02)	Composite Road Construction: Reconstruct existing road in accordance with the specifications and standard plans.			Mile DQ	0.37	\$ 4,500.00	\$ 1,665.00
MP 0.22							
602(01)	Furnish and install 30' of 15" HDPE smooth lined corrugated culvert pipe.			FT DQ	30	\$ 21.00	\$ 630.00
FR 1850-F TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS							\$ 2,295.00
FR 1926-A		R	D				
MP 0.0-0.09							
249(02)	Composite Road Construction: Reconstruct existing road in accordance with the specifications and standard plans.			Mile DQ	0.09	\$ 4,000.00	\$ 360.00
MP 0.0							\$ -
301 (13)	Furnish, haul and place 20 CY of crushed aggregate for surfacing entrance. (26 CY loose material)			CY DQ	20	\$ 30.00	\$ 600.00
MP 0.06-0.07							
249(05)	Additional excavation required from left and right sides to widen roadway at MP 0.08.			CY DQ	50	\$ 5.00	\$ 250.00
FR 1926-A TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS							\$ 1,210.00
NORTH 16 STEWARDSHIP TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS							\$ 35,419.00

¹C = Construction, R = Reconstruction²W = Winter, D = Dry Summer, S = Summer³Method of Measure

- NOTE:** There may be underground utility lines in unknown locations on this project. Call **MISS DIG THREE** full working days before any work begins. Phone 1-800-482-7171.
- NOTE:** During gravel hauling operations, “safety” signs shall be placed as directed by the Forest Service. See Contract Area Map for specific sign locations and Traffic Control Plan for sign size and type.
- NOTE:** During clear and grub operations **all slash** resulting from purchasers operations shall be treated as per **KT-GT.7#**.
- NOTE:** All finished roadbeds shall be 12’ as shown in the typical details for crowned roads with no ditches, 1’ ditches and out sloped roads.
- NOTE:** **70 CY of crushed aggregate** is required for surfacing to be placed at the entrances of FR 1846, FR 1850, and 1926-A. This volume plus the normal compaction factor of 130% computes to a loose volume of 91 CY. **There is no government source available for this project.** Furnished material shall meet gradation requirements for the Michigan Department of Transportation-Designation 22A. Compaction shall be Method A.
- NOTE:** **260 CY of pit run** is required for surfacing material for specified road work throughout the contract area. This volume plus the normal compaction factor of 130% computes to a loose volume of 338 CY. **There is no government source available for this project.** Furnished material shall be 100% smaller than 8” diameter. *Furnished material must be approved by the Forest Service.*
- NOTE:** **320 CY of local borrow** material is required for specified road work throughout the contract area. Some stumping, clearing and grubbing may be required to access the local borrow. Road work designating local excavation shall be built to conserve and redistribute topsoil to help prevent erosion after excavation has occurred. Shape all cut slopes to a 2:1 slope.
- NOTE:** *This project will require crossing two active beaver dams. Work will include breaking and draining the dams at a slow rate and redirecting the water to the existing discharge channels. Three 24” culverts will be placed in the channels and backfilled to facilitate the water flow to allow freeze down and trucking to occur. Once the culverts are in and accepted, maintenance of them becomes the purchaser’s responsibility. So timing of these crossings should be planned for the shortest duration possible. Upon completion of post haul maintenance the culverts will be removed and the banks reshaped. The culverts will become property of the purchaser and must be removed from the site.*
- NOTE:** Payment for culvert installation includes: Excavation, preparing the foundation, and backfilling. Compaction shall be Method A.

Project Name: **NORTH 16 STEWARDSHIP**

Date Prepared: **05/04/2016**

Road Numbers: FR 1846 FR 1850 FR 1850-E FR 1850-F FR 1926-A		1846	1850	1850-E	1850-F	1926-A	
	Termini.....	Miles	Miles	Miles	Miles	Miles	
	Construction	----	0.06	----	----	----	
	Reconstruction	1.32	1.55	0.16	0.37	0.37	
Spec. No.	Title						Latest Revised Edition
101 thru 109	General Requirements	X	X	X	X	X	2003
203	Removal of Structures and Obstructions	X	X				2003
209	Structure Excavation and Backfill	X	X				2003
301	Untreated Aggregate Courses	X	X			X	2003
602	Culverts and Drains	X	X		X		2003

NORTH 16 STEWARDSHIP
SUPPLEMENTAL SPECIFICATIONS

Section 101-109	General Requirements
Section 203	Removal of Structures and Obstructions
Section 209	Structure Excavation and Backfill
Section 249	Composite Road Construction
Section 301	Untreated Aggregate Course
Section 602	Culverts and Drains

Preface

Delete all but the first paragraph and add the following:

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

101 - Terms, Format, and Definitions

101.01 Meaning of Terms

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

101.01 Meaning of Terms

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

101.03 Abbreviations.

Add the following to (a) Acronyms:

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

.

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

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

Culvert--No definition.

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

Add the following:

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

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

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

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

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

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

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

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

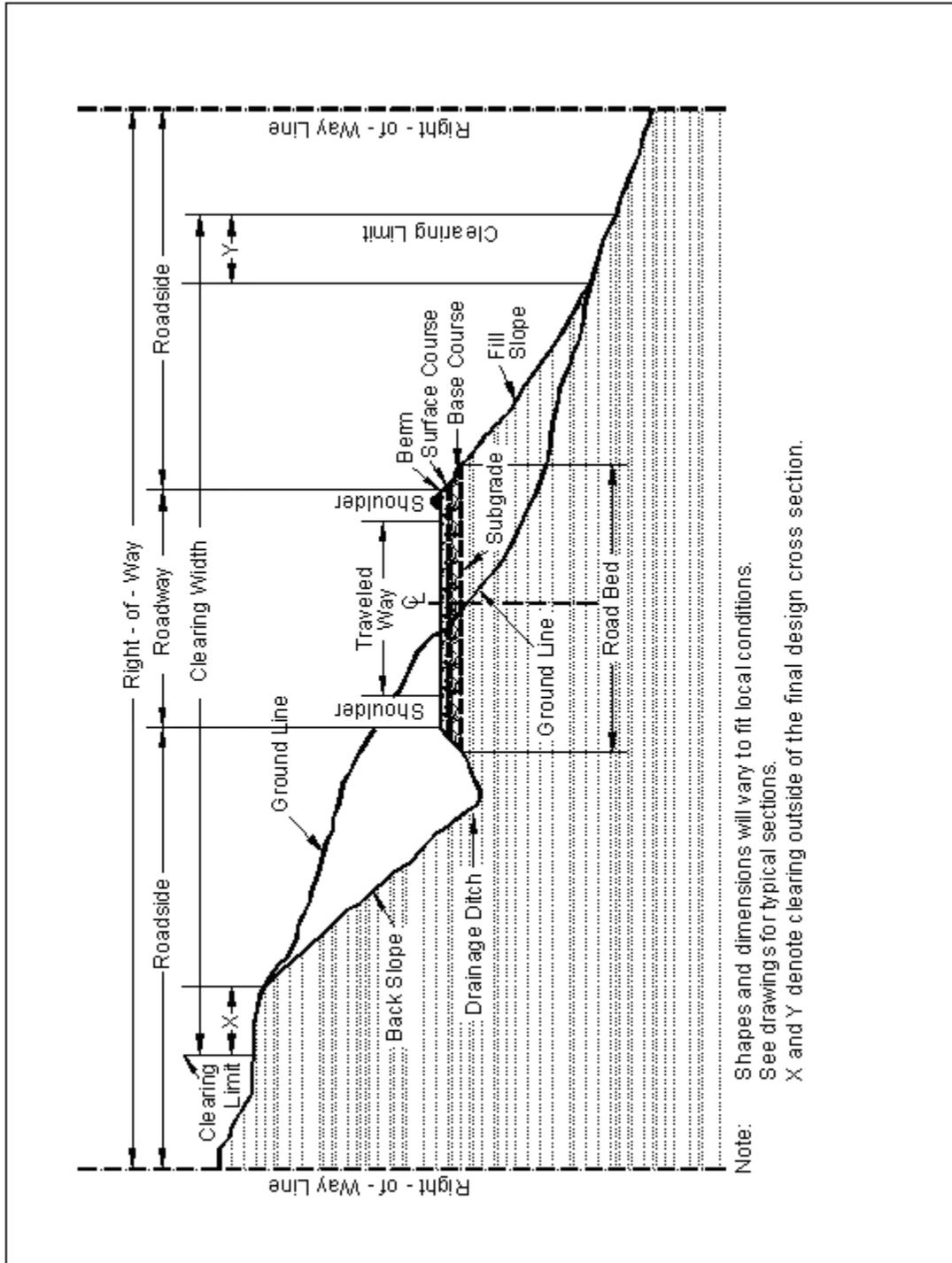
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

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

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

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

Figure 101-1—Illustration of road structure terms.



101.04 Definitions.

Delete the following definitions:

Contract Modification

Day

Notice to Proceed

Solicitation

102 - Bid, Award, and Execution of Contract

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - Scope of Work

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.03 Drawings and Specifications

Delete subsection 104.03

104.03 Specifications and Drawings.

Delete 104.03.

104.06 Use of Roads by Contractor

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

Add Subsection.

105 - Control of Material

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

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

Government-provided optional sources for this project are identified as follows:

Material is available for use as (Borrow/pit run surfacing material) as needed for the project from **Onion Creek Pit, T48N, R37W, Section 6.**

There is no charge for material taken from these pits for use on this project.

105.05 Use of Material Found in the Work.

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

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

106 - Acceptance of Work

106.01 Conformity with Contract Requirements.

Delete Subsection 106.01 and substitute the following:

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

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

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

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

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

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

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

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

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

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

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute. The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor

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

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

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

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

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

“except as provided in Subsection 106.07”.

107.08 Sanitation, Health, and Safety

Delete the entire subsection.

107 - Legal Relations and Responsibility to the Public

107.08 Sanitation, Health, and Safety.

Add the following:

Perform all operations in a prudent, conscientious, safe and professional manner. Ensure that all personnel involved in handling and packaging the hazardous waste are trained for the level of expertise required for the proper performance of the task and, in particular, in the areas of chemical incompatibility, general first aid procedures, and spills. Provide handling and personal protective equipment appropriate to ensure safe handling of the hazardous waste according to 29 CFR 1910.120). Notify the Forest Service of all hazardous material that may be brought onto the National Forest.

107 - Legal Relations and Responsibility to the Public

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10 Environmental Protection.

Add the following:

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

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

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

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

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

108 - Prosecution and Progress

108 Delete.

Delete Section 108 in its entirety.

109 - Measurement and Payment

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

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

Change the following:

“(b) Cubic yard” to “(c) Cubic yard”.

Add the following definition:

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

203 - Removal of Structures and Obstructions

203.01 Description.

Delete and replace with the following:

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

203.02 Material.

Add the following:

Geotextile

203.04 Removing Material.

Replace the fourth and fifth paragraphs with the following:

Where part of an existing culvert is removed, remove the entire culvert upstream from the removal. The remaining downstream culvert may be left in place if no portion of the culvert is within 12 inches of the subgrade, embankment slope, or new culvert or structure; and the culvert ends are sealed with concrete.

Remove structures and obstructions in the roadbed to 12 inches below subgrade elevation.

Remove structures and obstructions outside the roadbed to 12 inches below finished ground or to the natural stream bottom.

203.05 Disposing of Material.

Add the following:

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

203.05 Disposing of Material.

(b) Burn.

Delete the last sentence and add the following:

Deposit construction slash so that burning does not damage standing trees. Dispose of unburned material as directed by the CO.

203.05 Disposing of Material.

Add the following:

(e) Windrowing Construction Slash. Place construction slash outside the roadway in neat, compacted windrows approximately parallel to and along the toeline of embankment slopes. Do not permit the top of the windrows to extend above subgrade. Use construction equipment to

mat down all material in a windrow to form a compact and uniform pile. Construct breaks of at least 15 feet at least every 200 feet in a windrow. Do not place windrows against trees. Obtain approval for pioneer roads. A pioneer road may be constructed to provide an area for placement of windrows, provided the excavated material is kept within the clearing limits and does not adversely affect the road construction.

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

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

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

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

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

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

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

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

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

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

203.08 Payment

Add the following:

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

209 - Structure Excavation and Backfill

209.10 Backfill.

(a) General.

Add the following:

Replace any pipe that is distorted by more than 5 percent of nominal dimensions, or that is ruptured or broken.

Do not place or backfill pipe that meets any of the following conditions until the excavation and foundation have been approved in writing by the CO:

- Embankment height greater than 6 feet at subgrade centerline.
- Installation in a protected streamcourse.
- Round pipe with a diameter of 48 inches or greater.
- Pipe arches with a span of 50 inches or greater.
- Any box culvert of structure other than pipe culverts.

(b) Pipe culverts.

(1) Pipe culverts with compacted backfill.

Add the following:

Excavate an area on each side of the pipe as needed to effectively achieve compaction requirements. Backfill without damaging or displacing the pipe. Complete backfilling of the trench with suitable material.

209.11 Compacting.

Delete the subsection and add the following:

Compact backfill using designated compaction method A, B, or C:

Method A. Ensure that backfill density exceeds the density of the surrounding embankment.

Method B. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact each layer using appropriate compaction equipment until visual displacement ceases. For compaction under sections 252, 254, 255, 257, 258 and 262 compact with a vibratory steel wheeled roller with a mass of at least 8 tons.

Method C. Determine optimum moisture content and maximum density according to AASHTO T 99 method C. Adjust the moisture content of the backfill material to a moisture

content suitable for compaction. Compact material placed in all layers to at least 95 percent of the maximum density. Determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

Table 209-1 Sampling and Testing Requirements

Add the following:

(2) Compaction methods (A) and (B) do not require AASHTO T-99 or T-310 test methods for foundation fill.

249 - Composite Road Construction

249.01 Description

This work consists of clearing and grubbing, excavation and embankment, and removal of all construction slash including all trees designated for removal. Excavation and embankment includes on site borrow excavation; drainage excavation; placing all excavated material; and shaping the roadway; including approaches, turnarounds, ditches and drainage dips. Construct the roadway in conformance with the dimensions “shown on the plans” or as staked on the ground.

249.02 Clearing and Disposal

Protect construction stakes and construction control markers. Remove or treat all trees, snags, downed timber, brush, and stumps within the clearing limits according to the following specifications.

- (a) Merchantable Timber. Treat according to the Utilization Standards of the Timber Sale Contract.
- (b) Unmerchantable Timber. Treat according to Subsection 249.02 Method A.
- (c) Large Construction Slash. Treat construction slash larger than 3 inches in diameter and longer than 3 feet by one or more of the following methods.
 - (1) Method A. Construction slash shall be scattered outside the clearing limits without damaging trees outside the clearing area. Logs shall be placed away from trees, positioned so that they will not roll, not placed on top of one another or left leaning on other trees. Scattered stumps shall be placed in an upright position
 - (2) Method B. Stumps, roots, rocks, topsoil and other grubbing debris shall be concentrated in stump dump areas. Stump dump areas shall be located by the Engineer, be a maximum of 300 feet apart along the road centerline, and generally be located in natural depressions or tucked away behind denser vegetation or ground rises. Stump dumps will vary in size depending on each site, but shall not be closer than 10 feet outside of the clearing limits. Stump dump material shall be matted down as much as possible and shall not obstruct natural drainages.

(d) Small Construction Slash. Construction slash less than 3 inches in diameter and less than 3 feet in length may be incorporated into embankments so long as the material is distributed so that it does not result in concentrations or matting. Immediately remove slash deposited in stream courses.

249.03 Pioneering

Do not undercut the final back slope during pioneer operations. Deposit material inside the roadway limits. Do not restrict drainages.

249.04 Grubbing.

Grub within the specified limits. Stumps outside the grubbing limits remain if cut no higher than 1 foot or one-third of the stump diameter, whichever is greater, above the original ground, measured on the uphill side, unless otherwise designated. Grub all stumps from the Roadway, or stumps that have less than 1 foot of cover, in the Fill slopes, providing they do not interfere with the placement or compaction of embankments.

249.05 Excavation and Embankment.

Construct the roadway to conform to the typical sections shown on the plans. Protect backslopes from being undercut. Embankment shall be placed in layers no more than 12 inches thick.

Locate and use borrow material, and remove and treat unsuitable excess material, as designated.

Place rocks that are too large to be incorporated in the embankment outside the traveled way on the downhill side such that they will not roll, obstruct drainage, or hinder roadbed use and maintenance.

Shape and finish the roadbed to the condition ordinarily accomplished by a crawler tractor with dozer blade to provide drainage of surface water. Do not permit individual rocks to protrude more than 4 inches above the subgrade of the roadbed. A motor grader finish is not required.

Observe a width tolerance of (+) 18 inches max. for the roadbed.

Where shown on the drawings or designated on the ground, offtake ditches shall be constructed to drain water away from the roadbed.

249.06 Erosion Control.

Perform erosion control measures, where shown on the drawings, or staked on the ground.

249.07 Method.

Measure the section 249 items listed in the schedule of items according to subsection 109.02

Payment

249.08 Basis.

The accepted quantities will be paid at the contract price per unit of measurement for Section 249 pay items listed in the Bid Schedule. Payment will be full compensation for the work prescribed in this section. See Subsection 109.05

301 - Untreated Aggregate Courses**301 Title Change.**

Change the title to: **Section 301 Aggregate Courses**

301.01 Work.

Add the following:

Work includes producing aggregate by pit-run, grid rolling, screening, or crushing methods, or placing Government-furnished aggregate. Work may include additive mineral filler, or binder.

301.02 Material.

Add the following:

Bentonite	725.30
Calcium Chloride Flake	725.02
Lignon Sulfonate	725.20
Magnesium Chloride Brine or Calcium Chloride Liquid	725.02

301.03 General.

Add the following:

Written approval of the roadbed is required before placing aggregate.

For pit run or grid-rolled material, furnish material smaller than the maximum size. No gradation other than maximum size will be required for pit-run or grid-rolled material. For grid rolling, use all suitable material that can be reduced to maximum size. After processing on the road, remove all oversize material from the road and dispose of it as directed by the CO.

Provide additives or binder, if required, at the proportions specified.

Develop and use Government furnished sources according to Section 105.

If the aggregate is produced and stockpiled before placement, handle and stockpiled according to Section 320. Establish stockpile sites at locations approved. Clear and grub stockpile sites according to Section 201.

301.04 Mixing and Spreading.

Delete the first sentence of the first paragraph and add the following:

Ensure that aggregate and any required additives, water, mineral filler, and binder are mixed by the specified method except, if crushed aggregate products are being produced and mineral filler, binder, or additives are required, uniformly blend following crushing. Control additive proportions to 0.5 percent dry weight.

(a) Stationary Plant Method. Mix the aggregate with other required materials in an approved mixer. Add water during the mixing operation in the amount necessary to provide the moisture content for compacting to the specified density. After mixing, transport the aggregate to the jobsite while it contains the proper moisture content, and place it on the roadbed or base course using an aggregate spreader.

(b) Travel Plant Method. After placing the aggregate for each layer with an aggregate spreader or windrow-sizing device, uniformly mix it with other required materials using a traveling mixing plant. During mixing, add water to provide the necessary moisture content for compacting.

(c) Road Mix Method. After placing the aggregate for each layer, mix it with other required materials at the required moisture content until the mixture is uniform throughout. Mix aggregate, water, and all other materials until a uniform distribution is obtained.

Spread the aggregate in a uniform layer, with no segregation of size, and to a loose depth that will provide the required compacted thickness.

When placing aggregate over geotextile, place aggregate in a single lift to the full depth specified.

Route and distribute hauling and leveling equipment over the width and length of each layer.

301.05 Compacting

Delete and replace with the following:

Compact each layer full width. Roll from the sides to the center, parallel to the centerline of the road. Along curbs, headers, walls, and all places not accessible to the roller, compact the material with approved tampers or compactors.

Compact the aggregate using one of the following methods as specified:

Compaction A. Operate spreading and hauling equipment over the full width of the travelway.

Compaction B. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction C. Moisten or dry the aggregate to a uniform moisture content between 5 and 7 percent based on total dry weight of the mixture. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction D. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 99, method C or D.

Compaction E. Removed.

Compaction F. Compact to a density of at least 95 per-cent of the maximum density, as determined by AASHTO T 180, method C or D.

Compaction G. Removed.

For all compaction methods, blade the surface of each layer during the compaction operations to remove irregularities and produce a smooth, even surface. When a density requirement is specified, determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

301.06 Surface Tolerance.

Add the following:

Thickness and Width requirements:

The maximum variation from the compacted specified thickness is ½ inch. The compacted thickness is not consistently above or below the specified thickness and the average thickness of 4 random measurements for any ½ mile of road segment is within + ¼ inch of the specified thickness.

The maximum variation from the specified width will not exceed +12 inches at any point. The compacted width is not consistently above the specified width and the average of any four random measurements along any ½ mile of road segment is within +4 inches of the specified width.

301.08(b) Plasticity Index.

Add the following to the first sentence:

“and under 703.05(c)(1)”.

301.09 Measurement.

Replace the second paragraph with the following:

Measure aggregate by cubic yard compacted in place when payment is by contract quantities.

301.10 Payment

Delete the following:

adjusted according to Subsection 106.05

602 - Culverts and Drains

602.03 General.

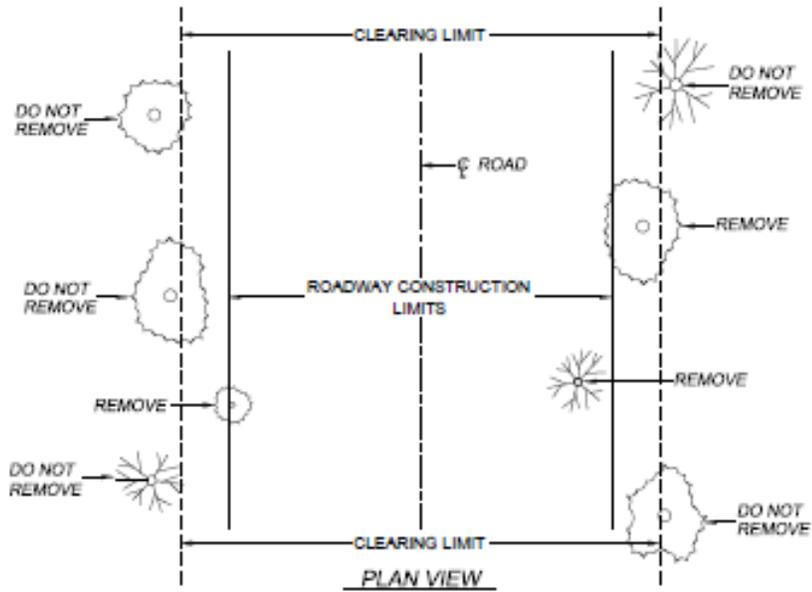
Add the following:

Ensure that the final installed alignment of all pipe allows no reverse grades, and does not permit horizontal and vertical alignments to vary from a straight line drawn from center of inlet to center of outlet by more than 2 percent of pipe center length or 1.0 feet, whichever is less.

602.06 Laying Plastic Pipe.

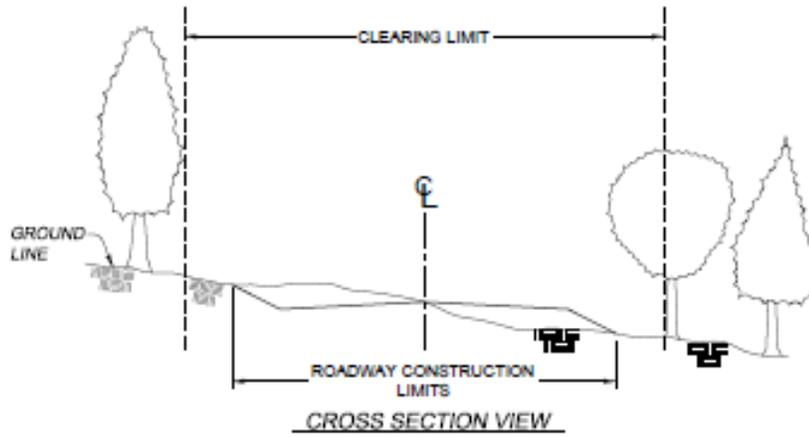
Delete the second paragraph and substitute the following:

Provide soil-tight bell and spigot joints for plastic pipe culverts.

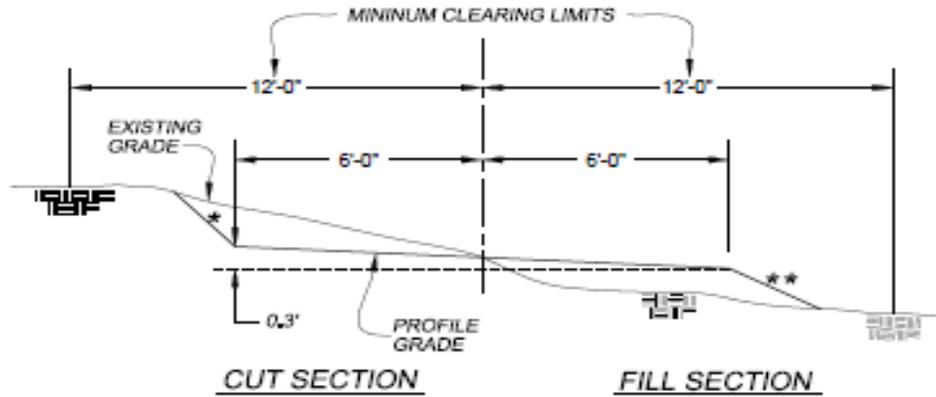


NOTE: TREES ON THE CLEARING LIMIT LINE ARE TO REMAIN UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

NOTE: YELLOW PAINT INDICATES TREES TO BE REMOVED.



CONSTRUCTION STAKING
NOT TO SCALE

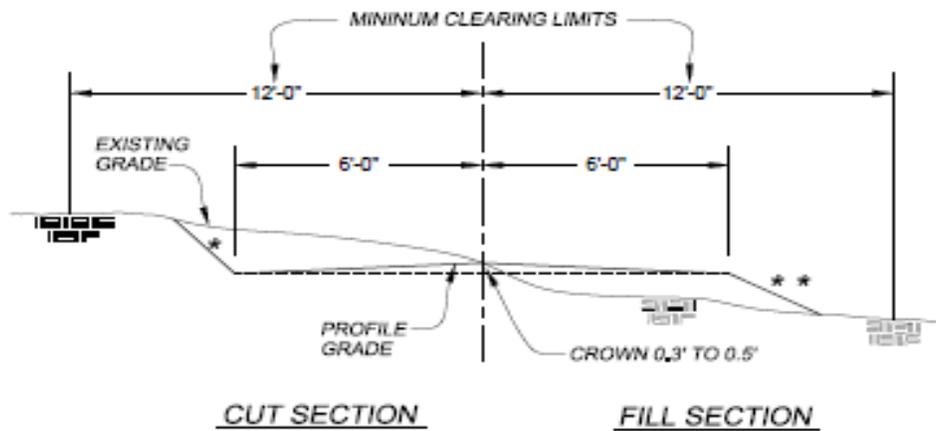


TYPICAL OUTSLOPE DETAIL

NOT TO SCALE

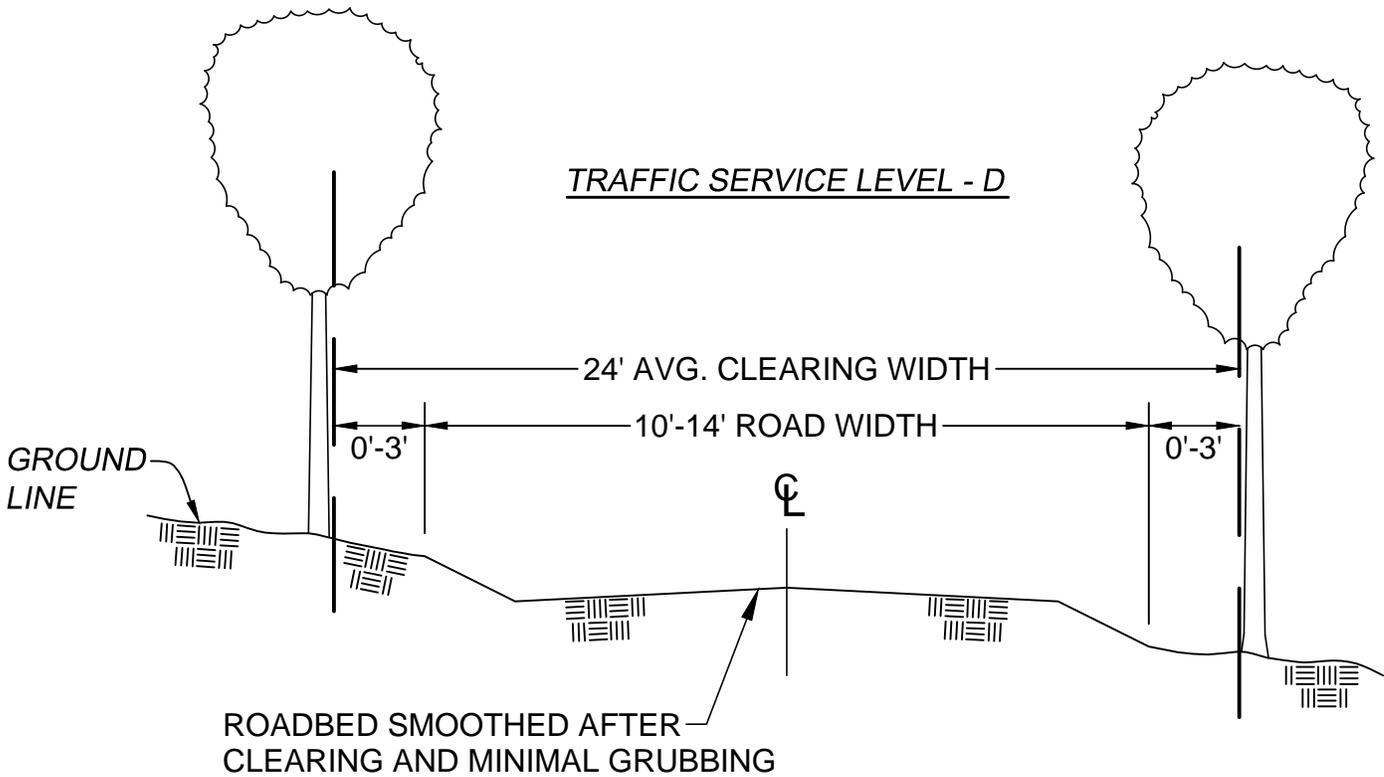
*BACKSLOPE AND DITCH SLOPES MAY VARY FROM 1H:1V TO 2H:1V WHEN CUTS ARE UNDER 2 FT. CUTS OVER 2 FT. SHALL HAVE SLOPES OF 2H:1V

**FILL SLOPES MAY VARY FROM 1-1/2H:1V TO 3H:1V



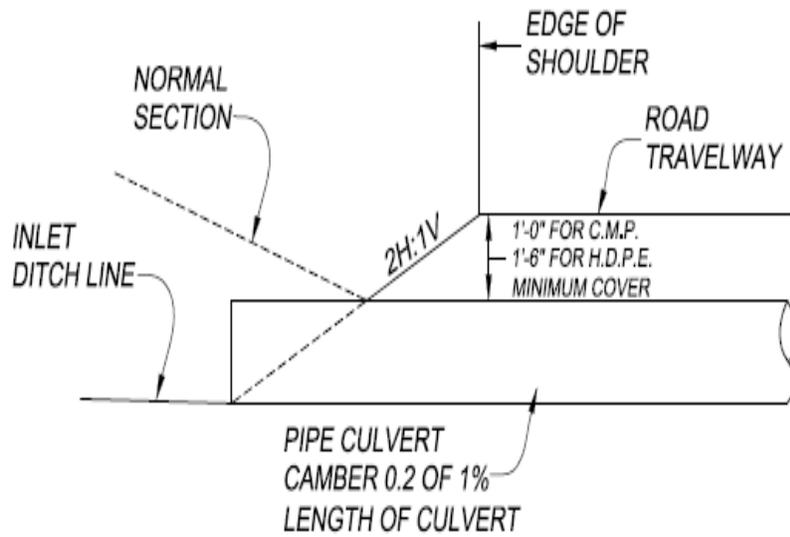
TYPICAL CROSS SECTION CROWN NO DITCHES

NOT TO SCALE



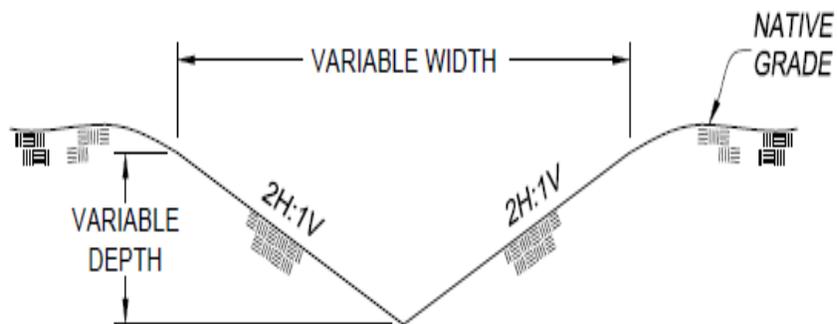
CROSS SECTION VIEW

WINTER ONLY ROAD STANDARD
NOT TO SCALE



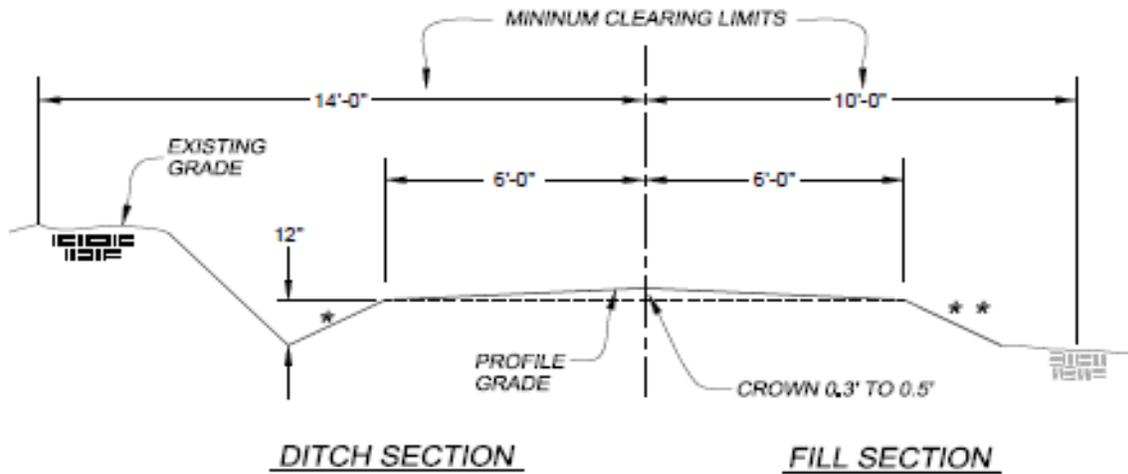
TYPICAL DITCH SECTION AT CULVERT INLET

NOT TO SCALE



TYPICAL INLET AND OUTLET DITCH SECTION

NOT TO SCALE

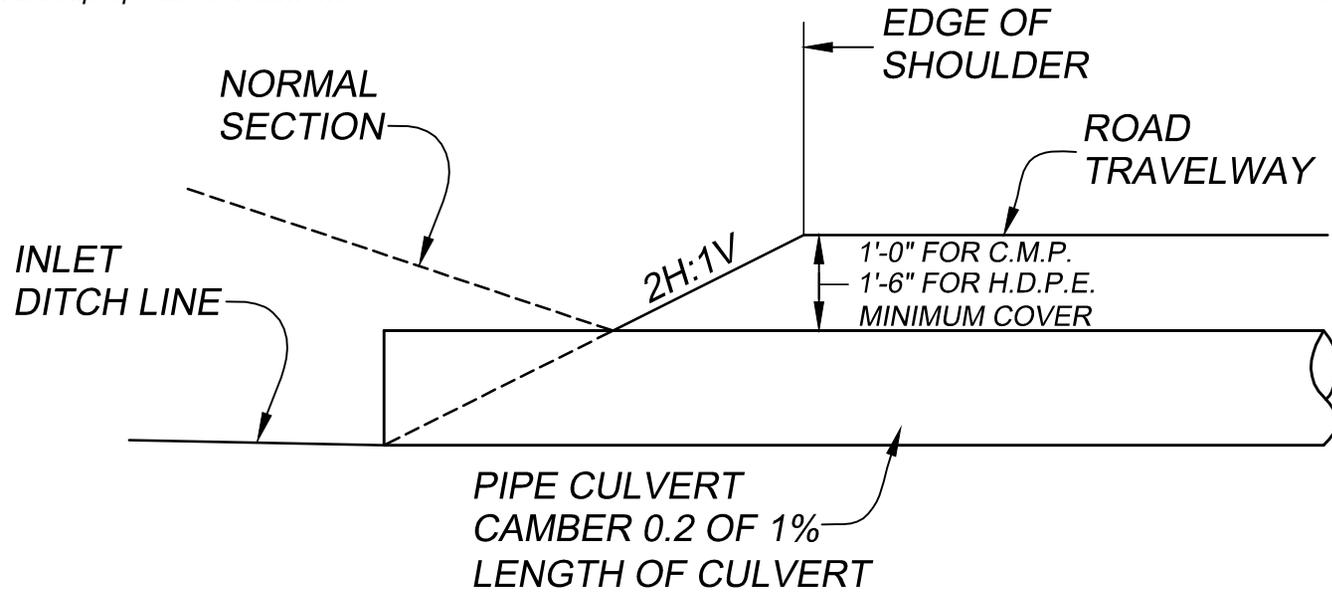


*BACKSLOPE AND DITCH SLOPES MAY VARY FROM 1H:1V TO 2H:1V WHEN CUTS ARE UNDER 2 FT. CUTS OVER 2 FT. SHALL HAVE SLOPES OF 2H:1V

**FILL SLOPES MAY VARY FROM 1-1/2H:1V TO 3H:1V

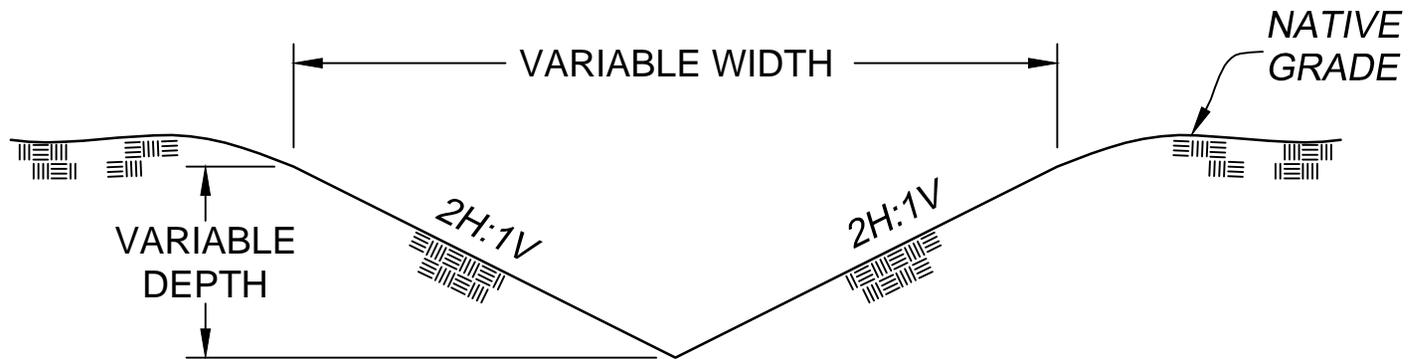
(SEE NARRATIVE FOR LOCATION)

TYPICAL CROSS SECTION WITH 1 FOOT DITCH
NOT TO SCALE



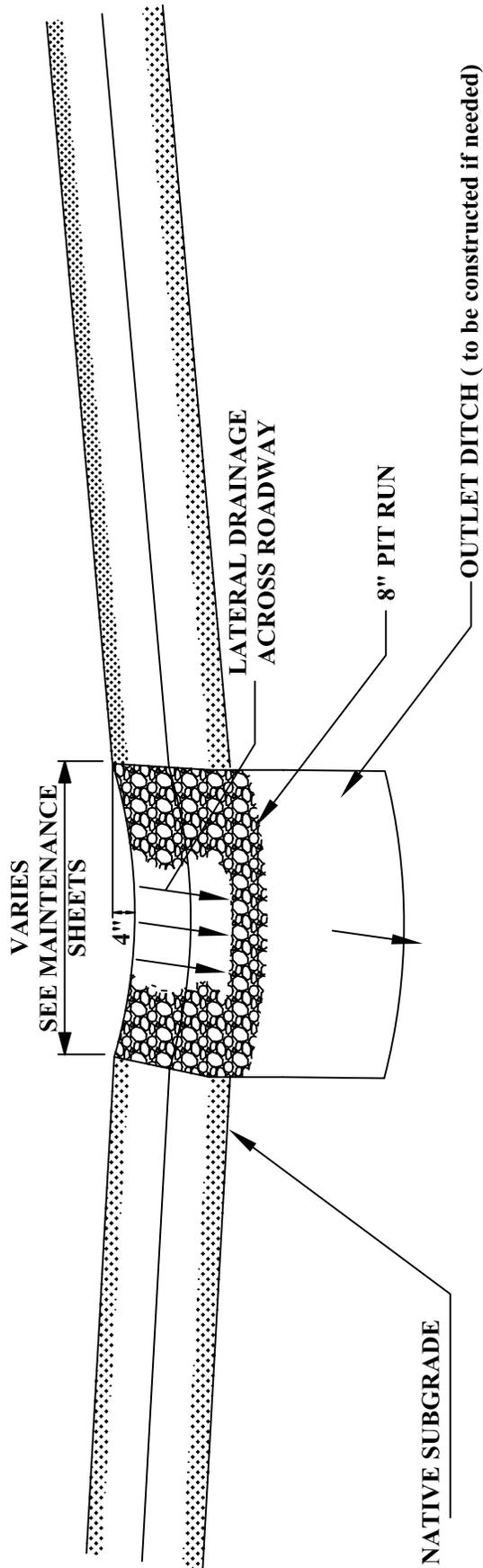
TYPICAL DITCH SECTION AT CULVERT INLET

NOT TO SCALE



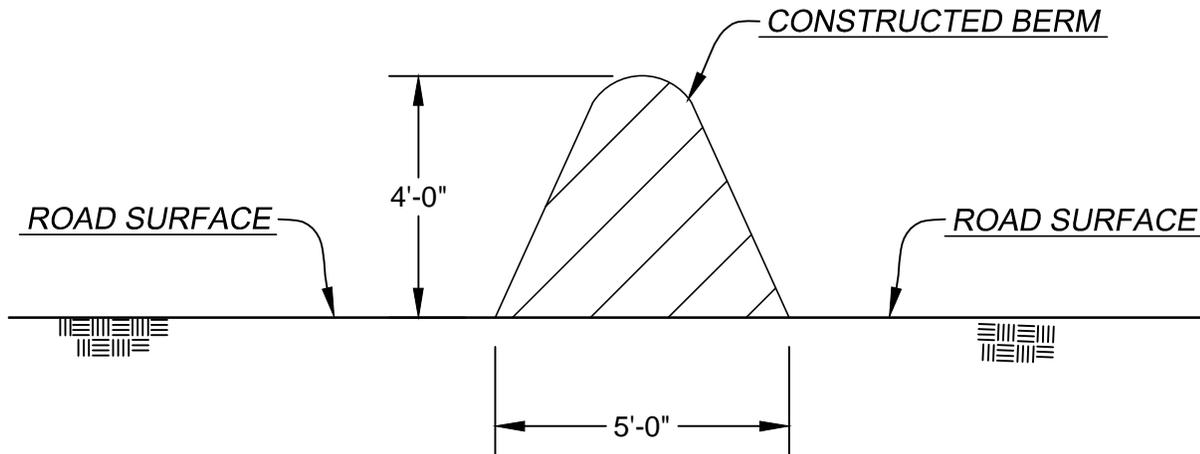
TYPICAL INLET AND OUTLET DITCH SECTION

NOT TO SCALE



NOTE: HARDED DIPS WILL BE EXCAVATED 12" DEEP AND BACKFILLED WITH 8" PIT RUN. GEOTEXTILE SHALL BE PLACED UNDER ALL PIT RUN MATERIAL.

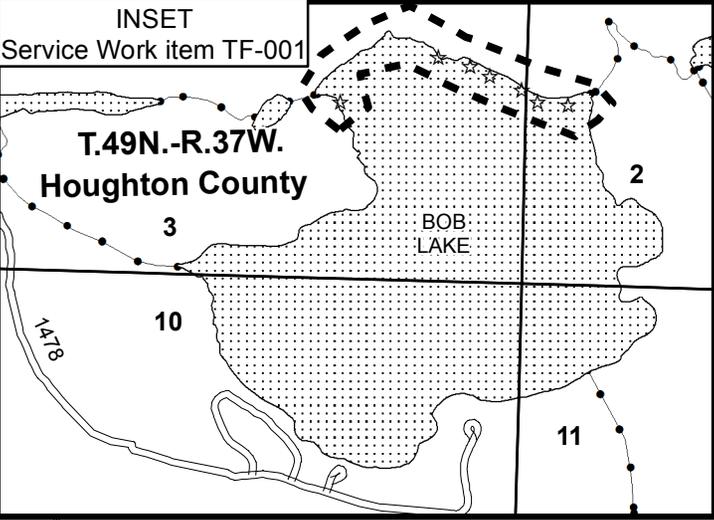
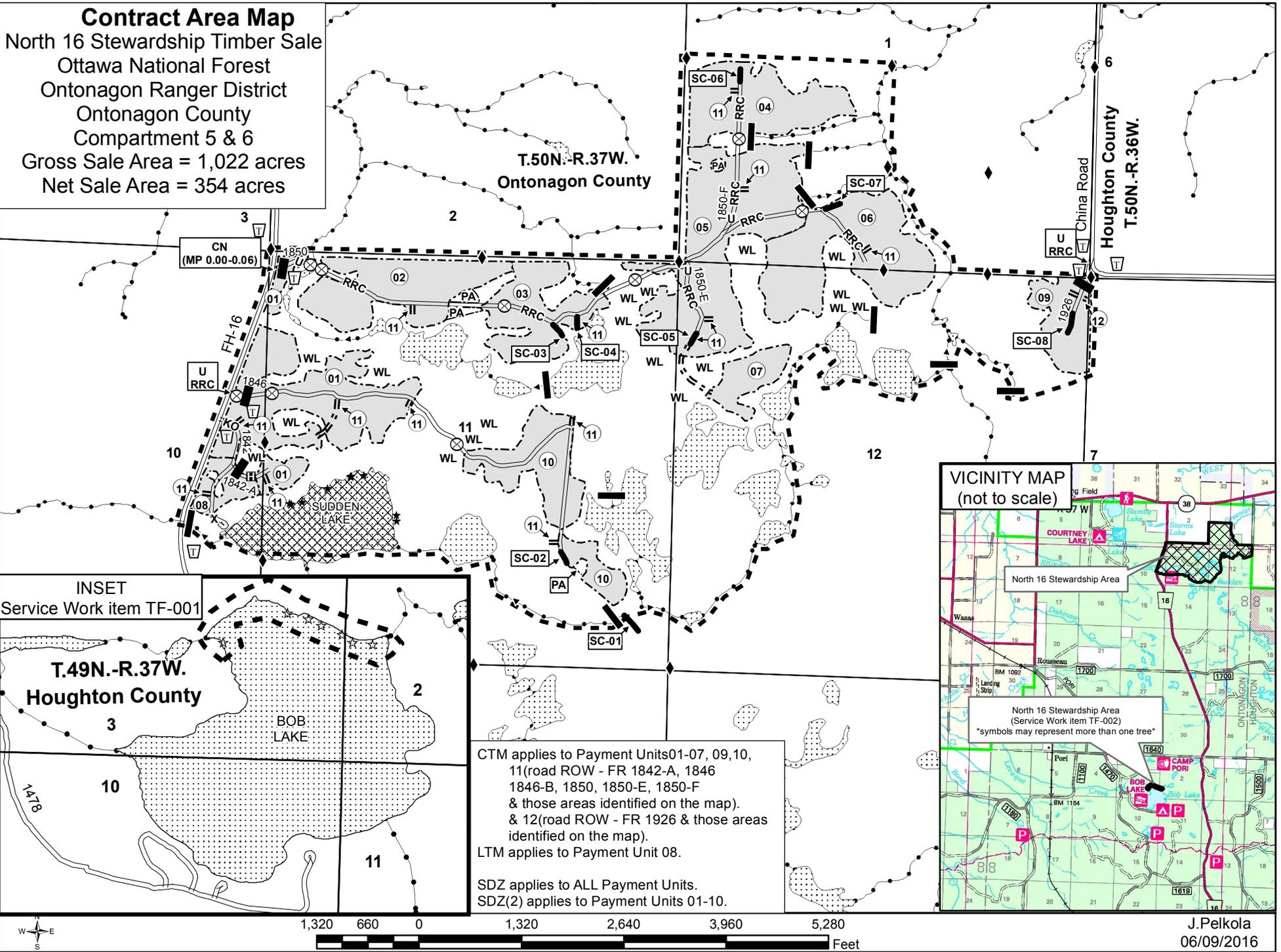
TYPICAL HARDED DIP



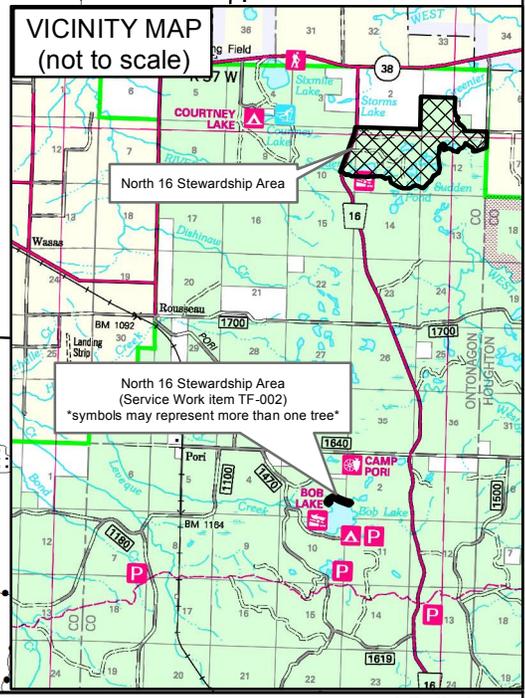
NOTE:
BERM TO BE CONSTRUCTED AFTER SALE IS COMPLETED WITH
ROCKS/BOULDERS, LOGGING SLASH, CULL LOGS, STUMPS AND EARTH.
AS SHOWN IN ABOVE DRAWING, DO NOT DIG DITCHES ON EITHER SIDE
OF BERM FOR BORROW MATERIAL TO CONSTRUCT BERM.

TYPICAL BERM DETAIL
NOT TO SCALE

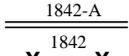
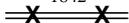
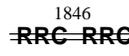
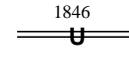
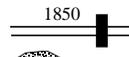
Contract Area Map
North 16 Stewardship Timber Sale
Ottawa National Forest
Ontonagon Ranger District
Ontonagon County
Compartment 5 & 6
Gross Sale Area = 1,022 acres
Net Sale Area = 354 acres



CTM applies to Payment Units 01-07, 09, 10, 11 (road ROW - FR 1842-A, 1846, 1846-B, 1850, 1850-E, 1850-F & those areas identified on the map). & 12 (road ROW - FR 1926 & those areas identified on the map).
LTM applies to Payment Unit 08.
SDZ applies to ALL Payment Units.
SDZ(2) applies to Payment Units 01-10.



LEGEND

	Contract Area Boundary, BT.1
	Payment Unit Boundary, BT.1
	Payment Unit Number, BT.1
CTM	Cut Tree Marked Prior to Advertisement, CT.3.5, KT-CT.3.5.5#, KT-GT.4.1.2
LTM	Leave Tree Marked Prior to Advertisement, CT.3.5, KT-CT.3.5.6#, KT-GT.4.1.2
	Existing Transportation System Road, FT.1.2, GT.2.2
	Existing Transportation System Road, Hauling Prohibited, FT.1.2, KT-FT.1.2#
	Specified Road Construction (New), FT.2, KT-FT.3.1#
	Specified Road Reconstruction, FT.2, KT-FT.3.1#
	Existing Transportation System Road, Unsuitable for Hauling prior to completion of agreed reconstruction, FT.1.2, KT-FT.1.2#
	Specified Road Construction/Reconstruction, AT7, KT-FT.3.1# (Culvert installation)
V	Forest System Road Maintenance – harden dip installation, KT-FT.3.1#, T-8340
	Purchaser Install Berm on System Road, FT.3, KT-FT.3.1#, T-8620
	Wetlands Protection, GT.6.2, KT-GT.6.2#
	Streamcourse Protection, GT.5 (block represents upper stream limit; arrow indicates flow direction)
SDZ	Slash Disposal, KT-GT.7#
SDZ(2)	Slash Disposal Zone, KT-GT.7#
	Other Ownership
	Protection of Land Survey Monuments (Monumented Corner), GT.2.3
	Safety, GT.3.3 – Contractor to Provide and Maintain Traffic Control Signs During Operations

SYMBOLS SPECIFIC TO SERVICE WORK ITEMS

	Road Decommissioning Slash (Service Work items SC-01, SC-02, SC-03, SC-04, SC-05, SC-06, SC-07, & SC-08)
	Construction and Placement of Conifer Bundles (as directed by Forest Service) – Sudden Lake (Service Work item CB-001)
	Tree Feeling (symbol may represent more than one tree) – Sudden Lake (Service Work item TF-001)
	Tree Feeling (symbol may represent more than one tree) – Bob Lake (Service Work item TF-002)