

**TIMBER SALE PRESCRIPTION**

GENERAL						
Date			Forest, Mineral and Fire Management Unit			
10/05/12			Grayling			
Timber Sale Number (if applicable)			Sale Name (or prescription name)			
720051201			Comp 276 Shelterwood			
LOCAL CONTACT						
Name			Telephone			
Tom Barnes			(989) 348-6371 ext: 7449			
Email Address			FAX			
Barnest2@michigan.gov			(989) 348-8825			
<input checked="" type="checkbox"/> Map of Project Area Attached						
LEGAL DESCRIPTION						
T27N R01W Section(s) 17 & 18 Description: Sec 17 - S1/2SE, NWSW; Sec 18 - S1/2NE, SE1/4, E1/2SW;						
Compartment: 276 stands: 4, 6, 8 & 20						
THIS TIMBER SALE CONTRACT IS BASED ON THE FOLLOWING ACREAGE						
Estimated Acres: 137 Source: <input checked="" type="checkbox"/> Other GIS (GDSE) Payment will be made on the basis of these estimated acres.						
TREATMENT & OBJECTIVE						
STAND NUMBER	TREATMENT NAME (IFMAP)	COVER TYPE	ACRES	BA Range	TREATMENT	MANAGEMENT OBJECTIVE
04	72276004-Cut	Planted Red Pine (R9)	4	81-110	Shelterwood w/Reserves	Planted Red Pine
06	72276006-Cut	Natural Red Pine (R9)	5	111-140	Shelterwood w/Reserves	Natural Red Pine
08	72276008-Cut	Planted Red Pine (R9)	92	81-110	Shelterwood w/Reserves	Planted Red Pine
20	72276020-Cut	Planted Mixed Pine, Mixed Deciduous (MC9)	36	81-110	Shelterwood w/Reserves	Planted Mix Pine
INVENTORY DATA – Stand 4						
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE		
White Oak	5%	Log/Pole	10			
Red Pine	75%	Log/Pole	11	64		
Red Oak	10%	Log/Pole	10			
Jack Pine	10%	Pole/Log	8			
INVENTORY DATA – Stand 6						
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE		
Red Pine	100%	Log/Pole	12	64		
INVENTORY DATA – Stand 8						
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE		
White Oak	5%	Pole/Log/Sap	8			
Red Oak	8%	Pole/Log/Sap	8			
Bigtooth Aspen	4%	Pole/Log	8			
Red Pine	83%	Log/Pole	11	71		
INVENTORY DATA – Stand 20						
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE		
White Oak	8%	Pole/Log	9			
White Pine	5%	Log	14			
Quaking Aspen	15%	Pole/Log	9			
Red Pine	58%	Log/Pole	12	66		
Red Oak	14%	Pole/Log	9			
PRESCRIPTION						
Stands 4 & 6– Shelterwoods:						
<ul style="list-style-type: none"> Mark-to-cut Red Pine down to 60 sq. ft. except do not remove more than half of the BA in any one place. All other species in these stands are designated for removal. See Appendix F 						
Stand 8– Shelterwoods With Reserves:						
<ul style="list-style-type: none"> Mark-to-cut Red Pine down to 60 sq. ft. except do not remove more than half of the BA in any one place. All other species in this stand are designated for removal. Paint boundary lines to create retention islands within the stand that are approximately 1 acre in size, totaling 4 acres. Distribute those islands across the stand. Make sure to include overstory species in retention islands. See Appendix F 						

Stand 20– Shelterwoods With Reserves::

- Mark-to-cut Red Pine down to 60 sq. ft. except do not remove more than half of the BA in any one place.
- All other species in this stand are designated for removal.
- Paint boundary lines to create retention islands within the stand that are approximately 1 acre in size, totaling 2 acres.
- Distribute those islands across the stand. Make sure to include overstory species in retention islands.
- See Appendix F

Access: North Down River Rd to Bald Hill Rd to First East – West Two Track North of N Down River Rd.

DNR PREPARATION WORK TO BE DONE PRIOR TO CONTRACT WORK	ESTIMATED DATE
Blue Line	31 July 2013
CONTRACT WORK CAN BEGIN <input checked="" type="checkbox"/> 01 August 2013 CONTRACT WORK MUST BE COMPLETED BY: 30 June 2014	

PAINT LINE WORK This is included in the bid This is not included in the bid

Paint line work to be performed: (See attached map for locations)

TYPE OF LINE	WORK TO BE DONE	NOT APPLICABLE	PAINT COLOR	
Payment Unit Boundary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Other:
Sale Boundary - State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Red	<input type="checkbox"/> Other:
Sale Boundary - Private	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blue	<input type="checkbox"/> Other:
Retention Islands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Other:

Exclusions to mark and why:

See leave islands specified by stand under the page 1 & 2 PRESCRIPTION section.

Standards for marking lines against private land

N/A

AREA CALCULATION This is included in the bid This is not included in the bid

UNIT	METHOD	STANDARD
Sale	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Payment Unit	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Stand	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Retention Islands	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	

Special Instructions:

See Appendix A

TIMBER CRUISING SPECIFICATIONS This is included in the bid This is not included in the bidRequired Basal Area Factor: 10 20 Other:**Cruise Line Directions:** North-south or east-west grid, by the approximate spacing below if compass and pacing, or by a uniform square, GPS-calculated grid.

CRUISING UNIT	ESTIMATED ACRES	NUMBER OF PLOTS PER ACRE	APPROXIMATE SPACING (CHAINS)
4	4	1	3 x 3.3
6	5	1	3 x 3.3
8	92	0.7	4 x 3.5
20	36	1	3 x 3.3
TOTAL NUMBER OF CRUISE POINTS		108 (estimate)	

Cruise Special Instructions:

Red Pine will be cruised by using the V-Bar Method, all other species will be cruised by traditional point sampling. See Appendix B and Appendix 8 (Product Standards, revised 6-24-2011, will be provided upon request. Note on page 29 the addition of the Walkthrough Method for cruising edge points.)

The type of tally sheet used must meet with the approval of the contract administrator.

TIMBER MARKING SPECIFICATIONS This is included in the bid Precise specifications to be delineated at pre-work meeting with DNR staff

Total Merchantable Residual BA (Basal Area): Refer to page 2 PRESCRIPTION for acceptable residual

TREATMENT	NUMBER	SIZE
Regeneration Gaps Per Acre	NA	
Girdled Trees Per Acre	NA	

PRODUCT	MARKING SYMBOL	MINIMUM DBH	TOP DIB
Sawlogs		9.1"	8.0"
Sawbolts	N/A		
Pulpwood		4.6"	4.0

TYPE OF WORK	WORK TO BE DONE	STANDS	PAINT COLOR
Trees marked to leave Retention Islands	<input checked="" type="checkbox"/>	8 & 20	<input checked="" type="checkbox"/> Green <input type="checkbox"/> Other
Trees marked to cut	<input checked="" type="checkbox"/>	4, 6, 8 & 20	<input checked="" type="checkbox"/> Orange <input type="checkbox"/> Other

TALLY INTENSITIES

SPECIES / PRODUCT	RATIO
	1 :

SPECIAL MARKING INSTRUCTIONS:

See page 1 or 2 PRESCRIPTION details. If mark to leave is more efficient (time & paint) than as prescribed, then the contract can be adjusted mark to leave with green paint.

Unless otherwise specified, the tally sheets used must be those provided by the Forest, Mineral and Fire Management Unit.

RESTRICTIONS

1. Forest Management Division staff must to be able to identify who did what on the timber sale.
2. The contractor may not have more than two markers in one payment unit without prior approval.
3. Each marker should have an assigned area to mark (not strips).

PAINT

1. Paint will be supplied from the Grayling Field Office.
2. Call (989) 348-6371 ext 7449 (Tom Barnes) or ext 7443 (Joan Charlebois) to make arrangements for paint.
3. Contractor's work schedule must coincide with the DNR work schedule for paint supply.
4. The DNR will not be available on weekends or evenings.

DELIVERABLES

1. A list of names that marked or cruised each payment unit.
2. A summary of paint used (in quarts) by color.
3. Tally summaries for each payment unit (one summary, regardless of the number of markers) and all of the original tally sheets.
4. GPS files and acreages for line running and area calculation work.
5. Cruise data entered into POSALE and exported onto a disk or other electronic format. Use the sale name/number from page 1.

Grayling Management Unit **Boundary Marking and Area Calculation**

1. Establish sale boundary lines as shown on the attached map. Paint each line so that it can be seen from both inside the sale area and when walking along the line from either direction.
2. Establish payment unit lines as shown on the attached map. Paint each payment unit line so that it can be seen from both adjoining payment units and when walking along the line from either direction.
3. Establish boundaries around retention islands as described in the page 1 & 2 Prescription. Paint each line so that it can be seen from inside the sale area.
4. Marking must be done in dry weather and when tree surfaces are not wet.
5. Place bole marks approximately five feet above the ground.
6. Each line tree must be stump-marked at its base and extending onto the ground.
7. The contractor will record total quarts of paint used by color.
8. The contractor will use a GPS unit to determine acreage by stand and payment unit to the nearest acre, and mortality pockets to the nearest tenth-acre.
9. GPS units must be compatible with Pathfinder Office (2.01 or later) or produce an ArcMap-compatible shapefile. Correct and edit (clean up outlier/erroneous points) the GPS files before submitting the data.
10. Required GPS receiver signal quality settings for data collection: a minimum of four satellites, with a maximum DOP (dilution of precision) of 5.
11. The GPS receiver must log and save DOP and SNR (signal-to-noise-ratio) data.
12. Sale boundaries and Retention Islands must be recorded as area features, not lines. Isolated stands must be recorded as separate area features.
13. Payment Unit lines must be recorded as line features.

Grayling Management Unit Timber Cruising Specifications

1. Cruise designated timber using Appendix 8 Product Standards (revised 6-24-2011) to determine products and heights of products. Record cruise data by species/product.
2. Record BA of residual trees by species.
3. Cruise at the sampling intensity specified in the Timber Sale Prescription and apply that rate to your GPS-determined stand acreage.
4. Separate cruise data by the payment units shown on the contract map.
5. Use a 10-factor prism for all stands.
6. Mark plot locations on a map, using the plot number.
7. Unless otherwise agreed to by the contract administrator and the contractor, plot center will be marked by a stake or stick firmly inserted in the ground (not snow) with a ribbon attached to it at a height of not less than two feet above the ground, and labeled with the PU/stand number and plot number. In addition, ribbon at least 12 inches long must be attached to the tree closest to plot center.
8. All cruise sheets must be labeled with the compartment #, stand #, unit #, prism factor, date and the cruiser's name. If a portable data recorder is used for cruising, submit a summary sheet that details the rest of the required information.
9. **A copy of the "POSALE" program will be provided to the successful bidder for cruise data entry. Original cruise sheets and an electronic copy of the cruise data exported from POSALE must be delivered upon completion of the contract field work.**
 - Enter each payment unit's cruise data separately by entering the payment/cruising unit number as the stand number in POSALE.
 - At the cruise data entry screen in POSALE, when prompted to enter the stand acres, enter your actual GPS'd acres (rounded to the nearest whole acre) for that payment unit – NOT the contract's estimated inventory-based acreage.

Grayling Management Unit
Red Pine Thinning Sale Preparation
Individual Tree Marking

1. Leave a residual BA as specified in the **Timber Sale Prescription**.
2. Thin from above, focusing on crown spacing and developing potential utility-pole stems.
3. Target for removal high-risk, damaged, declining, poor-form and suppressed red pine trees.
4. Do not selectively mark stems within multiple-stemmed clumps; either mark them all or leave them all.
5. Remove economically mature red pine where BA allows (more detailed instruction to be given at on-site meeting with the contract administrator).
6. The Grayling Management Unit Office will provide paint.
7. Keep track of total quarts of paint used by color.
8. Marking must be done in dry weather and when tree surfaces are not wet.
9. Place bole marks approximately five feet above the ground, with enough bole-wrap so that the marks can be seen from all sides of the tree.
10. Each tree must be stump-marked at its base and extending onto the ground.
11. Paint must be applied on moss-free areas.