



TIMBER SALE PRESCRIPTION

GENERAL					
Date 10/30/2012			Forest, Mineral and Fire Management Unit Atlanta		
Timber Sale Number (if applicable) NA			Sale Name (or prescription name) Compartment 35 Hardwoods		
LOCAL CONTACT					
Name Chad Fate			Telephone (989) 785 - 4251 ext:5245		
Email Address fatec@michigan.gov			FAX (989) 785 - 3513		
<input checked="" type="checkbox"/> Map of Project Area Attached					
LEGAL DESCRIPTION					
T31N R1E Section(s) 21,28,33 Description See attached map					
Year of Entry: 2013 Compartment(s):035 & 020 Stand Number(s): Comp 035: 13,18,23,45,52, 53 & Comp 020: 8					
THIS TIMBER SALE CONTRACT IS BASED ON THE FOLLOWING ACREAGE					
Estimated Acres: 702 Source: <input type="checkbox"/> OI <input type="checkbox"/> GPS <input checked="" type="checkbox"/> Other <u>IFMAP Treatments</u>					
Payment will be made on the basis of these estimated acres.					
TREATMENT & OBJECTIVE					
STAND #	COVER TYPE	ACRES	BA	TREATMENT	MANAGEMENT OBJECTIVE
13	M9	159	110-140	Thinning	Northern Hardwoods
18	M9	23	140-170	Thinning	Northern Hardwoods
23	M9	88	110-140	Selection	Northern Hardwoods
45	M9	218	110-140	Thinning	Northern Hardwoods
52	M9	79	80-110	Selection	Northern Hardwoods
53	M9	52	110-140	Selection	Northern Hardwoods
8	M9	83	80-110	Selection	Northern Hardwoods
PRESCRIPTION					
<ol style="list-style-type: none"> 1. Stands 13, 18, 23, 45, 52, 53 and 8: 702 acres of thinning and single tree selection. All ash and Beech are designated to be cut due to the presence of emerald ash borer and beech bark disease. Mark residual timber to 90 BA residual. 2. In stands 23, 52, 53 and 8, create one regeneration gap per 5 acres, the diameter of which equals the height of the dominant stems. 3. Mark 1-3 healthy dominant beech trees to leave per acre where present with green paint. 4. Put in harvest unit boundary lines (red) and payment unit lines (yellow) see attached map. Determine harvest unit acreage by GPS. 5. Paint out any areas that are too steep to operate. Also paint out areas around any seeps and vernal ponds. 6. Mark all stands to cut with orange paint (no sawlog tally required) cruise all stands when marking is complete. Cruise all unmarked ash and beech and all other marked trees for sawlog and pulpwood volumes. 7. See contract and appendix for specific instruction on marking and cruising. 					
Access These stands can be accessed from Camp 8 RD, Huff Rd, and County Rd 622.					
DNR PREPARATION WORK TO BE DONE PRIOR TO CONTRACT WORK				ESTIMATED DATE	
Private lines for stands 52, 53 and 8				12/31/2012	
CONTRACT WORK CAN BEGIN					
<input checked="" type="checkbox"/> Immediately <input type="checkbox"/> Date:					
CONTRACT WORK MUST BE COMPLETED BY Date 07/15/2012					

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	
Private boundary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blue	<input type="checkbox"/> Other:
Sale boundary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Red	<input type="checkbox"/> Other:
Sale cutting unit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Other:
Stand type line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other:

Exclusions to mark and why

All slopes that are too steep to operate, as well as seeps, and vernal ponds. Use red paint for all exclusion lines

Standards for marking lines against private land

NA

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	

Special Instructions:

All stand and payment units will need the area calculated using a GPS unit as described in the contract. These files need to be submitted electronically as .shp files to the LCA. A corrected hardcopy map at a scale of 1:15840 indicating plot locations also needs to be submitted to the LCA. Plot locations must also be submitted electronically as a .shp or a .way file.

TIMBER CRUISING SPECIFICATIONS

This is included in the bid This is not included in the bid

Required Basal Area Factor: 10 20 Other:

Cruise Line Directions East/West or North/South

CRUISING UNITS	NUMBER OF PLOTS PER ACRE	SPACING (CHAINS)
Stand 13	80 plots total	4 X 5
Stand 18	23 plots total	3 X 3
Stand 23	62 plots total	3.5 X 4
Stand 45	94 plots total	4 X 6
Stand 52	60 plots total	3 X 4
Stand 53	46 plots total	3 X 4
Stand 8	61 plots total	3.5 X 4
TOTAL NUMBER OF CRUISE POINTS	Approx. 426 Total Plots	

Cruise Special Instructions:

Cruise all unmarked ash and beech trees, cruise all other orange marked trees by species.
 Cruise sawtimber and pulpwood.
 Cruise residual BA for all stands.
 Refer to contract and attached appendix for detailed cruise instructions.

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

TIMBER MARKING SPECIFICATIONS

This is included in the bid This is not included in the bid

Precise specifications to be delineated at pre-work meeting with DNR staff

Total Merchantable Residual BA (Basal Area) All Stands: (Minimum 80 to Maximum 100)

TREATMENT		NUMBER	SIZE
Regeneration Gaps Per Acre "Stands 23, 52, 53 and 8"		1 per 5 acres	Height of dominant trees
Girdled Trees Per Acre		NA	NA
PRODUCT	MARKING SYMBOL	MINIMUM DBH	TOP DIB
Sawlogs	Orange slash	10 inch	8 inch
Sawbolts	NA	NA	NA
Pulpwood	Orange slash	4.6 inch	4 inch

TYPE OF WORK	WORK TO BE DONE	NOT APPLICABLE	PAINT COLOR
Trees marked to leave	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Green <input type="checkbox"/> Other
Trees marked to cut	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Orange <input type="checkbox"/> Other

TALLY INTENSITIES

SPECIES / PRODUCT	RATIO
N/A	1 :
	1 :
	1 :
	1 :

SPECIAL MARKING INSTRUCTIONS

All ash and beech trees are designated for cutting. Mark 1-3 healthy dominant beech trees to leave per acre where present with green paint. Where BA's are higher than 90 excluding ash and beech, mark residual down to 90 BA (orange paint). Refer to the contract and attached appendix and maps for detailed instruction.

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

RESTRICTIONS

1. Forest, Mineral and Fire Management Division 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. Call Chad Fate at (989) 785 - 4251 x5245, to make arrangements for paint.
2. Paint will be supplied from Atlanta Field Office.
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).
3. Cruise data in an electronic format approved by the LCA.
4. GPS files for any GPS work and a hard copy map (1:15840) showing sale boundaries, unit lines and cruise plots.

Compartment 35 Hardwood Contract APPENDIX 1, TIMBER SALE PRESCRIPTION

When establishing paint lines:

- The attached type maps delineate the contract marking area.
- Lines that border private will be painted by DNR personnel.
- Use red paint for all external sale boundaries.
- Use yellow paint for all internal payment unit lines. No unit lines are needed in stands 18 and 53. Split stands 8, 23, and 52 each into (2) equal units. Split stand 13 into (4) equal units. Split stand 45 into (5) equal units.
- Avoid using dead or badly damaged trees and avoid using small (fast-growing) stems.
- Marking must be done in dry weather and when tree surfaces are not wet.
- Paint the boundary line in such a way that it can be seen both from the inside of the sale area and when walking along the line from either direction (two sides) and place marks approximately six feet above the base of the tree.
- Electronic shapefiles (.shp) of the treatment boundaries are available by request.
- The contractor will keep track of total quarts of paint used per-sale by color.
- The contractor will use a GPS unit to determine acreage to the nearest one-tenth acre.
- GPS setup used must be able to output ESRI shapefiles (SHP.) Supply a copy of the area files, including the .SHP, .SHX, .DBF, and .PRJ files, along with a hard copy of the corrected area file.
- For TDS/Trimble NOMADs and Recons, HDOP must be 4 or less. Positions must be determined using at least 4 satellites.
- Sale boundaries are to be recorded as an area feature, not a line.
- Excessively steep slopes near the edge of an external boundary should be excluded from the sale using the red painted boundary. Excessively steep slopes inside the sale boundaries will be marked with red paint and a V-shaped paint mark.

When Registered Corners or Witness Trees are discovered:

- Bearing and/or witness trees discovered during the course of sale preparation must be protected. This can be accomplished by painting a ring completely around the tree at 4-6 feet above ground level with either red paint. In addition, tying ribbon on these trees helps alert loggers to their presence. Do not mark any trees for harvest if cutting them is likely to result in damage to corner monuments and/or bearing trees.

When Cruising:

- Contractor must follow the cruising guidelines in the Michigan DNR's "Product Standards and Cruising Manual"
- Data must be recorded so volume can be determined by stand.
- Cruise all marked units using the V-Bar Cruise Method.
- Cruise all ash and beech trees along with all marked trees to cut by species that will yield one or more 100" sticks with a minimum top diameter of four (4) inches DIB for pulpwood and eight (8) inches DIB for sawlogs.
- Limiting distance for borderline trees should be measured for all trees designated to be cut.
- Within all marked stands, residual basal area (merchantable sized trees) at each plot must also be recorded on the cruise sheets. Borderline residual trees do not have to be measured, but every other borderline tree should be counted.
- Plot centers must be marked according to contract specifications and correspond to a legible 1:15840 scale cruise map. Cruise specifications may be altered as necessary by the LCA.
- Plot locations must be submitted in a .shp or .way file format
- Cruise data must be submitted in a TSale compatible electronic format (microsoft excel, or a .crl file created by a program such as TSale or T-Cruise, or other electronic format approved by the LCA)
- If data is collected on paper then entered electronically, a copy of the original cruise sheets must also be submitted.

When marking prioritize selection of trees to be cut in the following order:

1. Marking must comply with The Compleat Marker, The Complete Marker Addendum, and Within Stand Retention Guidelines (IC4110.)
2. Of the residual trees in the marked stands retain the following when possible:
 - Under-represented species.
 - Mast trees - at least 3 trees/acre when available.
 - Leave all super-canopy trees or "Legacy Trees" – remnants of the historical stands.
 - Live cavity trees and snags.
3. Mark all stems including non-merchantable stems within the regeneration gaps.
4. Release 50 potential crop trees per acre.
 - Manage for best tree in place.
 - For trees less than 8" DBH, release all sides of the crown. For trees greater than 8" DBH remove the two most significant crown competitors. (Refer to The Compleat Marker for crop tree specifications.)
 - Be certain that marked trees can be felled using modern logging equipment.
5. Remove high risk and cull trees.
6. Thin from below until stocking is reached.
7. All marking must be done in dry weather and on dry bark surfaces.
8. Stump marks are required, winter marking is allowed providing snow depths are low enough to achieve proper stump marks. Check with the LCA if winter work is possible.

Reserved Species: Do not mark within 100' of any raptor nest trees. Report these to the LCA as soon as possible and directions will be given at that time.