

EQIP Project Plan (314, 666, 612)



DATE: June 17, 2024

LANDOWNER: [REDACTED] ([REDACTED])

LOCATION: Morgan Township Sections 24, 25

FORESTER: Lindsey Barney (712.350.0013)
Lindsey.barney@dnr.iowa.gov

Practice Deadlines: Invasive understory brush management (314) work must be completed first, and the timeline for completion is August 1st through February 28th. Forest stand improvement work must be completed between November 1st and February 28th for the year in which the field/stand is scheduled. Tree planting (612) must be completed between October 1st and ground freeze (Fall), or from ground thaw to May 31st (spring). Please see your NRCS Conservation Plan to see when each of the following practices is scheduled.

Maintenance Agreements: EQIP practices carry maintenance agreements, whereby you agree to maintain the post-treatment condition of the forest or tree planting for that length of time. The maintenance agreement for brush management and forest stand improvement is 10 years, and the maintenance agreement for tree plantings is 15 years. This carries through to a new owner. If the land is taken out of forest cover within the maintenance agreement, the EQIP funds will need to be returned.

Current Conditions: The 2024 Forest Stewardship Plan outlines the stand details. The following table outlines the prescriptions for each stand and the relevant EQIP practices and scenarios.

Stand Number	Acres	Prescription	EQIP Scenario
1A	3.6	Medium Invasive Understory Brush Management (MFR)	314-65
		Light crop tree release thinning (up to 20 crop trees/acre)	666-1
1B	0.2	Medium Invasive Understory Brush Management (MFR)	314-65
		Plant 50 trees/acre into ash borer damaged area (10 total trees)	612-8
2	2.4	Light invasive Understory Brush Management (MFR)	314-64
		Crop tree release thinning (up to 20 crop trees/acre)	666-1
3	8.1	Light invasive Understory Brush Management (MFR)	314-64
		Midstory removal thinning (Moderate FSI)	666-2
4	10.4	Medium Invasive Understory Brush Management (MFR, AO)	314-65
		Thin Eastern Red Cedars to 20x20 foot spacing (Heavy FSI)	666-3
6	7.8	Light invasive Understory Brush Management (MFR)	314-64

*MFR=Multiflora rose, AO = Autumn Olive

Practice Specifications:

Invasive Understory Brush Management:

EQIP 314-64 (Units 2, 3, and 6), and EQIP 314-65 (1A, 1B, 4)

Brush Management Specifications: Control all multiflora rose and autumn olive over 3 feet in height throughout each of the units listed above. This control work must be done between August 1st and February 28th and prior to thinning projects, using either of the following methods:

Basal Bark Herbicide Treatment: The preferred method for killing multiflora rose and autumn olive is basal bark herbicide application of a triclopyr ester-based herbicide (Garlon 4, Element 4, or Triclopyr 4). This herbicide is mixed at a rate of 1-part herbicide concentrate to 4 parts diesel (which is the oil-carrier). The solution is applied to the lowest 12-18" of the shrub's stems. The herbicide should wet the bark, but not run off the stem and into the soil. Please avoid doing this treatment when the bark is wet, or when there is snow covering the shrub's root.

Cut Stump Herbicide Treatment: Cut the stems of each multiflora rose or autumn olive shrub off at ground level using chainsaws, brush saws, and/or large loppers. Within 5 minutes of cutting the shrub off, treat the stump or stubs with the basal bark mixture previously described. This can be painted on with a paintbrush, or carefully sprayed on the stump. The tops of the shrubs may be left on site, and do not need to be drug off or piled. **This work must be completed between August 1st and February 28th in the year that NRCS schedules this**

work. Please do not work outside of operational season.

More information on multiflora rose can be found at: <https://mdc.mo.gov/trees/plants/invasive-plants/multiflora-rose-control>. More information on Autumn olive can be found at: <https://mdc.mo.gov/discover-nature/field-guide/autumn-olive>.

FOREST STAND IMPROVEMENT

EQIP 666-1 (Light Thinning – Crop tree release) Unit 1A (3.6 acres), and 2 (2.4)

TREATMENT SPECIFICATIONS: Prior to thinning, have a forester identify up to 20 crop trees per acre within these stands, focusing on the best-formed trees of the following species: oak, walnut, hickory, and black cherry. Trees that immediately touch/interfere with the canopy of the identified crop trees will be deadened during the thinning process. Deadening techniques can be felling (useful for trees less than 6 inches in diameter) or double girdling (trees greater than 6 inches in diameter). Do not treat stumps or girdles with herbicide, but allow to resprout for browse. This thinning must be completed between November 1st and February 28th.

EQIP 666-2 (Medium Thinning – Midstory removal) Unit 3 (8.1 acres)

TREATMENT SPECIFICATIONS: Use brush saws or chainsaws to fell midstory trees within this unit of the following species: hackberry, American elm, bitternut and shagbark hickory of poor form. Treat hackberry stumps immediately after cutting using undiluted glyphosate, or undiluted triclopyr amine or undiluted triclopyr choline, or the triclopyr ester basal bark mixture (cover entire stump and sides of stump). Do not cut midstory oaks, cherries, walnuts, or hickories of good form. This thinning should be completed between November 1st and February 28th.

EQIP 666-3 (Heavy Thinning) – Unit 4 – 10.4 acres:

TREATMENT SPECIFICATIONS: Use a forestry mower grind eastern red cedar, to a spacing of no more than 20x20 feet, leaving the largest, fullest trees at the 20x20 foot spacing. The trees between the residual trees should be shredded and the stumps level with the soil surface. Any invasive shrubs (multiflora rose, Amur honeysuckle, and autumn olive if present) should be treated prior to this phase of work. All other hardwood trees (which range in size from seedlings to saplings) should be retained. These hardwood trees should not be injured during the forestry mowing operation, if possible. This project is only intended for use with forestry mowers/mulchers, and is not designed for lop and scatter treatment (cutting the trees down and leaving them in the understory).

Prior to initiating work, please work with the DNR District Forester or a Consulting Forester to get a feel for the desired spacing. The only allowable timing for treatment is November 1st through February 28th, when the ground is firm or frozen.

GENERAL THINNING REQUIREMENTS (For EQIP 666-1, 666-2, and 666-3 projects):

Trees indicated for removal may be felled or girdled. Cedar trees in unit 4 must be forestry mowed. All thinning work must be completed between November 1 and February 28th (no later, for forest health reasons).

Trees that are felled must be cut flush with the soil surface (please do not leave stumps over 4" in height). If the tree is a Osage orange, white mulberry, ironwood, or hackberry then the stump or bottom girdle will need to be treated within **5 minutes of cutting**. **The stumps or lower girdles on these species must be treated with either undiluted 41% glyphosate, or undiluted triclopyr amine, or undiluted triclopyr choline.**

Appropriate water-based dyes must be used on treated stumps or lower girdles.

Elm, hickory, cedar, and any others (not on the herbicide treatment list) marked for deadening should be left untreated (no herbicide).

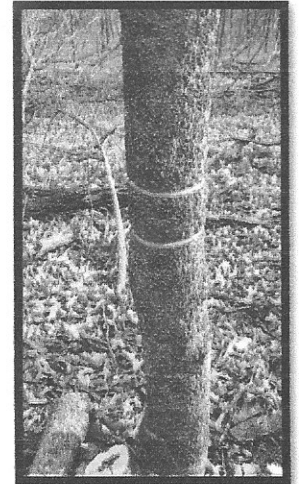
The trunks of the trees must be completely severed from the stump. Distribute slash so that it is not piled against residual overstory trees, and so that the unit is easy to walk through after thinning. Please do not fell trees into other trees (hangers) or intentionally barber-chair trees. The photos to the right show what the thinning units should look like after treatment (using a combination of felling and girdling.) Trees less than 5-6" in diameter are best felled, whereas trees >6" in diameter are most efficiently killed by double girdling.



If overstory trees are killed by girdling (crop tree release units), then use the following specifications: The girdle must completely encircle the tree to a depth that severs the bark, green cambium and slightly into the sapwood. Use two girdles, spaced 4" apart between girdles, at a comfortable height on the tree. If the girdles do not connect, be sure to make additional cuts with the saw to make sure the girdle connects.

The bottom girdle should be treated with herbicide within 5 minutes of cutting (using triclopyr amine or triclopyr choline or glyphosate) for Osage orange, white mulberry, ironwood, or hackberry. The image to the right shows a properly implemented girdle, and the lower girdle was treated with red dyed herbicide.

All other species (hickory, oak, or others) indicated for deadening in these units may be double girdled without herbicide, if they are not felled.



TREE AND SHRUB PLANTING:

EQIP 612-8 Tree Planting with Shelters (Unit 1B – 0.2 acres):

This planting will require 10 total trees to be planted into the site. The site should have dead ash trees felled prior to planting, if it helps with planting. The spacing for planted trees will be 30x30 feet. Please do not plant under the driplines of existing live trees on the perimeter of this opening.

The following tree species are suitable for use in this planting: bottomland bur oak, swamp white oak, pin oak, black oak, shingle oak, shagbark hickory, shellbark hickory, Kentucky coffee tree, black cherry, American basswood, red mulberry, and downy hawthorn. I would suggest using the following:

- 10 red mulberry or 10 black cherry trees

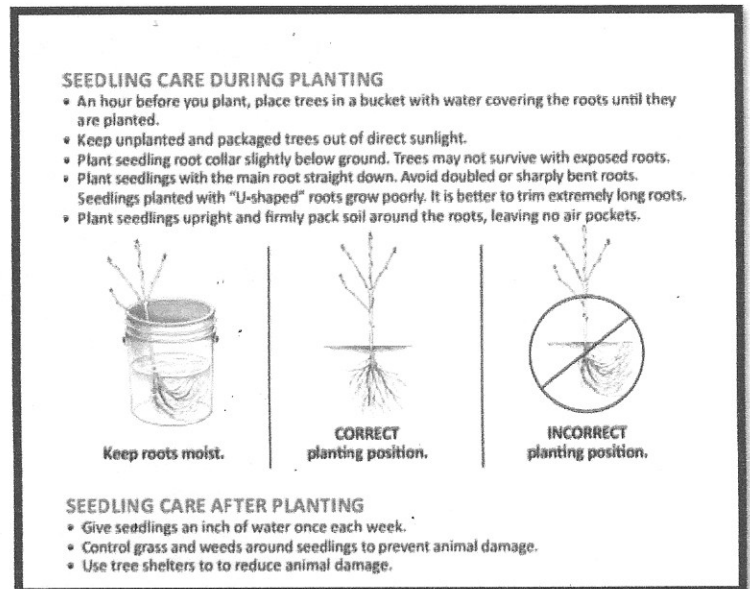
Each one of these 10 trees will need a 5-foot-tall tree protector. The shelters should be placed on all planted trees. **This planting will require 10 tree protectors.** Tree protectors

should be 5 feet tall, with ventilation holes oriented towards the top of the shelter. The tree protector should also have a rolled lip to add strength and also to prevent rubbing on the tree. The shelters **must** be staked with a 6 to 7-foot length of 3/8" metal or sand coated fiberglass rebar. Do not use conduit, bamboo, or wooden stakes, or any stakes less than 6' long. The tree shelters must be installed ASAP after planting is complete.



Use all previously mentioned specifications for seedling handling and storage before planting. **These trees will need to be planted by hand. Please do not use an auger to make the holes, and please do not use a spade/dibble bar to "heel in" the seedlings into a narrow slit in the soil.**

Best success for planting is had by digging individual holes for each seedling to accommodate three dimensional structure of the root systems. (as shown in the illustration). After each seedling is planted, install the .5-foot-tall tree protector to mark the seedling location. Deer will be hard on plastic tree protectors, so please consider using on-site slash (limbs) to limit access to the tree shelters. Also consider snipping off the loose ends of the zip-ties to prevent curious deer damage.



Plan to complete this work as early in the spring as possible (usually late March or early April). Again, the timelines for planting are ground thaw to May 31st for spring, or October 1st through ground freeze (for fall).

Please contact me if you have any questions, and please contact me as soon as the scheduled work is completed so a timely inspection can be performed, which is required for payment.

CONTRACTOR REQUIREMENTS: Contractors must be able to easily distinguish between tree and shrub species in all seasons, for proper administration of herbicides (as specified in this plan). The contractor must be a Licensed IDALS Pesticide Applicator for Category 2 (Forestry). The contractor must also be able to prove at any time that the approved herbicides are being used. The inspection of the project will be based on:

- Complete coverage of all acres specified in this plan
- Adherence to the practice specifications in this plan
- Proper use of required herbicide and proper timing of thinning (November 1 to February 28th)
- Completion of project prior to NRCS conservation plan deadline

Special Note on Northern Long-Eared Bat, Indiana Bat, and Tricolored Bat

For use with USDA and REAP funded projects

The Indiana Bat (*Myotis sodalis*) is a federal (50CFR Part 17) and state (Code of Iowa, Chapter 481B) endangered species that occurs in southern Iowa as far north as Highway 30. The Northern Long-Eared Bat (*Myotis septentrionalis*) is a federally Endangered Species that can occur in any county of Iowa. The Tricolored Bat (*Perimyotis subflavus*) is a federally Proposed Endangered Species that can occur in any county in Iowa. All three bats can be active from April through September in forested areas. Female Indiana bat and Northern Long-Eared Bats may roost and rear young in standing trees 3" DBH and larger, either dead or alive, with loose, shaggy, or peeling slabs of bark, cavities in the trunk or large limbs, or large cracks or openings. Tricolored bats roost in similar forested habitat but roost within leaf clusters instead of under loose bark.

To protect summer habitat for all three species of bats, adhere to the following guidance:

- Avoid felling any dead standing or live trees 3" DBH and larger that contain cavities, cracks or crevices, or loose, platy, peeling, or shaggy bark from April 1st through September 30th.
- Such trees meeting the above criteria may be felled beginning October 1 through March 31; however, in all forest management projects, retain a minimum of **9 suitable habitat trees per acre** if present above this rate.
- Live trees may be girdled any time of year to create habitat snags in Forest Stand Improvement operations (**please refer to forester's timeline for girdling, to avoid disease issues**).
- Avoid conducting prescribed burns in woodlands from April 1st until September 30th.
- If prescribed burning operations must take place after April 1st through September 30th, then protect trees 9" DBH and larger that contain cavities, cracks or crevices, or loose, platy, peeling, or shaggy bark.
- Avoid clearcuts, seed tree harvests, or site preparation projects larger than 10 acres that could negatively affect suitable habitat.

If the above guidance cannot be adhered to, an individual consultation with the U.S. FWS Rock Island Field Office is needed to determine how to best avoid adverse effects to Indiana Bat, Northern Long-Eared Bat, and/or Tricolored Bat.

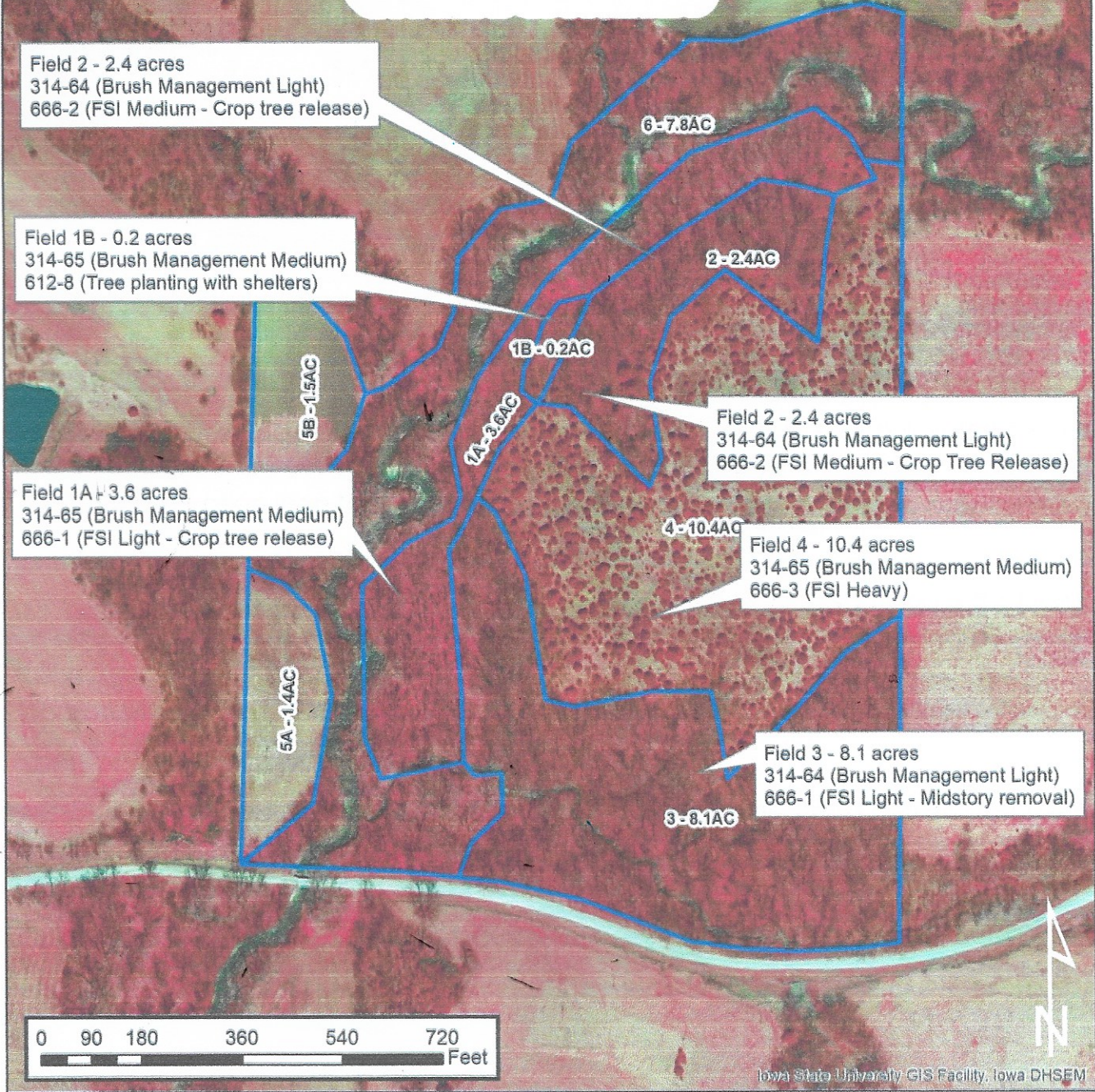
Producer Acknowledgement

- a. I have received a copy of the specifications and understand the contents, including the scope and location of the practice
- b. I will comply with all ordinances and laws pertaining to the application of this practice.
- c. No changes will be made in the installation of the job without prior concurrence of the NRCS and DNR District Forester.
- d. Maintenance is necessary of proper performance during the life of this practice. The practice life is **10 years for brush management and forest stand improvement, and 15 years for tree plantings**. Program requirements may require longer maintenance, check the program contract.

I have reviewed all specifications and agree to install as specified:

Producer Signature:	Date:
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EQIP Projects
2016-2018 CIR Imagery
 Created 6/17/2024



Field 2 - 2.4 acres
 314-64 (Brush Management Light)
 666-2 (FSI Medium - Crop tree release)

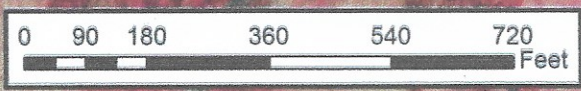
Field 1B - 0.2 acres
 314-65 (Brush Management Medium)
 612-8 (Tree planting with shelters)

Field 1A - 3.6 acres
 314-65 (Brush Management Medium)
 666-1 (FSI Light - Crop tree release)

Field 2 - 2.4 acres
 314-64 (Brush Management Light)
 666-2 (FSI Medium - Crop Tree Release)

Field 4 - 10.4 acres
 314-65 (Brush Management Medium)
 666-3 (FSI Heavy)

Field 3 - 8.1 acres
 314-64 (Brush Management Light)
 666-1 (FSI Light - Midstory removal)



Iowa State University GIS Facility, Iowa DHSEM

Legend

 District 11 Stands

Created by Lindsey Barney
 DNR District Forester

