Sawyer County

Agenda

Zoning Committee Meeting

Thursday, November 17, 2022 @ 8:30 AM

Large Courtroom; Sawyer County Courthouse

Page

1. PRELIMINARY MATTERS

a. Call to Order and Roll Call

b. Pledge of Allegiance

5 - 6 c. State of Committee and Hearing Procedure and Statement of Hearing Notice
Statement of Comm. Hearing & Procedure & Hearing Notice

7 - 10 d. Approval of Previous Meeting Minutes
10-21-2022 ZC Minutes

e. Public Comment

Please note comment time is intended for general public comments, not comments relating to a specific application before this Committee. Each Agenda item requiring a public hearing will have its public hearing conducted just prior to the application being considered by this Committee. If you wish to speak on a specific Agenda item, we encourage you to hold your comments until that specific public hearing.

2. REZONE APPLICATIONS

a. None

3. CONDITIONAL USE APPLICATIONS

11 - 20 a. Public Hearing in the Town of Lenroot. CUP #22-032. Owner: Kubarek Auction & Estate Services LLC, Part of the SW ¼ of the NW ¼; S12, T41N, R09W; Parcel #014-941-12-2301; Tax ID# 17939; 28.50 total acres; Zoned (A-1) Agricultural One. Permit desired for a place to house online auction items for people to see and inspect. Preview hours would be 2pm-6pm, then pickup time from 12pm-6pm. This would happen about 10 times a year. As per Section 17.4(B)(25) like or similar uses in the opinion of the Sawyer County Zoning Committee subject to the procedures for obtaining a Conditional Use Permit.
CUP #22-032, Kubarek Auction & Estate Services LLC pkt.

b.

Discussion/Action in the Town of Lenroot. CUP #22-032. Owner: Kubarek Auction & Estate Services LLC, Part of the SW ¼ of the NW ¼; S12, T41N, R09W; Parcel #014-941-12-2301; Tax ID# 17939; 28.50 total acres; Zoned (A-1) Agricultural One. Permit desired for a place to house online auction items for people to see and inspect. Preview hours would be 2pm-6pm, then pickup time from 12pm-6pm. This would happen about 10 times a year. As per Section 17.4(B)(25) like or similar uses in the opinion of the Sawyer County Zoning Committee subject to the procedures for obtaining a Conditional Use Permit.

4. REZONES & CONDITIONAL USE APPLICATIONS (POSTPONED)

21 - 30

a. (POSTPONED) A Public Hearing in the Town of Round Lake. RZN #22-012. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID #26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; Purpose of request is for the Residential/Recreational One (RR-1) to change to Forestry One (F-1) for non-metallic mineral extraction.

RZN #22-012, Travis Butterfield pkt for rezone.

b. (POSTPONED) Discussion/Action in the Town of Round Lake. RZN #22-012. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID #26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; Purpose of request is for the Residential/Recreational One (RR-1) to change to Forestry One (F-1) for non-metallic mineral extraction.

31 - 44

c. (POSTPONED) A Public Hearing in the Town of Round Lake. CUP #22-026. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1)' 39.85 total acres. Permit desired for the Location/Operation of a non-metallic mineral extraction site.
CUP #22-026, T. Butterfield - Location & Operation Plan pkt.

d. (POSTPONED) Discussion/Action in the Town of Round Lake. CUP #22-026. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1)' 39.85 total acres. Permit desired for the Location/Operation of a non-metallic mineral extraction site.

45 - 95

e. (POSTPONED) A Public Hearing in the Town of Round Lake. CUP #22-026 for the Reclamation Plan. Owner: Travis Butterfield. Part of

the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; Permit desired for the Sawyer County NR 135 Reclamation Issuance for location/operation of a non-metallic mineral open pit.
CUP #22-026, T. Butterfield - Reclamation Plan pkt.

f. (POSTPONED) Discussion/Action in the Town of Round Lake. CUP #22-026 for the Reclamation Plan. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; Permit desired for the Sawyer County NR 135 Reclamation Issuance for location/operation of a non-metallic mineral open pit.

5. NEW BUSINESS

96 - 100

a. Proposed ordinance amendment for Multi-Dwelling Development and definition of a resort. (Discussion/Possible Action to send to Towns).
Official Public Hearing will be at a later date to be determined.
Multi-Dwelling Development V1
Multi-Dwelling Development V2 (rev 11-13-22)

b. CUP #22-005. Previously, motion was made and 2nd to wipe out previous conditions and adjournments due to vague context at October 21, 2022 Zoning Committee Meeting. The motion also included that the applicant can amend current application or submit new application for a December public hearing date which includes submitting back to the Town Board. However, this motion was never voted on. The motion needs to be voted on. (Discussion/Action)

c. Municode - Codification of Ordinances. Zoning Ordinance in Appendix of Code or codify within the Code (Discussion/Possible Action)

d. **Closed Session -** Pank Road Property -- 19.85(1)(g) Conferring with legal counsel for the governmental body who is rendering oral or written advise concerning strategy to be adopted by the body with respect to litigation in which it is or is likely to become involved.

Open Session (discussion and possible action RE: closed session)

e. Any other business that may become the Committee.

6. ADJOURNMENT

7.

A Quorum of the County Board of Supervisors or any of its committees may be present at this meeting to listen and observe. Neither the Board nor any of the committees have established attendance at this meeting as an official function of the Board or Committee(s) or otherwise made a determination that attendance at the meeting is necessary to carry out the Board or committee's function. The only purpose for other supervisors attending the meeting is to listen to the information presented. Neither the Board nor any committee (other than the committee providing this notice and agenda) will take any official action with respect to this noticed meeting.

SAWYER COUNTY ZONING COMMITTEE
STATEMENT OF COMMITTEE HEARING AND PROCEDURE AND STATEMENT OF HEARING NOTICE

This Sawyer County Zoning Committee ("Zoning Committee") meeting is being held this day and will be called to order at approximately 8:30 a.m. in the Sawyer County Courthouse, 10610 Main Street, Hayward, Wisconsin.

This Statement of Committee Hearing and Procedure and Statement of Hearing Notice is for the public's reference and supplements on the statements on the record under Agenda Item No. 1, "Preliminary Matters." This Statement of Committee Hearing and Procedure and Statement of Hearing Notice is incorporated into the record of today's Zoning Committee meeting.

Nothing in this Statement of Committee Hearing and Procedure and Statement of Hearing Notice modifies or otherwise limits the provisions set forth in the Wisconsin Statutes and other applicable law.

Any persons requiring assistance with this may contact the Sawyer County Zoning Administrator or request assistance at the Zoning Committee meeting during public comments.

Statement of Committee Hearing and Procedure

Individual Public Hearing: Generally, each application requiring a public hearing shall have an individual public hearing conducted just prior to the Agenda item in which the Zoning Committee may take action.

Public Hearing Process: Each public hearing conducted at this Zoning Committee meeting will follow this order: (1) presentation of a summary of the petition set forth in the application or request; (2) submission of a file to the Zoning Committee; and (3) the applicant's statements (or the applicant's representative's statements) and presentation of evidence; (4) public testimony by persons desiring to give pertinent testimony (a "Speaker") in support of the application; (5) public testimony by Speakers in objection to the application; and (6) any rebuttal as permitted by the Zoning Committee Chair. Once the Zoning Committee has the pertinent information, the public hearing will be closed and thereafter the Zoning Committee may deliberate, discuss, pose questions to the Sawyer County staff, legal counsel or the applicant, and take action on the application within the Zoning Committee's discretion.

Hearing Appearance Slip: For all hearings to be conducted at today's Zoning Committee meeting, any Speaker desiring to give pertinent testimony will be afforded to opportunity to do so. A Speaker must complete a Hearing Appearance Slip, which is provided at this meeting next to the meeting Agenda. After completion, the Speaker shall deliver the Hearing Appearance Slip to the Zoning Committee Chair prior to the commencement of the Zoning Committee meeting.

Process and Guidelines for Testimony by Speakers: Prior to speaking, the Speaker must be recognized by the Zoning Committee Chair in order to speak. Once recognized by the Zoning Committee Chair, the Speaker must state their full name and address before giving testimony. The Speaker should also state whether the Speaker represents a client, group, or other association, whether the Speaker is in favor or opposes the proposal on which the testimony is being given, and other pertinent information. Speakers should confine their testimony to the facts and matters presented. Speakers should avoid repetitive testimony, and Speakers are encouraged to state that they agree or disagree with other comments to avoid repetitive testimony. A Speaker's testimony will be limited to three (3) minutes, unless additional time is provided for by the Zoning Committee Chair. Orderly procedures require that each Speaker proceeds without interruption by others. All testimony will be addressed to the Zoning Committee and there will be no questions or arguments between individuals. The Zoning Committee is under no obligation to answer questions posed by the Speaker during the public hearing.

Applications for Rezoning: On applications for a change in zoning designation of property, the decision of the Zoning Committee is a recommendation to the Sawyer County Board of Supervisors for final determination and action. This provision does not modify or otherwise limit the provisions set forth in Wis. Stat. § 59.69 or any other applicable law.

Appeal of Certain Decisions: Any person aggrieved by a decision regarding a conditional use or any other decision in which the County Zoning Committee is the decision making body, a person may commence an action with the Sawyer County Board of Appeals to review the Zoning Committee's decision in whole or in part, within 30 days of the date following the committee's decision letter. This provision does not modify or otherwise limit the provisions set forth in Wis. Stat. § 59.694.

Statement of Hearing Notice

Each public hearing conducted at this Zoning Committee meeting has been published as a Class 2 notice in accordance with Wisconsin Statutes Ch. 985 in the Sawyer County Record and the Sawyer County Gazette, and publically posted within the Sawyer County Courthouse.

Questions

Please contact the Sawyer County Zoning Administrator should you have any questions regarding this Statement of Committee Hearing and Procedure and Statement of Hearing.

MINUTES OF PUBLIC HEARING
Sawyer County Zoning Committee
October 21, 2022, 8:30 am

Zoning Committee Members
Jesse Boettcher, Chairman
Ronald Buckholtz
Tweed Shuman
Stacey Hessel
John Righeimer
Michael Mastri

Zoning Administration
Jay Kozlowski, Zoning & Conservation Administrator
Pat Brown, Assistant Zoning Administrator
Kathy Marks, Deputy Zoning & Conservation Administrator

PRELIMINARY MATTERS
a) Call to Order and Roll Call
Buckholtz called the Public Hearing before the Sawyer County Zoning Committee to order at 8:30 AM in the Sawyer County Courthouse, 10610 Main St., Hayward, Wisconsin. Roll called finding present: Boettcher – absent, Buckholtz, Shuman, Hessel, Maestri –virtual and Righeimer. From the Zoning Office Kozlowski and Brown. Marks is absent. Andy Phillips as legal counsel for Sawyer County.

b) Pledge of Allegiance

c) Statement of Committee and Hearing Procedure and Statement of Hearing Notice.
Those persons wishing to speak will be afforded the opportunity provided they identify themselves. The Public Hearing Notice was published as a Class 2 Notice in accordance with Chapter 985 of the Wisconsin Statutes in the Sawyer County Record and Sawyer County Gazette.

d) Approval of September 16, 2022 Minutes. Motion by Hessel to approve the September 16, 2022 minutes as presented. Second by Shuman. All in favor.

e) Public Comment. Douglas Kurtzweil Hayward, WI. Speaks in regards to multi-family development. Linda Zillmer, Edgewater property owner speaks of adding items to new business that has not made it to public notice and not allowing public comment for the new business items.

REZONE APPLICATION
a) A Public Hearing in the Town of Meteor. RZN #22-014. Owner: Seth & Ashley Zesiger. The NE ¼ of the SE ¼ and the NW ¼ of the SE ¼; All in S11, T37N, R08W; Parcel # 018-837-11-410; Tax ID #19641 and 018-837-11-4201; Tax ID #19642; 80 total acres; Zoned Forestry One (F-1). Purpose of request is to rezone from Forestry One (F-1) to Agricultural One (A-1) to add additional pasture land for the farm. Kozlowski reads the application, staff report, Town opinion and neighbor opinion letters. Motion to open the public hearing portion of the application by Shuman, second by Hessel. All in favor. Applicant

is not available. Kozlowski reads a letter from the owner. No other comments. Motion to close public hearing by Shuman, second by Righeimer. All in favor. Kozlowski reads the discussion/action portion of the application. Motion by Shuman to approve the application as presented, second by Righeimer. Findings of Fact: 1. It would not be damaging to the rights of others or property values. 2. It would not be detrimental to ecology, wild life, wetlands or shorelands. 3. It would not create an air quality, water supply, or pollution problem. 4. It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal. 5. It would not create traffic or highway access problems. 6. It would not destroy prime agricultural lands. 7. It would be compatible with the surrounding uses and the area. 8. It would be consistent with the Town and/or County Comprehensive Plan. 9. It would not create an objectionable view. Roll call finds: Hessel – yes, Shuman – yes, Buckholtz –yes, Maestri – yes, Righeimer – yes. All in favor.

b) A Public Hearing in the Town of Edgewater. CUP #22-015. Owner: Knapmiller Family Trust. Part of Government Lot 6; S19, T37N, R09W; Parcel #008-937-19-5605; Tax ID #8714; total acres 46.92; Zoned Agricultural One (A-1) & Residential/Recreational One (RR-1). Purpose of request is to rezone approximately 4.85 acres of the property to Commercial One (C-1) for recreational vehicle storage. Non-structural storage open land only storing but not limited to: boats, pontoons, and (off-road) recreational vehicles. Kozlowski reads the application, staff report, Town opinion, neighbor opinions. Motion by Hessel to open the public hearing portion of the application, second by Righeimer. All in favor. Robert Knapmiller, owner speaks in favor of the application. No other comments. Motion to close the public hearing portion of the application by Hessel, second by Shuman. All in favor. Kozlowski reads the discussion/action portion of the application. Motion by Righeimer to approve the application on Findings of Fact: It would not be damaging to the rights of others or property values. It would not be detrimental to ecology, wild life, wetlands or shorelands. It would not create an air quality, water supply, or pollution problem. It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal. It would not create traffic or highway access problems. 6. It would not destroy prime agricultural lands. It would be compatible with the surrounding uses and the area. It would be consistent with the Town and/or County Comprehensive Plan. It would not create an objectionable view. Second by Hessel. Discussion held. Roll call finds: Maestri- yes, Shuman – yes, Hessel – yes, Righeimer – yes, Buckholtz – yes. All in favor.

CONDITIONAL USE APPLICATION

a) A Public Hearing in the Town of Couderay. CUP #22-030. Owner: Chad & Gail Kohlstad. Part of Government Lot 3, Lot 5 CSM 36/189 #8438. S08, T39N, R08W: Parcel #004-839-08-5309; Tax ID #22-030; Zoned Forestry One (F-1) & Residential/Recreational Two (RR-2); 4.0 total acres. Permit desired to build a deck up to 240' square feet for camper. Per section 4.26 (1) with conditions of the Sawyer Count Zoning Ordinance. Kozlowski reads the application, staff report, Town opinion and neighbor opinions. Motion to open the public hearing portion of the application by Righeimer, second by Buckholtz. Chad Kolstad, owner speaks in favor of the application. Linda Zillmer Edgewater property owner speaks of the ordinance/conditional use. Motion to close the public hearing portion of the application by Shuman, second by Hessel. Kozlowski reads the discussion/action portion of the application. Andy Phillips, Corporation Counsel speaks of the Ordinance and stipulations of 4.26 and that it is appropriate to run this as a CUP and consistent with the Ordinance. Discussion with Committee and Kozlowski. Motion by Righeimer to approve the application, second by Hessel. Conditions: Land Use Permit is required with a double permit fee. Land Use Permit is required and applied for principal structure within 3 years from date of Zoning Committee decision. Failure to apply will result in citation with potential order for removal of accessory building. Proposed accessory structure must meet all other Sawyer County & Conservation requirements including setbacks and also compliant with all other State & Federal Laws.

Size of proposed structure not to exceed the already existing 12' x 20'. Findings of Fact: It would not be damaging to the rights of others or property values. 2. It would not be detrimental to ecology, wild life, wetlands or shorelands. 3. It would not create an air quality, water supply, or pollution problem. 4. It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal. 5. It would not create traffic or highway access problems. 6. It would not destroy prime agricultural lands. 7. It would be compatible with the surrounding uses and the area. 8. It would be consistent with the Town and/or County Comprehensive Plan. 9. It would not create an objectionable view. Roll call finds: Shuman – yes,, Hessel – yes, Buckholtz – yes, Maestri – yes. Righeimer – yes. All in favor.

b) A Public Hearing in the Town of Edgewater. CUP #22-031. Owner: John E Lozier Trust. John E Lozier Trust, Kevin Lozier-agent. Part of Government Lot 2; S19, T37N, R09W; Parcel #008-937-19-5210; Tax ID #8666; Zoned Residential/Recreational One (RR-1); 2.57 total acres. Permit desired for kayak rental of 8 to 10 kayaks, private-park with three sites to park and use picnic table. No overnight stays. Per section 17.2(B) (3 and 16) of the Sawyer County Zoning Ordinance. Kozlowski reads the application, staff report, Town opinion and neighbor opinions. Motion to open the public hearing portion of the application by Shuman, second by Righeimer. Kevin Lozier, owner speaks in favor of the application. Linda Zillmer, Edgewater property owner speaks of the narrow channel, limited parking, and the property has been advertised as a campground. Against the application. Stacy Safford, Fall Creek, WI. Speaks against. Discussion with Committee, Kozlowski and Lozier. Motion to close the public hearing portion of the application by Righeimer, second by Shuman. All in favor. Kozlowski reads the discussion/action portion of the application. Motion by Shuman to approve the application with conditions of Restroom facilities that are available to guests of the private park. This must include additional Portable Restroom Facilities if determined necessary by the Sawyer County Zoning Department or compliant POWTS. No overnight camping of any kind allowed. The private park is limited to 3 separate areas max, 18 occupants. All dock and pier placement must comply with WDNR pier regulations. Business Operation including park rental areas may only be conducted from April 1st – November 1st; 7AM-9PM. This conditional Use Permit (CUP) is only granted to the current owner of the property. If a new owner is wanting to continue such a business use a new CUP must be applied for. All other Federal, State, County, and Town regulations must be complied with. Findings of Fact: It would not be damaging to the rights of others or property values. It would not be detrimental to ecology, wild life, wetlands or shorelands. It would not create an air quality, water supply, or pollution problem. It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal. It would not create traffic or highway access problems. It would not destroy prime agricultural lands. It would be compatible with the surrounding uses and the area. It would be consistent with the Town and/or County Comprehensive Plan. It would not create an objectionable view. Second by Righeimer. All in favor.

c) A Public Hearing in the Town of Lenroot. CUP #22-028. Owner: Larry & Kim Verissimo. Part of the NE ¼ of the NW ¼; S12, T41N, R09W; Parcel #014-941-12-2106; Tax ID#41961; 22.28 total acres; Zoned Residential/Recreational Two (RR-2). Permit desired for: Hayward Property Owner LLC would like to develop and operate a seasonal RV Park/Campground tailored to short and long-term tourists. 84 total sites including 8 "camping cabins". Kozlowski reads the application, staff report, Town opinion, other opinions. Motion to open the public hearing portion of the application by Hessel, second by Shuman. All in favor. Meghan Durkin speaks in favor of the application. Fred Goold, Lenroot Township speaks for informational purposes for the Town Comprehensive Planning Committee. Paddy Steavenson Town of Lenroot resident speaks against the application, Others speaking against include Darlene Judd, Kris Mayberry, Carol Stone, Jennifer Bandow, Doug Kurtzweil, Karen Sandman, Penny Vaneck, Linda Steavenson. Discussion with Committee, Kozlowski, and Meghan Durkin. Motion to close the public

hearing portion of the application by Hessel, second by Shuman. Kozlowski reads the action/discussion portion of the application. Discussion held. Motion by Shuman to deny the application. Findings of Fact: It would be significantly damaging to the rights of others and property values. It would be detrimental to ecology, wild life, wetlands or shorelands. It would create an air quality, water supply, or pollution problem. It would create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal. It would create traffic or highway access problems. It would destroy prime agricultural lands. It would not be compatible with the surrounding uses and the area. It would not be consistent with the Town and County Comprehensive Plan. It would create an objectionable view. Second by Buckholtz. Roll call finds Hessel – yes, Shuman – yes, Buckholtz – yes, Maestri – yes, Righeimer – no. 4 to 1 to deny the application.

NEW BUSINES

a) Sawmill Operation within an RR-2 Zone District. Kozlowski explains the request that came to the office. Ordinance discussion for sawmill as personal vs commercial use. Potential amendment to Zoning Ordinance. Discussion held by Committee, Kozlowski and Brown. Kozlowski will bring more information back to the Committee next month.

b) Multiple existing primary dwellings on one lot. Kozlowski explains the muti-dwelling development being confusing in the Ordinance and working on a Zoning Ordinance amendment. Discussion held. Kozlowski will bring back version 2 in December.

c) Discussion of CUP #22-005 O'Rouke, and the statues of that and moving forward Discussion held by Committee, Kozlowksi and Andy Phillips, Corporation Counsel suggests to bring back in December.

d) Any other business that may come before the Committee. None.

ADJOURNMENT

Buckholtz adjourns meeting at 11:59 AM.

Minutes prepared by Pat Brown, Assistant Zoning Administrator and Kathy Marks, Deputy Zoning & Conservation Administrator.

***For more information please contact our office or see our website at sawyercountygov.org

Conditional Use Permit Request
STAFF REPORT

Prepared By: Jay Kozlowski, Sawyer County Zoning & Conservation Administrator

File: # CUP 22-032

Applicant:

Kubarek Auction & Estate Service LLC
15551 Davis Ave, Hayward, WI 54843
ATTN: Susan Diedrich or Bonnie Kubarek

Property Location & Legal Description:
Part of the SW ¼ of the NW ¼; S12, T41N, R09W; Parcel #014-941-12-2301; Tax ID# 17939; 28.50 total acres; Zoned (A-1) Agricultural One.

Request: Permit requested as per Section 17.4(B) (25) like or similar uses in the opinion of the Sawyer County Zoning Committee subject to the procedures for obtaining a Conditional Use Permit. Permit desired for a "Auction Sale Event" - place to house online auction items for people to see and inspect. Preview hours would be 2pm-6pm, then pickup time from 12pm-6pm. This would happen about 10 times a year.

Project History & Summary of Request: At the August 19, 2022 Zoning Committee this type of "Auction Sale Event" was discussed with the Committee. At that time, it was determined that an Auction Sale Event would be a like or similar use to an Event Barn, Professional Office or Studio, Wholesaling Establishment, or New/Used Car Sales Establishment which is specifically listed as uses that require a Conditional Use Permit within the A-1 zone district. Additional conversation should be held as to clarify that an "Auction Sale Event" would be a like or similar use to another listed Conditional Use in the opinion of the Sawyer County Zoning Committee.
Per the applicant's statement, they have recently purchased the Pendleton Farm and currently working on improvements to the property. As part of the improvements they would also like to hold approximately 5 online auction consignment sales at the property. This would include one week of set-up, one week of "live" online bidding, and a pick-up day after the auction has ended. There would be bidders coming to the farm on "preview day" which would be 2PM-6PM and on "pick-up" day which is typically 12PM-6PM and by appointment only. This is in the attempt to spread out any additional traffic that may occur.

Additional information for Conditional Use Permits:

Substantial evidence means facts and information, other than merely personal preferences or speculation, directly pertaining to the requirements and conditions an applicant must meet to obtain a conditional use permit and that reasonable persons would accept in support of a conclusion. If an applicant agrees to meets all of the requirements and conditions specified in the county ordinance or those imposed by the county zoning board, the county shall grant the

conditional use permit. Any condition imposed must be related to the purpose of the ordinance and be based on substantial evidence. The conditions must be reasonable and, to the extent practicable, measurable. The applicant must demonstrate that the application and all requirements and conditions established by the county relating to the conditional use are or shall be satisfied, both of which must be supported by substantial evidence. The county's decision to approve or deny the permit must be supported by substantial evidence.

Possible Conditions for Approval: (choose from list below) (add or delete from list below)

1 CUP #22-032 is limited to the property owner.
2 Not to exceed 12 separate auction event per year. Each event to include a "preview day" and "pick-up day".
3 "Preview Day" hours to be 2:00PM-6PM
4 "Pick-Up Day" hours to be typically from 12:00PM-6PM or by appointment only for certain circumstances.
5 If additional buildings are proposed for "Auction Sales Events" or to alter other previously listed conditions, a Conditional Use Permit renewal will be required.
6 All signage must meet Sawyer County Zoning Ordinance Requirements.
7 All other Town, County, State, Federal Laws are followed

Findings of Fact for Approval: (choose from list below)

1 It would not be damaging to the rights of others or property values
2 It would not be detrimental to ecology, wild life, wetlands or shorelands.
3 It would not create an air quality, water supply, or pollution problem.
4 It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
5 It would not create traffic or highway access problems.
6 It would not destroy prime agricultural lands.
7 It would be compatible with the surrounding uses and the area.
8 It would be consistent with the Town and/or County Comprehensive Plan
9 It would be a like or similar use to another stated Conditional Use Permit in the opinion of the Sawyer County Zoning Committee.
10 It would not create an objectionable view.

Findings of Fact for Denial: (choose from list below)

11 It would be damaging to the rights of others and property values.
12 It would be detrimental to ecology, wild life, wetlands or shorelands.
13 It would create an air quality, water supply, or pollution problem.
14 It would create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
15 It would create traffic or highway access problems.
16 It would destroy prime agricultural lands.
17 It would not be compatible with the surrounding uses and the area.
18 It would create an objectionable view.

SAWYER COUNTY

Conditional Use Public Hearing Application

RECEIVED
SEP 13 2022
SAWYER COUNTY
ZONING ADMINISTRATION

TO: Sawyer County Zoning and Conservation Administration
10610 Main Street Suite 49
Hayward, Wisconsin 54843
Attn: Kathy Marks E-mail: kathy.marks@sawyercountygov.org Phone: 715-638-3225

Property Owner Name & Address:
Kubarek Auction and Estate Services LLC
11146 N Risberg Rd
Hayward WI 54843

Phone: 715-558-5238 Email: sooz321@gmail.com

Property description including Parcel Number:
Legacy PIN: 01494 1122301
STR: S12 T41N R09W
Description: [redacted] PRT SWNW
Acres: 28.5

Permit desired for:
See attached.

S 17.4(B)(25) LIKE OR SIMILAR USES IN THE OPINION OF THE S.C. ZONING COMMITTEE SUBJECT TO THE PROCEDURES FOR OBTAING A CONDITIONAL USE PERMIT

Susan Diedrich
Susan Diedrich
Owner Print & Sign

Bonnie Kubarek
Bonnie Kubarek
Owner Print & Sign

Signature of property owner(s) required. The undersigned person(s) hereby give permission for access to the property for inspection by Municipal Officials, Sawyer County Zoning Staff and Sawyer County Zoning Committee members if needed.

Name, Address, Phone & Email of Agent or Buyer:

Fee: $350.00 Date of Public Hearing: Nov. 17, 2022

Rev January 2021

Thank you for considering a Conditional Use Permit for Kubarek Auction.

We are so excited to be the new owners of the Pendleton Farm. The beautification projects and improvements we have planned are going to turn it into a show place! The first things on the agenda are face lifts for the house and metal out-building, including some landscaping and tree planting.

Most of our online auctions take place at the home of the seller. We have many sellers, however, who want to simply consign a few items, so our plan is to have about five online consignment auctions a year at the farm. An online auction looks like this – one week of set up, one week of "live" online bidding activity, and a pickup day two days after the auction ends. There would be bidders coming to the farm on Preview Day which is from 2:00-6:00 (so for four hours bidders would be able to come and look at the items in person,) and on Pickup Day which is typically from 12:00-6:00 and by appointment only. This spreads the traffic out to a very manageable amount. All told, a slight increase in traffic about ten times per year. Nothing remotely close to the amount of traffic created by the soccer field or the KOA. Our auction preview days and pick-up days will not conflict with soccer tournament days heavy traffic, as most of our auction business occurs during the week and not weekends.

Most of the auction items will be in the red barn or metal out-building. There will occasionally be larger items such as cars and boats parked in the yard, but never for more than a couple of weeks at a time.

Anyone who has come to one of our online auctions will tell you how clean and organized they are. There is no jumble or abandoned items. Kubarek Auction has been in business for 25+ years, and during that time ran an auction house in Springbrook on Hwy 63 (The Springbrook Auction House) for nearly 20 years. Anyone who remembers that will note that the property was always very well kept. We have a good reputation to protect, and the farm will reflect that.

Bonnie Kubarek and Susan Diedrich

Kubarek Auction

Real Estate Sawyer County Property Listing

Today's Date: 9/20/2022

Property Status: Current

Created On: 2/6/2007 7:55:30 AM

Description

Updated: 8/25/2015

Tax ID:	17939
PIN:	57-014-2-41-09-12-2 03-000-000010
Legacy PIN:	014941122301
Map ID:	.7.1
Municipality:	(014) TOWN OF LENROOT
STR:	S12 T41N R09W
Description:	PRT SWNW
Recorded Acres:	28.500
Calculated Acres:	31.082
Lottery Claims:	0
First Dollar:	Yes
Zoning:	(A-1) Agricultural One
ESN:	400

Tax Districts

Updated: 2/6/2007

1	State of Wisconsin
57	Sawyer County
014	Town of Lenroot
572478	Hayward Community School District
001700	Technical College

Recorded Documents

Updated: 7/26/2022

PERSONAL REPRESENTATIVES DEED
Date Recorded: 7/18/2022 — 440196

EASEMENT
Date Recorded: 2/1/2011 — 371223

WARRANTY DEED
Date Recorded: 5/7/1999 — 276280 671/404

WARRANTY DEED
Date Recorded: 5/7/1999 — 276279 671/403

WARRANTY DEED
Date Recorded: 5/7/1999 — 276278 671/402

Ownership

Updated: 7/26/2022

KUBAREK AUCTION & ESTATE SERV LLC HAYWARD WI

Billing Address:	Mailing Address:
KUBAREK AUCTION & ESTATE SERV LLC	**KUBAREK AUCTION & ESTATE SERV LLC**
15551 DAVIS AVE	15551 DAVIS AVE
HAYWARD WI 54843-6466	HAYWARD WI 54843-6466

Site Address

* indicates Private Road

11515N US HWY 63 HAYWARD 54843

Property Assessment

Updated: 9/26/2014

2022 Assessment Detail

Code	Acres	Land	Imp.
G5-UNDEVELOPED	27.500	22,000	0
G7-OTHER	1.000	9,000	99,200

2-Year Comparison	2021	2022	Change
Land:	31,000	31,000	0.0%
Improved:	99,200	99,200	0.0%
Total:	130,200	130,200	0.0%

Property History

N/A

014941111101
014941122201
014941122103
014941122101
014941122106
11668N
11666N
HAGGBERG RD
014941121201
14922W
PHIPPS RD
PHIPPS RD
14906W
014941122405
014941111401
014941122301
Town of Lenroot
11573N
GOUCH CIRCLE RD
11344N
014941122401
11340N
014941122410
ROW
014941111402
014941122302
11515N
014941122409
63
11480N
014941124207
11301N
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014941123105
US HWY 63
014941123104
014941124202
014941123103

014941111101
014941122201
014941122101
PHIPPS RD
014941111401
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US HWY 63
014941122301
Town of Lenroot
11530N
63
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014941122302
014941122401
11515N
N
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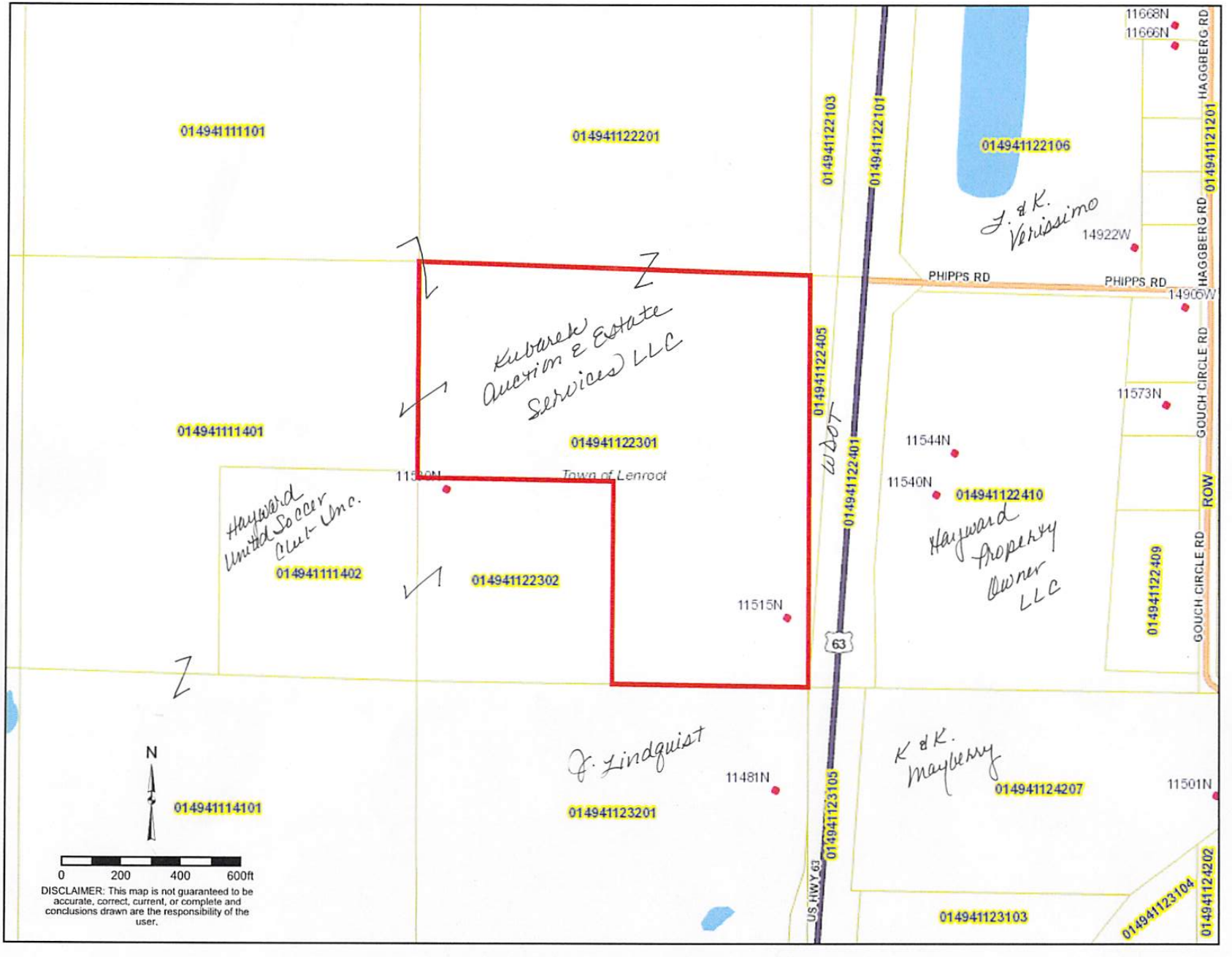
014941124207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014941122106
J. & K. Verissimo
11668N
11666N
HAGGBERG RD
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14922W
PHIPPS RD
PHIPPS RD
14906W
Kubarek Auction & Estate Services LLC
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WisDOT
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014941122301
Town of Lenroot
11544N
11573N
GOUCH CIRCLE RD
ROW
11540N
014941122410
Hayward Property Owner LLC
Hayward United Soccer Club Inc.
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014941122302
014941122401
11515N
63
014941122409
GOUCH CIRCLE RD
K & K Mayberry
J. Lindquist
11481N
014941124207
11501N
014941114101
014941123201
014941123105
US HWY 63
014941123104
014941124202
014941123103
N
0 200 400 600ft
DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.

17.4 A-1: Agricultural One District

This district is intended to provide for the continuation of general farming and related activities in those areas best suited for such development, and to provide for orderly development of residential, commercial and industrial development.

A) Permitted Uses

1) Year round dwellings occupied by owners and/or persons engaged in farming activities on the premises. Town Board and Zoning Administrator approval is required for owners and/or persons not engaged in farming activities on the premises.
2) Buildings, structures or improvements that are an integral part of or incidental to an agricultural use as defined in Wisconsin State Statutes 91.01(2):

a) Crop or forage production
b) Keeping livestock
c) Beekeeping
d) Nursery or Christmas tree production
e) Floriculture
f) Aquaculture
g) Fur farming.
h) Forest management

3) Agricultural processing industries and warehouses, except slaughterhouses, rendering, fertilizer plants and commercial smokehouses.
4) An activity or business operation that is an integral part or incidental to an agricultural use.
5) Vacation farms and other farm oriented recreational uses such as riding stables, winter sports activities, and game farms.
6) Roadside stands for the sale of products grown on the premises if sufficient off-street parking space for customers is provided.
7) Essential services and utilities intended to serve a permitted principle use on the premises.
8) Signs subject to the provisions of Section 5.0
9) Soil and water conservation programs.
10) Drainage where such activity will not be in conflict with the stated purposes of this zone district.
11) Licensed In-Home Day Care/Child Care (no more than 8 children and no more than 4 employees and does not impair or limit the current or future agricultural use of the farm or of the other farmland)
12) Customary accessory uses provided such uses are clearly incidental to a principal permitted use.
13) Enrolling land in a federal agricultural commodity payment program of a federal or state agricultural land conservation payment program.

B) Uses Authorized by Conditional Use

1) The location, operation, and maintenance of municipal sanitary landfills, solid waste disposal sites, sewage disposal plants; and privately owned domestic sewage treatment works; and necessary appurtenant equipment/structures subject to the provisions of the

Wisconsin Administrative Code.
2) Slaughterhouses, rendering, fertilizer plants, and commercial smokehouses.
3) Public and semi-public uses including but not limited to the following: Public and private schools, churches, public parks and recreation areas, rest homes, senior citizen complexes, group homes, hospitals, homes for the aged, fire and police stations, and historic sites.
4) Transportation, communications, pipeline, electronic transmission, utility or drainage use provided that the following apply:
a. The uses are consistent with and compatible with agricultural uses, accessory uses or agricultural related use.
b. The use and location are reasonable and appropriate, considering alternative locations or are specifically approved under state of federal law.
c. The use is reasonably designed to minimize conversion land at and around the site from agricultural use or open space.
d. The use does not substantially impair or limit the current or future agricultural uses or surrounding parcels of land that are Zone Districts A-1 or A-2
e. The construction damage to land remaining in agricultural use is minimized and repaired to the extent feasible.
5) Kennel for small domestic animals subject to the provisions of Section 6.8.
6) Non-metallic mineral and mineral fuel exploration; non-metallic mineral and mineral fuel prospecting; non-metallic mineral and mineral fuel operation; and non-metallic mineral and mineral fuel reclamation, subject to Section 6.2.
7) Agricultural equipment/implement sales and service and facilities providing agricultural supplies, storage, and processing of agricultural wastes.
8) Private or wholesale carpentry or woodworking shop; limited to property owner.
9) Portable sawmill.
10) Professional offices and studios.
11) Taxidermy.
12) Real estate office.
13) Mini storage unit warehouse.
14) Bed and Breakfast establishments.
15) Event Barns
16) New and used car sales establishments.
17) Wholesaling establishments.
18) Transportation terminals.
19) Amusement parks.
20) Golf courses.
21) Cemeteries, mausoleums and columbariums.
22) Commercial bulk fuel storage facilities.
23) Sod and topsoil removal for resale, subject to NR 415.04. (may also require County Grading Permit or WI DNR storm water management plan)
24) Accessory structure on vacant property lying across the Town or County Road from the principal structure. See Section 4.26(2)
25) Like or similar uses in the opinion of the Sawyer County Zoning Committee, subject to the procedures for obtaining a conditional use permit.

Rezone Request
STAFF REPORT

Prepared By: Jay Kozlowski, Sawyer County Zoning & Conservation Administrator

File: # RZN 22-012

Applicant:
Travis Butterfield
14346W State Hwy 77
Hayward, WI 54843

Property Location & Legal Description:
Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres

Request:
Purpose of request is to change the approximately 22.30 acres of Residential/Recreational One (RR-1) to Forestry One (F-1) so a Conditional Use permit can be authorized for a non-metallic mineral extraction operation including rock crusher. Any Shoreline/wetland areas are not to be affected with the proposed rezone.

Summary of Request & Project History:
The applicant(s) are requesting to rezone approximately 22.30 acres of RR-1 to F-1 (see attached map of parcel). Any Shoreland/Wetland areas are not to be affected in the proposed rezone and specific setbacks from these areas would be enforced with any type of non-metallic mineral extraction operation. The proposed rezone would result in conforming lot dimensional requirements. The purpose of this request would then be to apply for a Conditional Use Permit for a new non-metallic mineral extraction operation (gravel pit) including a rock crusher.

Additional Information/details:
See attached additional maps included in this packet. This property is split zoned between F-1 & RR-1. The F-1 portion of the property accounts for a little less than half of the total parcel. The nearest F-1 zoned property in relation to this property is large expanse of F-1 immediately to the North and West which is comprised of an existing gravel pit and County owned land. The land

immediately to the South, Southwest, and East across State Hwy 77 though is zoned RR-1 & C-1 with residential and commercial uses occurring.
The future land use map for the Town of Round Lake shows this area as private forest and residential expansion areas. These areas, as defined by the Town of Round Lake comprehensive plan, are areas where the town has seen growth in residential development and is anticipated to continue to see this activity occur. There are several other residential structures within the immediate area specifically to the South and East of the proposed non-metallic mining operation. It should be noted that just to the north though are areas identified in the comp plan as "extraction" areas.

Findings of Fact for Approval: (choose from list below)

1 It would not be significantly damaging to the rights of others or property values
2 It would not be detrimental to ecology, wild life, wetlands or shorelands.
3 It would not create an air quality, water supply, or pollution problem.
4 It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
5 It would not create traffic or highway access problems.
6 It would not destroy prime agricultural lands.
7 It would be compatible with the surrounding uses and the area.
8 It would be consistent with the Town & County Comprehensive Plan
9 It would not create an objectionable view.

Findings of Fact for Denial: (choose from list below)

10 It would be significantly damaging to the rights of others and property values.
11 It would be detrimental to ecology, wild life, wetlands or shorelands.
12 It would create an air quality, water supply, or pollution problem.
13 It would create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
14 It would create traffic or highway access problems.
15 It would destroy prime agricultural lands.
16 It would not be compatible with the surrounding uses and the area.
17 It would not be consistent with the Town & County Comprehensive Plan
18 It would create an objectionable view.

SAWYER COUNTY

RECEIVED
JUN 16 2022
SAWYER COUNTY
ZONING ADMINISTRATION

Rezone Application # 22-012

Town of Round Lake

Sawyer County

Return Original

To: Sawyer County Zoning and Conservation
10610 Main Street, Suite 49
Hayward, WI 54843

Phone: 715-634-8288
E-mail: Kathy.marks@sawyercountygov.org

Owner: Travis Butterfield

Address: 14346 W State Rd 77

Phone: 715-492-7021 Email: Kelleybutterfield@hotmail.com

Legacy PIN # 024841114101 Acreage: 39.85

Change from District RR1 to F1

Property Description: Parcel ID # 20555, Prt NESE Sec 11, Prt NWSW Sec 12, Lot 1 CSM 38/13 #7170, 39.85 Acres

Purpose of Request: RR1 to F1 For Non-Metallic Mineral extraction

Travis A. Butterfield

*Please Print & Sign (Property Owner)

The above hereby make application for a rezone. The above certify that the listed information and intentions are true and correct. The above person(s) hereby give permission for access to the property for onsite inspection by Municipal Officials.

Name, Address, Phone & Email of Agent:

Travis Butterfield

14346 W State Rd 77

Hayward, WI 54843

Phone 715-492-7021 Email: Kelleybutterfield@hotmail.com

Office Information: Fee: $500.00 Date of Public Hearing August 19, 2022

Real Estate Sawyer County Property Listing

Today's Date: 6/24/2022

Property Status: Current

Created On: 2/6/2007 7:55:45 AM

Description

Updated: 2/17/2016

Tax ID:	26555
PIN:	57-024-2-41-08-11-4 01-000-000010
Legacy PIN:	024841114101
Map ID:	.13.1
Municipality:	(024) TOWN OF ROUND LAKE
STR:	S11 T41N R08W
Description:	PRT NESE SEC 11 PRT NWSW SEC 12 LOT 1 CSM 28/13 #7170
Recorded Acres:	39.850
Calculated Acres:	39.863
Lottery Claims:	0
First Dollar:	No
Zoning:	(F-1) Forestry One (RR1) Residential/Recreational One
ESN:	461

Tax Districts

Updated: 2/6/2007

1	State of Wisconsin
57	Sawyer County
024	Town of Round Lake
572478	Hayward Community School District
001700	Technical College

Recorded Documents

Updated: 2/17/2016

QUIT CLAIM DEED	
Date Recorded: 12/7/2015	398964
TRUSTEES DEED	
Date Recorded: 1/12/2015	393941
QUIT CLAIM DEED	
Date Recorded: 2/8/2010	365154
QUIT CLAIM DEED	
Date Recorded: 4/17/2008	353030
QUIT CLAIM DEED	
Date Recorded: 2/1/2006	336701
QUIT CLAIM DEED	
Date Recorded: 8/29/1995	249832 560/110

Ownership

Updated: 2/17/2016

TRAVIS A BUTTERFIELD HAYWARD WI

Billing Address:
TRAVIS A BUTTERFIELD
14346W STATE HWY 77
HAYWARD WI 54843

Mailing Address:
TRAVIS A BUTTERFIELD
14346W STATE HWY 77
HAYWARD WI 54843

Site Address

* indicates Private Road

N/A

Property Assessment

Updated: 7/16/2019

2022 Assessment Detail

Code	Acres	Land	Imp.
G6-PRODUCTIVE FOREST	39.850	41,400	0

2-Year Comparison	2021	2022	Change
Land:	41,400	41,400	0.0%
Improved:	0	0	0.0%
Total:	41,400	41,400	0.0%

Property History

N/A

024841111301
024841111401
024841122301
024841122303
024841122302
024841122401
12550W
024841123113
ROW
12487W
024841123205
024841123201
024841123204
024841114201
024841114101
024841114104
12614W
12605W
024841123202
024841123206
12638W
12629W
11317N
11321N
024841123303
024841123415
024841114410
12614W
024841114401
12611W
024841114405
024841114411
KILLDEER LN
024841114407
12661W
12667W
024841114415
024841114414
024841123301
BETHEL RD
11300N
024841114408
024841114306
LD4 INCH LN
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024841114301
12726W
024841114304
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STATE HWY 77
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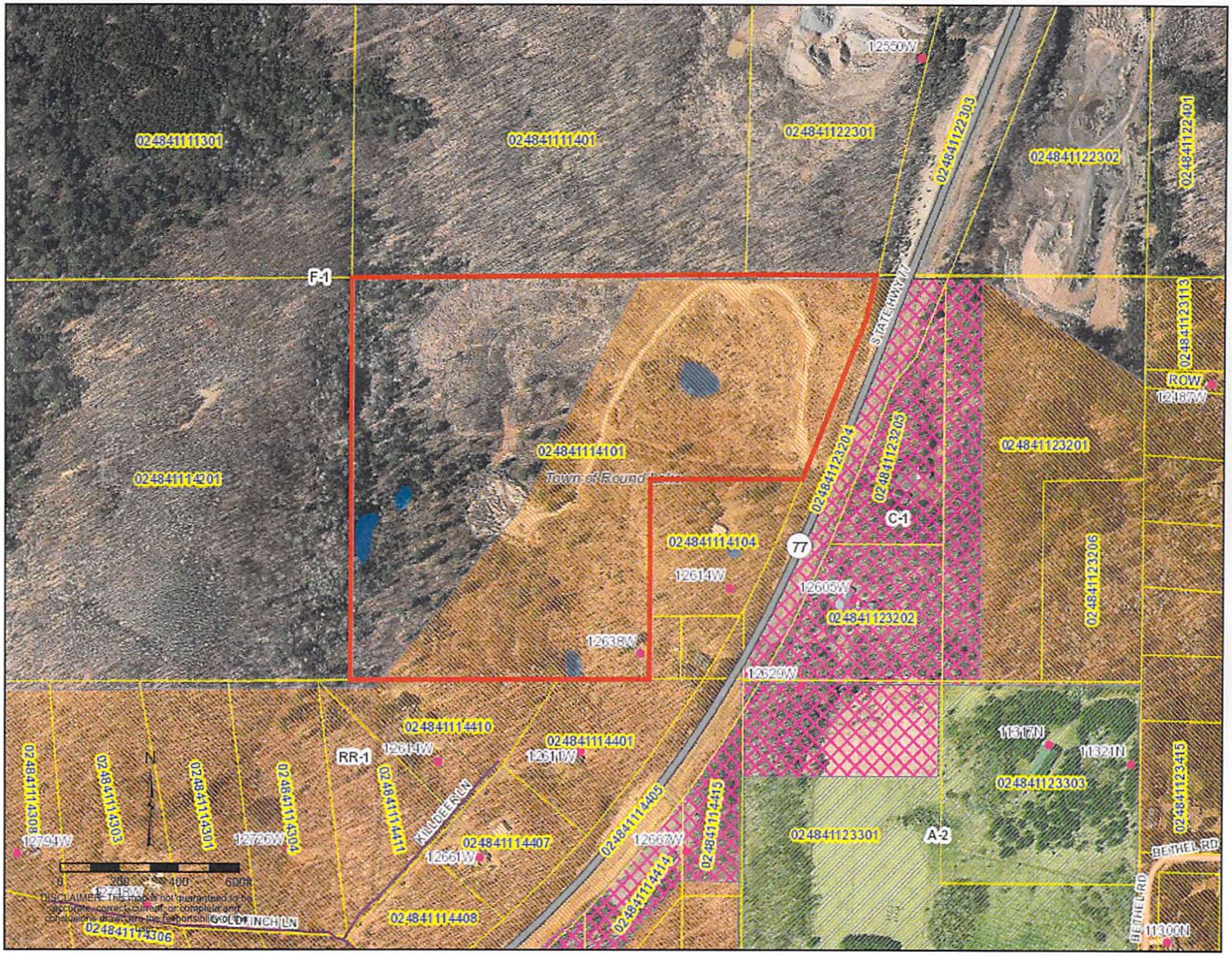
200
400
600



024841111301
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024841122301
024841122303
024841122302
024841122401
12550W
F-1
STATE HWY 77
024841123113
ROW
12487W
024841114101
Town of Round
024841114201
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024841123205
024841123201
C-1
024841114104
77
12614W
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12638W
12629W
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RR-1
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12611W
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11321N
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KILLDEER LN
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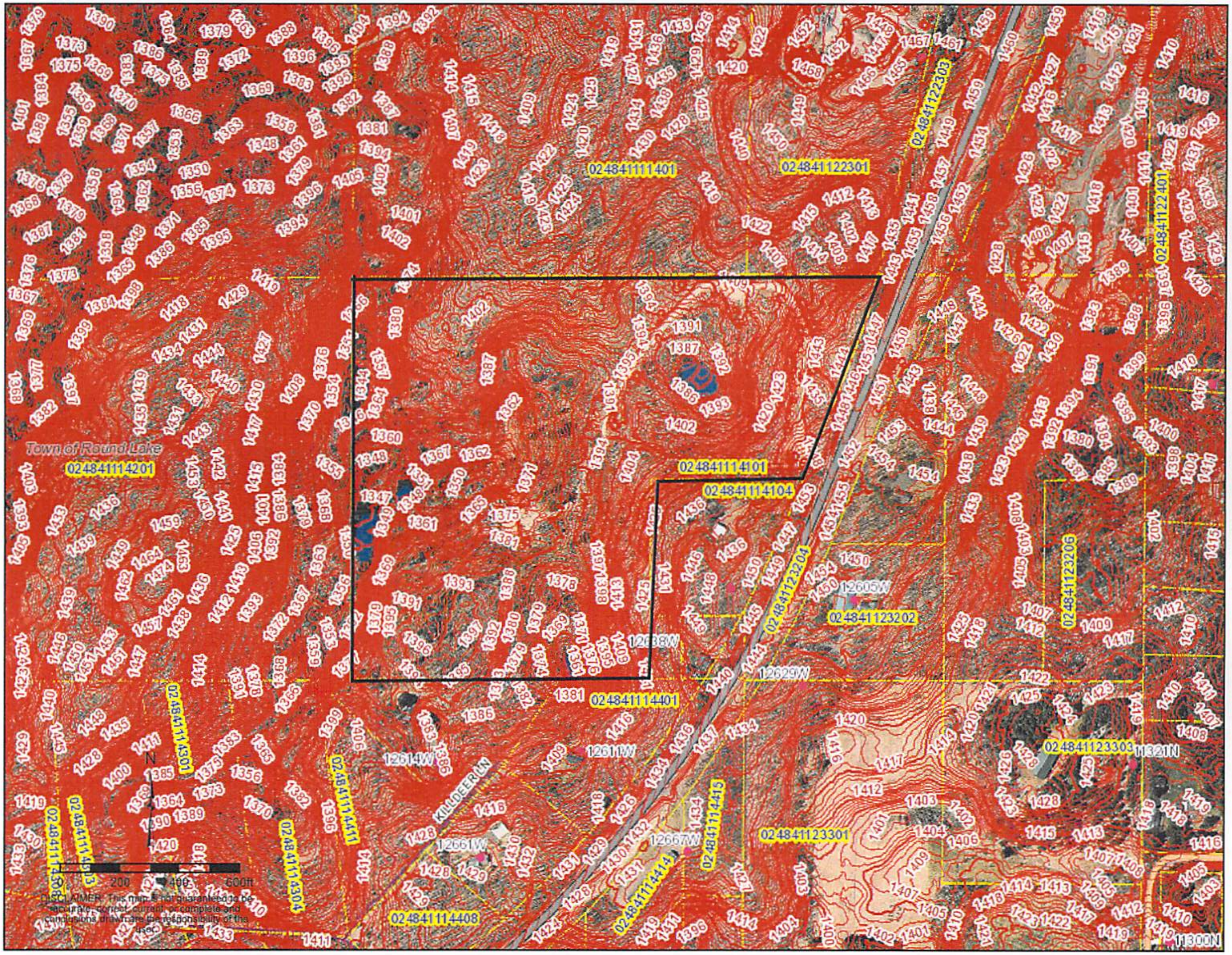
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KILLDEER RN
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01084114510
01084114520
01084114510
Town of Hayward
Round Lake
HYDRO
Round Lake
Round Lake
BETHEL RD
TWIN LAKE RD
TWIN LAKE RD
SUNNYSNO RD
GOLDFINCH LN
77
DISCLAIMER:


A-1 Plumbing
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024841111301
Sawyer County
024841111401
024841122301
12550W
024841122303
State Hwy 77
R. & E. Thompson Trust
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024841122401
J. Butterfield
024841114101
Town of Roundlake
Sherp Properties
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024841113101
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024841123204
024841123201
C. Kadlec
12474W
12450W
12487W
BETHEL RD
12453W
12464W
12459W
BETHEL RD
J. Shara
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12614W
77
12605W
J. & M. DeYoung
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12638W
12559
12424W
12629W
K. & M. Morgan
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12614W
D. Hand
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12611W
C. Kadlec
J. Kerr
White Stag Real Estate
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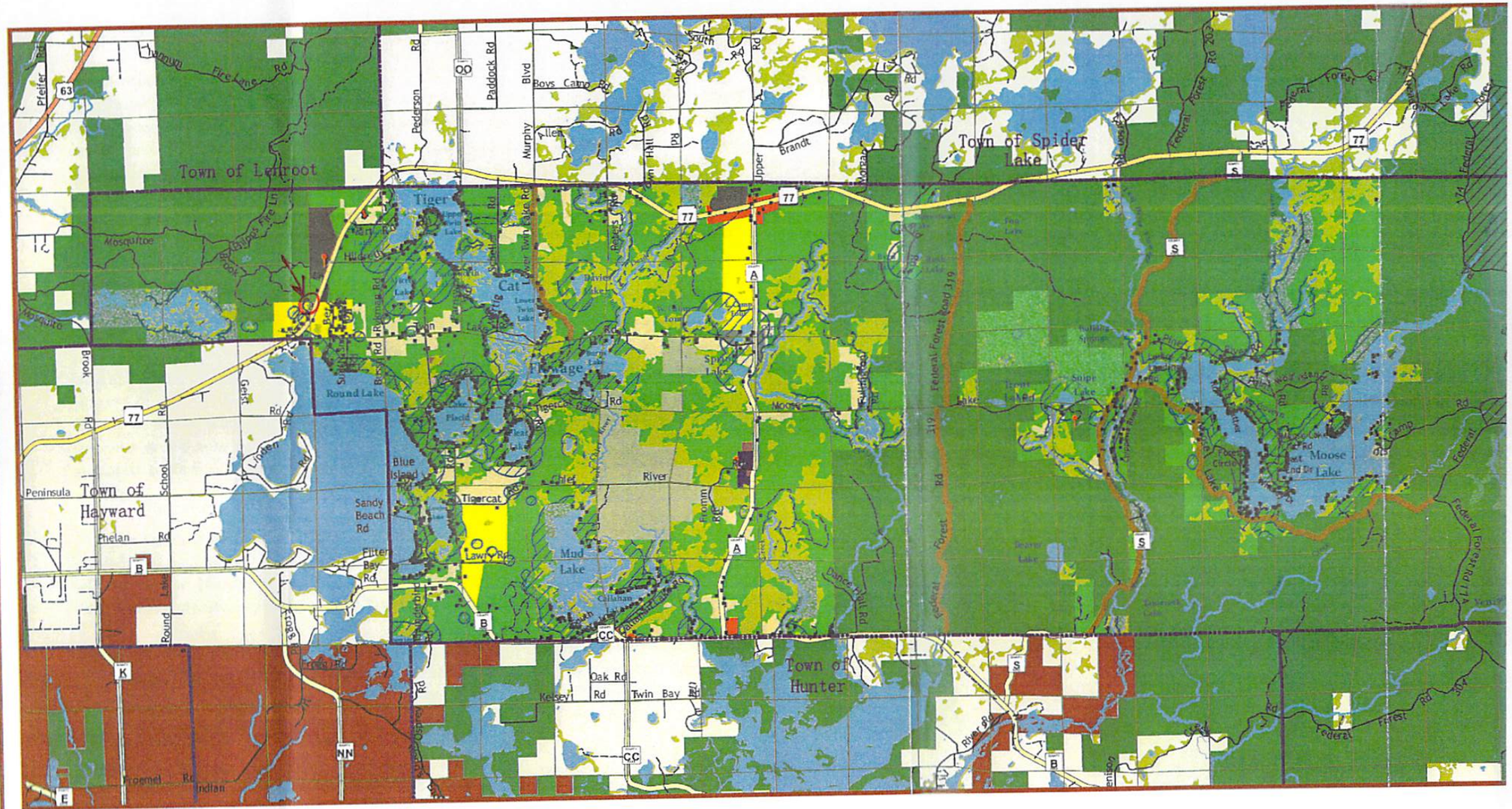
024841123301
12447W
11300N
12715W
024841114305
12695W
024841114402
024841114412
024841114413
11280N
12470W
12460W
12558W
N
0 200 400 600ft
DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.

Map 8.3 - Future Land Use

Town of Round Lake, Sawyer (



Roads
- US Highway

Hydrology
- Lakes

Future Land Use
- Agriculture
- Extraction
- Outdoor Recreation
- Residential Expansion Areas
- Existing Residential Structu
- Shoreland Regulated Zone (NR116)
- Future Cell Tower

Conditional Use Permit Request - STAFF REPORT

Prepared By: Jay Kozlowski, Sawyer County Zoning & Conservation Administrator

File: # CUP 22-026 Location and Operation Plan

Applicant:
Travis Butterfield
14346W State Hwy 77
Hayward, WI 54843

Property Location & Legal Description:
Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; (Proposed RZN #22-012 to rezone approximately 22.30 acres of RR-1 to F-1)

Request: Permit desired for a non-metallic mining extraction operation including rock crusher. This would be for a potential 5-year approval.

Project History & Summary of Request

This request of CUP 22-026 is for the location of a non-metallic mineral extraction operation including a rock crusher. Previously the public hearing for CUP 22-026 was just for potential approval of the reclamation plan per NR 135. The property is 39.85 total acres with an actual mine site identified as 20 acres in the Northern portion of the property. Per Section 6.23(2) of the Sawyer County Zoning Ordinance would require any rock crushing operation to be located greater than 1000' from any residence. As part of the attached packet the mine location will primary be located to the Northern side of the property but a portion will abut an adjacent property owner towards the Southeast side of the parcel.

As per conditions of an approved reclamation plan financial assurance would be required in the amount of $30,000 or $1500 per acre. The applicant must provide payment of assurance prior to any excavation.

The specified normal hours of operation are 8 AM to 5 PM, Monday – Friday; April-December. Crushing hours as specified in the plan of operation are 7 AM to 7 PM; 10-12 days per year (only to be allowed crushing on 2 Saturdays and no Sundays or Holidays); Crushing may occur earlier than April based on weather conditions.

Additional information for Conditional Use Permits:

Substantial evidence means facts and information, other than merely personal preferences or speculation, directly pertaining to the requirements and conditions an applicant must meet to obtain a conditional use permit and that reasonable persons would accept in support of a conclusion.

If an applicant agrees to meets all of the requirements and conditions specified in the county ordinance or those imposed by the county zoning board, the county shall grant the conditional use permit. Any condition imposed must be related to the purpose of the ordinance and be based on substantial evidence. The conditions must be reasonable and, to the extent practicable, measurable. The applicant must demonstrate that the application and all requirements and conditions established by the county relating to the conditional use are or shall be satisfied, both of which must be supported by substantial evidence. The county's decision to approve or deny the permit must be supported by substantial evidence.

Possible Conditions for Approval: (choose from list below) (add or delete from list below)

1 Obtain approval of RZN #22-012 (Rezoning 22.30 acres of RR-1 to F-1)
2 Obtain approval or conditional approval of reclamation plan
3 Hours of normal operations: 8AM-5PM, Monday-Friday; April-December
4 Crushing hours: 7AM-7PM, Monday-Saturday, 10-12 days per year limited to only 2 Saturdays and no Sundays or Holidays. Crushing may occur earlier in the year based on weather conditions.
5 Zoning Committee to potentially set vegetative setback distance for properties lines. (discussion should occur on this)
6 A Fire # or Site Address is required for the property.
7 Maintain compliance with Department of Natural Resources Chapter 30
8 Comply with all other federal, state, and local regulations including approval of the "Reclamation Plan".

Findings of Fact for Approval: (choose from list below)

1 It would not be significantly damaging to the rights of others or property values
2 It would not be detrimental to ecology, wild life, wetlands or shorelands.
3 It would not create an air quality, water supply, or pollution problem.
4 It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
5 It would not create traffic or highway access problems.
6 It would not destroy prime agricultural lands.
7 It would be compatible with the surrounding uses and the area.
8 It would be consistent with the Town and/or County Comprehensive Plan

9 It would not create an objectionable view.

Findings of Fact for Denial: (choose from list below)

10 It would be significantly damaging to the rights of others and property values.
11 It would be detrimental to ecology, wild life, wetlands or shorelands.
12 It would create an air quality, water supply, or pollution problem.
13 It would create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
14 It would create traffic or highway access problems.
15 It would destroy prime agricultural lands.
16 It would not be compatible with the surrounding uses and the area.
17 It would not be consistent with the Town and/or County Comprehensive Plan
18 It would create an objectionable view.

SAWYER COUNTY

Conditional Use Public Hearing Application

RECEIVED
JUN 16 2022
SAWYER COUNTY
ZONING ADMINISTRATION

TO: Sawyer County Zoning and Conservation Administration
10610 Main Street Suite 49
Hayward, Wisconsin 54843
Attn: Kathy Marks E-mail: kathy.marks@sawyercountygov.org Phone: 715-638-3225

Property Owner Name & Address:
Travis A. Butterfield
14346W State Rd 77
Hayward, WI 54843

Phone: 715-492-7021 **Email:** kelleybutterfield@hotmail.com

Property description including Parcel Number:
Parcel ID# 26555
Prt NESE SEC 11, Prt NWSW Sec 12 Lot 1 CSM #8/13 #7170, 39.85 Acres

Permit desired for:
Location operation of non-metallic Mineral extraction site.

Travis A. Butterfield
Owner Print & Sign

Owner Print & Sign

Signature of property owner(s) required. The undersigned person(s) hereby give permission for access to the property for inspection by Municipal Officials, Sawyer County Zoning Staff and Sawyer County Zoning Committee members if needed.

Name, Address, Phone & Email of Agent or Buyer:

Fee: $350.00 Date of Public Hearing: August 19, 2022

Rev January 2021

Real Estate Sawyer County Property Listing

Today's Date: 6/24/2022

Property Status: Current

Created On: 2/6/2007 7:55:45 AM

Description

Updated: 2/17/2016

Tax ID:	26555
PIN:	57-024-2-41-08-11-4 01-000-000010
Legacy PIN:	024841114101
Map ID:	.13.1
Municipality:	(024) TOWN OF ROUND LAKE
STR:	S11 T41N R08W
Description:	PRT NESE SEC 11 PRT NWSW SEC 12 LOT 1 CSM 28/13 #7170
Recorded Acres:	39.850
Calculated Acres:	39.863
Lottery Claims:	0
First Dollar:	No
Zoning:	(F-1) Forestry One (RR1) Residential/Recreational One
ESN:	461

Tax Districts

Updated: 2/6/2007

1	State of Wisconsin
57	Sawyer County
024	Town of Round Lake
572478	Hayward Community School District
001700	Technical College

Recorded Documents

Updated: 2/17/2016

QUIT CLAIM DEED	
Date Recorded: 12/7/2015	398964
TRUSTEES DEED	
Date Recorded: 1/12/2015	393941
QUIT CLAIM DEED	
Date Recorded: 2/8/2010	365154
QUIT CLAIM DEED	
Date Recorded: 4/17/2008	353030
QUIT CLAIM DEED	
Date Recorded: 2/1/2006	336701
QUIT CLAIM DEED	
Date Recorded: 8/29/1995	249832 560/110

Ownership

Updated: 2/17/2016

TRAVIS A BUTTERFIELD HAYWARD WI

Billing Address:	**Mailing Address:**
TRAVIS A BUTTERFIELD	**TRAVIS A BUTTERFIELD**
14346W STATE HWY 77	14346W STATE HWY 77
HAYWARD WI 54843	HAYWARD WI 54843

Site Address

* indicates Private Road

N/A

Property Assessment

Updated: 7/16/2019

2022 Assessment Detail

Code	Acres	Land	Imp.
G6-PRODUCTIVE FOREST	39.850	41,400	0

2-Year Comparison	2021	2022	Change
Land:	41,400	41,400	0.0%
Improved:	0	0	0.0%
Total:	41,400	41,400	0.0%

Property History

N/A


Measure Area
Segment
Feet: 14.02
Miles: 0.00
Meters: 4.27
Kilometers: 0.00
Yards: 4.67
Totals
Acres: 20.00
Hectares: 8.09
Square Meters: 80,948.36
Square Feet: 871,320.94
Square Miles: 0.03
STATE HWY 77
77
024841114101
024841114104
024841123205
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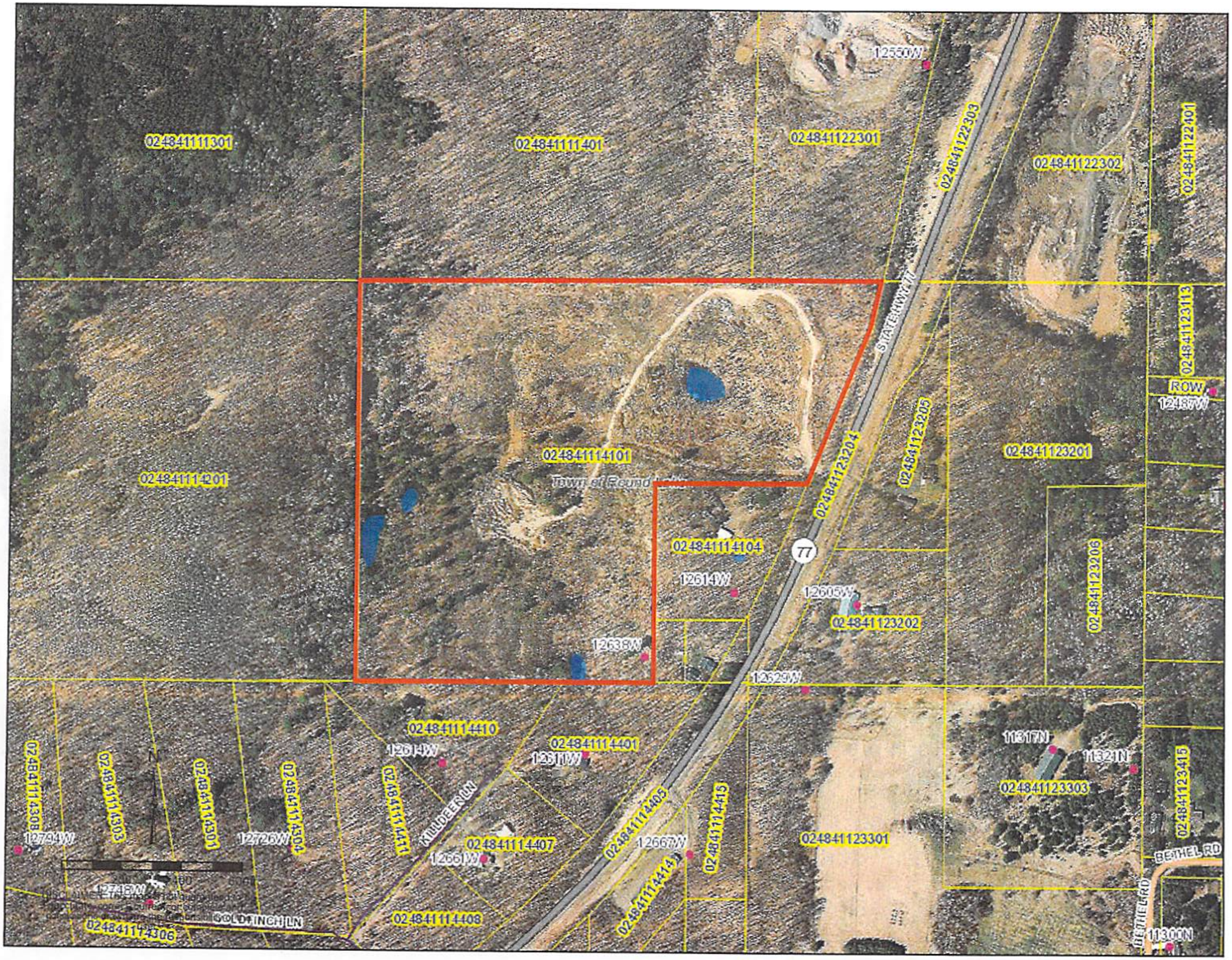
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GOLDFINCH LN
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BETHEL RD
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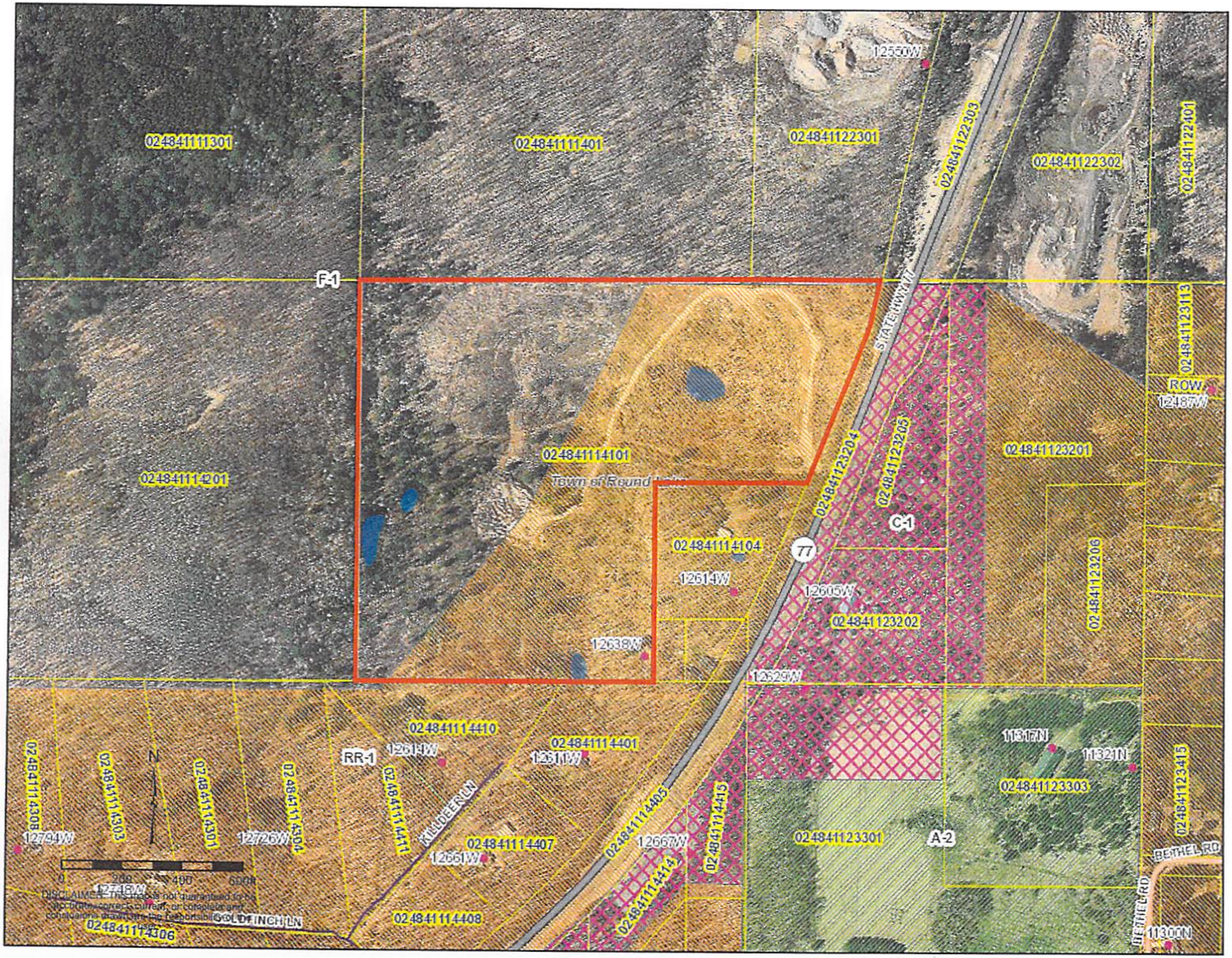
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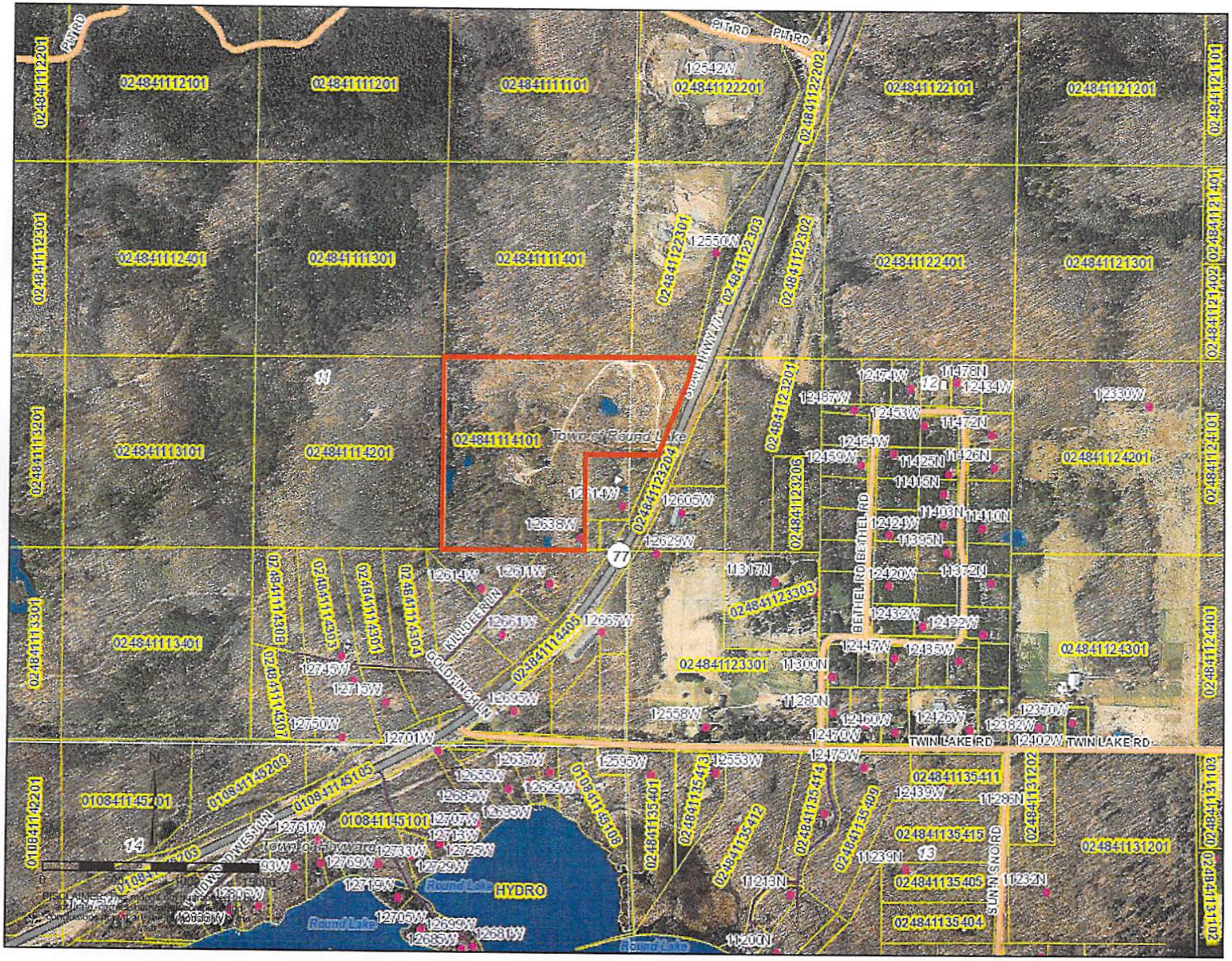
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12470W
TWIN LAKE RD
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12637W
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12761W
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Town of Hayward
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12725W
12769W
12729W
11239N
13
SUN N SNO RD
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Round Lake
HYDRO
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12705W
12699W
12685W
12681W
11200N
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500
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1500ft
DISCLAIMER

Town of Round Lake
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12638W
12629W
12614W
12611W
12661W
12667W
11321N
11300N
KILLDEER LN
N
200
400
600ft
DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.


A-1 Plumbing
Sawyer County
Thorp Properties
J. Butterfield
Town of Roundlake
State of W.I.
R. & E. Thompson Trust
White Stag Real Estate
C. Kadlec
J. & M. DeYoung
T. & M. Morgan
D. Hand
C. Hedbeker
J. Kerr
J. Hara
Gore Grp. Prop
024841111301
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12748W
12745W
12715W
12695W
12558W
11317N
11321N
11300N
11280N
12470W
12460W
BETHEL RD
KILLDEER LN
GOLDFINCH LN
STATE HWY 77
77
N
0 200 400 600ft
DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.

Travis Butterfield
Butterfield Pit – Non Metallic Mine
Hwy 77, Hayward WI
Operation and Maintenance Plan

OPERATION PLAN

Owner: Travis A Butterfield
Parcel ID: 024841114101
Property Description: Prt NESE Sec 11 Prt NWSW Sec 12 Lot 1 CSM 28/13 #7170
Location: Sawyer County, East of Hayward, approximately ½ miles west of Pit Road on the North side of State Hwy 77
Property Size: 39.85 Acres

PROPOSED ACTIVITIES
Extracting, crushing, conveying, and stockpiling of gravel

HOURS OF OPERATION
Normal hours: 8:00 a.m. – 5:00 p.m.
Crushing hours: 7:00 a.m. – 7:00 p.m.
Days of the week: Monday – Friday, 2 saturdays for crushing
Months of the year: April – December
Total crushing operations: Approximately 10-12 days/year, no sunday crushing; 2 saturdays

ACCESS ROUTE
Access to the site is an existing driveway off State Hwy 77. - as per phone call with owner

EQUIPMENT USED
Equipment used during pit operation will be an excavator, front end loader, dump trucks, and crusher.

PRINCIPAL STRUCTURE/RESIDENCES
The closet principal structure/residence is approximately 1000 feet from the proposed pit.

EXCAVATION
The depth of the put will be no more than 25 Feet. Approximately 5000-10,000 yards of gravel are anticipated to be excavated each year. Excavation will continue until the decided setbacks are reached. (See Reclamation Plan)

LOT LINES
Lot lines have been marked with stakes/paint or ribbon. Identification and safety signs will be placed at the pit entrance.

NAVIGABLE WATER/WETLANDS
The property has some wetlands on far the east property line and on the east property line.

EROSION CONTROL
Runoff from the site will be controlled by being contained within the pit itself. The pit will be started in a natural occurring hole, and water will be drained therein. As the pit expands, water will continually drain within the pit as to avoid runoff. Because of the pit's natural layout, there will be no runoff, thus no runoff will reach the wetland areas.

ENVIRONMENTAL CONSIDERATIONS

All operations will be done in a way that will minimize the production of noise, vibration, or dust. Best management practices will be used to minimize erosion and pollution of surface and ground water.

ACTIVITIES/PROJECTS THE MINING OPERATION SUPPORTS

The mined materials will support projects being done by the applicant. Materials will predominantly be used for residential projects with some commercial projects upon request. Applicant would consider selling to State, County, or Townships if requested.

RECLAMATION PLAN

A Reclamation Plan has been submitted to Sawyer County Zoning.

MAINTENANCE PLAN

Runoff from the pit will be internally drained at all times.

Conditional Use Permit Request-Reclamation Plan
STAFF REPORT

Prepared By: Jay Kozlowski, Sawyer County Zoning & Conservation Administrator

File: # CUP 22-026 Reclamation Plan

Applicant:
Travis Butterfield
14346W State Hwy 77
Hayward, WI 54843

Property Location & Legal Description:
Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; (Proposed RZN #22-012 to rezone approximately 22.30 acres of RR-1 to F-1)

Request: Permit issuance of the Reclamation Plan

Project History & Summary of Request

The applicant is requesting to open a new non-metallic mineral extraction on the property described above. Per the reclamation plan provided the area is showing 20 acres of disturbance for mining over a 5-phase plan. Each phase is to be approximately 4 acres. If expansion was to occur a new updated reclamation plan would need and seek approval. Per the NR 135 requirements before approval can be granted for the conditional use operation process the regulatory authority being the County needs to approve the applicant's reclamation plan (attached).

The Sawyer County Zoning & Conservation Department has reviewed the "reclamation summary" and concludes that the plan is consistent with the standards specified in NR 135.

The Sawyer County Zoning Committee, being the regulatory authority may approve, conditionally approve, or deny the reclamation plan.

If the regulatory authority approves the reclamation plan subject to general compliance requirements of NR 135, the approval may not include conditions that are not related to the reclamation plan. Other conditions may be added during the public hearing process for the "location and plan of operation". One required condition of an approved reclamation plan shall be that the new mine obtain financial assurance pursuant to NR 135.40.

If the regulatory authority denies the reclamation plan it needs to have the findings of one the following:

1) The applicant has, after being given an opportunity to make corrections, failed to provide an adequate permit application, reclamation plan, financial assurance or any other submittal required by NR 135 or the applicable reclamation ordinance.
2) The proposed nonmetallic mining site cannot be reclaimed in compliance with the reclamation standards contained in the applicable reclamation ordinance, NR 135 or subch. I of ch. 295, Stats.
3) The applicant, or its agent, principal or predecessor has, during the course of nonmetallic mining in Wisconsin within 10 years of the permit application or modification request being considered shown a pattern of serious violations of this chapter or of federal, state or local environmental laws related to nonmetallic mining reclamation.

A denial shall be in writing and shall contain documentation of reasons for denial. The regulatory authority's decision to deny an application to issue a reclamation permit may be reviewed NR 135.30.

Travis Butterfield

SAWYER COUNTY
NR135
RECLAMATION PLAN

Created By:
Travis Butterfield
2022

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Travis Butterfield - Non-Metallic Mine Reclamation Summary

June 2022

Applicant Name: Travis Butterfield

Pit Name: Butterfield

Address: 14346W State Hwy 77
Hayward, WI 54835

Sites Legal Description: S11 T41N R08W; PRT NESE SEC 11 PRT NWSW SEC 12 LOT 1 CSM 28/13 #7170

Phone:(715) 634-8176

Total Area of Mine: 39.85 acres

Purpose and planned excavation of mine: The purpose of the mine is for the production of gravel. The total extent of the mine is shown on the Site Plan Map. Excavation will be done in phases to limit the amount of exposed soil to reduce the possibility of erosion and pollution of surface or groundwater, as well as limit the amount of fees. Each phase will be approximately 4 acres.

Reclamation Costs: The estimated cost of reclamation is $1000 per acre of disturbed area. Financial assurance will be based on the cost of reclamation. The cost of reclamation is listed for each phase.

Phase 1: Excavation to a depth of approximately 20 to 25 feet deep will begin on the east slope of the mine to make room for future stockpiles and crushing operations. Topsoil will be removed and stockpiled out of the way as excavation progresses east towards State Hwy 77. Between crushing's banks will be sloped to minimize erosion. Banks that have been sloped and won't be reopened will be covered with a layer of topsoil and seeded.
Total size: 4 acres **Financial Assurance:** $ 4000.00

Phase 2: Topsoil will be removed and stockpiled out of the way as excavation to a depth of approximately 20 to 25 feet deep continues toward the north. Between crushing's active banks will be sloped to minimize erosion. Inactive banks will be sloped and covered with a layer of topsoil, seeded and mulched. Crushed material will be stockpiled in the area of Phase 1. Once excavation of Phase 2 has been completed the area will be reclaimed in accordance with this plan.
Total size: 4 acres **Financial Assurance:$** 4000.00

Phase 3: Topsoil will be removed and stockpiled out of the way as excavation to a depth of approximately 20 to 25feet deep progresses toward the west. Between crushing's active banks will be sloped to minimize erosion. Inactive banks will be sloped and covered with a layer of topsoil, seeded and mulched. Crushed material will be stockpiled in the area of Phase 1. Once excavation of Phase 3 has been completed the area of Phase 1 will be reclaimed in accordance with this plan.
Total size: 4 acres **Financial Assurance:$** 4000.00

Phase 4: Topsoil will be removed and stockpiled out of the way as excavation to a depth of approximately 20 to 255 feet deep progresses toward the south. Between crushing's active banks will be sloped to minimize erosion. Inactive banks will be sloped and covered with a layer of topsoil, seeded and mulched. Crushed material will be stockpiled in the area of Phase 3. Once excavation of Phase 4 has been completed the area of Phase 3 will be reclaimed in accordance with this plan.
Total size: 4 acres **Financial Assurance:** $ 4000.00

Phase 5: Topsoil will be removed and stockpiled out of the way as excavation to a depth of approximately 20 to 25 feet deep progresses toward the east. Between crushing's active banks will be sloped to minimize erosion. Inactive banks will be sloped and covered with a layer of topsoil, seeded and mulched. Crushed material will be stockpiled in the area of Phase 4. Once excavation of Phase 5 has been completed and the stockpiles removed the entire mine site will be reclaimed in accordance with this plan.
Total size: 4 acres **Financial Assurance:** $ 4000.00

RECLAMATION PLAN

General Location: Butterfield's Pit non-metallic mine is located in SE¼, NE¼, Section 11, Range 8 West, Township 41 North, & PRT SW¼, NW¼, Section 12, Range 8 West, Township 41 North in the Town of Round Lake, Sawyer County, Wisconsin. The mine is approximately¼ of a mile west of state highway 77.

Soil Type: The soil type at the site is a Pence sandy loam, 6 to 30 percent slopes.

Distribution, thickness, and type of topsoil: Thickness of topsoil is less than 8 inches with an abrupt wavy boundary.

Approximate elevation of groundwater: The depth to water table is greater than 78 inches (6.5 feet).

Location of surface waters and existing drainage patterns: The existing drainage pattern of the site is internally draining. There are no perennial water bodies close to the mine site. The closest water is a small ephemeral pond about¼ mile to the south and Round Lake is located ¾ of a mile to the south. The existing drainage patterns can be seen on the attached contour map.

Current biological resources, plant communities, and wildlife use at and adjacent to mine site: Biological and wildlife data was mainly determined by visual observations. The proposed mine site is a young northern hardwood forest consisting of mostly maple with a mix of oak, birch, and aspen trees.

Wildlife usage is moderate in the forest for foraging and cover of the property Main species present include rabbits, whitetail deer, and various songbirds and smaller mammals common to the area.

No threatened or endangered species were observed or known to inhabit the site.

Proposed post-mining land use: The proposed post-mining land use for the non-metallic mine site is a grassy meadow with some trees. The proposed land use would be appropriate to the current local zoning of Forestry 1. Upon complete reclamation natural secession would convert the grassy meadow back to forested habitat.

BMP's to be employed before and during non-metallic mine operation: All run-off is planned to be contained within the pit. An earthen berm, constructed with some of the overburden, will be left around the perimeter of the mine to contain all run-off within the mine site. Total area of exposed soil will be limited to only an area large enough to allow for needed excavation. If the possibility for erosion outside the mine occurs, silt fencing or a sediment basin may be needed. Exposed soils should be seeded with a cover crop and seed mixture to quickly revegetate the site and stabilize the soils protecting from run-off and wind erosion. Water should be applied to non-vegetated areas of the site to control dust during dry or windy conditions.

Topsoil removal, storage, stabilization, and conservation: Topsoil shall be removed prior to excavation of subsoil for each phase. Topsoil removal will be accomplished using bulldozers, front end loaders, and other necessary equipment with the goal of recovering as much of the existing topsoil as possible. Topsoil will be removed in a manner that minimizes the surface area exposed to erosion at any one time.

Topsoil that has been stripped from the site will be stockpiled on level ground and away from any slopes. Stockpiles should be located in an area where they will be easy to access and out of the way to keep double handling to a minimum. To help prevent erosion and weed growth stockpiled topsoil should be seeded. A cover crop of oats, barley, winter wheat, or winter rye should be used if the stockpile will be disturbed in less than six months. If a stockpile will not be disturbed for more than six months at a time a perennial seed mixture should be used (See Critical Area Seeding

Final Reclamation

Sloping and Grading: All slopes will be graded to a final slope of 3:1 horizontal to vertical or flatter. The floor of the mine will be graded to prevent ponding of water on the reclaimed surface. Resulting surfaces will be scarified prior to topsoil redistribution. Stockpiled topsoil will be evenly distributed over the entire site.

Revegetation: The areas will be seeded following the final grading and completion of each phase and all site preparation activities. A soil test should be taken before planting to determine the proper amount, if any of fertilizer and/or lime to be applied.

Seed will be applied to properly prepared soils at any time during the growing season when soil conditions are suitable. Seeding should not be carried out immediately following rain, when ground is too wet, too dry, or during windy conditions.

The seed mixture should be chosen from the Critical Area Seeding attachment that is suitable for the site conditions or D.O.T. #20 from the 1996 WI D.O.T. Standard Specification for Highway Construction manual which consist of 6% Kentucky Bluegrass, 24% Hard Fescue, 40% Tall Fescue, and 30% Perennial Ryegrass. D.O.T. mix #20 should be planted at 12 pounds per acre.

A cover crop of annual rye or oats should also be planted during the spring and summer. Winter wheat or winter rye should be planted as a cover crop after September 1. Seeding can be done using a broadcast seeder or grain drill. Cover crops should be planted at a rate of:

Annual rye - 5 pounds per acre
Oats - 48 pounds per acre
Winter Wheat - 90 pounds per acre
Winter Rye - 84000 pounds per acre

Mulching and Erosion Control: All slopes should be seeded and covered with mulch. To control erosion during reclamation of side slopes, topsoil should not be distributed over an area larger than what can be seeded and covered with mulch in a day. Mulch reduces run-off and erosion as well as conserves moisture and control weeds. See attached Mulching Standard for mulching options and proper application.

Quantifiable standards for revegetation adequate to show that a sustainable stand of revegetation has been established which will support the approved post-mining land use: One year after an area has been reclaimed the non-metallic mine operator will notify the Sawyer County Land and Water Conservation Department to request final reclamation approval. A representative of Sawyer County LWCD will determine adequate revegetation using percent vegetative cover. Since a primary objective of this work is to stabilize the site, it is important to provide a high degree of vegetative cover as quickly as possible. This will result in greater protection of the soil from the effects of raindrop impact, which will be absorbed by the vegetative "canopy". This protection translates into reduced erosion and sedimentation.

Any unacceptable areas are to be fixed by the operator and a return visit by a LWCD representative will determine if the site is acceptable and financial assurance can be released.

Note: All stockpiles must be removed, and site vegetated before reclamation will be considered final.

The operator shall provide a signed certification that reclamation will be carried out in accordance with the reclamation plan. The operator shall also certify that the Best Management Practices are installed and maintained. The landowner and lessee, if different from the operator, shall also provide signed certification that they concur with the reclamation plan and will allow its implementation.

In the following situations, the landowner and lessee, if different from the mine operator, are not required to submit a written certification. The operator shall provide written evidence that the landowner and lessee, if different from the operator, have been provided with a written copy of the reclamation plan, and that:

a. The mine operator has submitted a reclamation plan for an existing non-metallic mine in accordance with Sawyer County Non-Metallic Mining Reclamation Ordinance Section 12.20, or

b. The operator has submitted a reclamation plan for a new or reopened mine in accordance with Sawyer County Non-Metallic Mining Reclamation Ordinance Section 12.30 which is located on land for which a lease agreement or memorandum of lease between the landowner and applicant was recorded prior to August 1, 2001 (NMMRO Section 13(6)).

Travis Butterfield, (operator) certify that reclamation will be carried out in accordance with the reclamation plan and the required Best Management Practices are installed and maintained.

Operator Signature — Date: 6-16-22

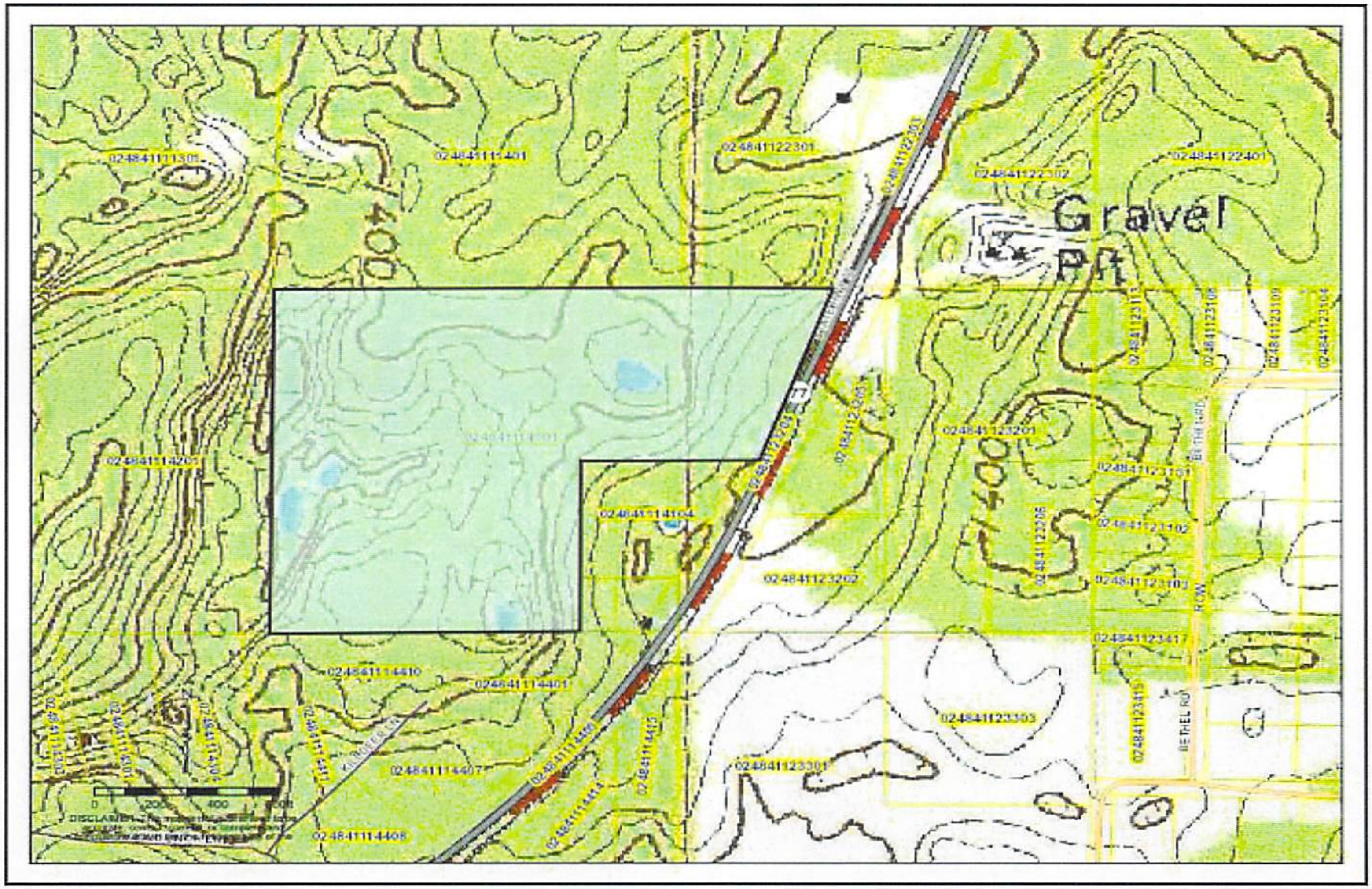
I, Travis Butterfield, (landowner) certify that I have received a copy of the reclamation plan, read it and understand it. I further certify that I concur with the reclamation plan and will allow its implementation.

Landowner Signature — Date: 6-16-22

Landowner Signature — Date

S11; T41N; R08W

Topographic Map



Soil Map—Sawyer County, Wisconsin

Map Scale: 1:4,360 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

6/10/2022
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sawyer County, Wisconsin
Survey Area Data: Version 19, Sep 9, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

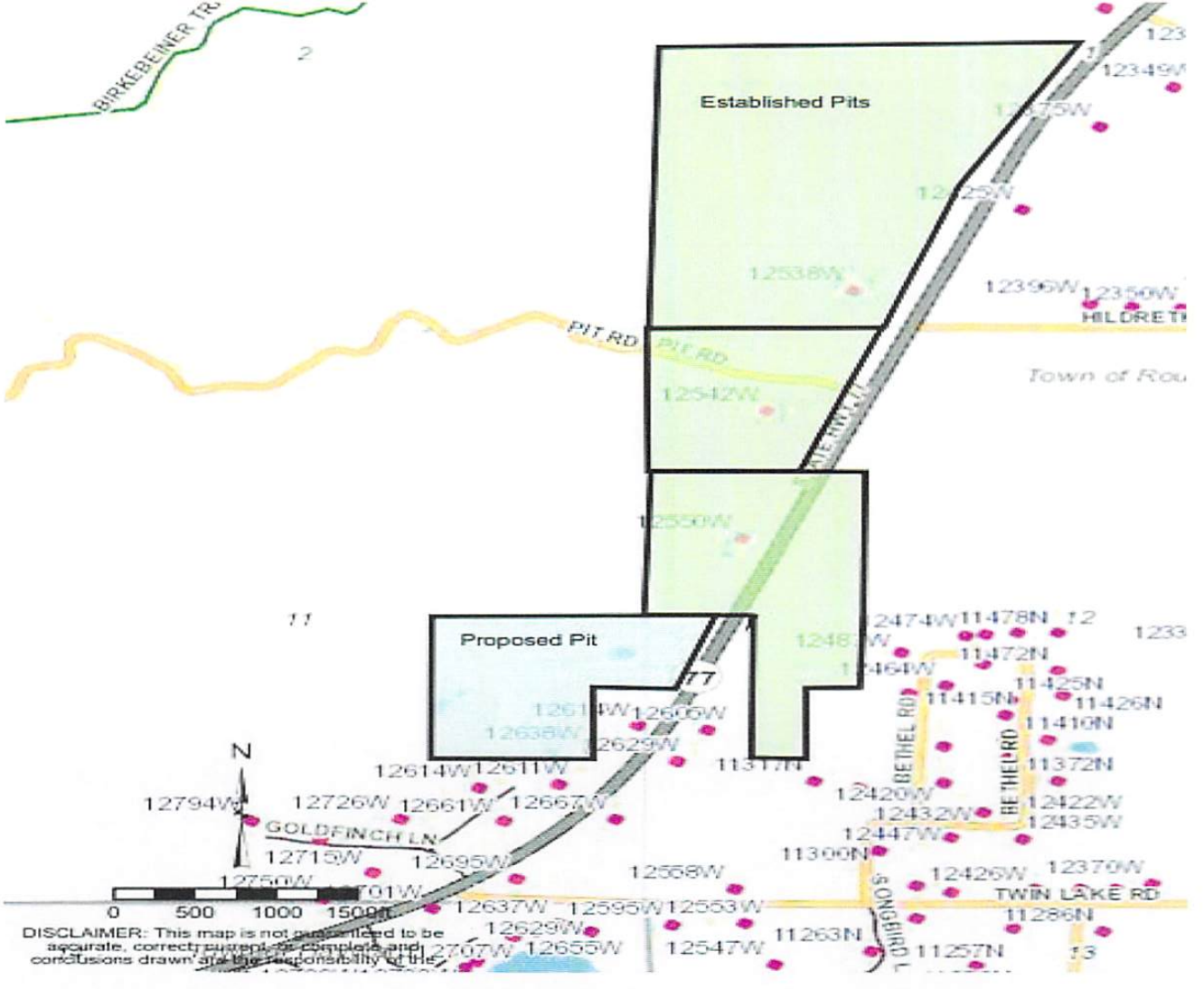
Date(s) aerial images were photographed: Apr 1, 2021—Oct 1, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

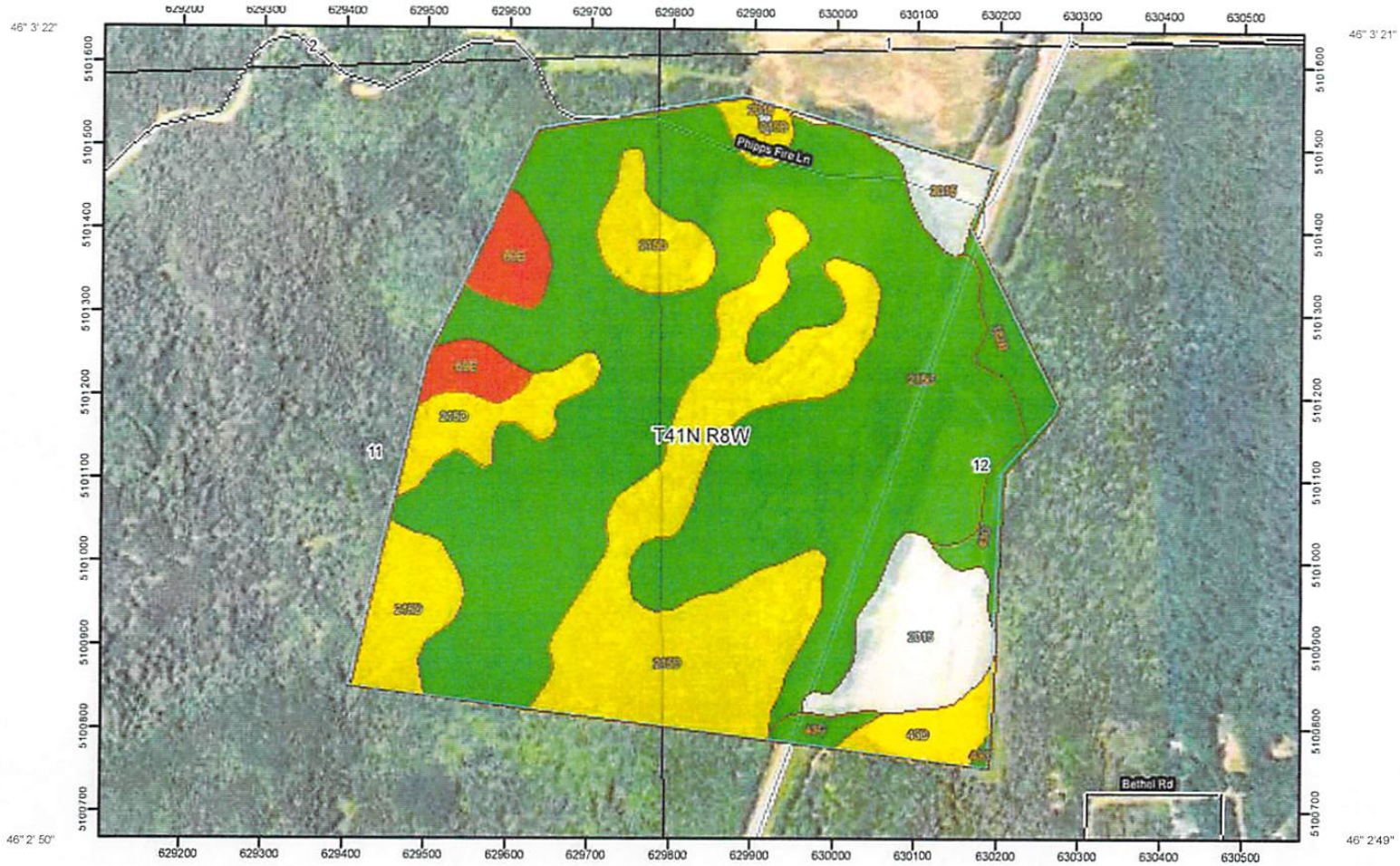
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
43C	Antigo silt loam, 6 to 15 percent slopes	14.3	15.4%
43D	Antigo silt loam, 15 to 35 percent slopes	8.8	9.5%
215C	Pence sandy loam, 6 to 15 percent slopes	18.6	20.1%
215D	Pence sandy loam, 15 to 35 percent slopes	49.9	53.8%
574E	Sayner loamy sand, 15 to 45 percent slopes	0.7	0.7%
2015	Pits	0.5	0.5%
Totals for Area of Interest		92.7	100.0%

Proposed Pit with Established Pits



Source-Sawyer County, Wisconsin



Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- Poor
- Fair
- Good
- Not rated or not available

Political Features
- Cities
- PLSS Township and Range
- PLSS Section

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:6,680 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sawyer County, Wisconsin
Survey Area Data: Version 10, Aug 16, 2011

Date(s) aerial images were photographed: 6/17/2005; 7/19/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Roadfill Source

Roadfill Source— Summary by Map Unit — Sawyer County, Wisconsin (WI113)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
43C	Antigo silt loam, 6 to 15 percent slopes	Good	Antigo (80%)		2.5	2.0%
43D	Antigo silt loam, 15 to 30 percent slopes	Fair	Antigo (80%)	Slope (0.08)	2.6	2.1%
69E	Keweenaw-Sayner-Vilas complex, 15 to 45 percent slopes, stony	Poor	Keweenaw (40%)	Slope (0.00)	4.1	3.2%
			Sayner (30%)	Slope (0.00)		
			Vilas (20%)	Slope (0.00)		
182B	Padus sandy loam, 0 to 6 percent slopes	Good	Padus (78%)		2.5	2.0%
215C	Pence sandy loam, 6 to 15 percent slopes	Good	Pence (85%)		70.7	55.2%
215D	Pence sandy loam, 15 to 30 percent slopes	Fair	Pence (85%)	Slope (0.08)	35.4	27.7%
2015	Pits	Not rated	Pits (100%)		10.1	7.9%
Totals for Area of Interest					128.0	100.0%

Roadfill Source— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Good	75.7	59.2%
Fair	38.1	29.7%
Poor	4.1	3.2%
Null or Not Rated	10.1	7.9%
Totals for Area of Interest	128.0	100.0%

Description

Roadfill is soil material that is excavated in one place and used in road embankments in another place. The soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments. The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The soils are rated "good," "fair," or "poor" as potential sources of roadfill. The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential). Normal compaction, minor processing, and other standard construction practices are assumed.

Numerical ratings between 0.00 and 0.99 are given after the specified features. These numbers indicate the degree to which the features limit the soils as sources of roadfill. The lower the number, the greater the limitation.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

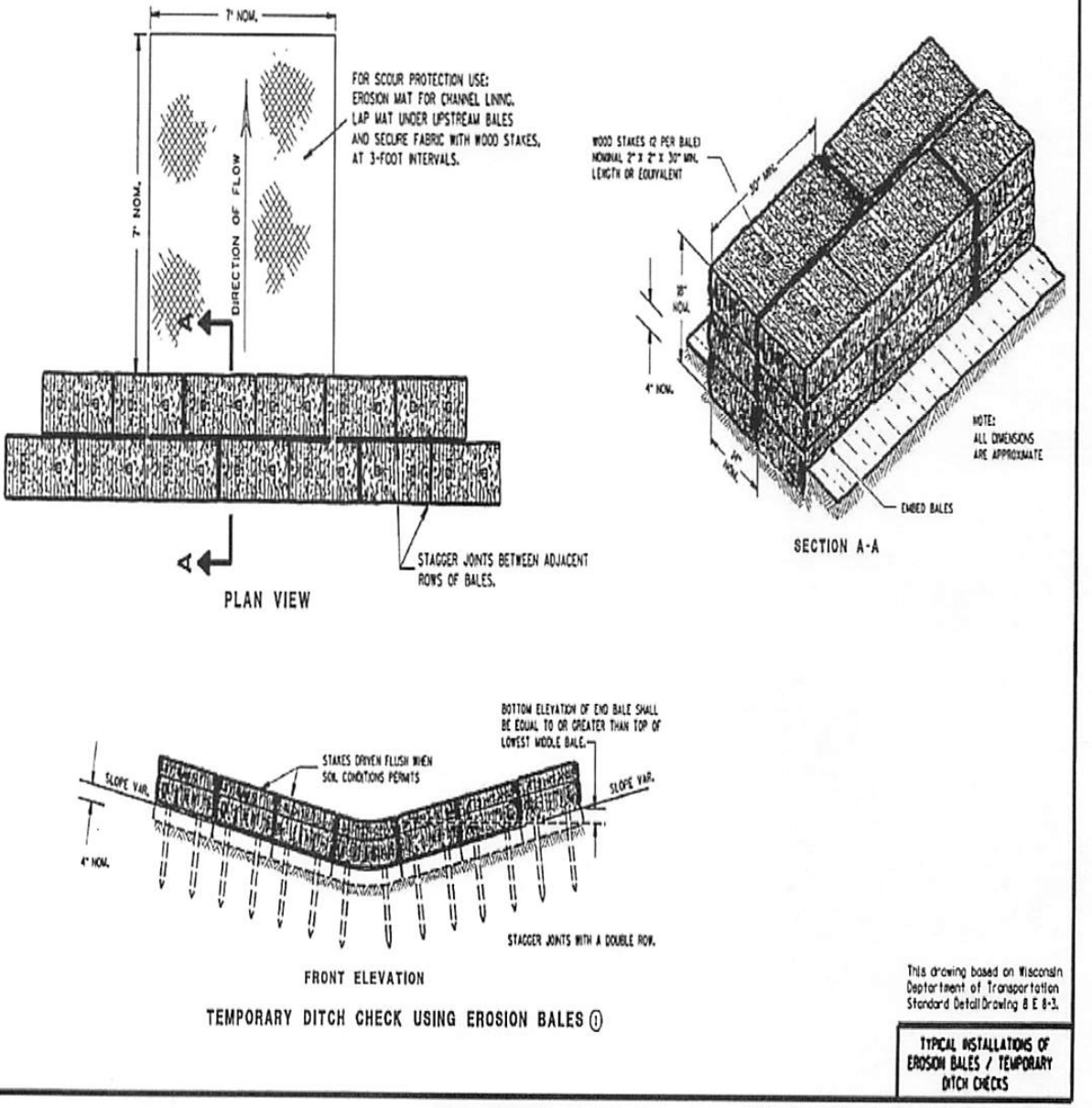
Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Photos of Pit

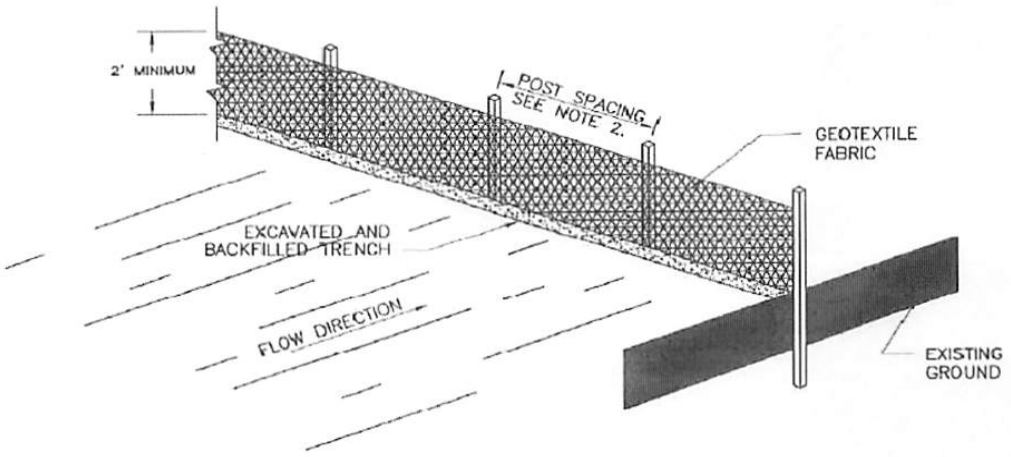
Figure 1



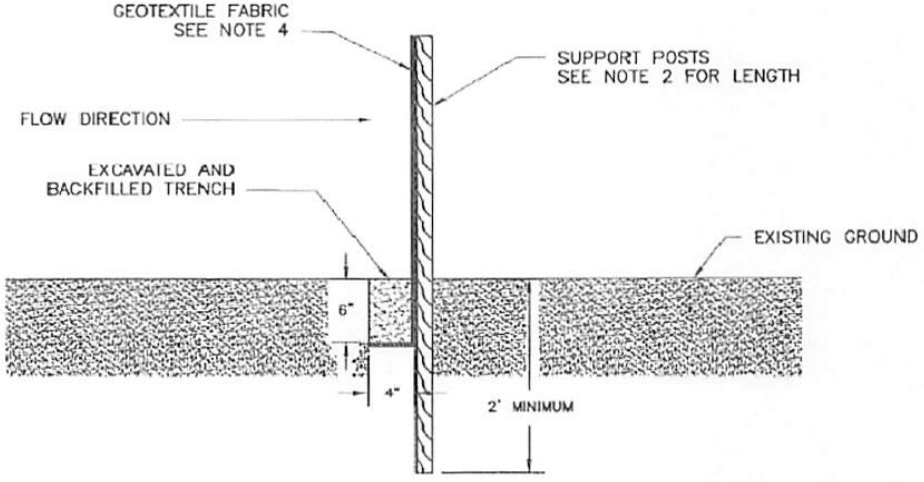
TEMPORARY DITCH CHECK USING EROSION BALES ①

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 8-3.

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS



ISOMETRIC VIEW



TYPICAL SECTION

ESTIMATED LENGTH
OF SILT FENCE ____

SEE SHEET____ OF____
FOR LOCATION

SAWYER COUNTY ZONING AND CONSERVATION	SILT FENCE CLIENT: _____ COUNTY: _____	Date Designed _____ Drawn _____ Checked _____ Approved _____	Drawing Name Date 12/11 Sheet of

NOTES:

1. THE GEOTEXTILE FABRIC SHALL BE PLACED IN THE EXCAVATED TRENCH, BACKFILLED, AND COMPACTED TO THE EXISTING GROUND SURFACE.
2. WOODEN SUPPORT POSTS SHALL BE A MINIMUM DIMENSION OF 1-1/8" x 1-1/8" AIR OR KILN DRIED OF HICKORY OR OAK AND 4 FEET LONG. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.3 POUNDS PER LINEAL FOOT AND 5 FEET LONG. POST SPACING SHALL BE A MAXIMUM OF 8 FEET FOR WOVEN FABRIC AND 3 FEET FOR NON-WOVEN FABRIC.
3. THE GEOTEXTILE FABRIC SHALL BE ATTACHED DIRECTLY TO THE UPSLOPE SIDE OF WOODEN POSTS WITH 0.5 INCH STAPLES IN AT LEAST 3 PLACES, OR WITH WOODEN LATH AND NAILS. ATTACHMENT TO STEEL POSTS WILL BE BY WIRE FASTENERS OR 50 POUND PLASTIC TIE STRAPS ON THE UPSLOPE SIDE.
4. THE GEOTEXTILE FABRIC SHALL CONSIST OF EITHER WOVEN OR NON-WOVEN POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE. NON-WOVEN FABRIC MAY BE NEEDLE PUNCHED, HEAT BONDED, RESIN BONDED, OR COMBINATIONS THEREOF. ALL FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:

TEST REQUIREMENT	METHOD	VALUE *
MINIMUM GRAB TENSILE STRENGTH IN THE MACHINE DIRECTION	ASTM D 4632	120 LBS.
MINIMUM GRAB TENSILE STRENGTH IN THE CROSS MACHINE DIRECTION	ASTM D 4632	100 LBS.
MAXIMUM APPARENT OPENING SIZE EQUIVALENT STANDARD SIEVE	ASTM D 4751	NO. 30
MINIMUM PERMITTIVITY	ASTM D 4491	0.05 SEC^{-1}
MAXIMUM PERMITTIVITY	ASTM D 4491	0.135 SEC^{-1} OR 10 gpm/sq ft at 50 mm constant head
MINIMUM ULTRAVIOLET STABILITY PERCENTAGE OF STRENGTH RETAINED AFTER 500 HOURS OF EXPOSURE	ASTM D 4355	70%

* ALL NUMERICAL VALUES REPRESENT MINIMUM/MAXIMUM AVERAGE ROLL VALUES. (FOR EXAMPLE, THE AVERAGE OF MINIMUM TEST RESULTS ON ANY ROLL IN A LOT SHOULD MEET OR EXCEED THE MINIMUM SPECIFIED VALUES.)

BILL OF MATERIALS

ITEM	QUANTITY
SUPPORT POSTS	_____
GEOTEXTILE	_____ FT.
FASTENERS	AS REQUIRED

CRITICAL AREA PLANTING
(Acre)
Code 342

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Establishing permanent vegetation on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal practices.

II. Purposes

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

- Stabilize and restore riparian areas.
- Stabilize stream and channel banks and shorelines.
- Stabilize areas with existing or expected high rates of soil erosion by water or wind.
- Rehabilitate and revegetate degraded sites that cannot be stabilized using normal establishment techniques.

III. Conditions Where Practice Applies

This practice applies to highly disturbed areas such as:

- active or abandoned surface mine sites,
- urban conservation sites,
- road construction areas,
- conservation practice construction sites,
- areas needing stabilization before or after natural disasters such as floods, tornados, and wildfires,
- eroded banks of natural channels, banks of newly constructed channels, and lake shorelines, and
- areas degraded by human activities.

IV. Federal, Tribal, State and Local Laws

Critical area planting practices shall comply with all federal, tribal, state and local laws, rules or regulations. The landowner and/or operator is responsible for securing required permits. This standard does not contain the text of the federal, tribal, state or local laws.

V. Criteria

A. General Criteria Applicable To All Purposes.

1. Site Assessment

   A site investigation shall be conducted to identify any physical, chemical, or biological conditions that could affect the successful establishment of vegetation. The site investigation shall include evaluation of: soil characteristics, soil fertility, slope, *aspect*[1], moisture regime, climatic patterns, proximity to natural plant community, and site history.

   Areas to be planted will be cleared of unwanted materials and smoothed or shaped, if needed, to meet planting and landscaping purposes.

   Compacted layers will be ripped and the soil re-firmed prior to seedbed preparation.

   On tilled or disturbed sites, prepare a firm seedbed. The seedbed shall contain enough fine particles for uniform shallow coverage of seed and contact with moisture and nutrients. For details on seedbed preparation, refer to Wisconsin Agronomy Technical Notes 5, Establishing and Maintaining Native Grasses, Legumes, and Forbs; and 6, Establishing and Maintaining Introduced Grasses and Legumes.

2. Specie Selection and Seed Quality

   Species selected for planting shall be suited to current site conditions, intended use, and be resistant to diseases and insects common to the site location.

[1]Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

Selected species will have the capacity to achieve adequate density and vigor to stabilize the site within an appropriate period.

Native herbaceous or woody vegetation selected for planting shall be suitable for the site.

Species identified as restricted or prohibited by law shall not be planted.

Certified Seed shall be used, and seeding rates will be based on *Pure Live Seed* (PLS). Seed tag information such as purity and germination and any computations to adjust seeding rates must be submitted to document actual seeding rates. *Actual adjusted seeding rates* will be based on the equivalent of 100 percent PLS, determined by multiplying the percent purity by total percent germination.

Untested introduced and native grass and forb seed are not approved for planting.

When certified seed is unavailable or difficult to locate, *non-certified* seed can be used, after testing for varietal purity, germination, and other mechanical qualities, such as inert matter and other crop or weed seeds.

If more than 20 percent of legume seed is hard seed, increase the seeding rate for legumes by the percentage of hard seed.

Introduced and native legume seed shall be inoculated immediately prior to planting. Rhizobia inoculant shall be specific to the legume seeded. When more than one legume specie is used, each specie will be inoculated separately.

3. Seeding Periods

The specific date that provides the best chance for success will vary from south to north and from year to year with prevailing moisture and temperature conditions. Late summer seeding is generally riskier than spring seeding. Planting at either end of the allowable range is riskier than the middle of the range. Refer to Figure 1 for planting zones and Tables 1 and 2 for seeding dates.

Seeding outside of the recommended dates must be approved by the Area Resource Conservationist or State Agronomist.

Frost seeding is not an authorized seeding method when using this standard.

Dormant seeding can be used when planting introduced species. When using dormant seedings in concentrated flow areas, the site must be mulched according to the engineering design (if applicable) and Wisconsin NRCS Field Office Technical Guide, Section IV, (WI FOTG) Conservation Practice Standard 484, Mulching.

4. Nutrient and Soil Amendment Requirements

When seeding *introduced species*,so il fertility and pH level will be amended to satisfy the needs of the plant species to be established. Fertilizer and lime recommendations will be determined by a soil test, and all nutrients will be applied following WI FOTG Standard 590, Nutrient Management. If no soil test is available, apply a minimum of 150 pounds of 20-10-10 fertilizer and 2 tons of 80-89 lime or equivalent per acre. Soil amendments may be waived at the discretion of a certified conservation planner. The basis for waiving the use of soil amendments shall be documented in the client's case file.

For establishment of *native species*, use of soil amendments are not required.

5. Seedbed Preparation

Prior to planting into cropland fields, verify that herbicides previously applied to the site will not "carry over" and damage the new seeding.

Site preparation shall be adequate to assure weed suppression and to promote germination and growth of the species planted.

Planting equipment type, use, and timing shall be appropriate for the site conditions, soil characteristics, and type of seeds (size, etc.) selected to assure uniform placement and germination.

Refer to Wisconsin Agronomy Technical Notes 5 and 6 for detailed guidance for specific situations.

6. Mulching, Temporary Cover, and Companion Crop

Mulching, temporary cover, and companion crops are vital practices utilized to support the establishment of a critical area planting. Temporary cover and companion crops suppress weed growth and limit soil erosion during the establishment period. Use depends on the site conditions, method of planting, and seed mixture.

For further details on mulching, temporary cover and companion crop recommendations, refer to Wisconsin Agronomy Technical Notes 5 and 6.

B. Criteria for Seed Mixture Development

Seeding rates are based on seeds per square foot of Pure Live Seeds. Refer to Tables 3 and 4 for common species and seeding rates.

Additional approved species for critical area planting can be found in Wisconsin Agronomy Technical Notes 5 and 6. Species not listed in the technical notes must be approved in advance by the State Agronomist.

a. Introduced Grass and Legume Plantings on Critical Sites

Custom and standard mixtures will comprise of at least 50 percent grass seed, consisting of at least 25 percent sod forming grass seed per square foot.

A minimum of 160 seeds per square foot is required for either a solid stand of grasses or a combination of grasses and legumes. Increase seeding rate by 15 percent when dormant seeding occurs.

Standard mixes listed in Table 5 will meet the minimum seed mixture criteria.

b. Native Herbaceous Plantings on Critical Sites

Native species are generally not recommended for critical area plantings due to their slow establishment and because they are clump grasses, not the preferred sod-forming grasses. Native plantings are not permitted in concentrated flow channels.

1) A minimum of 60 seeds per square foot for solid native grass plantings is required.

2) For native grass and forb/legume mixtures, a minimum of 40 seeds per square foot of grass and a minimum of 20 seeds per square foot for the forb/legume component is required. The minimum of 20 forb/legume seeds per square foot is not required when the solid stand native grass mixture comprise of 60 grass seeds per square foot is utilized.

Canada/Virginia wildrye and sideoats grama shall not exceed a maximum of 20 percent of the required grass seeds per square foot in custom seed mixtures.

C. Additional Criteria to Stabilize Stream Channel Banks and Shorelines

Wisconsin FOTG Standard 580, Streambank and Shoreline Protection, shall be used to stabilize the toe and/or bank hydrologic zones before vegetation establishment.

1. Bank and Channel Slopes

Identify, mark, and protect desirable existing vegetation during practice installation.

On sites with a disturbed soil profile, topsoil will be stockpiled and spread over areas to be planted as needed to meet planting and land shaping needs.

Channel side slopes shall be shaped to a stable slope to facilitate establishment and maintenance of desired vegetation.

Slopes steeper than 2H:1V shall not be stabilized using vegetation alone. A combination of vegetative and structural measures will be used on these slopes to ensure adequate stability.

Grazing shall be permanently excluded on high hazard sites, such as cut banks, areas of seepage or other potentially unstable areas.

2. Species Selection

Plant material used for this purpose shall:

- be adapted to the hydrologic zone into which they will be planted.
- be adapted and proven in the regions in which they will be used.
- when mature, produce plant communities that are compatible with those already existing in the area.
- protect the channel banks but not restrict channel capacity.

D. Additional Criteria to Stabilize Areas of Erosion By Wind and Water

1. The amount of plant biomass and cover needed to reduce wind and water erosion to the planned soil loss objective shall be determined using the current approved wind and/or water erosion prediction technology.

2. Do not use tillage where desirable vegetation is already present or where soil disturbance will increase the potential for erosion or cause sedimentation to environmentally sensitive areas.

3. Use a companion crop as added protection.

E. Additional Criteria to Rehabilitate and Revegetate Degraded Sites That Cannot Be Stabilized Using Normal Establishment Techniques

Slope Stabilization

1. On sites that are too steep for regular seeding equipment to operate, the use of hydroseeding and mechanically blown mulch is recommended. For more information regarding hyrdoseeding, refer to Wisconsin Agronomy Technical Note 6.

2. Grade to a stable slope when shaping and eliminate all overfalls. For slopes steeper than 2H:1V, enhanced stabilization activities such as soil bioengineering may be required. These practice concepts shall follow approved design procedures located in the NRCS Engineering Field Handbook, Chapter 18.

3. The toe of the slope, or the outlet of the concentrated flow channel, shall be stable before attempting seeding on the slope.

4. Concentrated flow may need to be diverted from the critical area during the establishment period.

5. All gullies and deep rills will be filled and leveled during seedbed preparation.

6. A minimum of 4 inches of friable soil material or topsoil shall be added and mixed to exposed rocky, sandy, gravelly, shaley material, or extremely fine textured subsoil.

7. Sod placement shall be limited to areas that can naturally supply needed moisture or sites that can be irrigated during the establishment period.

8. Sod will be placed and anchored using techniques to ensure that it remains in place until established.

Figure 1
Planting Zones

Table 1
Seeding Date/Ranges for Native Mixtures and Companion Crops

Zone	Spring Seeding
Northern	Thaw - 7/15
Central	Thaw - 6/30
Southern	Thaw - 6/30

Table 2
Seeding Date/Ranges for Introduced Grasses, Legumes, and Companion Crops

Planting Zone	Spring	Late Summer	Dormant
North	5/1 - 6/15	7/15 - 8/10	11/1 - Freeze up
Central	4/15 - 6/1	8/1 - 8/21	11/1 - Freeze up
South	4/1 - 5/15	8/7 - 8/29	11/1 - Freeze up

NRCS, WI
1/13

VI. Considerations

Additional recommendations relating to design that may enhance the use of, or avoid problems with, this practice but are not required to ensure its basic conservation functions are as follows.

A. Minimize activities which disturb wildlife during the primary nesting season May 15 through August 1.

B. Consider seeding at a lower rate and making 2 passes to ensure uniform coverage. Check seed boxes regularly to ensure even distribution.

C. Heavy traffic and/or compacted soil areas may need special site preparation prior to seeding.

D. Sprigs, root stocks, crowns, cones, culms, and sod may be considered where appropriate to accelerate the establishment of cover.

E. Woody shrubs or trees may be used only after initial stabilization. Plant in accordance with the purpose of the planting. See WI FOTG Standards 612, Tree/Shrub Planting; and 580, Streambank and Shoreland Protection. Also see NRCS Engineering Field Handbook, Chapter 16, Streambank and Shoreline Protection and Chapter 18, Soil Bioengineering for Upland Slope Protection.

F. Consider using carriers such as vermiculite, sawdust, and soybean meal to increase volume and weight for uniform seed distribution.

G. Consider limited or no use of herbicides one year prior to seeding. If herbicides must be used, ensure there is no potential for carryover and follow label recommendations. Follow WI FOTG Standard 595, Integrated Pest Management, for pesticide use and safety.

H. Consider sodding to establish vegetation on steep slopes. For further details on this special erosion control measure, refer to Wisconsin Agronomy Technical Note 6.

I. Consider establishing a buffer of trees and/or grasses next to intermittent or perennial streams.

J. Consider planting native vegetation and/or local *genotypes* when restoring riparian corridors to its pre-settlement conditions.

K. High seed counts per square foot much above the recommended minimums may lead to excessive competition and poor establishment of some species. Seeds per square foot should not exceed 25 percent of the minimum requirement, with the exception of mixtures designed for wet mesic and wet sites.

L. Consider the use of *soil bioengineering* techniques to arrest and prevent slope failures and erosion. For approved design procedures, refer to Chapter 18 of the NRCS Engineering Field Handbook (EFH).

M. Consider alternatives to reduce or eliminate the delivery of sediment and associated pollutants into the riparian zone by implementing upland treatment practices.

VII. Plans and Specifications

Prepare plans and specifications for each field or management unit according to the Criteria and Operation and Maintenance sections of this standard. Specifications shall describe the requirements for applying this practice to meet the intended purpose using the appropriate specification and/or job sheets. The following elements shall be addressed in the plan, as applicable, to meet the intended purpose.

- Site preparation.
- Fertilizer application.
- Methods of seeding/planting.
- Selection of species.
- Analysis of seed quality.
- Seeding rate (adjusted based on pure live seed calculations).
- Target number of plants per square foot after emergence.
- Mulching (if applicable).
- Temporary cover (if applicable).
- Companion crop (if applicable).
- Weed control activities during the establishment period.

Specifications shall be recorded using Wisconsin Job Sheets 134, How to Establish and Maintain Introduced Grasses and Legumes; and 135, How to Establish and Maintain Native Grasses, Forbs, and Legumes.

VIII. Operation and Maintenance

A. Noxious weeds and other undesirable species must be controlled at all sites. During the first year, mow plantings at 14 to 21-day intervals or when weeds are 12-14 inches high and before the development of mature seed. Mowing height

should be 4 inches for introduced and 7 inches for native plants. Small grain companion crops should be mowed at boot stage and prior to heading. Spot spraying or hand pulling may be needed for some invasive species such as thistles and purple loosestrife.

B. Sites may require on-going periodic maintenance consisting of mowing, burning, or herbicide treatment.

C. Sites should be inspected periodically to ensure site stabilization objectives are being met.

IX. References

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USDA, NRCS, National Engineering Handbook, Part 650, Engineering Field Handbook.

USDA, NRCS, Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standards and Specifications.

USDA, NRCS, Wisconsin Agronomy Technical Note 5, Establishing and Maintaining Native Grasses, Forbs, and Legumes.

USDA, NRCS, Wisconsin Agronomy Technical Note 6, Establishing and Maintaining Introduced Grasses and Legumes.

USDA, NRCS, Wisconsin Job Sheet 134, How to Establish and Maintain Introduced Grasses and Legumes.

USDA, NRCS, Wisconsin Job Sheet 135, How to Establish and Maintain Native Grasses, Forbs, and Legumes.

X. Definitions

Actual Adjusted Seeding Rates (V.A.2.) – an increase in seeds per square foot or pounds per acre, when the PLS is less than 100 percent.

Aspect (V.A.1.) – The exposure of the site to direct sunlight, prevailing winds, and other factors that influence plant growing conditions. For example, a north slope tends to be cooler and moister while a south-facing slope tends to be drier and warmer.

Soil Bioengineering (VI.L.) – Practice of combining mechanical, biological, and ecological concepts to arrest and prevent shallow slope failures and erosion.

Certified Seed (V.A.2.) – Seed that meets the standards established by the designated official seed certifying agency for the purpose of ensuring species/variety, species/varietal purity and mechanical quality. The Wisconsin Crop Improvement Association is the official seed certifying agency for Wisconsin.

Genotype (VI.J.) – A group of individual plants which share a specified genetic makeup. For example, all big bluestem plants that are genetically adapted to grow and mature in the climatic conditions found in the driftless region could be considered a genotype.

Introduced Species (V.A.4.) – Plant species that historically were not native to North America and were brought here from other parts of the world, for example, smooth bromegrass and alfalfa.

Native Species (V.A.4.) – Plants species that historically would have been found growing in North America such as big bluestem or green needle-grass.

Non-Certified Seed (V.A.2.) – Seed that is grown, processed, tested and labeled for species/variety and mechanical quality factors, but is not certified by an official seed certifying agency.

Pure Live Seed (PLS) (V.A.2.) – PLS is a means of expressing seed quality, based on the percentage of seed in a seed lot that is both pure and viable. PLS is calculated by multiplying the percentage of total viable seed (germination + hard seed + dormant seed) by the percentage of pure seed divided by 100.

Untested Seed (V.A.2.) – Seed that has no assurances of testing for species/variety and mechanical quality, i.e., species/variety purity, inert matter, other crop or weed seeds and germination potential. Untested seed legally cannot be labeled.

Table 3
Common Species and Seeding Rates for Critical Area Plantings

Common Name	Scientific Name	Moisture Regime	Single Species Seeding Rate (PLS) Lbs./Ac.	Seeds/Lb.	Seeds/Square Ft./Lb./Ac.
Native Grasses					
Big Bluestem[1]	Andropogon gerardii[1]	D, DM, M, WM	11	165,000	3.8
Canada Wild Rye	Elymus canadensis	DM, M, WM	12	83,200	1.9
Indian Grass[1]	Sorghastrum nutans[1]	D, DM, M, WM, W	10	192,000	4.4
Little Bluestem	Schizachyrium scoparium	D, DM, M	8	240,000	5.5
Prairie June Grass	Koeleria macrantha[1, 2]	D, DM, M	0.5	2,308,672	53
Sideoats Grama	Bouteloua curtipendula	D, DM, M	8	127,000	2.9
Switch Grass[1]	Panicum virgatum[1]	D, DM, M, WM, W	7	389,000	8.9
Virginia Wild Rye	Elymus virginicus	M, WM, W	17	67,200	1.5
Introduced Grasses					
Chewings Red Fescue[2]	Festuca rubra L. ssp. fallax[2]	D, DM, M	5	350,000	8
Creeping Red Fescue[1, 2]	Festuca rubra[1, 2]	DM, M, WM	5	350,000	8
Festulolium	Festuca x Lolium	DM, M, WM	10	227,000	5.2
Italian or Annual Ryegrass	Lolium perenne L. ssp. multiflorum	DM, M, WM	20	227,000	5.2
Kentucky Bluegrass[1, 2]	Poa pratensis[1, 2]	D, DM, M, WM, W	8	2,177,000	50
Orchard Grass	Dactylis glomerata L.	D, DM, M, WM	10	653,000	15
Perennial Ryegrass	Lolium perenne	DM, M, WM	20	227,000	5.2
Redtop[1, 2]	Agrostis gigantea[2]	M, WM, W	4	4,990,000	114.5
Smooth Bromegrass[1, 2]	Bromus inermis[1, 2]	D, DM, M, WM	20	136,000	3.1
Tall Fescue	Schedonorus arundinaceus	D, DM, M, WM	12	227,000	5.2
Timothy	Phleum pratense	DM, M, WM, W	8	1,230,000	28.2
Legumes					
Alfalfa	Medicago sativa	D, DM, M	12	219,000	5.0
Alsike Clover	Trifolium hybridum	M, WM, W	3	680,000	15.6
Birdsfoot trefoil	Lotus corniculatus	DM, M, WM, W	7	375,000	8.6
Red Clover	Trifolium pratense	DM, M, WM	10	275,000	6.3
White Ladino Clover	Trifolium repens	DM, M, WM	3	871,650	20

[1] Species approved for seeding individually at the recommended Pure Stand Rates based on Pure Live Seeds (PLS) depending on the erosiveness of the site.

It is required that at least 50% of the seeds per square foot of mixtures planted to introduced and native species on critical areas are composed of grasses, and 25% of the seeds per square foot are sod-forming grasses for introduced species.

If more than 20% of the legume seed is hard seed, increase the seeding rate for legumes by the percent of hard seed.

Seeds per square foot for a particular specie can be calculated by multiplying the number of seeds per pound of the specie by the rate of the specie in pound(s) per acre divided by 43,560 square feet.

[2] Sod-forming grass plants.

Table 4
Seeding Chart for Native Grass Species

Common Name	Scientific Name	Percent of Mixture	Pure Stand Seeding Rate	Seeds per Square Foot
Big Bluestem	Andropogon gerardii	0-100	11 lbs/ac	42
Canada Wildrye	Elymus canadensis	0-20	12 lbs/ac	23
Indian grass	Sorghastrum nutans	0-100	10 lbs/ac	44
Little Bluestem	Schizachyrium scoparium	0-20	8 lbs./ac	44
Sideoats Grama	Bouteloua curtipendula	0-20	8 lbs/ac	23
Switchgrass	Panicum virgatum	0-100	7 lbs/ac	63
Virginia Wild Rye	Elymus virginicus	0-20	17 lbs/ac	26
Prairo June Grass	Koeleria macrantha	0-20	0.5 lbs/ac	26
Hairy Grama	Bouteloua hirsuta	0-25	1 lb/ac	26

Canada Wild Rye, Virginia Wild Rye and Sideoats Grama when combined will not comprise of more than 20% of the total grass seeds per square foot. Pure stand seeding rates for Big Bluestem and Indiangrass must be increased by 5 lbs/acre to meet the minimum seeds per square foot as required by this standard. Refer to Table 3 for suggested moisture regimes per specie.

Table 5
Seeding Mixtures Suitable for Critical Area Plantings

Seed Calculator Code*	Moisture Regimes	Common Name	Scientific Name	Seeding Rate in lb/ac PLS	Seeding Rate in Seeds/Ft² PLS	Capacity Retardance	Type of Site**
342-1	*Dry-Mesic* and *Mesic* Sites	Smooth Bromegrass	Bromus inermis	10	31	B	EB, WW,CSB
		Creeping Red Fescue	Festuca rubra	3	24		
		Alfalfa	Medicago sativa	3	15		
		Red Clover	Trifolium pratense	3	19		
		Kentucky bluegrass	Poa pratensis	1.5	75		
342-2	Dry-Mesic and Mesic Sites***	Smooth Bromegrass	Bromus inermis	15	47	B	EB,WW
		Alfalfa	Medicago sativa	7	35		
		Timothy	Phleum pratense	3	85		
342-3	Dry-Mesic and Mesic Sites	Kentucky bluegrass	Poa pratensis	1	50	B	CSB, EB, WW
		Smooth Bromegrass	Bromus inermis	10	31		
		Timothy	Phleum pratense	2	56		
		Tall Fescue	Schedonorus arundinacea	2	10		
		Perennial Ryegrass	Lolium perenne	5	26		
342-4	Dry-Mesic and Mesic Sites	Smooth Bromegrass	Bromus inermis	20	62	B	EB, WW, CSB
		Creeping Red Fescue	Festuca rubra	5	40		
		Alfalfa	Medicago sativa	8	40		
		Red Clover	Trifolium pratense	4	25		
342-5	Dry-Mesic and Mesic Sites	Smooth Bromegrass	Bromus inermis	30	93	B	EB, WW, CSB
		Alfalfa	Medicago sativa	14	70		
342-6	Dry-Mesic, Mesic, and Wet Mesic Sites	Smooth Bromegrass	Bromus inermis	7	22	B	CSB, EB, WW
		Timothy	Phleum pratense	2	56		
		Creeping Red Fescue	Festuca rubra	1	8		
		Kentucky Bluegrass	Poa pratensis	1	50		
		Perennial Ryegrass	Lolium perenne	3	16		
		Red Clover	Trifolium pratense	3	19		
342-7	Mesic Sites***	Smooth Bromegrass	Bromus inermis	7	22	B	EB, WW
		Creeping Red Fescue	Festuca rubra	2	16		
		Kentucky bluegrass	Poa pratensis	3	150		
		Birdsfoot trefoil	Lotus corniculatus	2	17		
342-8	Mesic Sites***	Smooth Bromegrass	Bromus inermis	15	47	B	WW,EB
		Creeping Red Fescue	Festuca rubra	2	16		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-9	Mesic Sites***	Kentucky Bluegrass	Poa pratensis	3	150	C	WW,EB
		Creeping Red Fescue	Festuca rubra	4	32		
		Perennial Ryegrass	Lolium perenne	10	52		
342-10	Mesic Sites	Smooth Bromegrass	Bromus inermis	14	43	B	EB, WW, CSB
		Timothy	Phleum pratense	3	85		
		Red Clover	Trifolium pratense	3	19		
		Perennial Ryegrass	Lolium perenne	4	21		
342-11	Mesic Sites	Smooth Bromegrass	Bromus inermis	32	99	B	EB, WW
		Creeping Red Fescue	Festuca rubra	8	64		
342-12	Mesic Sites	Kentucky bluegrass	Poa pratensis	4	200	C	EB, WW
		Creeping Red Fescue	Festuca rubra	3	24		

Seed Calculator Code*	Moisture Regimes	Common Name	Scientific Name	Seeding Rate in lb/ac PLS	Seeding Rate in Seeds/Ft² PLS	Capacity Retardance	Type of Site**
342-13	Mesic Sites	Smooth Bromegrass	Bromus inermis	14	43	B	EB, WW, CSB
		Timothy	Phleum pratense	4	113		
		Red Clover	Trifolium pratense	3	19		
342-14	Mesic Sites	Smooth Bromegrass	Bromus inermis	15	47	B	EB, WW, CSB
		Timothy	Phleum pratense	3.5	99		
		Alsike Clover	Trifolium hybridum	2	32		
342-15	Mesic Sites	Smooth Bromegrass	Bromus inermis	15	47	B	EB, WW
		Timothy	Phleum pratense	3.5	99		
		Birdsfoot trefoil	Lotus corniculatus	3	26		
342-16	Wet Mesic Sites	Tall Fescue	Schedonorus arundinacea	5	26	B	CSB, EB, WW
		Timothy	Phleum pratense	3	85		
		Perennial Ryegrass	Lolium perenne	3	16		
		Red Clover	Trifolium pratense	3	19		
		Smooth Bromegrass	Bromus inermis	6	19		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-17	Wet Mesic Sites	Redtop	Agrostis gigantea	1	115	C	WW, CSB, EB
		Timothy	Phleum pratense	3	85		
		Red Clover	Trifolium pratense	5	32		
342-18	Wet Mesic Sites	Timothy	Phleum pratense	3	85	B	WW, CSB, EB
		Perennial Ryegrass	Lolium perenne	3	16		
		Red Clover	Trifolium pratense	3	19		
		Smooth Bromegrass	Bromus inermis	6	19		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-19	*Wet Mesic* Sites	Redtop	Agrostis gigantea	1	115	C	WW,CSB, EB
		Timothy	Phleum pratense	1	28		
		Red Clover	Trifolium pratense	4	25		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-20	*Wet* Sites***	Redtop	Agrostis gigantea	2	229	C	WW
		Alsike Clover	Trifolium hybridum	2	31		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-21	Wet Mesic Sites	Redtop	Agrostis gigantea	3	344	C	WW
		Alsike Clover	Trifolium hybridum	3	47		

*These codes represent the mixtures used in the Wisconsin Seed Calculator.
**EB = Embankments, WW = Waterways, CSB = Channel and Streambanks
***Mixtures can be used on other site descriptions when not listed.

NRCS
U.S. Department of Agriculture
Natural Resources Conservation Service

How to Establish and Maintain Native Grasses, Forbs, and Legumes

Wisconsin Job Sheet 135

Natural Resources Conservation Service (NRCS) Wisconsin

Landowner: _____ **Tract:** _____

If you are receiving financial assistance for completing this planting, refer to your agreement for any additional requirements or restrictions.

PURPOSE

This job sheet describes methods to establish and maintain native grasses, forbs, and legumes and applies to the following practice:

- ☐ Conservation Cover (327)
- ☐ Critical Area Planting (342)
- ☐ Forage and Biomass Planting (512)

Native species can be used to accomplish one or more of the following:

- Reduce soil erosion.
- Enhance pollinator and wildlife habitat.
- Increase forage supply during periods of low production.
- Produce feedstock for biofuel or energy production.
- Improve soil, water, and air quality.

For additional recommendations, refer to Wisconsin NRCS Agronomy Technical Note 5, Establishing and Maintaining Native Grasses, Forbs, and Legumes, at http://www.wi.nrcs.usda.gov/technical/technotes.html.

SPECIES SELECTION AND SEED QUALITY

1. Species and cultivars must be selected based upon the adaptation to site conditions, including appropriate moisture regime, climatic conditions, soil conditions, and landscape position.
2. Select species based on growth characteristics, fertility requirements, disease resistance, compatibility with other species, and the intended use of the seeding.
3. Mixtures must meet all requirements of the Wisconsin weed laws. Species identified as restricted or prohibited by law shall not be planted.
4. Seed must be of high quality and meet the requirements of the Wisconsin seed laws for certification. If certified seed is not available, non-certified seed may be used as long as the seed is tested for purity and germination by a testing laboratory following Association of Official Seed Analysts (AOSA) procedures. If you plan to use untested seed, prior approval must be granted from NRCS before planting.
5. Native species are not recommended in concentrated flow areas due to their slow establishment and growth characteristics.
6. If one or more of the species in the mix consists of more than 20 percent hard seed, the seeding rate for the species must be increased by the percent of hard seed.
7. Legume seeds must be inoculated prior to planting.

SEEDING PERIODS AND RATES

1. Seeding rates and species are provided on the attached seeding plan. Rates are based upon Pure Live Seed (PLS). In order to determine PLS, the seed must be tested for purity and germination. If you are receiving financial assistance for this practice, any changes to the species or rates listed in the seeding plan must be approved before seed is purchased.

2. Permanent, perennial vegetative cover will be established within the recommended seeding dates as shown on the attached seeding plan. When it is not possible to seed during the recommended seeding dates, a temporary cover will be required to reduce erosion until the seeding can be completed.

3. Frost Seeding. The frost seeding period in Wisconsin typically ranges from February to mid-March but may vary from year to year depending on the weather. Frost seeding is allowed only during the active freezing and thawing cycle and can be completed on fields where good seed-to-soil contact can be obtained. Do not frost seed on fields with solid ice or snow cover greater than 2 inches. Seeding rates must be increased by 15 percent. Refer to your seeding plan to determine if frost seeding is allowed for your situation.

4. Dormant Seeding. Dormant seeding occurs late in the fall when the soil temperature is cool enough to prevent germination until the following spring. This type of seeding provides greater risk of failure due to variability in weather and often has reduced yields. Seeding rates must be increased by 15 percent when seeding during this time period. Refer to your seeding plan to determine if dormant seeding is allowed for your situation.

FERTILIZER AND LIME REQUIREMENTS

For establishment of native species, soil testing and application of soil amendments is not a requirement.

SEEDING METHODS

Conventional Seeding

Conventional seeding includes preparing a firm seedbed by using tillage and packing equipment. The seed is broadcasted on the soil surface and incorporated by secondary tillage or packing tools.

Some native seeds are fluffy, light, and chaffy which require agitators in the seed boxes on the drill for the seed to flow uniformly. When possible, seed should be sorted according to size and shape and placed in the appropriate seed boxes to ensure uniform distribution across the field.

Seed can also be broadcast by using air seeders, fertilizer spreaders, or other types of rotary or drop seeder implements. When a small amount of seed is being applied over a large area, a carrier should be mixed with the seed. Carriers such as pelletized lime, fertilizer, cracked corn, saw dust, vermiculite, etc., may be used.

The seedbed should contain enough fine soil particles to provide uniform shallow coverage of the seed as well as contact with moisture and nutrients. It is important to have a firm seedbed. As a minimum, cultipack or roll before and after seeding. When walking on a properly prepared seedbed, the depth of your footprints should not exceed ¼ inch. Do not use heavy, no-till type drills to seed on conventionally prepared seedbeds. Heavy drills tend to sink into the soil and seeding depth will be difficult to control. Do not plant seed deeper than ¼ inch.

No-Till Seeding

No-till planting is the planting of grasses and/or forbs in the absence of tillage. No-till can be used to establish new seedings on land previously in row crops or existing sod. As with conventional seeding, seed placement should be no deeper than ¼ inch. A drill equipped for no-till planting must be used to obtain proper seeding depth unless the ground is soft enough to allow consistent penetration of disk openers of a conventional drill.

Herbicides are often necessary when using no-till methods of establishment. When using herbicides, be sure to read and follow all label directions.

No-Till Planting Into Crop Residue

Residue should be uniformly distributed over the field from the previous year's harvest. It is often preferred to plant new seedings into soybean stubble when using a no-till drill. No-tilling into large amounts of non-fragile residue such as corn stalks and small grain residue may reduce germination and seedling vigor. For spring weed control, use a nonselective herbicide to kill weeds prior to planting. Be careful not to select a herbicide that will have carryover or residual effects on your new seeding.

SEEDING PERIODS AND RATES

1. Seeding rates and species are provided on the attached seeding plan. Rates are based upon Pure Live Seed (PLS). In order to determine PLS, the seed must be tested for purity and germination. If you are receiving financial assistance for this practice, any changes to the species or rates listed in the seeding plan must be approved before seed is purchased.

2. Permanent, perennial vegetative cover will be established within the recommended seeding dates as shown on the attached seeding plan. When it is not possible to seed during the recommended seeding dates, a temporary cover will be required to reduce erosion until the seeding can be completed.

3. Frost Seeding. The frost seeding period in Wisconsin typically ranges from February to mid-March but may vary from year to year depending on the weather. Frost seeding is allowed only during the active freezing and thawing cycle and can be completed on fields where good seed-to-soil contact can be obtained. Do not frost seed on fields with solid ice or snow cover greater than 2 inches. Seeding rates must be increased by 15 percent. Refer to your seeding plan to determine if frost seeding is allowed for your situation.

4. Dormant Seeding. Dormant seeding occurs late in the fall when the soil temperature is cool enough to prevent germination until the following spring. This type of seeding provides greater risk of failure due to variability in weather and often has reduced yields. Seeding rates must be increased by 15 percent when seeding during this time period. Refer to your seeding plan to determine if dormant seeding is allowed for your situation.

FERTILIZER AND LIME REQUIREMENTS

For establishment of native species, soil testing and application of soil amendments is not a requirement.

SEEDING METHODS

Conventional Seeding

Conventional seeding includes preparing a firm seedbed by using tillage and packing equipment. The seed is broadcasted on the soil surface and incorporated by secondary tillage or packing tools.

Some native seeds are fluffy, light, and chaffy which require agitators in the seed boxes on the drill for the seed to flow uniformly. When possible, seed should be sorted according to size and shape and placed in the appropriate seed boxes to ensure uniform distribution across the field.

Seed can also be broadcast by using air seeders, fertilizer spreaders, or other types of rotary or drop seeder implements. When a small amount of seed is being applied over a large area, a carrier should be mixed with the seed. Carriers such as pelletized lime, fertilizer, cracked corn, saw dust, vermiculite, etc., may be used.

The seedbed should contain enough fine soil particles to provide uniform shallow coverage of the seed as well as contact with moisture and nutrients. It is important to have a firm seedbed. As a minimum, cultipack or roll before and after seeding. When walking on a properly prepared seedbed, the depth of your footprints should not exceed ¼ inch. Do not use heavy, no-till type drills to seed on conventionally prepared seedbeds. Heavy drills tend to sink into the soil and seeding depth will be difficult to control. Do not plant seed deeper than ¼ inch.

No-Till Seeding

No-till planting is the planting of grasses and/or forbs in the absence of tillage. No-till can be used to establish new seedings on land previously in row crops or existing sod. As with conventional seeding, seed placement should be no deeper than ¼ inch. A drill equipped for no-till planting must be used to obtain proper seeding depth unless the ground is soft enough to allow consistent penetration of disk openers of a conventional drill.

Herbicides are often necessary when using no-till methods of establishment. When using herbicides, be sure to read and follow all label directions.

No-Till Planting Into Crop Residue

Residue should be uniformly distributed over the field from the previous year's harvest. It is often preferred to plant new seedings into soybean stubble when using a no-till drill. No-tilling into large amounts of non-fragile residue such as corn stalks and small grain residue may reduce germination and seedling vigor. For spring weed control, use a nonselective herbicide to kill weeds prior to planting. Be careful not to select a herbicide that will have carryover or residual effects on your new seeding.

No-Till Planting Into Existing Sod

No-till planting can be used to completely renovate existing sod. In order to prepare a good seedbed for no-tilling into existing sod, plant litter and existing growth must be removed or altered prior to applying nonselective herbicides. Options to remove or reduce existing cover include mowing, burning, haying, or grazing.

- Mowing: Mow the site using a rotary mower or flail chopper to a height of 3 inches. Mowing equipment should uniformly distribute the mowed plant material over the field surface.
- Burning: Conduct a prescribed burn according to the requirements outlined in the burn plan. The burn plan must address safety concerns and document the appropriate timing for the burn.
- Haying: Mechanically harvest vegetation from the site the year before the planned seeding. The timing of the hay harvest should be planned to minimize the amount of re-growth that will occur prior to herbicide application.
- Grazing: Timing and duration of grazing must be intensive enough to significantly reduce the existing vegetative cover. If possible, begin the grazing at a time of the year when the standing vegetation is green and growing to increase the palatability and feed value of the forage which will result in a more uniform removal of the vegetation.

After the existing plant litter is altered or removed, allow plants to actively re-grow before applying a nonselective herbicide. Be aware of herbicides that may have carryover or residual effects. Timing of herbicide applications usually occurs in the spring before plants flower or early fall to actively growing plants. Herbicide applications in the fall often have greater efficacy, but air temperature should be above 50° F to improve plant uptake.

Interseeding

Interseeding includes any stand modification that maintains some vegetative component of the original stand. Interseeding is a good way to improve existing stands that lack plant diversity. **It is NOT recommended to seed native species along with or into existing stands of introduced grasses/legumes (bromegrass, fescue, alfalfa, etc.).** Introduced species are too competitive with the slower establishing native species. Any existing stands of introduced species should be terminated prior to seeding native species.

For interseeding native species, existing plant growth and litter will need to be reduced, and the same options used for no-tilling into existing sod can be used. In addition, limited tillage can be used to suppress the existing cover.

- Limited Tillage: Limited tillage may also be used to suppress the existing stand. Fields can be tilled to a depth of 3 to 5 inches and should expose at least 50 percent of the soil surface. Careful consideration should be used when using limited tillage due to potential erosion concerns or the potential to encourage additional weed growth due to soil disturbance.

After reducing plant growth, herbicides can be used to suppress, not eliminate, vegetation prior to interseeding. One must consider the current types of plants in the field (grasses vs. broadleaves) and which species you want to suppress. In addition, current field conditions and timing of application must be considered before selecting a herbicide.

A drill equipped for no-till planting must be used to obtain proper seeding depth unless limited tillage is used to prepare the seedbed. In this case, seed may be broadcast or drilled. Use a cultipacker or roll the seedbed before and after seeding when tillage is used.

TEMPORARY COVER AND COMPANION CROPS

Temporary Cover

Temporary cover is required when seed or planting stock is not available, the normal planting period has passed, or where herbicide carryover is likely. A temporary cover will typically not be necessary on those areas where at least 50 percent of the ground is covered with either crop residue or vegetative cover.

Temporary cover crops must be clipped or terminated prior to seedhead emergence or before planting permanent cover.

Temporary Cover			
Species	Rate (lbs. or bu. / acre)		Seeding Dates
	No Herbicide Carryover	Triazine Carryover Likely	
Forage Sorghum	½ bu.		5/15 - 7/15
Sorghum-Sudangrass Hybrid	1 bu.		
Sudangrass	1 bu.		
Winter Wheat	120 (2 bu.)	Not recommended	8/1 - 10/15
Winter Cereal Rye	112 (2 bu.)	Not recommended	
Oats	64 (2 bu.)	Not recommended	4/1 - 9/1
Annual Ryegrass	20 lbs.	Not recommended	4/1 - 9/1

Companion Crops

Companion crops can be used to reduce the amount of erosion on critical sites, suppress weeds, and provide added protection for permanent perennial vegetation seeded during the first year of planting. Refer to your seeding plan to determine if companion crops are recommended for your situation.

OPERATION AND MAINTENANCE

Weed control during establishment is critical to ensure survival of the new stand. Mowing, herbicide application, or grazing may be used alone or in combination to control weeds before they go to seed. Graze or mow the existing stand at a height of 7 inches before weeds go to seed. If grazing the stand, be cautious of selective grazing where animals do not uniformly graze the stand. Be careful not to mow or graze when the soil is wet to avoid damage to seedlings. If residue will be left on the field, do not allow the vegetation to grow too high prior to mowing, otherwise excessive residue may accumulate and smother seedlings. Additional treatment may be needed every 3 to 4 weeks throughout the growing season until the stand becomes established. If using herbicides, be sure to follow all label directions.

Once the permanent vegetation is established, control noxious weeds or invading woody vegetation by spot mowing, spraying with herbicides, grazing, burning, or other methods appropriate for the site. To maximize wildlife benefits, mow before May 15 or after August 1 to protect nesting birds and provide cover.

Please note: If you are receiving financial assistance for this seeding, certain methods and timing of maintenance may not be allowed. Refer to your contract agreement for specific guidance.

CONSERVATION RESERVE PROGRAM (CRP) REQUIREMENTS

CRP rules allow the cover to be managed throughout the year to control weeds or woody vegetation UNTIL the cover is determined to be established (typically within the first 3 years of the contract).

Once the cover is established, no disturbance is allowed during the primary nesting season recorded in the CRP contract (May 15 through August 1). Spot clipping or spot spraying may be done during the primary nesting season with prior approval from the local Farm Service Agency (FSA) County Committee.

Any haying or grazing of CRP must be approved by the Farm Service Agency in advance.

NRCS
U.S. Department of Agriculture
Natural Resources Conservation Service

How to Establish and Maintain Introduced Grasses and Legumes

Wisconsin Job Sheet 134

Natural Resources Conservation Service (NRCS) Wisconsin

Landowner: _____ **Tract:** _____

If you are receiving financial assistance for completing this planting, refer to your agreement for any additional requirements or restrictions.

PURPOSE

This job sheet describes methods to establish and maintain introduced grasses and legumes and applies to the following practice:

- ☐ Conservation Cover (327)
- ☐ Critical Area Planting (342)
- ☐ Forage and Biomass Planting (512)

Introduced grasses and legumes can be used to accomplish one or more of the following:

- Stabilize areas with existing or expected high rates of soil erosion.
- Enhance pollinator and wildlife habitat.
- Improve forage production and livestock health.
- Improve soil, water, and air quality.

For additional recommendations, refer to Wisconsin NRCS Agronomy Technical Note 6, Establishing and Maintaining Introduced Grasses and Legumes, located at http://www.wi.nrcs.usda.gov/technical/technotes.html.

SPECIES SELECTION AND SEED QUALITY

1. Species and cultivars must be selected based upon the adaptation to site conditions, including appropriate moisture regime or forage suitability group, climatic conditions, soil conditions, and landscape position.
2. Select species based on growth characteristics, fertility requirements, disease resistance, compatibility with other species, and the intended use of the seeding.
3. Mixtures must meet all requirements of the Wisconsin weed laws. Species identified as restricted or prohibited by law shall not be planted.
4. Seed must be of high quality and meet the requirements of the Wisconsin seed laws for certification. If you plan to use untested seed, prior approval must be granted from NRCS before planting. If certified seed is not available, non-certified seed may be used as long as the seed is tested for purity and germination by a testing laboratory following Association of Official Seed Analysts (AOSA) procedures.
5. If one or more of the species in the mix consists of more than 20 percent hard seed, the seeding rate for the species must be increased by the percent of hard seed.
6. Legume seeds must be inoculated prior to planting.

SEEDING PERIODS AND RATES

1. Seeding rates and species are provided on the attached seeding plan. Rates are based upon Pure Live Seed (PLS). In order to determine PLS, the seed must be tested for purity and germination. If you are receiving financial

assistance for this practice, any changes to the species or rates listed in the seeding plan must be approved before seed is purchased.

2. Permanent, perennial vegetative cover will be established within the recommended seeding dates as shown on the attached seeding plan. When it is not possible to seed during the recommended seeding dates, a temporary cover will be required to reduce erosion until the seeding can be completed.

3. Frost Seeding. The frost seeding period in Wisconsin typically ranges from February to mid-March but may vary from year to year depending on the weather. Frost seeding is allowed only during the active freezing and thawing cycle and can be completed on fields where good seed-to-soil contact can be obtained. Do not frost seed on fields with solid ice or snow cover greater than 2 inches. Seeding rates must be increased by 15 percent. Refer to your seeding plan to determine if frost seeding is allowed for your situation.

4. Dormant Seeding. Dormant seeding occurs late in the fall when the soil temperature is cool enough to prevent germination until the following spring. This type of seeding provides greater risk of failure due to variability in weather and often has reduced yields. Seeding rates must be increased by 15 percent when seeding during this time period. Refer to your seeding plan to determine if dormant seeding is allowed for your situation.

FERTILIZER AND LIME REQUIREMENTS

Forage and Biomass Planting (512)

If you are planting hayland or pasture, soil tests no older than 4 years must be taken according to UW Extension Publication A2100, Sampling Soils for Testing. You will need at least one sample for every 5 acres or less, and the samples must be analyzed at a Wisconsin certified soil testing laboratory. Any recommendations for fertilizer or lime will be applied based on UW Extension Publication A2809, Nutrient Application Guidelines for Field, Vegetable and Fruit Crops.

Conservation Cover (327) or Critical Area Planting (342)

When following either of these standards, you can choose to take a soil test using the procedure listed above or follow a general recommendation. If you choose not to obtain a soil test, a general recommendation of 150 pounds per acre of a 20-10-10 fertilizer and a minimum of 2 tons per acre of 80-89 lime may be used. Under certain conditions, fertilizer and/or lime requirements may be waived.

SEEDING METHODS

Conventional Seeding

Conventional seeding includes preparing a firm seedbed by using tillage and packing equipment. The seed is broadcasted on the soil surface and incorporated by secondary tillage or packing equipment.

When using a drill, seed should be sorted according to size and shape and placed in the appropriate seed boxes to ensure uniform distribution across the field.

Seed can also be broadcast by using air seeders, fertilizer spreaders, or other types of rotary or drop seeder implements. When a small amount of seed is being applied over a large area, a carrier should be mixed with the seed. Carriers such as pelletized lime, fertilizer, cracked corn, saw dust, vermiculite, etc., maybe used.

The seedbed should contain enough fine soil particles to provide uniform shallow coverage of the seed as well as contact with moisture and nutrients. It is important to have a firm seedbed. As a minimum, cultipack or roll before and after seeding. When walking on a properly prepared seedbed, the depth of your footprints should not exceed ¼ inch. Do not use heavy, no-till type drills to seed on conventionally prepared seedbeds. Heavy drills tend to sink into the soil and seeding depth will be difficult to control. Do not plant seed deeper than ¼ inch.

No-Till Seeding

No-till planting is the planting of grasses and/or legumes in the absence of tillage. No-till can be used to establish new seedings on land previously in row crops or existing sod. As with conventional seeding, seed placement should be no deeper than ¼ inch. A drill equipped for no-till planting must be used to obtain proper seeding depth unless the ground is soft enough to allow consistent penetration of disk openers of a conventional drill.

Herbicides are often necessary when using no-till methods of establishment. When using herbicides, be sure to read and follow all label directions.

No-Till Planting Into Crop Residue

Residue should be uniformly distributed over the field from the previous year's harvest. It is often preferred to plant new seedings into soybean stubble when using a no-till drill. No-tilling into large amounts of non-fragile residue such as corn stalks and small grain residue may reduce germination and seedling vigor. For spring weed control, use a nonselective herbicide to kill weeds prior to planting. Be careful not to select a herbicide that will have carryover or residual effects on your new seeding.

No-Till Planting Into Existing Sod

No-till planting can be used to completely renovate existing sod. In order to prepare a good seedbed for no-tilling into existing sod, plant litter and existing growth must be removed or altered prior to applying nonselective herbicides. Options to remove or reduce existing cover include mowing, burning, haying, or grazing.

- Mowing: Mow the site using a rotary mower or flail chopper to a height of 3 inches. Mowing equipment should uniformly distribute the mowed plant material over the field surface.
- Burning: Conduct a prescribed burn according to the requirements outlined in the burn plan. The burn plan must address safety concerns and document the appropriate timing for the burn.
- Haying: Mechanically harvest vegetation from the site the year before the planned seeding. The timing of the hay harvest should be planned to minimize the amount of re-growth that will occur prior to herbicide application.
- Grazing: Timing and duration of grazing must be intensive enough to significantly reduce the existing vegetative cover. If possible, begin the grazing at a time of the year when the standing vegetation is green and growing to increase the palatability and feed value of the forage which will result in a more uniform removal of the vegetation.

After the existing plant litter is altered or removed, allow plants to actively re-grow before applying a nonselective herbicide. Be aware of herbicides that may have carryover or residual effects. Timing of herbicide applications usually occurs in the spring before plants flower or early fall to actively-growing plants. Herbicide applications in the fall often have greater efficacy, but air temperature should be above 50° F to improve plant uptake.

Interseeding

Interseeding includes any stand modification that maintains some vegetative component of the original stand. Interseeding is a good way to improve existing stands that lack plant diversity or have low-yielding forage species. Existing plant growth and litter will need to be reduced, and the same options used for no-tilling into existing sod can be used. In addition, limited tillage can be used to suppress the existing cover.

- Limited Tillage: Limited tillage may also be used to suppress the existing stand. Fields can be tilled to a depth of 3 to 5 inches and should expose at least 50 percent of the soil surface. Careful consideration should be used when using limited tillage due to potential erosion concerns or the potential to encourage additional weed growth due to soil disturbance.

After reducing plant growth, herbicides can be used to suppress, not eliminate, vegetation prior to interseeding. One must consider the current types of plants in the field (grasses vs. broadleaves) and which species you want to suppress. In addition, current field conditions and timing of application must be considered before selecting a herbicide.

A drill equipped for no-till planting must be used to obtain proper seeding depth unless limited tillage is used to prepare the seedbed. In this case, seed may be broadcast or drilled. Use a cultipacker or roll the seedbed before and after seeding when tillage is used.

TEMPORARY COVER AND COMPANION CROPS

Temporary Cover

Temporary cover is required when seed or planting stock is not available, the normal planting period has passed, or where herbicide carryover is likely. A temporary cover will typically not be necessary on those areas where at least 50 percent of the ground is covered with either crop residue or vegetative cover.

Temporary cover crops must be clipped or terminated prior to seedhead emergence or before planting permanent cover.

Temporary Cover			
Species	Rate (lbs. or bu. / acre)		Seeding Dates
	No Herbicide Carryover	Triazine Herbicide Carryover Likely	
Forage Sorghum	½ bu.		5/15 - 7/15
Sorghum-Sudangrass Hybrid	1 bu.		
Sudangrass	1 bu.		
Winter Wheat	120 (2 bu.)	Not recommended	8/1 - 10/15
Winter Cereal Rye	112 (2 bu.)	Not recommended	
Oats	64 (2 bu.)	Not recommended	4/1 - 9/1
Annual Ryegrass	20 lbs.	Not recommended	4/1 - 9/1

Companion Crops

Companion crops can be used to reduce the amount of erosion on critical sites, suppress weeds, and provide added protection for permanent perennial vegetation seeded during the first year of planting. If the seeding is not used for hayland purposes, the companion crop must be mowed before seedhead emergence. Second and subsequent mowings may be necessary when re-growth provides competition to new plantings. Mowing should only remove the growth above the developing seedlings. Companion crops seeded late summer in most cases will not require clippings prior to the first killing frost unless the growing season is prolonged. Refer to your seeding plan to determine if companion crops are recommended for your situation.

OPERATION AND MAINTENANCE

Weed control during establishment is critical to ensure survival of the new stand. Mowing, herbicide application, or grazing may be used alone or in combination to control weeds before they go to seed. Graze or mow the existing stand at a height of 4 to 6 inches before weeds go to seed. If grazing the stand, be cautious of selective grazing where animals do not uniformly graze the stand. Be careful not to mow or graze when the soil is wet to avoid damage to seedlings. If residue will be left on the field, do not allow the vegetation to grow too high prior to mowing; otherwise, excessive residue may accumulate and smother seedlings. Additional treatment may be needed every 3 to 4 weeks throughout the growing season until the stand becomes established. If using herbicides, be sure to follow all label directions.

Once the permanent vegetation is established, control noxious weeds or invading woody vegetation by spot mowing, spraying with herbicides, grazing, burning, or other methods appropriate for the site. To maximize wildlife benefits, mow before May 15 or after August 1 to protect nesting birds and provide cover.

Please note: If you are receiving financial assistance for this seeding, certain methods and timing of maintenance may not be allowed. Refer to your contract agreement for specific guidance.

CONSERVATION RESERVE PROGRAM (CRP) REQUIREMENTS

CRP rules allow the cover to be managed throughout the year to control weeds or woody vegetation UNTIL the cover is determined to be established (typically within the first 3 years of the contract).

Once the cover is established, no disturbance is allowed during the primary nesting season recorded in the CRP contract (May 15 through August 1). Spot clipping or spot spraying may be done during the primary nesting season with prior approval from the local Farm Service Agency (FSA) County Committee.

Any haying or grazing of CRP must be approved by the Farm Service Agency in advance.

MULCHING
(Acre)
Code 484

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Applying plant residues, or other suitable materials produced off site to the land surface.

II. Purpose

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- conserve soil moisture,
- moderate soil temperature,
- provide erosion control,
- suppress weed growth,
- facilitate the establishment of vegetative cover,
- improve soil condition, and
- reduce airborne particulates.
- Reduce energy use associated with irrigation.

III. Conditions Where Practice Applies

This practice applies to all lands where mulches are needed. This practice may be used alone or in combination with other practices.

IV. Federal, Tribal, State, and Local Laws

Users of this standard shall comply with applicable federal, tribal, state and local laws, rules, regulations or permit requirements governing mulching. This standard does not contain the text of federal, tribal, state, or local laws.

V. Criteria

A. General Criteria Applicable to All Purposes

The type of mulching material selected should be based on cost, time of year, soils, percent slope, anticipated runoff velocities, and landscape position.

If the area to be mulched is to be seeded, see Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV, Standard 342, Critical Area Planting, for seedbed preparation, lime, fertilizer, and seeding requirements.

Mulch shall consist of either natural and/or artificial materials such as plant residue (including cereal grain straw, grass hay, wood chips, bark and wood fiber), byproducts, gravel, plastic, fabric, or other equivalent materials of sufficient dimension (depth or thickness) and durability to achieve the intended effect for the required time period.

1. Criteria for Site Preparation

   Soil surface shall be prepared prior to the application of the mulch material in order to achieve desired purpose and to ensure optimum contact between soil and mulch. All areas to be mulched shall be reasonably smooth and free of rills, gullies, and debris.

   Concentrated flow sources above the site where mulch is applied shall be diverted,o r mulch designed to withstand anticipated runoff velocities shall be used.

2. Criteria for Materials

   Mulch material shall be relatively free of disease, pesticides, chemicals, noxious weed seeds, and other pests and pathogens.

3. Criteria for Application

   Criteria for mulch application applies to both seeded and unseeded areas.

   Mulch shall be applied immediately after seeding or after final grading for unseeded areas.

   The mulch material shall be evenly applied.

   Manufactured mulches should be applied according to the manufacturer's specifications.

Crimping (disking), wood cellulose fiber, tackifiers, netting, pinning, or other acceptable methods of anchoring will be used if needed to hold the mulch in place. Criteria are described in V.B. Mulch Anchoring Methods.

4. Mulch Application Rate

Straw and hay mulch shall be applied at the rate of 1½ to 2 tons per acre. This application results in a layer of 6 to 7 stems, 1 to 2 inches thick and shall provide a minimum 70% ground cover. Some soil surface can be seen after the application.

Wood chips or wood bark shall be applied at the rate of 6 to 9 tons per acre to achieve a minimum of 80 percent ground cover.

Wood cellulose fiber mulch, applied with a hydroseeder, shall be applied at the rate of 1,500 to 2,000 pounds per acre. Apply a tackifier when the slope exceeds 3 to 1.

Long-fibered wood cellulose shall be applied at the rate of ¾ to 1¼ tons per acre.

Corncobs shall be applied at the rate of 5 tons per acre.

Gravel shall be applied approximately 2 inches deep and shall consist of pieces ¼ to 2 inches in diameter and shall achieve a minimum of 90 percent ground cover.

5. Fiber Blankets and Mats

Erosion control products manufactured from wood fiber, straw, or paper are intended for use in high water velocity conditions. Design and install according to the manufacturer's instructions.

B. Criteria for Mulch Anchoring Methods

1. Mulch Anchoring Tool or Disk (Serrated Blades)

Apply mulch and pull a mulch anchoring tool over soil surface immediately following the mulch application. Use equipment with serrated straight disks spaced 6 to 10 inches or other suitable equipment approved by the Natural Resources Conservation Service (NRCS). Operate as close to the contour as possible. Mulch material should be imbedded into the soil surface 2 to 3 inches. Use on areas where concentrated flow velocity is less than 4 feet per second.

2. Wood Cellulose Fiber

Apply wood cellulose fiber with a hydromulcher immediately after spreading mulch. Reduce straw or hay mulch applications to 3,000 pounds per acre and apply 750 pounds of wood fiber per acre over the surface of the straw or hay in combination with a nontoxic, biodegradable tackifier. Use on areas without concentrated flow.

3. Tackifier or Binder Material

Apply tackifier or binder material with suitable equipment by spraying product directly into the mulch as it is applied. Rate of application shall be according to manufacturer's recommendations. Material shall be nontoxic to plant life. Use only on areas without concentrated flow.

Follow the manufacturer's recommendations on mixing and temperature control. The mulch materials and tackifier shall be blown from a machine and uniformly deposited over the area in one operation.

The machine used for placement of mulch shall blow or eject by constant air stream a controlled amount of straw or hay. It shall also introduce into the air stream a spray of asphalt or similar product.

Mulch materials shall not contain moisture in excess of that which will permit uniform feeding through the machine.

4. Polypropylene Plastic or Jute Netting

Use netting on areas without concentrated flow or where concentrated flow velocity is less than 4 feet per second. Prior to recommending the use of netting, evaluate the potential for reptiles or other wildlife to become entrapped by the net. If a risk is identified, select a 100% degradable net (WI DOT Class I Type A, Class II Type C), or an alternative mulch anchoring method.

Apply netting over the mulch application and staple according to manufacturer's recommendations.

On slopes, mats and nets may be run either up and down or cross slope. In areas of concentrated flow, mats and nets shall be laid parallel to the direction of flow and spread evenly without stretching to allow maximum contact with the soil. Adjacent edges should be overlapped a minimum of 3 inches with the adjoining mats or nets. Staples of 11 gauge or heavier will be used to hold the mats and nets in place. Staples shall be U-shaped with a 1-inch crown. Staple length shall be determined based on soil condition.

Soil Condition	Staple Length
Highly compacted soils	6 inches
Friable soils	8 inches
Loose or sandy soils	10 inches

Lay downstream blankets first, working upstream. The netting side of the blanket shall be on the top side after installation. Mat and net edges and middles will be stapled according to manufacturer's recommendations.

5. Peg and Twine

   After mulching, divide the area into blocks approximately one square yard in size. Drive 4 to 6 pegs per block to within 2 to 3 inches of the soil surface. Anchor mulch by stretching twine between pegs in a crisscross pattern on each block. Secure twine around each peg with two or more turns. Drive pegs flush with soil surface to allow mowing. Use on areas without concentrated flow.

6. Pinning

   Cut mulch into soil surface with square edge spade or a dull disk. Make cuts in contour rows. Use on small areas without concentrated flow.

7. Soil

   Small areas of mulch can be lightly covered with soil. The soil shall be free of stones and debris, and distributed over the mulch in a thin uniform layer. Use on small areas without concentrated flow.

8. Trenching or Weights

   Bury edge of plastic in a trench 6 inches deep. Compact the soil over plastic in the trench. Use stones to hold plastic down in other places as needed. Use on small areas without concentrated flow.

C. Additional Criteria to Conserve Soil Moisture and/or Reduce Energy Use Associated with Irrigation

Mulch material applied to the soil surface shall cover at least 60 percent of the soil surface to reduce potential evaporation.

D. Additional Criteria Applicable to Moderate/Modify Soil Temperature

Nonporous, clear, infrared transmissible, and dark-colored material shall be used to raise soil and ambient air temperature below the mulch. Light-colored material will be used to cool soil and ambient soil temperature below the mulch. The mulch shall be applied to the desired soil and air temperature below the mulch can be achieved.

The material should be sufficient thickness to persist for the period of time required for the temperature modification.

The percent coverage shall be 100 percent over the area treated.

E. Additional Criteria Applicable to Control Weed Growth

Mulches applied around growing plants or prior to seedling development shall provide 100 percent ground cover. Thickness of the mulch shall be adequate to prevent emergence of targeted weeds. Use colored or infrared transmissible (IRT) plastic when plastic mulch is used.

F. Additional Criteria to Suppress Weed Growth

The thickness of mulch will be determined by the size and growth characteristics of the plant being mulched. Mulches shall be kept clear of the stems of plants where disease is likely to occur. Mulches applied around growing plants or prior to weed seedling development shall have 100 percent ground cover. Thickness of the mulch shall be adequate to prevent emergence of targeted weeds. Plastic mulches may be used.

G. Additional Criteria to Establish Vegetative Cover

Mulch shall be applied at a rate that achieves a minimum of 70 percent ground cover to provide protection from erosion and runoff and yet allow adequate light and air penetration to the seedbed to ensure proper germination and emergence.

H. Additional Criteria to Improve Soil Condition

Apply mulch materials with a carbon to nitrogen ratio (C:N) less than 30:1 so that soil nitrogen is not immobilized by soil biota. Do not apply mulch with C:N less than 20:1 to an area of designed flow in watercourses.

Use the Soil Conditioning Index to assess soil quality impacts and to determine the type and rate of the mulching material.

VI. Considerations

Additional recommendations relating to design that may enhance the use of, or avoid problems with, this practice but are not required to ensure its basic conservation functions are as follows.

A. Consider mulching disturbed areas that will not have additional construction activity for 60 days, or completed sites that will not be permanently seeded for periods of 60 days or longer.

B. Consider application of mulch immediately after a precipitation event or watering to conserve soil moisture. Ensure soil under shallow rooted crops is moist, as these crops require a constant supply of moisture.

C. Consider anchoring straw or hay mulch or keep mulch moist to prevent blowing in wind-prone areas.

D. Consider the impact of mulch materials with a high water holding capacity and/or high impermeability to water droplets which may reduce the water availability to plants.

E. Consider the potential impact of fine-textured mulches (e.g., rice hulls) which allow less oxygen penetration than coarser materials. Fine-textured mulches should be applied in a layer no thicker than 2 inches.

F. Consider the potential of organic materials with C:N ratios of less than 20:1 to release excess nitrate to adjoining surface waters.

G. Consider the potential for mulch to provide habitat for beneficial insects and provide pest suppression.

H. Consider the mulch color impact on plant growth. Clear mulches allow profuse weed growth and may negate the benefits of soil warming. Black mulches provide effective weed control. Wavelength selective (IRT) plastic provides the soil warming characteristics of clear mulch with the weed control ability of black mulch.

I. Consider the potential for runoff from low permeability mulches (e.g., plastic) which may increase concentrated flow and erosion on un-mulched areas.

J. Consider potential toxic allelopathic effects that mulch material may have on other organisms. Animal and plant pest species contained in the mulch may be incompatible with the intended use.

K. Consider the potential for increased pathogenic activity within the applied mulch material.

L. Consider the potential for mulch to cause disease and pest problems. Keep mulch 3 to 6 inches away from plant stems and crowns where an identified risk is present. Additional weed control may be needed around the plant base area.

M. Consider the potential for deep mulch to provide nesting habitat for ground-burrowing rodents that can chew extensively on tree trunks and/or tree roots. Use of a light mulch applied after the first cold weather may prevent rodents from nesting.

N. Consider the potential impacts of mulch material on aquatic environments due to changes in water chemistry or as waterborne debris.

O. Consider the use of biodegradable staples in locations where wire staples are determined to be a risk.

VII. Plans and Specifications

Specifications shall be prepared for each site and purpose and recorded using approved specification sheets, job sheets, technical notes, narrative statements in the conservation plan, or other acceptable documentation.

Documentation shall include the following:

- purpose of the mulch;
- type of mulch material used;
- percent cover and/or thickness of mulch material;
- rate of mulch application (tons/acre, lbs/square foot);
- timing of application;
- site preparation;
- listing of netting, tackifiers, or method of anchoring; and
- operation and maintenance.

VIII. Operation and Maintenance

Mulched areas will be periodically inspected, and mulch shall be reinstalled or repaired as needed to accomplish the intended purpose.

Evaluate the effectiveness of the mulch (application, amount of cover provided, durability, etc.) and adjust the management or type of mulch to better meet the intended purpose(s).

Removal or incorporation of mulch materials as necessary after use shall be consistent with the intended purpose and site conditions.

Operation of equipment near and on the site shall not compromise the intended purpose of the mulch.

Prevent or repair any fire damage to the mulch material.

Properly collect and dispose of artificial mulch material after intended use.

Monitor and control undesirable weeds in mulched areas.

IX. References

USDA, NRCS Wisconsin Field Office Technical Guide (FOTG), Section I, Erosion Prediction, Revised Universal Soil Loss Equation (RUSLE2).

Toy, T.J., and G.R. Foster. (Ed.) 1998. Guidelines for the use of the Revised Universal Soil Loss Equation (RUSLE) Version 1.06 on mined lands, construction sites, and reclaimed lands. USDI, OSMR.

USDA, NRCS. 2002. National Agronomy Manual. 190-V. Washington, D.C.

ASTM Designation: D 977, Standard Specification for Emulsified Asphalt

Wisconsin Department of Transportation, Erosion Control Product Acceptability Lists (PAL): Erosion Mats, Class I Type A, Class II Type C; Tackifiers. http://www.dot.wisconsin.gov/business/engrserv/docs/pal.pdf

Erosion control blanket installation instructions

SLOPES

Product	Staple Diagram		Staples		Seam Overlap		Installation	
Soils	Cohesive	Non-Cohesive	Cohesive	Non-Cohesive	Cohesive	Non-Cohesive	Cohesive	Non-Cohesive
Curlex I	A	A	D	E	--	F	H	I
Curlex II	A	A	D	E	--	F	H	I
QuickGrass	A	A	D	E	--	F	H	I

CHANNELS

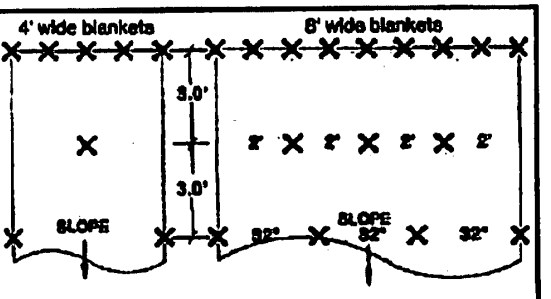
Product	Staple Diagram		Staples		Seam Overlap (with flow direction)	
Soils	Cohesive	Non-Cohesive	Cohesive	Non-Cohesive	Cohesive	Non-Cohesive
Curlex I	B	B	D	E	G	G
Curlex II	B	B	D	E	G	G
QuickGrass	B	B	D	E	G	G
Curlex III	C	C	D	E	G	G

COHESIVE SOILS:
- No overlap required on side seams
- Use 6" staple length

NON-COHESIVE SOILS:
- Use 2" side seam overlap
- Use 6" staple length
- Use 6" anchor trench at top of slope

A
SLOPES
Up to 1.5H:1V

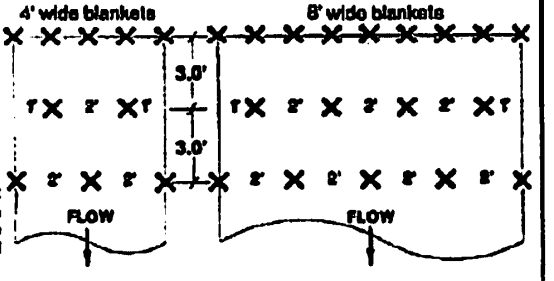
- Install the blanket vertically or horizontally.
- Use 12" staple spacing on starter row.



COHESIVE SOILS:
- Use 2" side seam overlap
- Use 6" staple length
- Option: Some installations may not require overlapping on side seams

B
CHANNELS

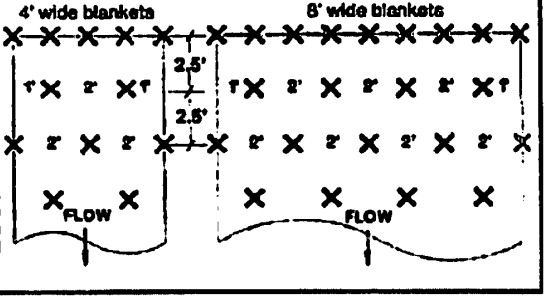
- Use 12" staple spacing on starter row.
- Upstream blanket should overlap downstream blanket a distance of 12" in a "shingle" fashion and bury the finished toe at least 6".



NON-COHESIVE SOILS:
- Use 2" side seam overlap
- Use 8" staple length
- Use 6" transverse anchor trench at 50-ft. intervals

C
CHANNELS

- Use 12" staple spacing on starter row
- Upstream blanket should overlap downstream blanket a distance of 12" in a "shingle" fashion and bury the finished toe at least 6".



D = 6x1x6 11 ga. wire E = 8x2x8 11 ga. wire F = 2" G = 6" H = Start 3' over grade break I = Start 3' over grade break & trench

SECTION 2.0 DEFINITIONS

(30) DWELLING, MULTI-FAMILY: A dwelling or group of dwellings on one plot containing separate living quarters for two or more families but which may have joint services and/or facilities. One-Family and two-family dwellings contained in the same DWELLING UNIT are permitted uses within the R-1, RR-1 and RR-2 Zone Districts but require additional LOT, AREA OF and/or LOT, WIDTH OF. Multi-Dwelling (3 or more) DWELLING UNITS requires Conditional Use approval. (See Section 17.0 ZONE DISTRICTS)

(31) DWELLING UNIT: A building or portion thereof with rooms arranged, designed, used or intended to be used for one family. Guesthouses with kitchen and bathroom facilities; and any accessory structures with a HABITABLE LIVING AREA are considered to be dwelling units. Houseboats and watercraft on land shall not be used as DWELLINGS or DWELLING UNITS. Only one dwelling unit is allowed per Lot unless approved by Conditional Use Permit.

(71) MULTI-DWELLING DEVELOPMENT: Development, regardless of form of ownership consisting of three or more DWELLING UNITS, condominium, resort, hotel or motel units or other units/structures intended for residential or long or short-term rental uses, all of which are to be located on the same LOT.

(85) RESORT: A resort is a for-profit business holding a ~~Seller's Permit and licensed by the Wisconsin Department of Health and Family Services~~, which provides rental to the public of more than 2 (two) DWELLING UNITS contained in one or more permanent buildings used primarily for recreational use.

SECTION 17.0 ZONE DISTRICTS

17.1 R-1: Residential One District

A) Permitted Uses

1) One family and two-family year-round dwellings. (Two-family dwellings occurring in the same DWELLING UNIT must have additional 5,000 sq./ft of LOT, AREA OF and meet other dimensional requirements.)

B) Uses Authorized by Conditional Use

17.1(B)(1) Multi-family (3 or more) dwelling units. (must have additional 5,000 sq./ft of LOT, AREA OF and meet other dimensional requirements for each additional unit.)

17.2 RR-1: Residential/Recreational One District

A) Permitted Uses

1) One-family and two-family dwellings. (Two-family dwellings occurring in the same DWELLING UNIT must meet double the minimum requirements for LOT, WIDTH OF and LOT, AREA OF.)

B) Uses Authorized by Conditional Use

17.2(B)(15) ~~MULTI-DWELLING DEVELOPMENT (i.e. **new** condominium, hotel, motel or resort, or other development which is the same general scale and character). (Does not include the conversion of existing properties to a condominium ownership, existing resorts, motels, hotels or any other existing multi dwelling development unless more rental/dwelling units are being proposed by plat or other means that would be in addition to the existing rental/dwelling units.)~~ MULTI-DWELLING DEVELOPMENT or other similar development including a condominium, hotel, motel, resort, multi-family (3 or more) dwelling units, or other development, which in the opinion of the County Zoning Committee, are of the same general scale and character. Each DWELLING UNIT must have minimum LOT, WIDTH OF and LOT, AREA OF. (Example: 3 unit development must have 300' of width and 60,000 sq ft of land area). Does not include conversions of existing properties to a different form of ownership (i.e., to condominium ownership) unless DWELLING UNITS are being proposed by plat or other means that would be in addition to the existing rental/DWELLING UNITS. Does not include existing MULTI-DWELLING DEVELOPMENTS unless creating additional DWELLING UNITS.

17.3 RR-2: Residential/Recreational Two District

A) Permitted Uses

1) One-family and two-family dwellings. (Two-family dwellings occurring in the same DWELLING UNIT must meet double the minimum requirements for LOT, WIDTH OF and LOT, AREA OF.)

B) Uses Authorized by Conditional Use

17.2(B)(16) MULTI-DWELLING DEVELOPMENT or other similar development including a condominium, hotel, motel or resort, multi-family (3 or more) dwelling units, or other development, which in the opinion of the County Zoning Committee, are of the same general scale and character. Each DWELLING UNIT must have minimum LOT, WIDTH OF and LOT, AREA OF. (Example: 3 unit development must have 300' of width and 60,000 sq ft of land area). Does not include conversions of existing properties to a different form of ownership (i.e., to condominium ownership) unless DWELLING UNITS are being proposed by plat or other means that would be in addition to the existing rental/DWELLING UNITS. Does not include existing MULTI-DWELLING DEVELOPMENTS unless creating additional DWELLING UNITS.

SECTION 2.0 DEFINITIONS

(30) DWELLING, MULTI-FAMILY: ~~A dwelling or group of~~Two ~~d~~DWELLINGS on one ~~p~~Lot ~~containing separate living quarters for two or more families~~ but which may have joint services and/or facilities. ~~One-Family and two-family dwellings contained in the same DWELLING UNIT are permitted uses within the R-1, RR-1 and RR-2 Zone Districts but require additional LOT, AREA OF and/or LOT, WIDTH OF. Multi-Dwelling (3 or more) DWELLING UNITS requires Conditional Use approval. (See Section 17.0 ZONE DISTRICTS)~~

(31) DWELLING UNIT: A building or portion thereof with rooms arranged, designed, used or intended to be used for one family. Guesthouses with kitchen and bathroom facilities; and any accessory structures with a HABITABLE LIVING AREA are considered to be DWELLING UNITS. Houseboats and watercraft on land shall not be used as DWELLINGS or DWELLING UNITS. ~~Only one dwelling unit is allowed per Lot unless approved by Conditional Use Permit.~~

(57) LOT: A parcel of land occupied or capable of being occupied by one Building or one or more DWELLING UNITS and the ACCESSORY STRUCTURES OR USES customarily incidental to ~~it~~them, including such open spaces as are required by this ordinance.

(71) MULTI-DWELLING DEVELOPMENT: DEVELOPMENT, regardless of form of ownership consisting of three or more DWELLING UNITS, CONDOMINIUM, RESORT, hotel or motel units or other units/structures intended for residential or long or short-term rental uses, all of which are to be located on the same LOT.

(85) RESORT: A resort is a for-profit business holding a ~~Seller's Permit and licensed by the Wisconsin Department of Health and Family Services~~, which provides rental to the public of more than 2 (two) DWELLING UNITS contained in one or more permanent buildings used primarily for recreational use.

SECTION 17.0 ZONE DISTRICTS

17.1 R-1: Residential One District
A) Permitted Uses

1) One family ~~and two-family~~ year-round DWELLINGS.

2) ~~(~~Year-round DWELLING, MULTI-FAMILY ~~T~~two-family DWELLINGS occurring in the ~~same DWELLING UNIT must have additional~~provided the LOT must be at least 15,000 sq./ft if public sewer and 25,000 sq./ft if no public sewer ~~5,000 sq./ft of LOT, AREA OF and meet other dimensional requirements.)~~.

B) Uses Authorized by Conditional Use

17.1(B)(1) MULTI-DWELLING DEVELOPMENT provided any Lot containing 3 or more DWELLINGS provided each DWELLING UNIT must meet the minimum Dimensional Requirements in Section 18. ~~Multi-family (3 or more) dwelling units. (must have additional 5,000 sq./ft of LOT, AREA OF and meet other dimensional requirements for each additional unit.)~~

17.2 RR-1: Residential/Recreational One District

A) Permitted Uses

1) One-family ~~and two-family dwellings~~year-round DWELLING.

2) Year-round DWELLING, MULTI-FAMILY provided the LOT must be at least 15,000 sq./ft if public sewer and 25,000 sq./ft if no public sewer. ~~(Two-family dwellings occurring in the same DWELLING UNIT must meet double the minimum requirements for LOT, WIDTH OF and LOT, AREA OF.)~~

3) A year-round DWELLING that contains DWELLING UNITS for up to two-families.

4) A one-family DWELLING and one additional DWELLING-UNIT consisting of a guesthouse with kitchen and bathroom structures or an accessory structure with a habitable living area.

Commented [MT1]: For discussion to resolve potential ambiguity. Need to decide whether we want these to be permitted uses or uses authorized by conditional use. Also need to decide if we want minimum lot sizes for #4.

B) Uses Authorized by Conditional Use

17.2(B)(15) ~~MULTI-DWELLING DEVELOPMENT (i.e. **new** condominium, hotel, motel or resort, or other development which is the same general scale and character). (Does not include the conversion of existing properties to a condominium ownership, existing resorts, motels, hotels or any other existing multi dwelling development unless more rental/dwelling units are being proposed by plat or other means that would be in addition to the existing rental/dwelling units.)~~ MULTI-DWELLING DEVELOPMENT or other similar development ~~including a condominium, hotel, motel, resort, multi-family (3 or more) dwelling units, or other development~~, which in the opinion of the County Zoning Committee, ~~are is~~ of the same general scale and character. Each DWELLING UNIT must ~~have~~ meet the minimum Dimensional Requirements contained in Section 18. ~~LOT, WIDTH OF and LOT, AREA OF. (Example: 3 unit development must have 300' of width and 60,000 sq ft of land area).~~ Does not include conversions of existing properties to a different form of ownership (i.e., to condominium ownership) unless DWELLING UNITS are being proposed by plat or other means that would be in addition to the existing ~~rental/~~DWELLING UNITS. Does not include existing MULTI-DWELLING DEVELOPMENTS unless creating additional DWELLING UNITS.

17.3 RR-2: Residential/Recreational Two District

A) Permitted Uses

1) One-family ~~and two-family dwellings~~year-round DWELLING.

2) Year-round DWELLING, MULTI-FAMILY provided the LOT must be at least 15,000 sq./ft if public sewer and 25,000 sq./ft if no public sewer~~(Two-family dwellings occurring in the same DWELLING UNIT must meet double the minimum requirements for LOT, WIDTH OF and LOT, AREA OF.)~~

3) A year-round DWELLING that contains DWELLING UNITS for up to two-families.

4) A one-family DWELLING and one additional DWELLING-UNIT consisting of a guesthouse with kitchen and bathroom structures or an accessory structure with a habitable living area.

Commented [MT2]: For discussion to resolve potential ambiguity. Need to decide whether we want these to be permitted uses or uses authorized by conditional use. Also need to decide if we want minimum lot sizes for #4.

B) Uses Authorized by Conditional Use

17.2(B)(16) MULTI-DWELLING DEVELOPMENT or other similar development ~~including a condominium, hotel, motel or resort, multi-family (3 or more) dwelling units, or other development~~, which in the opinion of the County Zoning Committee, are of the same general scale and character. Each DWELLING UNIT must ~~have~~ meet the minimum Dimensional Requirements contained in Section 18. LOT, WIDTH OF and LOT, AREA OF. ~~(Example: 3 unit development must have 300' of width and 60,000 sq ft of land area).~~ Does not include conversions of existing properties to a different form of ownership (i.e., to condominium ownership) unless DWELLING UNITS are being proposed by plat or other means that would be in addition to the existing ~~rental~~/DWELLING UNITS. Does not include existing MULTI-DWELLING DEVELOPMENTS unless creating additional DWELLING UNITS.