JANESVILLE
WASTEWATER
UTILITY

City of Janesville

3300 W. Tripp Road I Janesville, WI 53546

Water Quality Trading Plan

June 2022
Amended August 2022
Amended September 2022

Prepared By:

David Botts, PE
City of Janesville
Utility Director

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ABBREVIATIONS

EBPR	Enhanced Biological Phosphorus Removal
FCAP	Final Compliance Alternatives Plan
lbs	pounds
MGal	Million Gallon
mgd	million gallons per day
mg/L	milligrams per Liter
Ortho-P	Orthophosphate
PLC	Programmable Logic Controller
ppd	pounds per day
SCADA	Supervisory Control and Data Acquisition
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSS	Total Suspended Solids
WDNR	Wisconsin Department of Natural Resources
WPDES	Wisconsin Pollutant Discharge Elimination System
WWTP	Wastewater Treatment Plant
WQBEL	Water Quality-Based Effluent Limits
WQT	Water Quality Trading

EXECUTIVE SUMMARY

This document is submitted to meet the requirements of a Water Quality Trading Plan (WQTP) as defined by the Wisconsin Department of Natural Resources (WDNR) and as defined in:

1. Guidance for Implementing Water Quality Trading in WPDES Permits (Guidance Number 3800-2013-04, 8/21/2013) and

2. A Water Quality Trading How to Manual (Guidance Number 3400-2013-03, 9/9/2013).

The City of Janesville (City) prepared a Final Phosphorus Alternatives Plan (2019) and a Final Compliance Alternative Progress Report to evaluate alternative approaches for meeting the phosphorus Water Quality Based Effluent Limits (WQBEL) for the City's Wastewater Treatment Plant (WWTP). The report concluded that conducting a point-to-nonpoint water quality trade for phosphorus is the most feasible and economical approach to meeting the phosphorus WQBEL. The plan further concluded that the WWTP would need to trade for 1,500 to 2,300 pounds of phosphorus on an annual basis to meet the WQBEL. To allow for future growth at the facility, the City is seeking a total of 1,800 pounds of phosphorus per year for trading purposes. To implement the nonpoint source management measures, the City is contracting with the Rock County Land Conservation Department (Rock County LCD). The Rock County LCD has identified credit generators, negotiated with property owners, and will assist in advising and/or designing the phosphorus management measures. Furthermore, the Rock County LCD will conduct regular inspections of each management measure in compliance with the WQT program to ensure that the required phosphorus control is achieved. The identified phosphorus management measures, locations, and pollutant control performance of each measure are further described in Sections 2 and 4 of this document.

Section 1
General Information

1.1 Applicant Information

The applicant for this Water Quality Trade is:

City of Janesville Wastewater Treatment Plant
3300 W. Tripp Rd.
Janesville, WI 53546

Contact: David Botts, PE
Utility Director
123 E. Delavan Dr.
Janesville, WI 53546
608-755-3116
bottsd@ci.janesville.wi.us

1.2 Rock County Land Conservation Department Information

The City of Janesville (City) plans to contract with the Rock County Land Conservation Department (Rock County LCD) to assist will all direct negotiations with agricultural operators. The Rock County LCD has established relations with landowners and is a trusted source of information regarding agricultural nonpoint source control practices. The Rock County LCD's responsibilities will include:

1. Identifying and contacting landowners with phosphorus credit generating property.
2. Negotiating the management measures to maximize phosphorus runoff reduction.
3. Advising and providing design services to landowners for installation and management of the management measures.
4. Conducting annual inspection to verify that all management measures are properly maintained and functional.
5. Reporting to the City on progress and results of the annual inspections.

It should be noted that the actual agreements for the installed management measures will be between the City and the landowner (see Appendix B for an example agreement).

The Rock County LCD Contact is:

Christopher Murphy
Conservation Specialist
Rock County LCD
440 N US Hwy 14
Janesville, WI 53546
608-754-6617 . 4760

1.3 Janesville WWTP Discharge Information

The City of Janesville operates a 19.8 million gallon per day (MGD) wastewater treatment plant (WWTP) and collection system along the Rock River in Janesville, WI. The treatment plant operates under the Wisconsin Pollutant Discharge Elimination System (WPDES) permit No. WI-0030350-09-0, which was reissued on August 1, 2020. The WWTP is required to meet a monthly average effluent total phosphorus (TP) interim limit of 1.2 mg/L. The permit also includes changes to effluent limits based on Total Maximum Daily Load (TMDL) allocations for the Lower Rock River Basin. Water quality-based effluent limits (WQBEL) derived from the TMDL have been included for TP as mass limits for the WWTP (Table 1-1). The Rock River TMDL derived phosphorus effluent limits are stated to become effective on either April 1, 2022 or April 1, 2024 depending on if a tertiary upgrade is required. Lastly, a compliance schedule and required actions for meeting the limits are also in the permit.

In the Final Compliance Alternatives Plan (FCAP), a full-scale chemical phosphorus removal study was proposed and described. The Wisconsin Department of Natural Resources (WDNR) approved the study on July 29, 2019. The WDNR also required that the City submit a status report regarding the chemical pilot-study as part of the next compliance schedule action, Progress Report on Plans and Specs, which was due March 31, 2020. The WDNR approved this Progress Report on August 21, 2020. However, because the pilot-study had only been operating for six months, the WDNR required that a follow-up report be submitted to summarize the entire pilot-study and select a final compliance alternative. The Final Compliance Alternative Progress Report must be submitted by December 31, 2020, and is provided herein. Overall, the Final Compliance Alternative Progress Report provides the full-scale chemical phosphorus study results, and based on these results, documents the City's selected strategy to achieve compliance with the TMDL allocations.

Table 1-1. Future WPDES Monthly Average TMDL Allocations

Month	Monthly Average TP Effluent Limit (ppd)
January	13.72
February	14.83
March	13.64
April	14.42
May	13.38
June	13.08
July	11.46
August	11.51
September	11.80
October	11.90
November	13.05
December	13.21

1.3.1 Final Compliance Alternative Progress Report Summary

Overall, the results of the pilot study show that the dosing of both ferric chloride and RE300 reduced the TP from the WWTP. The pilot study also showed that if tight control is maintained over chemical dosing, so the soluble reactive phosphorus fraction is kept low, and TSS is kept below 4 mg/L, the WWTP can achieve compliance with the monthly phosphorus TMDL. The WWTP currently has a project out for bid and awaiting WDNR approval, which includes the following upgrades:

1. RE300 coagulant dosing system for improved chemical phosphorus removal in the activated sludge system.
2. Polymer dosing system for improved flocculation and settling in the secondary clarifiers to improve particulate phosphorus removal.

With these upgrades, a permanent, more robust chemical phosphorus removal system will be installed. In addition, RE300 and polymer will be dosed to two locations to cover flows from all three Aeration Tanks, further improving phosphorus removal. The RE300 dose will be controlled using the secondary effluent Ortho-P analyzer, whereas the polymer dose will be flow-based. The new chemical system should allow the WWTP to achieve compliance with the monthly phosphorus TMDL.

However, because the available data are limited to that gathered during the pilot study, there is still some uncertainty regarding whether the WWTP can achieve compliance with the monthly phosphorus TMDL. Table 1-2 summarizes the monthly average phosphorus discharge from 2018 through the pilot study. Table 1-2 shows that the WWTP would still have an excess of approximately 1,565 lbs of phosphorus above the TMDL allocations. Projecting out to design flows, the WWTP would have an excess of approximately 2,079 lbs. Design conditions were quantified by assuming the current maximum month was equal to the design maximum month (19.8 mgd) and adjusting the flowrates and loadings of the other months by the same percent change. It should be noted that the July and August excess phosphorus calculations in Table 1-2 were based on 2019 data. While ferric chloride was not added in July 2019, chemical dosing was not expected to perform significantly worse. Also, the August 2019 data were used because the RE300 pump was under capacity in August 2020. Assuming, however, that the July 2020 mass phosphorus discharged was 17.43 ppd, which is the average mass phosphorus discharged from August 2019 through June 2020, the current and future total annual excess phosphorus would be approximately 1,750 and 2,325 lbs, respectively. While the excess phosphorus is expected to be reduced or eliminated once the RE300 and polymer systems are installed, the WWTP would benefit from pursuing water quality trading (WQT) as a part of an overall strategy to obtain compliance with the TMDL allocations. In the least, the WQT credits would serve as a backup during plant upsets. It should be noted that the excess phosphorus in Table 1-2 does not include any trade ratio factors. The actual mass to be traded would need to be greater to account for trade ratios. The minimum trade ratios for a point source trade and a non-point source trade are 1.1:1 and 1.2:1, respectively.

Table 1-2. Monthly Effluent Phosphorus Performance

Month	2020 Flows (mgd)	TMDL (ppd)	Phosphorus Mass Discharge (ppd)			Reduction from 2018 (Baseline)	Excess Phosphorus above Pending TMDL Allocation (ppd)	2020 Total Monthly Phosphorus Offset Required (lbs)	Design Total Monthly Phosphorus Offset Required (lbs)
			2018	2019	2020				
Jan	12.38	13.72	21.14	36.68	19.30	9%	5.58	173	229
Feb	12.51	14.83	29.10	24.60	17.00	42%	2.17	63	84
Mar	14.25	13.64	34.15	27.97	17.82	48%	4.18	13	17
Apr	14.79	14.42	50.70	42.50	17.33	66%	2.91	87	116
May	13.67	13.38	135.41	56.55	16.10	88%	2.72	84	112
Jun	14.07	13.08	31.83	56.84	22.68	29%	9.60	288	382
Jul	12.38	11.46	50.36	8.77	59.86	83%[1]	-2.69[1]	0[1]	0[1]
Aug	11.15	11.51	10.58	7.08	31.73	33%[2]	-4.43[2]	0[2]	0[2]
Sep	10.99	11.8	63.58	9.15	14.34	77%	2.54	76	101
Oct	14.91	11.9	85.52	18.38	-	79%	6.48	201	267
Nov	13.74	13.05	61.64	19.10	-	69%	6.05	182	241
Dec	12.99	13.21	18.22	26.05	-	-43%	12.84	398	529
Average	**13.15**	**13.00**	**49.35**	**27.81**	**24.02**	**48%**	**4.00**	**130**	**173**
						Total	**48**	**1,565**	**2,079**

1. Calculation based on 2019 data because no chemical added between July 1 and July 20, 2020. While no chemical was added in July 2019, chemical dosing is not expected to perform significantly worse.
2. Calculation based on 2019 data because RE300 pump was under capacity

1.4 Overview of Credit Generator Information

Credits will be generated by several agricultural landowners in the Rock River Basin. The initial WWTP includes credits being generated by fourteen (14) landowners on eighteen (17) different parcels. An overview map of the locations is included as Appendix C2.

1.5 Parameters Being Traded and Target Credit Loadings

Overall, the results of the pilot study show that the dosing of both ferric chloride and RE300 reduced the TP discharged from the WWTP. The pilot study also showed that if tight control is maintained over chemical dosing, so the soluble reactive phosphorus fraction is kept low, and TSS is kept below 4 mg/L, the WWTP can achieve compliance with the monthly phosphorus TMDL. In response to these results, the WWTP is installing a RE300 and polymer dosing system that will dose chemicals to the entirety of the mixed liquor flow. These improvements may allow the WWTP to achieve compliance with the monthly phosphorus TMDL alone. However, because the pilot study still showed that there could be excess phosphorus discharged above the TMDL allocations and

because there may be future plant upsets that temporarily reduce chemical treatment performance, it is recommended that the WWTP include WQT trading in their overall phosphorus compliance strategy. Based on the pilot study data, the WWTP is expected to require offsets for 1,500 to 2,300 lbs. of phosphorus. Thus, the overall phosphorus compliance strategy for the City of Janesville WWTP is to install the RE300 and polymer dosing systems and pursue WQT for the remaining excess phosphorus. The City will need to have the new chemical systems installed and WQT set up by April 1, 2022. The City is expecting to have the chemical system upgrades completed by March of 2022. However, because the trading infrastructure has not been well established in Wisconsin, the City may not have trades in place before April 2022. There are a limited number of point source trading opportunities along the Rock River, and non-point source trades take significant time to establish and generate credits.

Section 2

Credit Generation Locations

2.1 Credit Generation Locations

Appendix C1 includes a list of each proposed trading practice by parcel. Details of each of the practices are included in Appendices C3-C20. The details include:

1. Description of existing land uses
2. History of project sites
3. An overview map showing the all the credit generation sites.
4. A series of detailed maps showing each credit generation site along with pertinent information of soil, slope, water resources, and other features.
5. Calculations of credits for each trading practice.

Section 3

Protocol For Determining Water Quality Trading Credits

3.1 Introduction

To ensure consistency with the Clean Water Act, United States Environmental Protection Agency guidance and Wisconsin State Statute 283.84, the City of Janesville is partnering with Rock County Land Conservation Department (LCD) to implement the following protocol for Water Quality Trading (WQT) in the Rock River Total Maximum Daily Load (TMDL) **Reach 61** (Newville - Rock River Rock River HUC 12 Watershed), **Reach 70** (Camp Indian Trails - Rock River HUC 12 Watershed), **Reach 72** (Headwaters Blackhawk Creek HUC 12 Watershed), **Reach 73** (Blackhawk Creek HUC 12 Watershed) and **Reach 74** (City of Janesville – Rock River HUC 12 Watershed). While the protocol closely follows the Wisconsin Department of Natural Resources (WDNR) 'Guidance for Implementing Water Quality Trading in WPDES Permits', we request it be recognized there will be situations when decisions inconsistent with the guidance document may be necessary because the assumptions upon which the guidance document is based on are not applicable. When situations occur that are inconsistent with the guidance document, evidence will be provided to prove the results will improve water quality as stated in Wisconsin State Statute 283.84 (1m)(a).

3.2 Identification of Management Practices and Location

The City of Janesville with the assistance from Rock County LCD identified best management practices (BMPs) and contacted landowners within Reaches 61, 70 - 74 of the Rock River TMDL (see Appendix C2). The Rock County LCD has targeted locations for phosphorus management measures based on land cover, topography, soil conditions, and the Rock County LCD's knowledge of local agricultural conditions. Rock County LCD educated the landowners about WQT and received their approval to plan installation BMPs.

3.3 Overview of Phosphorus Management Calculation

Rock County LCD conducted phosphorus control modeling/calculations per methods described in the WDNR guidance documents as follows:

- Cropland Management: Rock County LCD gathered agronomic information on a field by field basis and incorporated it into the most recent version of SnapPlus to determine the before and after BMP installation amount of P runoff from the field.
- Gully Erosion: Rock County LCD utilized Natural Resources Conservation Service (NRCS) Gully Erosion Calculations for grassed waterway installations.
- Barnyard Runoff Management: Rock County LCD utilized the BARNY model determine P runoff from barnyards before and after management measures are applied.
- Results of the above analyses were documented in a proposal which was submitted to the City of Janesville for approval. The proposal included the P reduction achieved for each management measure along with a cost estimate. Calculations are based on a 10 year crop rotation to obtain higher accuracy of phosphorus reduction.

- The credit threshold for the Rock River TMDL is a phosphorus index of 6. Any field already below a PI of 6 before practice installation will generate long term credits and any field with a PI above 6 prior to installation will generate both interim and long term credits.

3.4 City / Landowner Agreement

Once WDNR approves the plan, the City of Janesville will enter into a written agreement with each of the landowners participating in the plan. The written agreement shall contain signatures of commitment, contact information, conditions of agreement and description of best management practices, schedule and payment amounts. The length of the agreements shall be for 5 - 10 years based on the understanding the credits generated are for the life of the BMPs. Rock County LCD shall provide the Establishment, Operation and Maintenance (EOM) Plan which will be an Addendum to the agreement. The agreement shall be recorded at the Rock County Register of Deeds to ensure that the best management practices are maintained through the life of the agreement.

3.5 Landowner and Rock County LCD Responsibilities

The landowner shall at their own cost install the agreed upon BMPs according to USDA-NRCS standards and then receive an annual payment except for grassed waterways and bmps associated with barnyard runoff systems which shall receive full payment upon certification of installation. Rock County LCD shall provide technical assistance with the design and installation of the BMPs. Once the BMPs have been installed, landowners shall contact the Rock County LCD who will inspect and certify that the BMPs have been installed according to standards. Vegetative BMPs will be evaluated by Rock County LCD using transect/plant populations while structural BMPs will be evaluated according to an “as-built” drawing and certification statement from an individual who has job approval authority/certifications. Rock County LCD shall provide documentation to the City of Janesville stating the amount of P reduction credits.

3.6 Trading Ratios

BMPs to be installed per USDA-NRCS or WDNR standards and their Trade Ratios are:

a. Conservation Easement that may be harvested for forage = 1.2 : 1

b. Grassed Waterway to address specific gully erosion = 2 : 1

c. Filter Strip with Reduced-Till and (NMP or soil test showing P within UW recommendations) = 1.5 : 1

d. Filter Strip with Reduced-Till or (NMP or soil test showing P within UW recommendations) = 2 : 1

e. Roof Runoff System = 2 : 1

f. Barnyard Settling Basin with Vegetative Treatment Area = 2 : 1

g. Retention Pond = 2 : 1

Every effort will be made to reach whole field management at all project locations but there are instances we will need time to reach that level of management. We are using Water Quality Trading as a process to improve water quality at locations that were previously unavailable due to landowners not being interested in participating with government programs and/or rules. Please understand for some locations, it may take two to three years to implement whole field management. We request once whole field management occurs, we are allowed to take the higher level of phosphorus (P) reduction credits from that time forward.

Example:
Year one = A landowner agrees to install a filter strip and has documentation proving nutrient management is occurring therefore a trading ratio of 2:1 is used to determine (P) reduction credit.
Year two = Landowner agrees to participate in farmer training to create a nutrient management plan that meets USDA-NRCS standard 590.
Year three = Landowner agrees to implement no-till thus reaching whole field management on this field.
Year four = From this time forward, use trading ratio of 1.2:1 to determine (P) reduction credit.

Section 4

Specific Trade Locations and Schedule

Details of each specific trade location and schedule are included in Appendix C.

This Section will include:

1. Amount of credit being generated
2. Description of trade ratio per agreement/practice
3. Location of where credits will be generated
4. Timeline for credits and agreement
5. Methods for quantifying credits with supporting information

Section 5

Inspections and Reporting

5.1 Tracking Procedures

The City will track the status of each property owner, management measure, and phosphorus credit on a spreadsheet. Information for the tracking spreadsheet will be provided to the City by Rock County LCD Annually. For each property owner the spreadsheet will include:

- Property owner location and contact
- Status of Rock County LCD/landowner negotiations
- Status of City/landowner agreement
- Phosphorus credits calculations and results for each management measure
- Management measure implementation status and a schedule
- City payments for management measures
- Results of annual inspections and verification that management measures meet program requirements
- Issues, or lack of compliance, and steps taken to resolve compliance needs

The tracking documentation will be provided to the WDNR on a monthly basis as part of the DMR submittals. Also, an annual summary document will be prepared based on the annual progress.

5.2 Inspections

Inspections of newly established management measures will be conducted by Rock County LCD. For structural management measures, the inspection will verify that the practice is constructed according to the approved design plan. For vegetated management practices, an inspection will be conducted within twelve weeks completion to verify that vegetation is established, and the site is stable.

Annual inspections of the established management measures will be conducted by the Rock County LCD. Inspections will be conducted during the growing season to verify that vegetation is healthy, and corrections are made, if necessary. Inspections for specific management measures (such as sediment basins and streambank protection) may take place after large rain events to make sure the measures are stable and not damaged.

Any deficiencies of the management measures will be reported in writing to the landowner with a copy of the report sent to the City. The Rock County LCD will schedule a follow-up landowner meeting to clarify the corrections necessary and establish a schedule for the corrections.

At a minimum, the inspection report will include the following information:

- Name and contact information of the inspector
- Inspection date
- Landowner name
- Relevant standards set forth in the Design Plan or Operation and Maintenance Plan
- Issues with deficient best management practices identified
- When and how any deficiencies identified were addressed
- When and how any issues identified will be addressed in the future

5.3 Annual Water Quality Trading Report

By January 31st of each year, the City will submit the following information to the WDNR:

- The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance.
- A summary of the annual inspection of the practices generating pollutant reduction credits used during the previous year. This inspection shall be completed by qualified staff from the Rock County LCD.
- Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to WQT that have not been reported in discharge monitoring reports.
- A list of all noncompliance and the correction measures and timing to address the issues (noncompliance or failure to implement terms or conditions of this plan).
- An updated WQTP if management practices or fields change.

5.4 Notification of Failure to Generate Phosphorus Credits

Rock County LCD will notify the City immediately upon becoming aware the phosphorus control measure is not properly maintained or has failed. The City will, in turn, immediately notify the WDNR regional wastewater compliance engineer of the condition (either via email or telephone).

The City will submit a written notification to the WDNR within five days after becoming aware of the failure. The written notification will describe the failure, and planned steps to rectify the situation to fully restore the phosphorus control function of the management measure. The written notification will also include a schedule for repair, and measures to reduce or eliminate the potential for future failures of the management measure.

Finally, Rock County LCD will conduct an inspection of the repaired management measure and verify the full restoration of phosphorus control per the WQTP. Rock County LCD will provide an inspection report the City and the City will forward this report to the WDNR

Section 6

References

1. Donahue & Associates, Inc. City of Janesville Final Compliance Alternatives Progress Report. December 2020.

2. Wisconsin Department of Natural Resources; Total Maximum Daily Loads for total Phosphorus and Total Suspended Solids in the Rock River Basin

3. Wisconsin Department of Natural Resources (WDNR). 2013a. A Water Quality Trading How to Manual. Guidance Number 3400-2013-03. 9/9/2013.

4. Wisconsin Department of Natural Resources (WDNR). 2013b. Guidance for Implementing Water Quality Trading in WPDES Permits. Guidance Number 3800-2013-04. 8/21/2013.

5. Wisconsin State Statute 283.84 (1m)(a).

Appendix A:

Notice of Intent to Conduct Water Quality Trading and Water Quality Trading Checklist

Appendix B:

Example - City of Janesville Best Management Practice Installation Agreement

Appendix C:

Supporting Information for Phosphorus Reduction Modeling and Calculations

1) SnapPlus Field Calculations
2) BARNY Modeling
3) Streambank Erosion Modeling

APPENDIX C1

CITY OF JANESVILLE WATER QUALITY TRADING PROJECTS

Project #	Landowner	Year to Install	Practice	Long-term P Credits	Interim P Credits	StreamHUC 12 Watershed
6-8-276.1	Edward Quaerna	2022	roof runoff system	80.85		Janesville-Rock River
6-10-75	Paul McDonald	2022	roof runoff system	48.60		Blackhawk Creek
6-7-238.1	William Barlass	2021	.4 ac grass waterway	99.20		HW Blackhawk Ck
6-9-261	William Barlass	2022	roof runoff system	31.45		HW Blackhawk Ck
6-6-396	Favreau-Evergreen	2022	16 ac. cons. easement	52.5		Camp Indian Trails
6-7-374A,375	T & S Metcalf Trust	2022	3.7 ac. filter strips	20.05		HW Blackhawk Ck
6-6-400	Eleven Acres	2023	.33 ac. grass waterway	32.7		Camp Indian Trails
6-6-157	Ed Farrington	2022	16.8 ac. cons. easement	59.83	12.92	Newville-Rock River
6-10-2	Gary Kraus	2022	3.6 ac. filter strips	24.25		HW Blackhawk Ck
6-10-83,84	Gary Kraus	2022	9 ac. filter strips	132.6		HW Blackhawk Ck
6-6-398	Mark Langer	2022	2.7 ac. cons. easement	11.89	1.94	Camp Indian Trails
		2023	16.7 ac. cons easement	38.52	45.23	Camp Indian Trails
6-18-195	LaVaughn Buehl Trust	2021	6.1 ac. cons. easement	24.91	14.07	Janesville-Rock River
6-7-273,274	Metcalf Farms II	2021	1 ac. grass waterway	97.85		HW Blackhawk Ck
6-9-158.01	Ochs Farm	2022	Roof runoff system - VTA	64.98		HW Blackhawk Ck
6-6-410.2	Allen & Kathleen Falk	2022	3 ac. cons. easement	5.12	0.29	Camp Indian Trails
6-10-73,75	Paul McDonald	2022	4 ac. grass waterway	461.78		Blackhawk Creek
			Total Phosphorus Credits	**1287.08**	**74.45**	

Appendix D:

Establishment, Operation, and Maintenance Plan

Appendix E:

Wastewater Treatment Plant Final Phosphorus Alternatives Plan

APPENDIX C2 - LOCATION MAP

Farrington 6-6-157
Eleven Acres 6-6-399
Langer 6-6-398
Favreau-Evergreen 6-6-396
Allen & Kathleen Falk 6-6-410.2
Eleven Acres 6-6-400
LaVaughn Buehl Trust 6-18-195
Edward Quaerna 6-8-276.1
City wastewater discharge site
Barlass 6-7-238.1
Metcalf Farms II 6-7-244
Ochs Farm 6-9-158.1
Metcalf Farms II 6-7-273,274
Barlass 6-9-261
T &S Metcalf Trust 6-7-374A,375
Kraus 6-10-2
McDonald 6-10-73,75
McDonald 6-10-75
Kraus 6-10-83,84

Rock County 9-1-1 Communications

Appendix C3

Project Name: Quaerna, Roof Runoff System, Parcel 6-8-276.1

Landowner Information: Edward Quaerna Jr
4214 W. Mineral Point Road
Janesville, WI 53548
Contact Person: Ed Quaerna, 608-201-0110

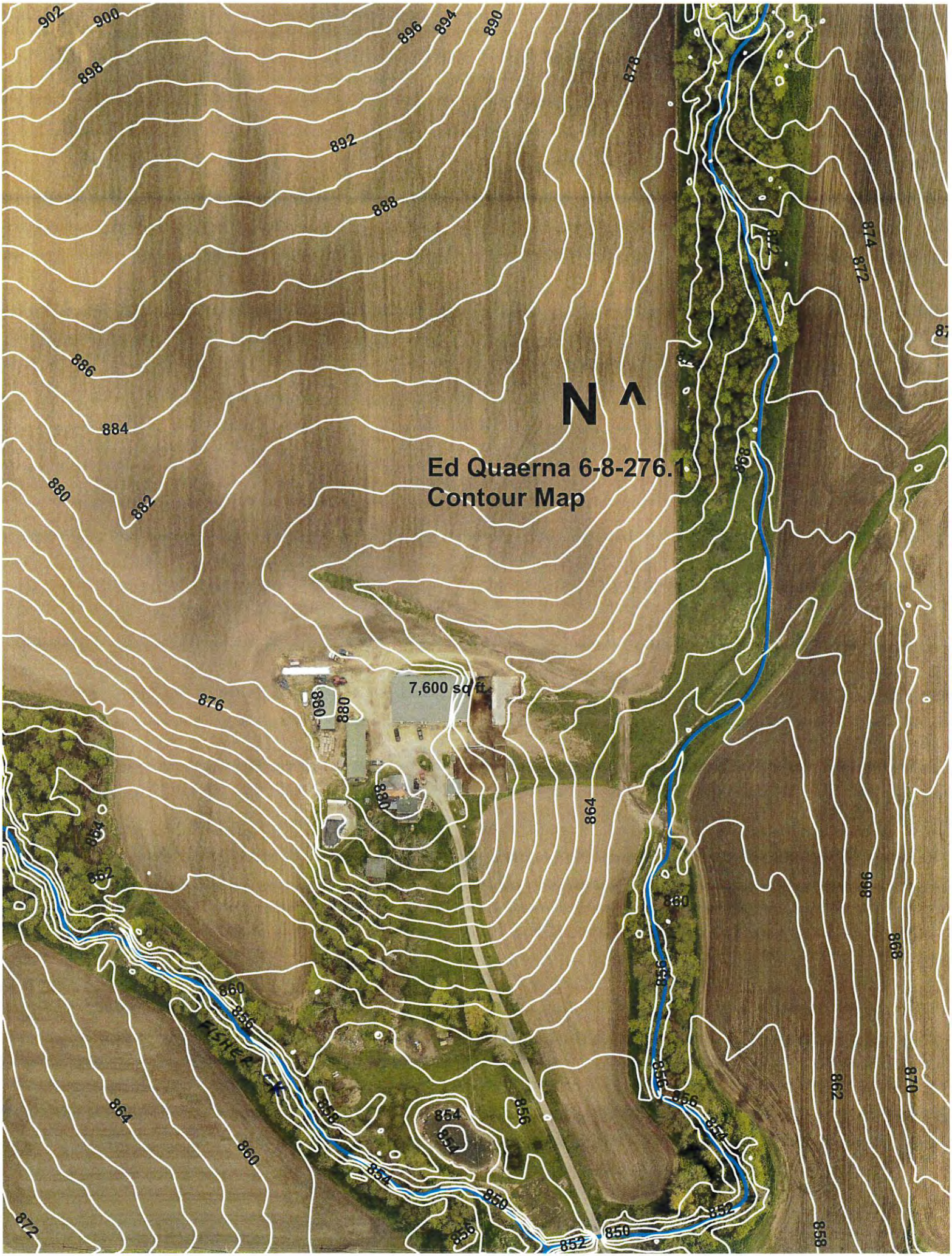
The project is located in Janesville-Rock River HUC12 Watershed (see Location Map in Appendix). The project site provides concentrated flow to a waterway that conveys water to Fisher Creek (see Contour Map). The project is not in wetlands so Federal, State or Local permits are not required (see WDNR Surface Water Data Viewer Map).

Storm water from the cropland, driveway, feedlot area and building flows to the east into annually cropped field creating gully erosion which flows to the waterway tributary of Fisher Creek (see Aerial Photo and Inventory Map). Manure and soil sediment from the feedlot pens and cropland enters the waterway. Historically this site has housed 20 to 30 feeder cattle on a year round basis. The site has been cleaned regularly.

In 2022, plans are to install roof gutters on the building and underground outlets to convey storm water runoff into a vegetative treatment area 25 feet wide by 300 feet long (see Plan Map). All projects will be surveyed and designed by Rock County LCD with every effort to meet USDA-NRCS 558 Roof Runoff Structures and 620 Underground Outlet standards. Rock County LCD will oversee project construction and certify project completion.

Annual phosphorus runoff for existing conditions (baseline) and planned conditions were determined using BARNY. Data inserted into BARNY was derived from landowner testimonial and measurements using ArcMap (see Inventory Map).

The annual phosphorus runoffs from the BARNY calculations were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit. A 2:1 trade ratio was used to determine the phosphorus reduction for the roof runoff system that outlets to a VTA. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual information obtained from as-built data and then inserting into Trade Ratio Spreadsheet.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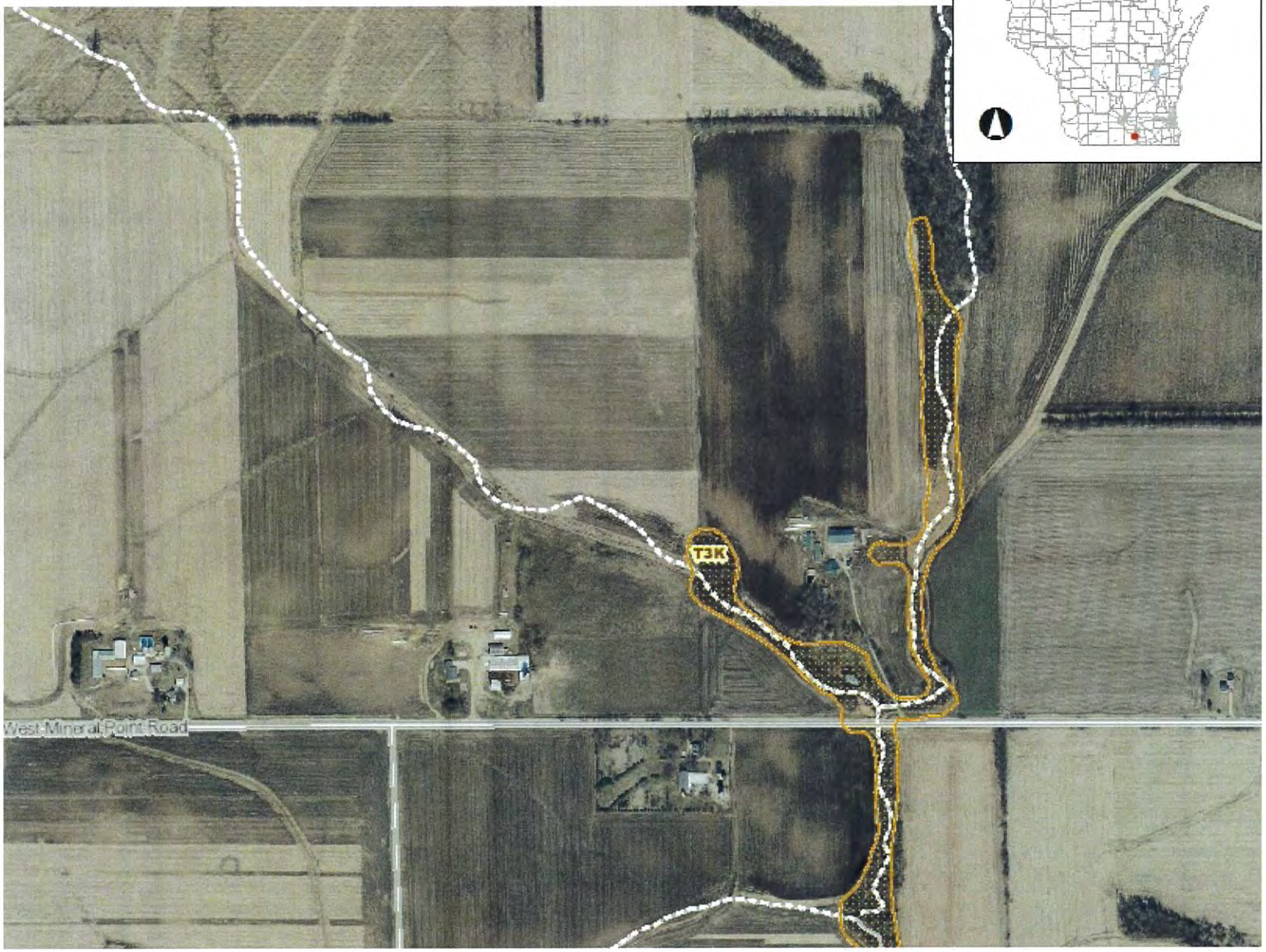
Contour Map
7,600 sq ft
FISHER CK

Edward Quaerna 6-8-276.1
Surface Water Data Viewer Map



Legend

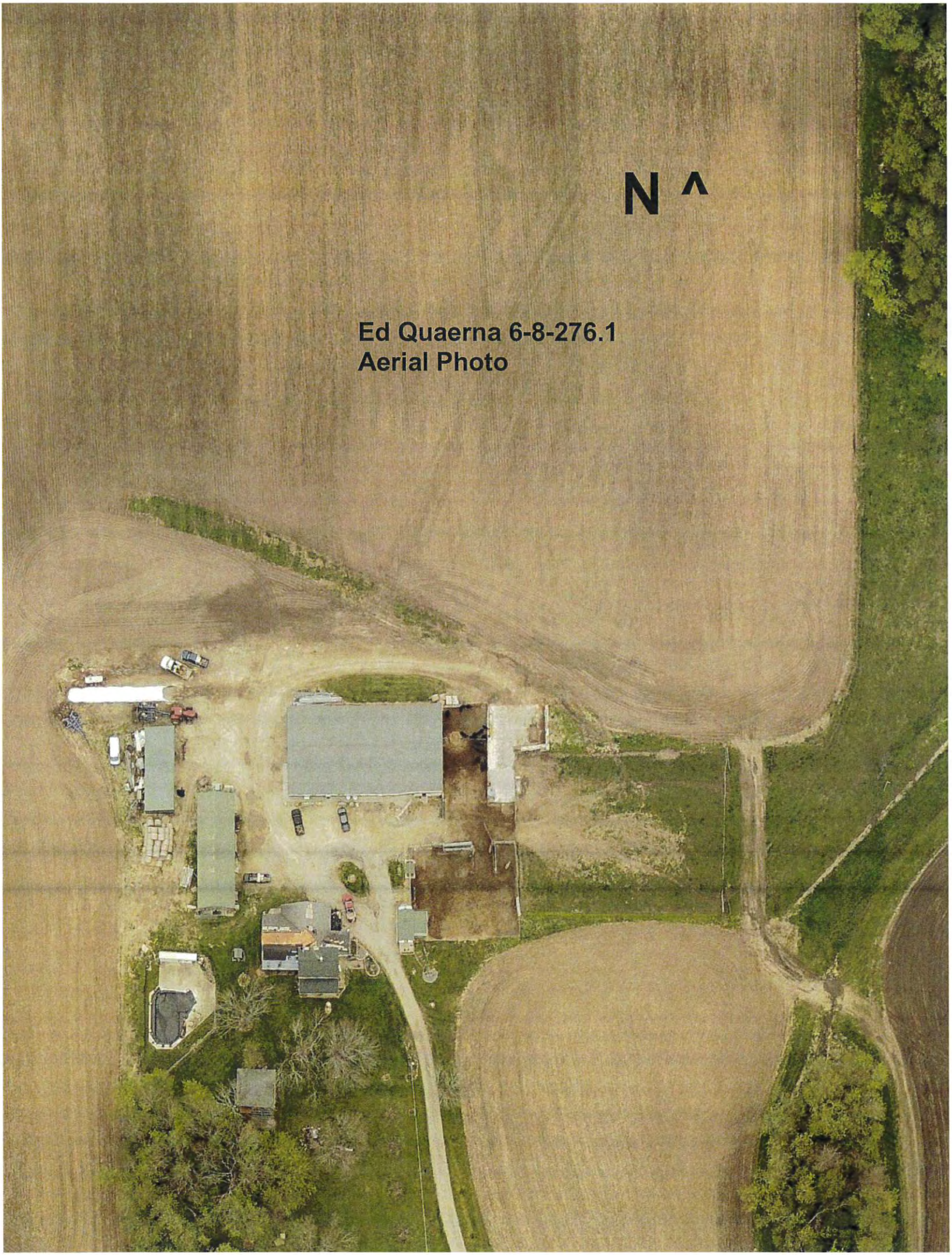
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920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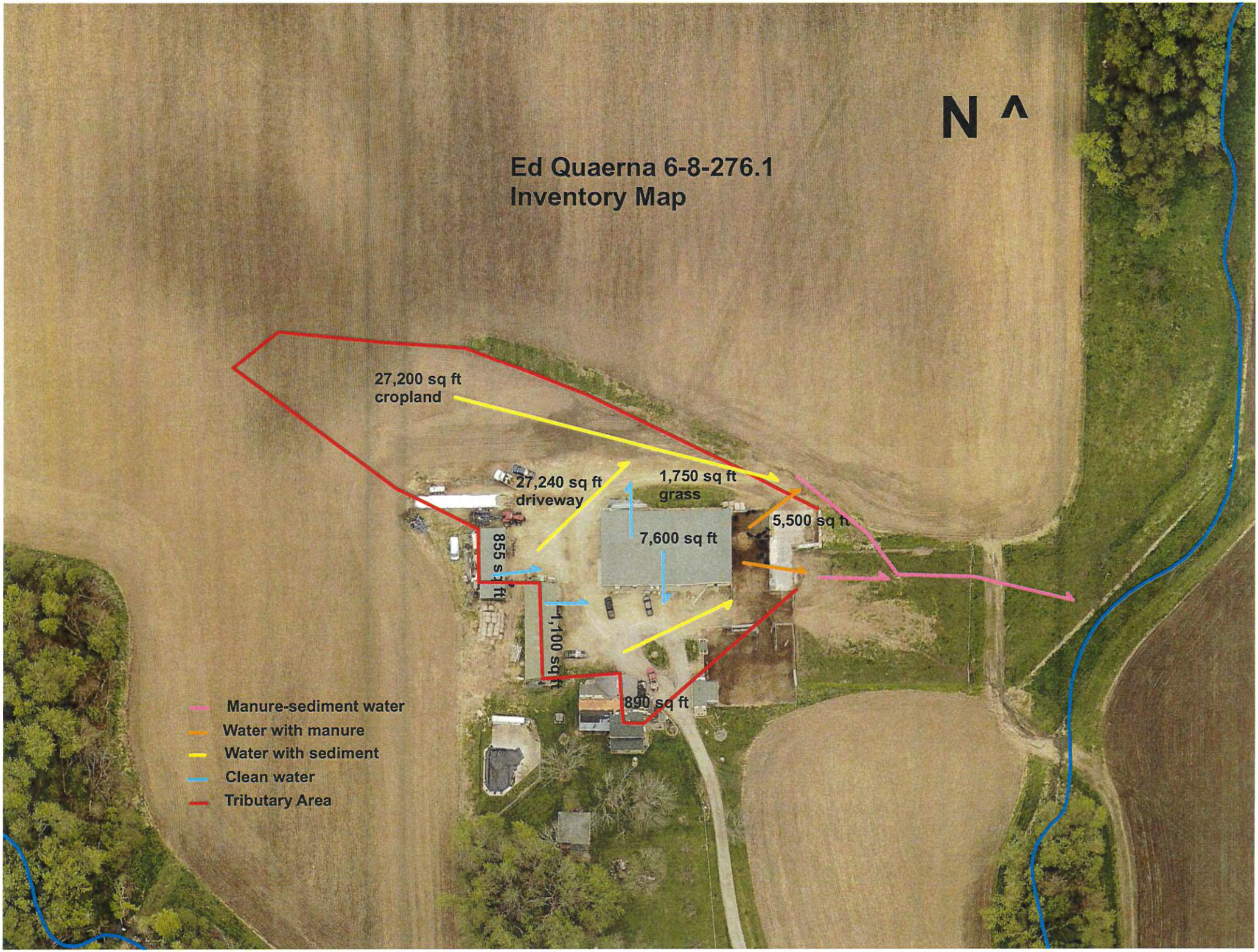
Ed Quaerna 6-8-276.1
Aerial Photo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Ed Quaerna 6-8-276.1
Inventory Map
27,200 sq ft
cropland
27,240 sq ft
driveway
1,750 sq ft
grass
5,500 sq ft
7,600 sq ft
855 sq ft
1,100 sq ft
890 sq ft
Manure-sediment water
Water with manure
Water with sediment
Clean water
Tributary Area


N ^
Ed Quaerna 6-8-276.1
Plan Map
Planned diversion
Planned underground outlet
planned vegetative treatment area
planned rain gutters
1,280 sq ft

BUFFER DESIGN USING BARNY (existing conditions)

OWNER: Edward Quaerna DESIGNER: CM DATE: 8/30/2021
CHK BY: DATE:

	Input	Output	
			1 Madison
			2 Appleton
Closest City of similar climate:	1		3 Wausau
			4 Eau Claire
Paved lot area:	4,200		sq ft
Earth lot area:	1,300		sq ft
Animal Lot size:		5,500	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	10 number	12	number
Type of animal:	2	2	(Dairy = 1; Beef=2)
Ave. Animal Weight:	800 lbs	1,200	lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	56,190	sq ft		sq ft
Runoff Curve Number:	79			
Roof area:	9,555	sq ft		

166.7 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 0 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

P (lbs) after the buffers: 166.7 lbs P per year

NO GOOD - Too much P released

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

BUFFER SIZING

		7,600 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width		feet	
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length		feet	#DIV/0!

BUFFER DESIGN USING BARNY (planned conditions)

OWNER: Edward Quaerna DESIGNER: CM DATE: 8/30/2021

CHK BY: DATE:

	Input	Output	
			1 Madison
			2 Appleton
Closest City of similar climate:	1		3 Wausau
			4 Eau Claire
Paved lot area:	4,200		sq ft
Earth lot area:	1,300		sq ft
Animal Lot size:		5,500	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	10 number	12	number
Type of animal:	2	2	(Dairy = 1; Beef=2)
Ave. Animal Weight:	800 lbs	1,200	lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	27,240	sq ft		sq ft
Runoff Curve Number:	85			
Roof area:	0	sq ft		

76.8 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 0 lbs

Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:	300	ft (See Note Below)
	Slope:	3	%
	"c" :	0.59	→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

P (lbs) after the buffers: 5.0 lbs P per year

NO GOOD - Too much P released

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

BUFFER SIZING

7,600 sq ft Min. Acceptable Buffer Area

Chosen Buffer Width: 30 feet

300 feet Min. Bfr. Len. Based on BARNY

300 feet Min. Bfr. Len. Based on Area

Chosen Buffer Length: 300 feet Good Design

LANDOWNER: Edward Quaerna **PARCEL:** 6-8-276.1

PRACTICE NAME: roof runoff system with VTA

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	166.7	166.7	166.7	166.7	166.7	166.7	166.7	166.7	166.7	166.7	1667.00	166.70
PLANNED	5	5	5	5	5	5	5	5	5	5	50.00	5.00
REDUCTION	161.7	161.7	161.7	161.7	161.7	161.7	161.7	161.7	161.7	161.7	1617.00	161.70
CREDIT AFTER TRADE RATIO 2:1	80.85	80.85	80.85	80.85	80.85	80.85	80.85	80.85	80.85	80.85	808.50	80.85

Appendix C4

Project Name: McDonald, Roof Runoff System - Vegetative Treatment Area, Parcel 6-10-75

Landowner Information: Paul McDonald
1833 S. Van Allen Road
Janesville, WI 53546
Contact Person: Tim McDonald, 608-290-9619

The project is located in Blackhawk Creek HUC12 Watershed (see Location Map in Appendix). The project site provides concentrated flow to a waterway within cropland that conveys water to an intermittent tributary that flows to the Rock River. The project is not in wetlands so Federal, State or Local permits are not required (see WDNR Surface Water Data Viewer Map).

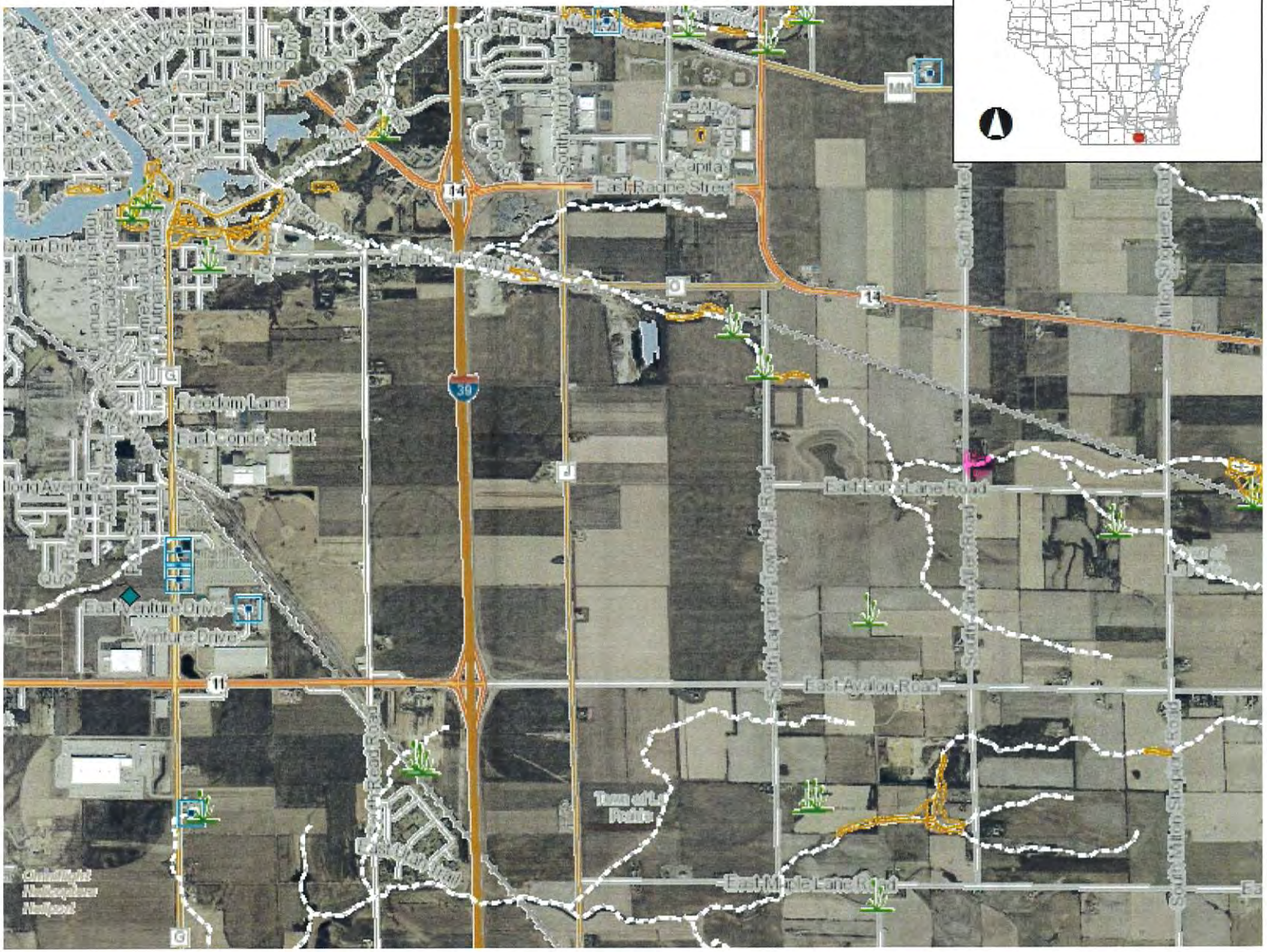
Storm water from the feedlot area and buildings flows to the south into a waterway. Manure from the feedlot pens and soil from the cropland enters the waterway (see Inventory Map). Historically both areas house feeder cattle on a year round basis with both areas regularly cleaned. On average, the total number of feeder cattle on site is 45 to 55 head.

In 2022, plans are to install roof gutters on the buildings and a settling basin with a vegetative treatment area to collect and convey storm water runoff from the concrete area of the west shed (see Plan Map). The storm water from the feedlot buildings will be delivered to a 40 feet wide by 160 feet long VTA. All projects will be surveyed and designed by Rock County LCD with every effort to meet USDA-NRCS 558 Roof Runoff Structures and 620 Underground Outlet standards. Rock County LCD will oversee project construction and certify project completion.

Annual phosphorus runoff for existing conditions (baseline) and planned conditions were determined using BARNY. Data inserted into BARNY was derived from landowner testimonial and measurements using ArcMap (see Inventory Map). BARNY calculations were completed for the east shed individually. Two BARNY calculations were completed for the west shed, separating the earthen area from the concrete area.

The annual phosphorus runoffs from the 3 BARNY calculations were added and then inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit. A 2:1 trade ratio was used to determine the phosphorus reduction for the roof runoff system that outlets to a VTA. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual information obtained from as-built data and then inserting into Trade Ratio Spreadsheet.

Paul McDonald 6-10-73,75
Surface Water Data Viewer Map



Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

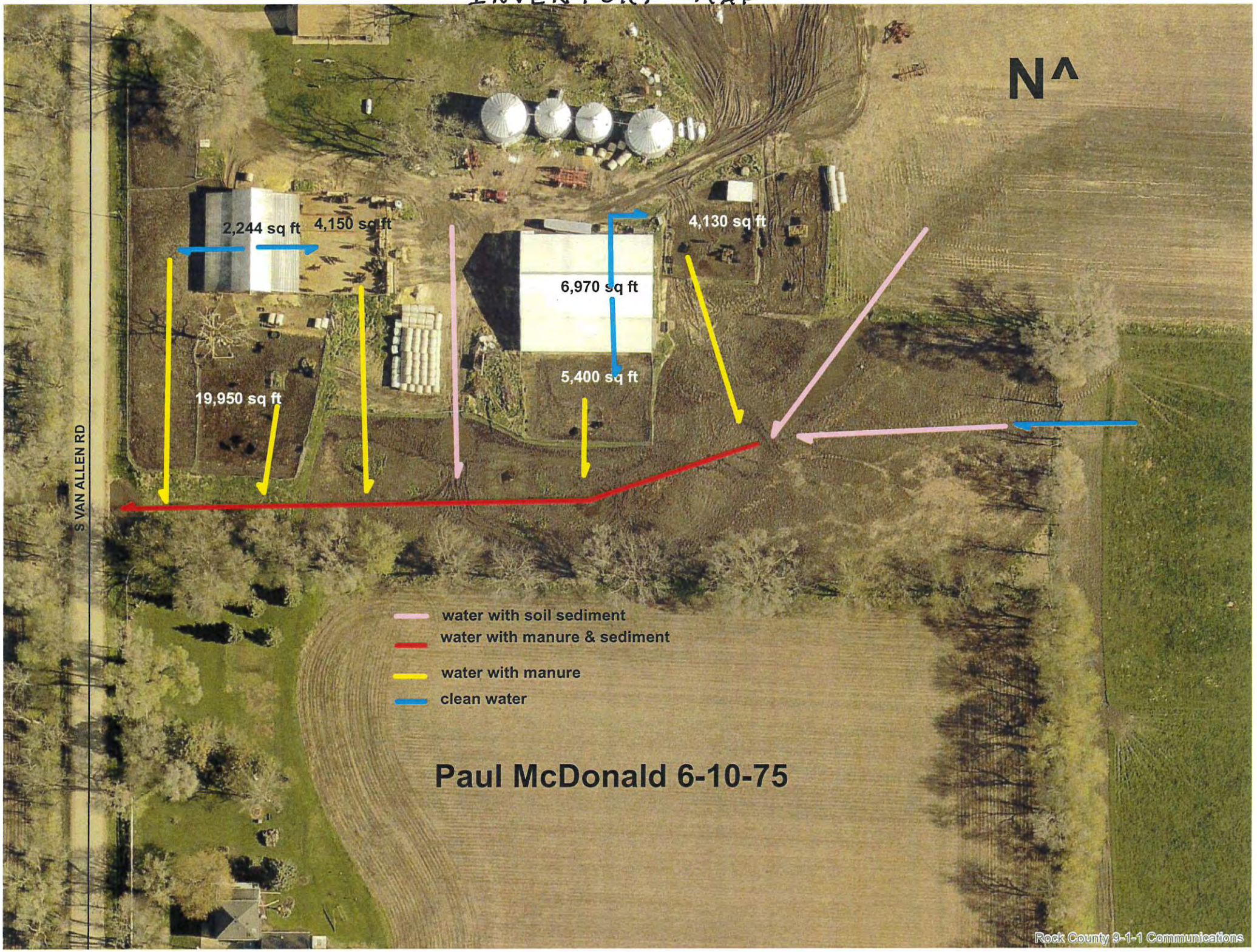
Notes

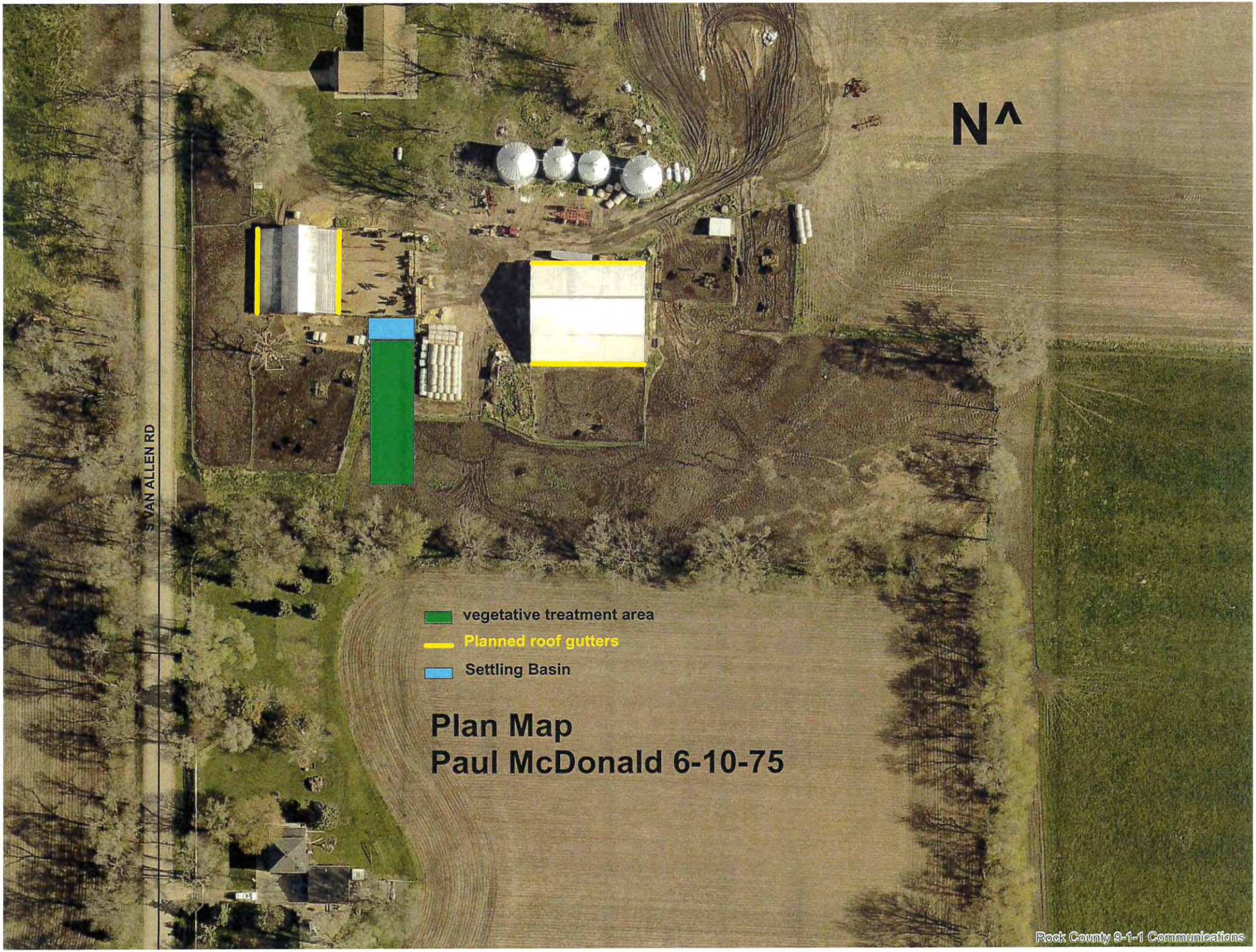
1.5 0 0.75 1.5 Miles

NAD_1983_HARN_Wisconsin_TM

1: 47,520

INVENTORY MAP




S VAN ALLEN RD
N^
vegetative treatment area
Planned roof gutters
Settling Basin
Plan Map
Paul McDonald 6-10-75
Rock County 9-1-1 Communications

BUFFER DESIGN USING BARNY (existing conditions)

OWNER: McDonald - west barn concrete DESIGNER: cm DATE: 9/1/2021

CHK BY: DATE:

	Input	Output	
			1 Madison
			2 Appleton
Closest City of similar climate:	1		3 Wausau
			4 Eau Claire
Paved lot area:	4,150		sq ft
Earth lot area:			sq ft
Animal Lot size:		4,150	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	50 number		number
Type of animal:	2		(Dairy = 1; Beef=2)
Ave. Animal Weight:	850 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:		sq ft	sq ft
Runoff Curve Number:			
Roof area:	1,122	sq ft	

34.3 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 15 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

P (lbs) after the buffers: 34.3 lbs P per year

NO GOOD - Too much P released

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

BUFFER SIZING

		6,225 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width	feet		
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length	feet	#DIV/0!	

BUFFER DESIGN USING BARNY (planned conditions)

OWNER: McDonald - west barn concrete DESIGNER: cm DATE: 9/1/2021

CHK BY: _____ DATE: _____

	Input	Output	
Closest City of similar climate:	1		1 Madison, 2 Appleton, 3 Wausau, 4 Eau Claire
Paved lot area:	4,150		sq ft
Earth lot area:			sq ft
Animal Lot size:		4,150	sq ft
Is there a DESIGNED settling basin	1		Yes= 1; No= 2
Animals on lot:	50 number		number
Type of animal:	2		(Dairy = 1; Beef=2)
Ave. Animal Weight:	850 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:		sq ft	sq ft
Runoff Curve Number:			
Roof area:	0	sq ft	

12.1 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 15 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:	160	ft (See Note Below)
	Slope:	1	%
	"c" :	0.59	→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

P (lbs) after the buffers: 1.0 lbs P per year

GOOD - Buffer length, slope, and type is OK; proceed with final area sizing calcs below.

BUFFER SIZING

6,225 sq ft Min. Acceptable Buffer Area

Chosen Buffer Width: 40 feet

160 feet Min. Bfr. Len. Based on BARNY

160 feet Min. Bfr. Len. Based on Area

Chosen Buffer Length: 160 feet Good Design

BUFFER DESIGN USING BARNY (existing conditions)

OWNER: McDonald - west barn earth DESIGNER: cm DATE: 9/1/2021

CHK BY: DATE:

	Input	Output	
Closest City of similar climate:	1		1 Madison, 2 Appleton, 3 Wausau, 4 Eau Claire
Paved lot area:			sq ft
Earth lot area:	19,950		sq ft
Animal Lot size:		19,950	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	50 number		number
Type of animal:	2		(Dairy = 1; Beef=2)
Ave. Animal Weight:	850 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:		sq ft	sq ft
Runoff Curve Number:			
Roof area:	1,122	sq ft	

63.4 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 15 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

P (lbs) after the buffers: 63.4 lbs P per year

NO GOOD - Too much P released

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

BUFFER SIZING

		19,950 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width		feet	
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length		feet	#DIV/0!

BUFFER DESIGN USING BARNY (planned conditions)

OWNER: McDonald - west barn earth DESIGNER: cm DATE: 9/1/2021
CHK BY: DATE:

	Input	Output	
Closest City of similar climate:	1		1 Madison, 2 Appleton, 3 Wausau, 4 Eau Claire
Paved lot area:			sq ft
Earth lot area:	19,950		sq ft
Animal Lot size:		19,950	sq ft
Is there a DESIGNED settling basin	1		Yes= 1; No= 2
Animals on lot:	50 number		number
Type of animal:	2		(Dairy = 1; Beef=2)
Ave. Animal Weight:	850 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:		sq ft	sq ft
Runoff Curve Number:			
Roof area:	0	sq ft	

27.5 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released	15	lbs	Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

P (lbs) after the buffers: 27.5 lbs P per year

NO GOOD - Too much P released

BUFFER SIZING

		19,950 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width	feet		
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length	feet	#DIV/0!	

BUFFER DESIGN USING BARNY (existing conditions)

OWNER: McDonald - east shed DESIGNER: cm DATE: 9/1/2021
CHK BY: DATE:

	Input	Output	
			1 Madison 2 Appleton 3 Wausau 4 Eau Claire
Closest City of similar climate:	1		
Paved lot area:			sq ft
Earth lot area:	9,530		sq ft
Animal Lot size:		9,530	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	27 number		number
Type of animal:	2		(Dairy = 1; Beef=2)
Ave. Animal Weight:	400 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:		sq ft		sq ft
Runoff Curve Number:				
Roof area:	6,970	sq ft		

42.0 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 15 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		
Second Buffer	Length:		ft
	Slope:		
	"c" :		

P (lbs) after the buffers: 42.0 lbs P per year

NO GOOD - Too much P released

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

BUFFER SIZING

		9,530 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width		feet	
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length		feet	#DIV/0!

BUFFER DESIGN USING BARNY (planned conditions)

OWNER: McDonald - east shed DESIGNER: cm DATE: 9/1/2021

CHK BY: DATE:

	Input	Output	
			1 Madison
			2 Appleton
Closest City of similar climate:	1		3 Wausau
			4 Eau Claire
Paved lot area:			sq ft
Earth lot area:	9,530		sq ft
Animal Lot size:		9,530	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	27 number		number
Type of animal:	2		(Dairy = 1; Beef=2)
Ave. Animal Weight:	400 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:		sq ft	sq ft
Runoff Curve Number:			
Roof area:	0	sq ft	

14.0 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 15 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

P (lbs) after the buffers: 14.0 lbs P per year

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

GOOD - Buffer length, slope, and type is OK; proceed with final area sizing calcs below.

BUFFER SIZING

		9,530 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width	feet		
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length	feet	#DIV/0!	

LANDOWNER: Paul McDonald **PARCEL:** 6-10-75

PRACTICE NAME: roof runoff system

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	139.7	139.7	139.7	139.7	139.7	139.7	139.7	139.7	139.7	139.7	1397.00	139.70
PLANNED	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	425.00	42.50
REDUCTION	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	972.00	97.20
CREDIT AFTER TRADE RATIO 2:1	48.60	48.60	48.60	48.60	48.60	48.60	48.60	48.60	48.60	48.60	486.00	48.60

Appendix C5

Project Name: William Barlass, Grassed Waterway, Parcel 6-7-238.1

Landowner Information: William Barlass
6145 E County Road A
Janesville, WI 53546
608-449-6798

The project is located in the Headwaters Blackhawk Creek HUC 12 Watershed. The project site provides concentrated flow to a tributary of Blackhawk Creek (see plan map). The project is not located within a wetland and will not require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

Gully erosion occurs annually on this cropland site that historically grows a rotation of corn one year, soybeans one year. On average the gully erosion is approximately 327 feet in length with an average channel depth of 1 feet and an average bottom width of 5 feet with an average top width of 15 feet (see sheet 7 of Construction Plan).

A grass diversion and waterway with a 12 feet bottom and 8:1 side slopes was installed in the fall of year 2021 due to the need to address the erosion as soon as possible. Project was surveyed and designed by Rock County LCD to meet USDA-NRCS standards 362-Diversion and 412-Grassed Waterway. Rock County LCD managed project construction and certified the project met standards.

Soil phosphorus ppm within the gully area was determined using information from a September 24, 2021 soil test report completed by A & L Great Lakes Laboratories, a Wisconsin Department of Agriculture, Trade and Consumer Protection certified lab. The soil samples were located within the area of the gully erosion. (see Soil Test Report and Soil Sampling Map).

Annual phosphorus runoff for existing conditions (baseline) was determined using the modified NRCS Gully Erosion Calculation Spreadsheet. (The modification is the inclusion of equations from SNAPPlus into the worksheet to allow determination of phosphorus runoff) Zero phosphorus runoff is used for planned conditions based on the gully erosion being filled with soil and planted to perennial vegetation.

Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit.


N^
William Barlass 6-7-238.1
Planned Grassed Waterway
N MILTON SHOPIERE RD
Unnamed
Unnamed
E CTY TK A
Blackhawk Creek
Unnamed
Unnamed

Barlass 6-7-238.1 Surface Water Data Viewer Map

Legend

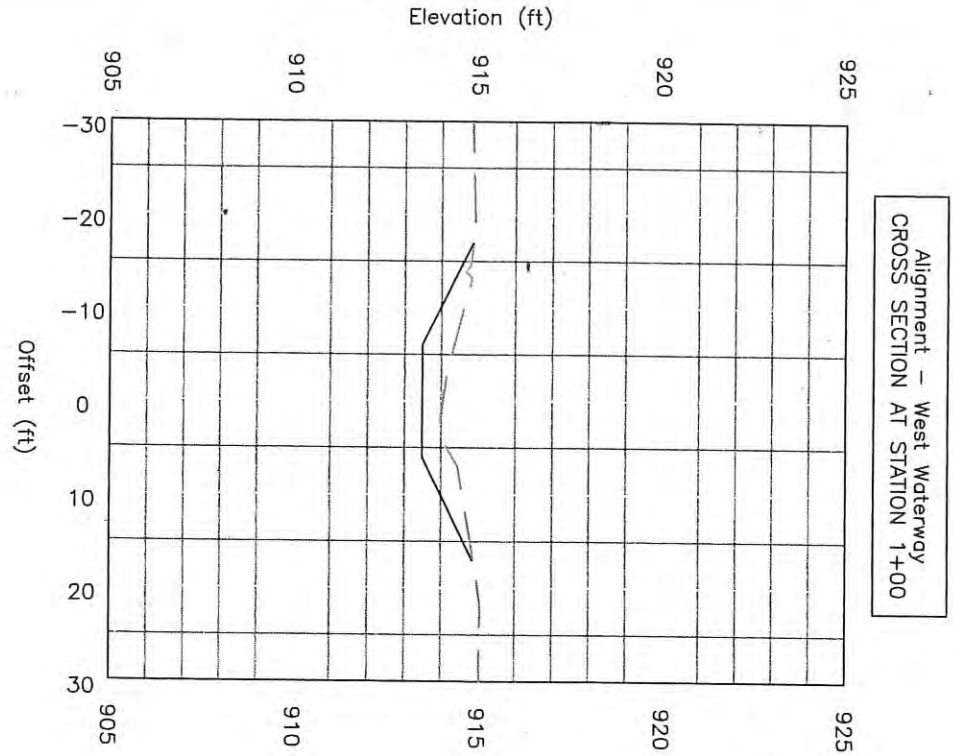
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

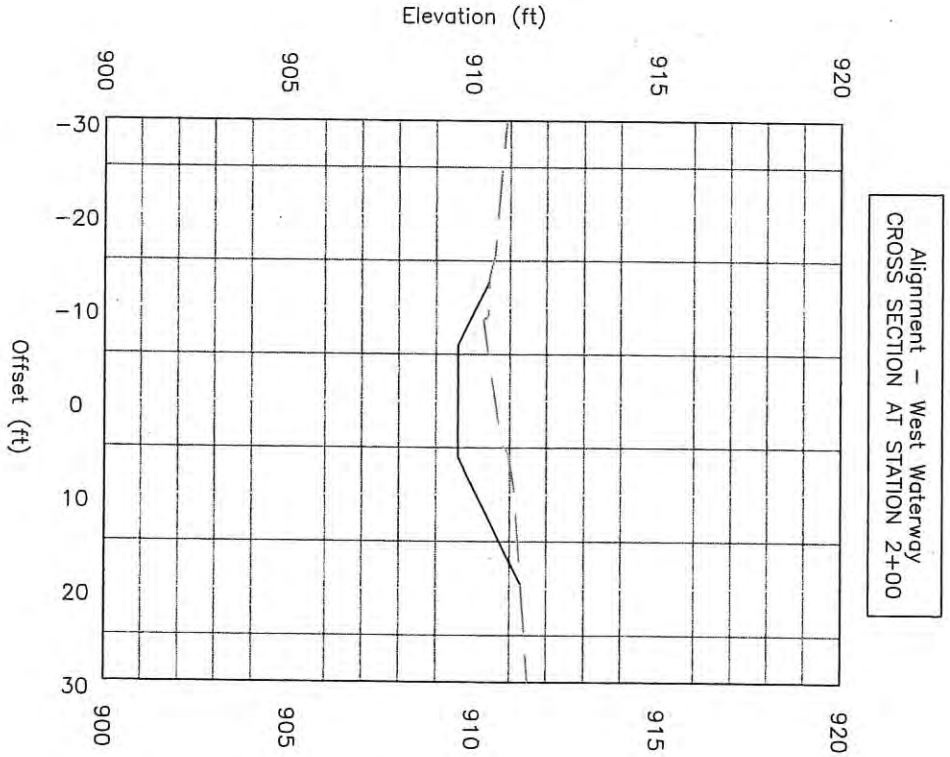
Notes

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920





USDA United States Department of Agriculture Natural Resources Conservation Service	WATERWAY CROSS SECTIONS CLIENT: Barlass Jerseys COUNTY: ROCK	Designed CN Date 1/14/202 Drawn Checked N.T. 1-21-21 Approved N.T. 1-21-21	File Name WI-007 Date 08/14 Sheet 7 of 12

Report Number
F21265-4009

Account Number
00149

a&lgreatlakes LABORATORIES
Scientists who don't mind getting dirty.™

3505 Conestoga Dr.
Fort Wayne, IN 46808
260.483.4759
algreatlakes.com

To: ADVANCED CROP CARE, INC.

For: BARLASS JERSEYS
Farm: BELL
Field: BELL

County: OUT-OF-STATE
Soil: UNKNOWN
Plow Depth: 7
Acres:

299458H7f92

Attn: JOE ROESCH

Date Received: 9/22/2021
Date Reported: 9/24/2021

SOIL TEST REPORT

Sample ID	Lab Number	OM * %	P * ppm	K * ppm	Mg ppm	Ca ppm	Soil pH	Buffer pH	CEC ** meq/100g	Cation Saturation ** %K	%Mg	%Ca	%H	S ppm	Zn ppm	Mn ppm	Fe ppm	Cu ppm	B ppm	Bicarb-P ppm	NO3-N ppm**
1	24664	3.1	130	308			7.3														
2	24665	4.0	160	322			7.4														
3	24666	3.6	149	314			7.4														
4	24667	4.3	136	321			7.3														
5	24668	4.5	151	285			7.4														
6	24669	3.3	91	206			7.6														
7	24670	5.3	108	274			7.1														
8	24671	5.0	61	151			6.3	7.0													
Average		4.1	123^	273^			7.2														

WI DATCP Laboratory Certification Number 01-15-03-201

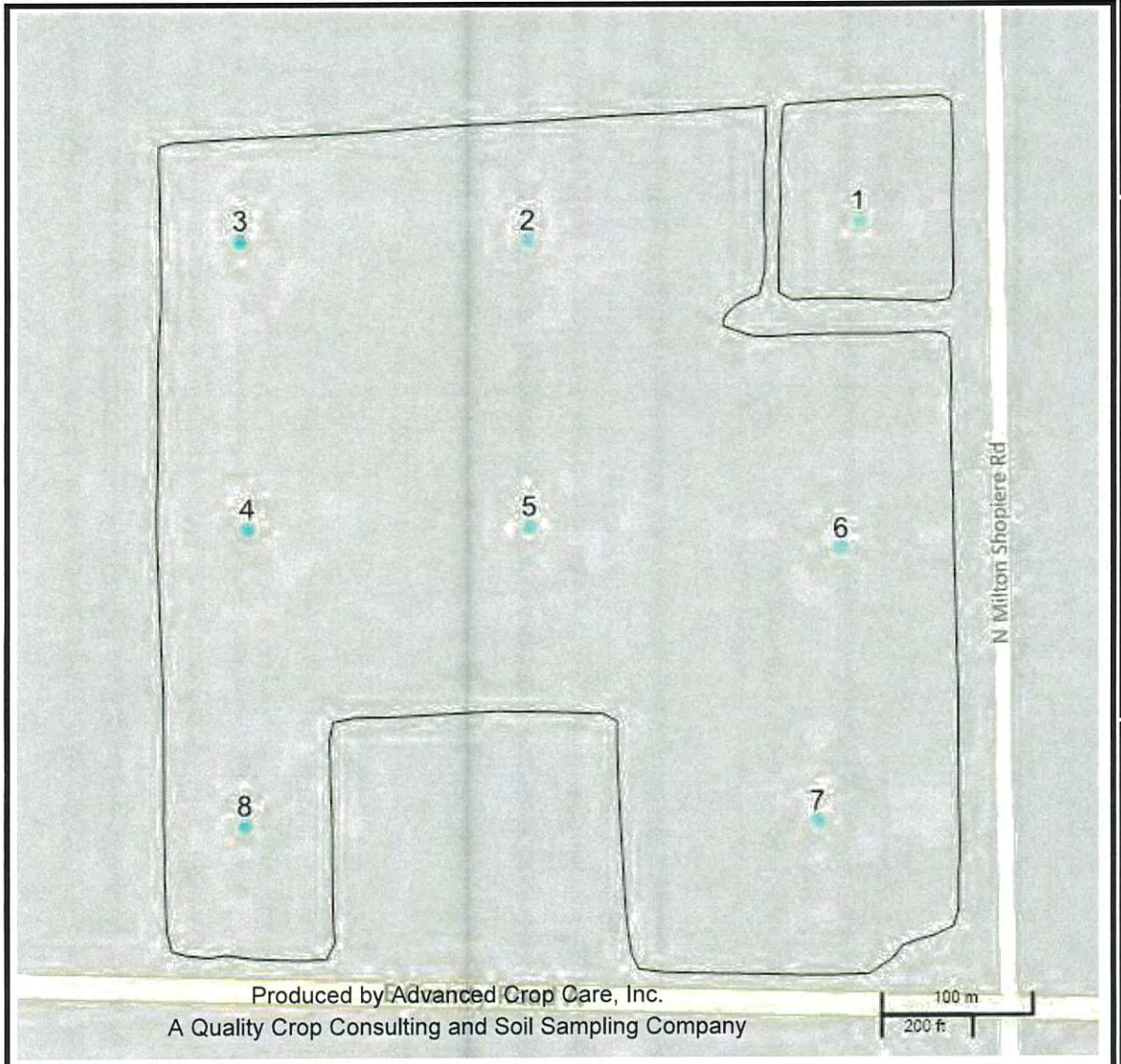
Report reviewed and approved by our professional agronomy staff.

* Soil Test Recommendations for Field, Vegetable and Fruit Crops, UW A2809, 2012. ** Recommended Chemical Soil Test Procedures for the North Central Region, NCR No. 221, 2012. ^ Weighted average, UW-A2809.

Barlass Jerseys

Fall 2021

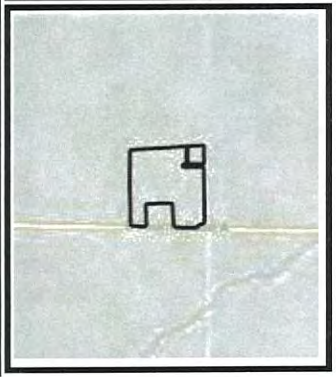
Advanced Crop Care, Inc.



Barlass Jerseys
Bell

Perimeter Acres: 34.0

Sample Locations



Field ID:

State
Wisconsin
County
Rock, WI
Township:
Harmony
Section:
23

Landowner:		William Barlass		
Conservation Practice:		grassed waterway		
		WW#1	WW#2	WW#3
Channel Depth	ft	1		
Top Channel Width	ft	15		
Bottom Channel Width	ft	5		
Channel Length	ft	327		
Years to Develop	year	1		
Soil Test P	ppm	130		
% Organic Matter	%	3.1		
Sediment Loss	tons/yr	155.325	#DIV/0!	#DIV/0!
P Loss	pounds/yr	198.4	#DIV/0!	#DIV/0!

Sediment loss equation from NRCS Gully Erosion Calculation Spreadsheet updated on 6/30/2015

P Loss uses sediment loss equation and equations from SNAP Plus

INCLUDE A PASTURE IF EITHER APPLIES:

- It receives mechanical applications of nutrients. Develop a NM plan for this *pasture* using soil samples collected at the frequency of 1 sample per 5 acres every four years and analyzed by a DATCP certified soil testing laboratory (ATCP 50.04(3)).
- It is stocked at an average of MORE than 1 *animal unit* (AU) per acre. Develop a NM for this pasture either using soil tests according to ATCP 50.04(3) or "assumed soil test values" of 150 ppm P and 6% OM.

DO NOT INCLUDE A PASTURE IF EITHER APPLIES:

- It is a *feedlot*, OR
- It is stocked at an average rate of 1 *AU* per acre or LESS at all times during the *grazing season*.

  AND

  It does not received mechanical nutrient applications.

LANDOWNER: William Barlass **PARCEL:** 6-7-238.1

PRACTICE NAME: grass waterway **PRACTICE ACRES:** 0.4

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	198.4	198.4	198.4	198.4	198.4	198.4	198.4	198.4	198.4	198.4	1984.00	198.40
PLANNED	0	0	0	0	0	0	0	0	0	0	0.00	0.00
REDUCTION	198.4	198.4	198.4	198.4	198.4	198.4	198.4	198.4	198.4	198.4	1984.00	198.40
CREDIT AFTER TRADE RATIO 2:1	99.20	99.20	99.20	99.20	99.20	99.20	99.20	99.20	99.20	99.20	992.00	99.20

Appendix C6

Project Name: William Barlass, Roof Runoff System, Parcel 6-9-261

Landowner Information:

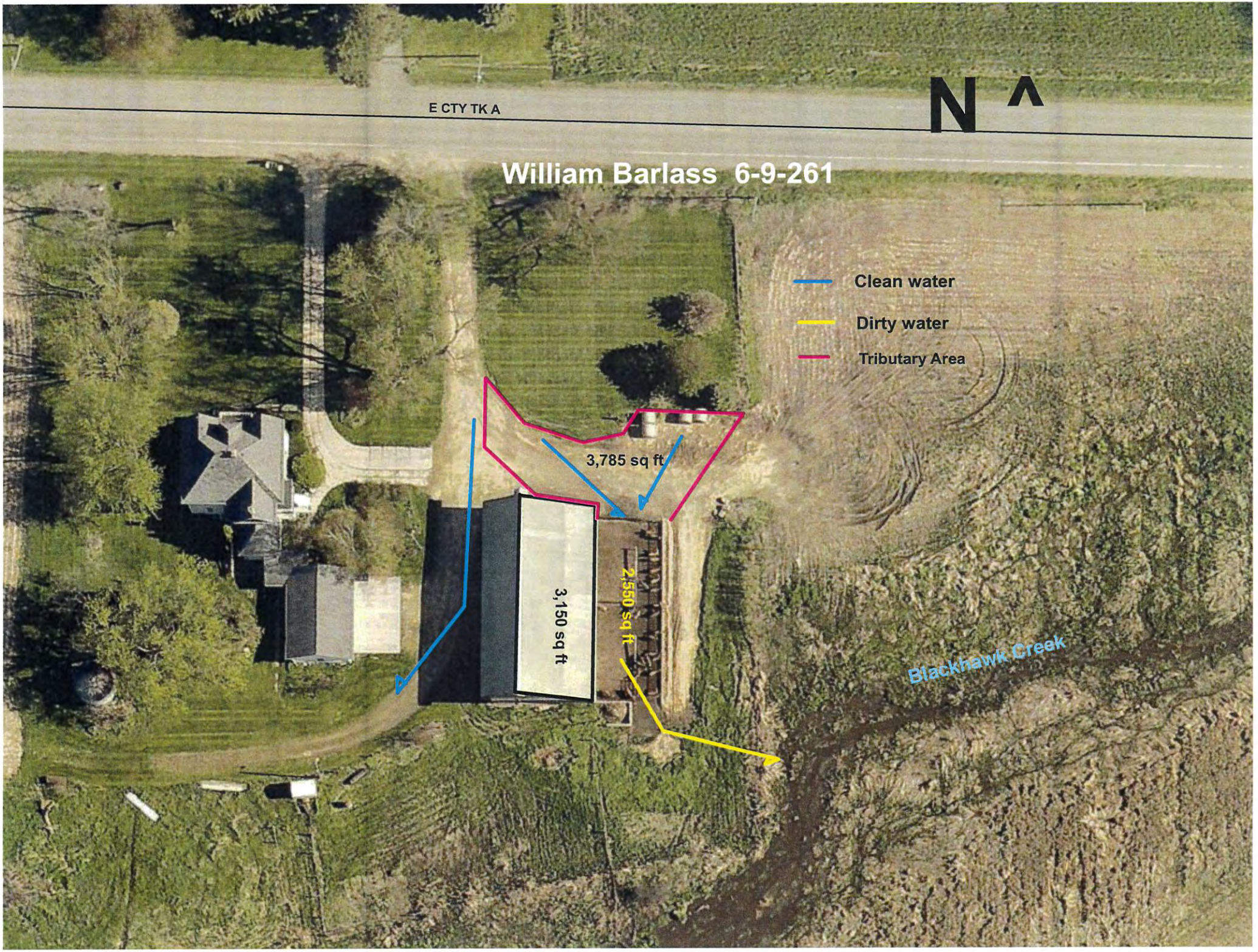
William Barlass
6145 E County Road A
Janesville, WI 53546
608-449-6798

The project is located in the Headwaters Blackhawk Creek HUC12 Watershed (see Location Map in Appendix). Storm water containing cattle manure from the barnyard eastward into a concentrated channel until it flows to Blackhawk Creek (see inventory map and pictures). The project is not located within a wetland and will not require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

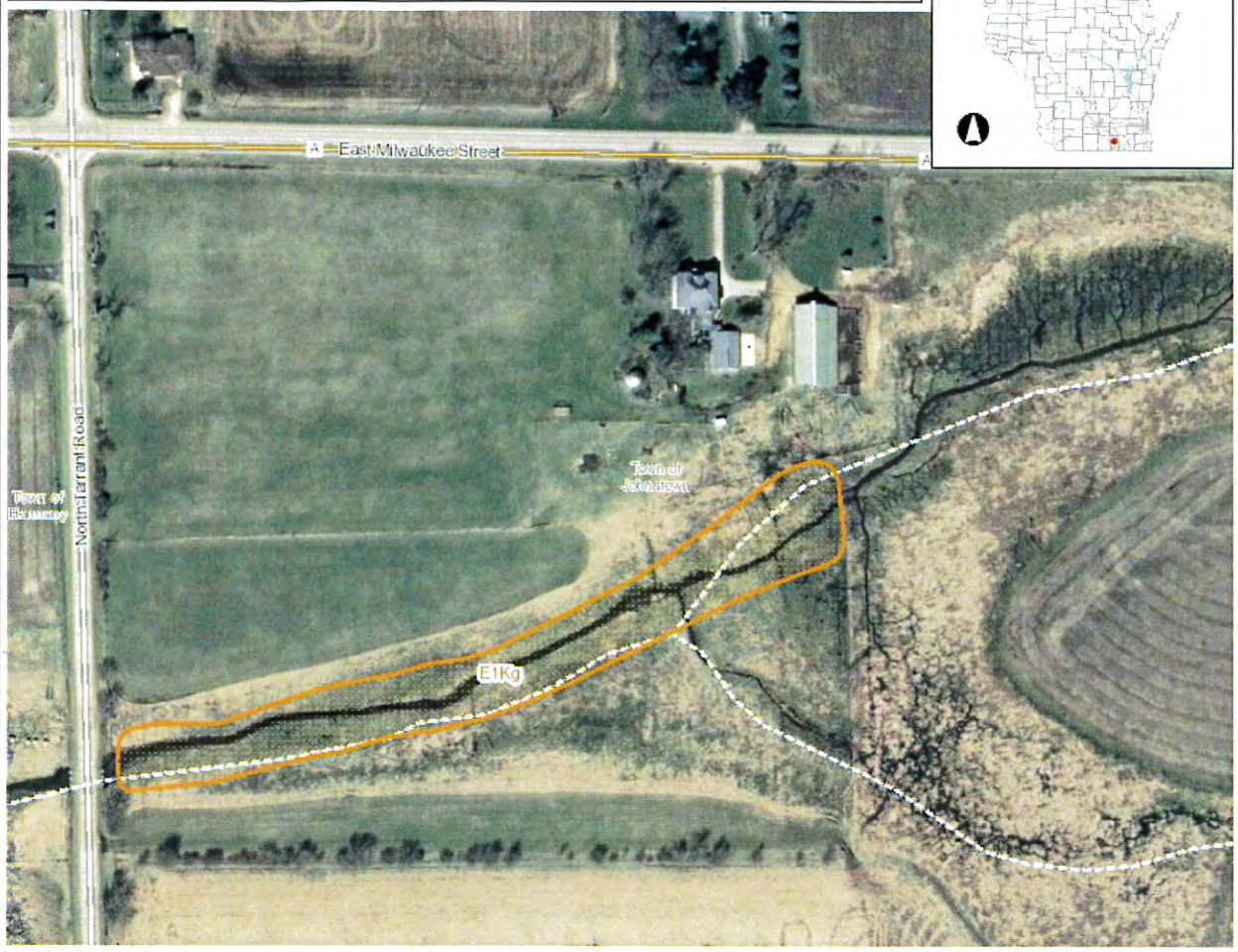
Plans are to install roof gutters and a diversion in the year 2022 (see plan map). Project will be surveyed and designed by Rock County LCD to meet USDA-NRCS standard 362-Diversion and 558 Roof Runoff System. Rock County LCD will oversee project construction and certify project completion. Historically, the barnyard has housed 50 to 75 dairy heifers on a year round basis. It is planned to house 65 dairy heifers on a year round basis.

Annual phosphorus runoff for existing condition (baseline) and planned conditions were determined using BARNY. Data inserted into BARNY was derived from landowner testimonial and measurements using ArcMap (see Inventory Map).

Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit. A 2:1 trade ratio was used to determine the phosphorus reduction for the roof runoff system. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual information obtained from survey data and then inserting into Trade Ratio Spreadsheet.


E CTY TK A
N
William Barlass 6-9-261
Clean water
Dirty water
Tributary Area
3,785 sq ft
3,150 sq ft
2,550 sq ft
Blackhawk Creek

Surface Water Data Viewer Map



Legend

- Wetland Identifications and Confirmations
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
- Filled Points
- Wetland Class Areas
  - Wetland
  - Upland
- Filled Areas

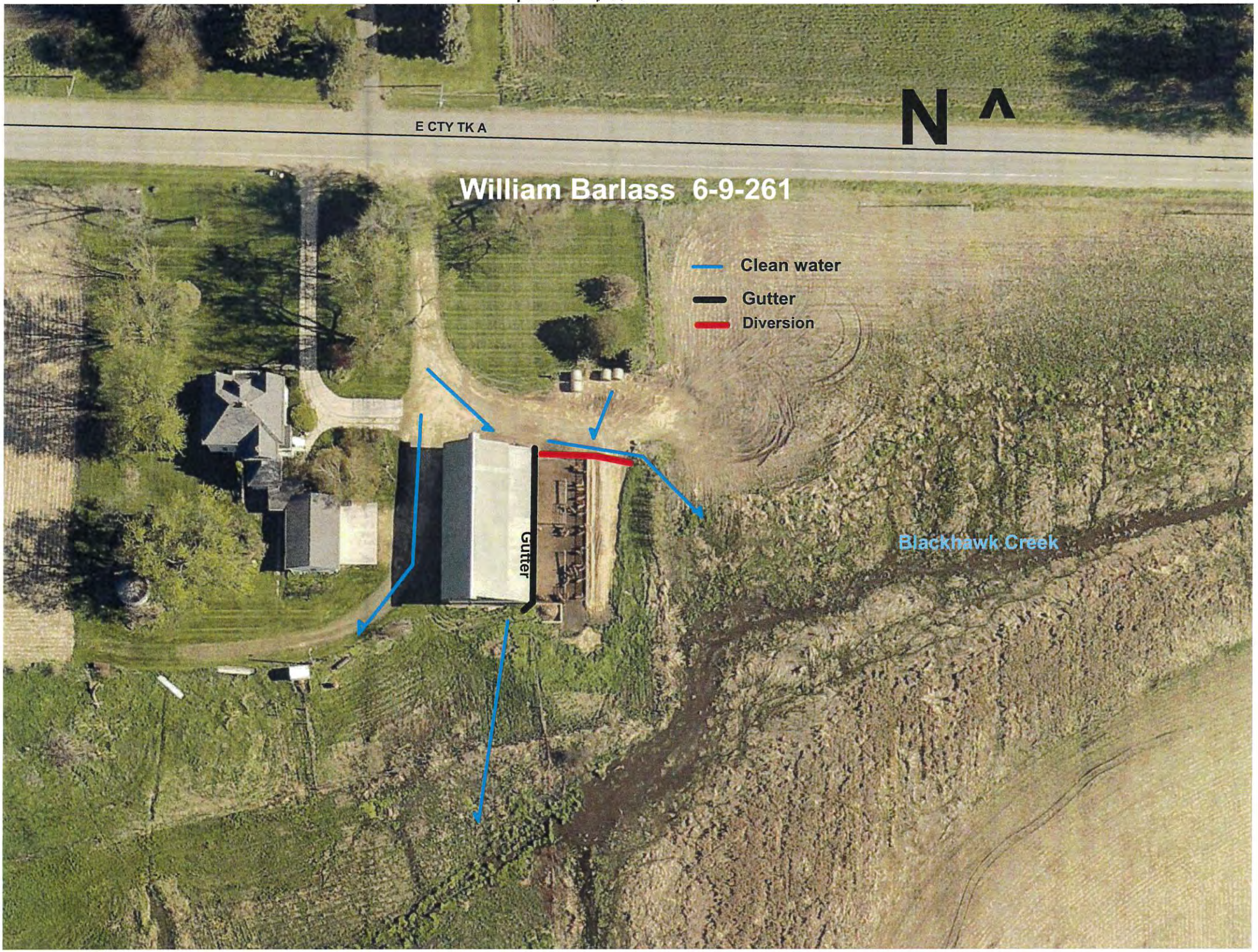
Notes

0.1 0 0.03 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 1,980

PLAN MAP


E CTY TK A
N
William Barlass 6-9-261
Clean water
Gutter
Diversion
Gutter
Blackhawk Creek

6-9-261

BUFFER DESIGN USING BARNY (existing conditions)

OWNER: William Barliss DESIGNER: cm DATE: 2/8/2021
CHK BY: DATE:

	Input	Output	
			1 Madison
			2 Appleton
Closest City of similar climate:	1		3 Wausau
			4 Eau Claire
Paved lot area:	2,550		sq ft
Earth lot area:			sq ft
Animal Lot size:		2,550	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	65 number		number
Type of animal:	1		(Dairy = 1; Beef=2)
Ave. Animal Weight:	800 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	3,785	sq ft		sq ft
Runoff Curve Number:	98			
Roof area:	3,150	sq ft		

77.7 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: lbs

Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

P (lbs) after the buffers: 77.7 lbs P per year

NO GOOD - Too much P released

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

BUFFER SIZING

		3,825	sq ft — Min. Acceptable Buffer Area
Chosen Buffer Width		feet	
		0	feet — Min. Bfr. Len. Based on BARNY
		#DIV/0!	feet — Min. Bfr. Len. Based on Area
Chosen Buffer Length		feet	#DIV/0!

6-9-261

BUFFER DESIGN USING BARNY (PLANNED conditions)

OWNER: William Barliss | DESIGNER: cm | DATE: 2/8/2021
CHK BY: | DATE:

	Input	Output	
Closest City of similar climate:	1		1 Madison, 2 Appleton, 3 Wausau, 4 Eau Claire
Paved lot area:	2,550		sq ft
Earth lot area:			sq ft
Animal Lot size:		2,550	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	65 number		number
Type of animal:	1		(Dairy = 1; Beef=2)
Ave. Animal Weight:	800 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	0 sq ft		sq ft
Runoff Curve Number:			
Roof area:	0 sq ft		

14.8 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		
Second Buffer	Length:		ft
	Slope:		
	"c" :		

P (lbs) after the buffers: 14.8 lbs P per year

NO GOOD - Too much P released

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

BUFFER SIZING

		3,825 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width	feet		
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length	feet	#DIV/0!	

LANDOWNER: William Barlass **PARCEL:** 6-9-261

PRACTICE NAME: roof runoff system

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	777.00	77.70
PLANNED	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	148.00	14.80
REDUCTION	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	629.00	62.90
CREDIT AFTER TRADE RATIO 2:1	31.45	31.45	31.45	31.45	31.45	31.45	31.45	31.45	31.45	31.45	314.50	31.45

Appendix C7

Project Name: Favreau-Evergreen Farms LLC, Conservation Easement, Parcel 6-6-396

Landowner Information: Favreau-Evergreen Farms LLC
3902 Starbrite Lane
Janesville, WI, 53546
Contact Person: John Favreau, 608-289-6158

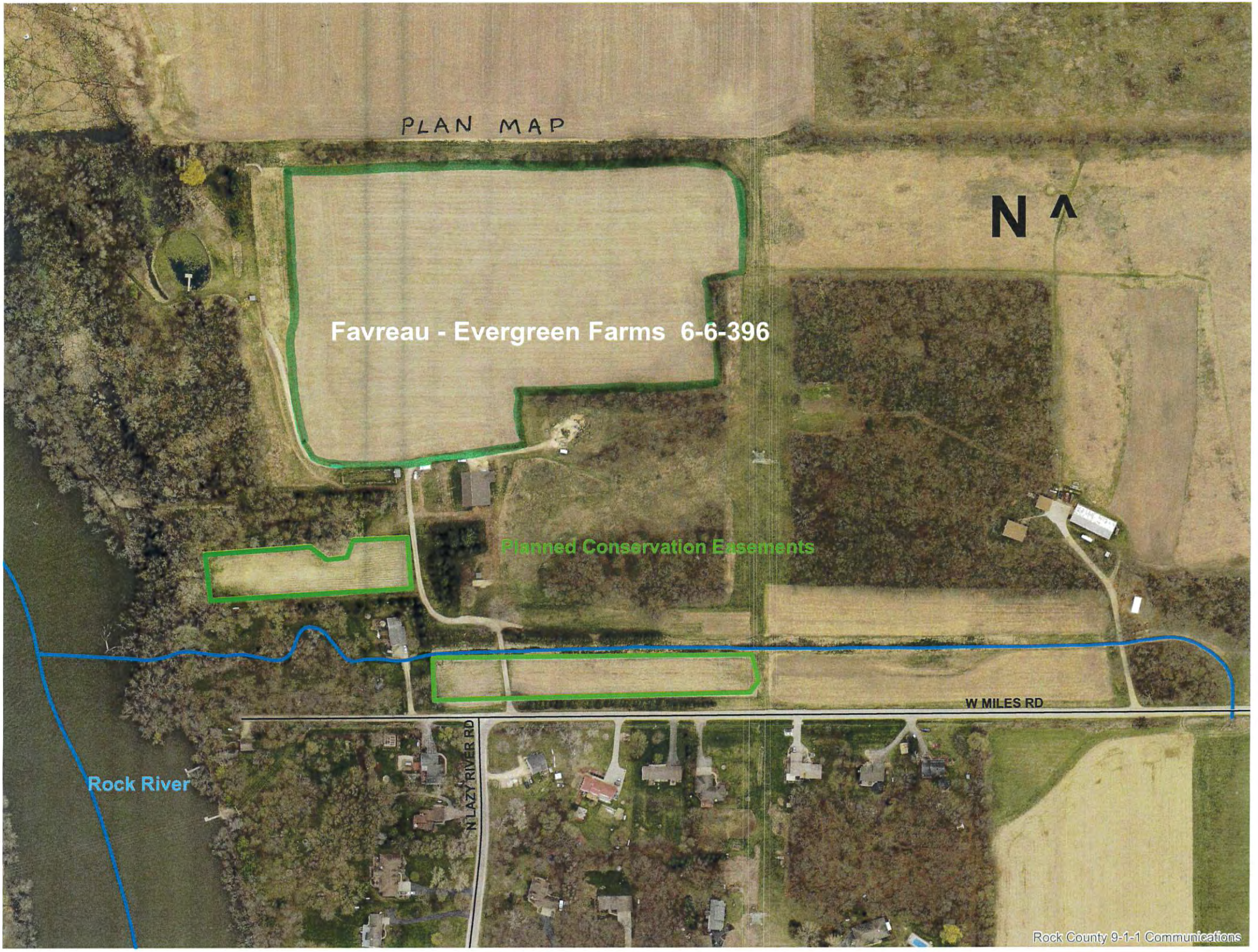
Project is located in Camp Indian Trails HUC12 Watershed (see Location Map in Appendix). Project site provides sheet/rill erosion to an intermittent unnamed tributary to the Rock River (see Plan Map). Project isn't located in a wetland and won't require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

Approximately 16 acres of cropland (3 fields) that historically have been planted to one year corn, one year soybean rotation are going to be planted to perennial vegetation (see Plan Map). Perennial vegetation will consist of forage grasses/legumes that can be harvested annually. Legumes will be less than 50% of the forage mix. Project will be designed to meet USDA-NRCS 512-Forage and Biomass Planting standard by Rock County LCD who will certify project completion.

Soil phosphorus ppm was determined by taking multiple samples which were sent to be analyzed by Rock River Laboratory which is a Wisconsin Certified soil Testing Lab (see Soil Test Map and Reports).

Annual pounds of phosphorus runoff for existing (baseline) and planned conditions were determined using SNAPPlus. Phosphorus runoff for existing conditions for all fields was calculated based on a rotation of 1 year grain corn and one year soybean for a 7 year period with field preparations for corn and for soybeans being fall chisel disk. SNAPPlus calculations for planned conditions for the perennial vegetation planting is based on no-till seeding grass/alfalfa in spring of first year and a mature stand of grass/alfalfa for the remaining years.

Annual phosphorus runoffs were inserted into a Trade Ratio Spreadsheet to determine the estimated Trade Credit. A 1.2:1 trade ratio was used for the conservation easement. The rotational phosphorus index (PI) is below the Rock River TMDL PI Threshold so all credits will be long-term therefore no interim credits were determined. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual acres planted to perennial vegetation and then inserting into Trade Ratio Spreadsheet.


PLAN MAP
N ^
Favreau - Evergreen Farms 6-6-396
Planned Conservation Easements
W MILES RD
N LAZY RIVER RD
Rock River
Rock County 9-1-1 Communications

Favreau-Evergreen 6-6-396
Surface Water Data Viewer Map

Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- Index to

0.3 0 0.13 0.3 Miles

1: 7,920

NAD_1983_HARN_Wisconsin_TM

Notes


SOIL TEST MAP
4N1
4N2
4N3
N Field
4c1
4c2
4c3
4s3
FAVREAU
JDS FARMS LLC
4s1
4s2
FALK
3/3
3/2
3/1
W field
ERICKSON
1/1
1/2
2/1
2/2
2/3
S Field
W MILES RD
N LACY RIVER RD
MANTHORPE
BUTCHER
COBY
Rock County 9-1-1 Communications

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

Account: 314
ALCIVIA- South Hub
W2931 Walnut St
Juda, WI 53550

Report For:
Favreau Evergreen Farms

Lab #254031
County Rock
Received 11/1/2021
Field 4C
Acres 10.0
Plow Depth 7.0
Soil Name
Previous Crop

Nutrient Recommendations (lbs/acre)

Cropping Sequence	Yield Goal (per acre)	Crop Nutrient Need N	P2O5	K2O	Legume N Credit	Apply N	P2O5	K2O
Alfalfa, seeding	2.2	0	25	105	0	0	25	105
Alfalfa, established	6.0	0	80	360	0	0	80	360
Alfalfa, established	6.0	0	80	360	0	0	80	360
Alfalfa, established	6.0	0	80	360	0	0	80	360

The lime required for this rotation to reach pH 6.8 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.

Laboratory Analysis for Field 4C, Lab No 254031

Sample Num	Soil pH	Om %	P ppm	K ppm	60-69 Lime Req(T/a)	Ca ppm	Mg ppm	Est Cec	B ppm	Mn ppm	Zn ppm	Sulfate-S ppm	Sample Density	Buffer Code
1	6.8	2.5	39	119		1080	309	10	0.5	29	2.7	1.4	0.94	N.R.
2	6.2	2.0	29	142	2.0	761	200	6	0.4	24	2.2	1.7	1.06	7.1
3	6.4	2.5	21	178	2.0	766	238	8	0.4	23	1.9	1.6	0.93	6.9
4	5.6	1.0	19	108	2.0	325	88	3	0.4	23	1.7	1.9	1.14	7.0
Adj Avg	6.3	2.0	23	123		733	209	7	0.4	25	2.1	1.7		

Sample Num	Cu ppm	Fe ppm	Al ppm	Salt mmhos /cm	Na ppm	NO3 ppm	NH4 ppm	Olsen P ppm
1	1.12	135.95		0.22				
2	0.90	135.23		0.23				
3	0.47	112.43		0.29				
4	0.45	143.13		0.15				

Base Saturation

Est CEC	Ca %	Mg %	K %
7	64.4	30.1	5.5

Test Interpretation for Field 4C, Lab No 254031

Crop Name	Very Low	Low	Optimum	High	Very High	Excessive	Very Low	Low	Optimum	High	Very High	Excessive
Alfalfa, seeding	P						K					

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

Account: 314
ALCIVIA- South Hub
W2931 Walnut St
Juda, WI 53550

Report For:
Favreau Evergreen Acres

Lab #254033
County
Received 11/1/2021
Field 4S
Acres 10.0
Plow Depth 7.0
Soil Name
Previous Crop

Nutrient Recommendations (lbs/acre)

Cropping Sequence	Yield Goal (per acre)	Crop Nutrient Need N	P2O5	K2O	Legume N Credit	Apply N	P2O5	K2O
Alfalfa, seeding	2.2	0	0	105	0	0	0	105

The lime required for this rotation to reach pH 6.8 is 7 T/a of 60-69 lime or 5.5 T/a of 80-89 lime.

Laboratory Analysis for Field 4S, Lab No 254033

Sample Num	Soil pH	Om %	P ppm	K ppm	60-69 Lime Req(T/a)	Ca ppm	Mg ppm	Est Cec	B ppm	Mn ppm	Zn ppm	Sulfate-S ppm	Sample Density	Buffer Code
1	7.0	2.7	45	200		1012	318	10	0.5	28	3.2	1.0	0.99	N.R.
2	5.2	1.1	55	107	2.0	304	71	2	0.4	21	2.0	2.0	1.14	6.9
3	4.9	2.5	51	146	12.0	689	142	6	0.5	38	3.2	3.3	0.94	6.3
4	5.5	1.8	29	141	2.0	595	148	6	0.5	33	3.1	3.7	0.97	6.9
Adj Avg	5.7	2.0	45	131		650	170	6	0.5	30	2.9	2.5		

Sample Num	Cu ppm	Fe ppm	Al ppm	Salt mmhos /cm	Na ppm	NO3 ppm	NH4 ppm	Olsen P ppm
1	1.24	120.22		0.35				
2	0.49	178.79		0.13				
3	1.22	221.79		0.18				
4	1.17	185.89		0.20				

Base Saturation

Est CEC	Ca %	Mg %	K %
6	65.3	27.9	6.7

Test Interpretation for Field 4S, Lab No 254033

Crop Name	Very Low	Low	Optimum	High	Very High	Excessive	Very Low	Low	Optimum	High	Very High	Excessive
Alfalfa, seeding	P						K					

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

Account: 314
ALCIVIA- South Hub
W2931 Walnut St
Juda, WI 53550

Report For:
Favreau Evergreen Acres

Lab #254033
County
Received 11/1/2021
Field 4N
Acres 10.0
Plow Depth 7.0
Soil Name
Previous Crop

Nutrient Recommendations (lbs/acre)

Cropping Sequence	Yield Goal (per acre)	Crop Nutrient Need N	P2O5	K2O	Legume N Credit	Apply N	P2O5	K2O
Alfalfa, seeding	2.2	0	25	55	0	0	25	55

The lime required for this rotation to reach pH 6.8 is 11 T/a of 60-69 lime or 8.5 T/a of 80-89 lime.

Laboratory Analysis for Field 4N, Lab No 254033

Sample Num	Soil pH	Om %	P ppm	K ppm	60-69 Lime Req(T/a)	Ca ppm	Mg ppm	Est Cec	B ppm	Mn ppm	Zn ppm	Sulfate-S ppm	Sample Density	Buffer Code
1	6.9	2.8	18	219		1104	355	11	0.5	27	2.0	1.7	1.00	N.R.
2	6.6	2.5	19	163		1091	311	10	0.5	22	2.1	1.9	1.01	N.R.
3	4.9	2.9	34	159	11.0	777	163	7	0.5	37	3.7	4.5	0.91	6.5
4	5.4	1.8	18	142	5.0	459	116	4	0.4	26	1.8	3.2	1.00	6.7
Adj Avg	5.9	2.5	18	155		858	236	8	0.5	28	2.4	2.8		

Sample Num	Cu ppm	Fe ppm	Al ppm	Salt mmhos /cm	Na ppm	NO3 ppm	NH4 ppm	Olsen P ppm
1	1.12	111.00		0.37				
2	0.75	113.19		0.28				
3	1.11	206.26		0.20				
4	0.49	132.01		0.19				

Base Saturation

Est CEC	Ca %	Mg %	K %
8	64.8	29.3	6.0

Test Interpretation for Field 4N, Lab No 254033

Crop Name	Very Low	Low	Optimum	High	Very High	Excessive	Very Low	Low	Optimum	High	Very High	Excessive
Alfalfa, seeding	P						K					

Additional Information, Secondary & Micronutrient Recommendations

Alfalfa, seeding:No expected yield level was provided for this crop. P and K application rates are based on an intermediate yield level.
All:If a legume crop preceeds the first crop listed on the sample submission form, N credits should be subtracted from the N recommendation for the first crop listed. See Chapter 9 in UWEX Publication A2809 for more details.
All:If manure, biosolids, septage or other waste materials have been applied to this field, be sure to take nutrient credits and adjust fertilizer rate. See Chapter 9 in UWEX Publication A2809 for more details.
All:No soil information was provided. Generic nutrient application rate guidelines are given on this report. They should not be used for nutrient managment planning purposes. n the future, please submit samples with county and soil map unit or soil series name to obtain the nutrient application guidelines that are more appropriate for your soil.
All:Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.
All:Buffer pH not required for calculation of lime requirement when soil pH is 6.6 or higher.
All:If lime has been applied in the last two years, more lime may not be needed due to incomplete reaction.
All:Parts of this field may not benefit from liming. Please see the lime requirementsfor individual samples.
Corn:Nitrogen application rates for grain and silage corn reflect the maximum return to N (MRTN) at a 0.10 N:corn price ratio (eg. $0.30/lb N and $3.00/bu; or $0.40/lb N and $4.00/bu) and the range of rates that produce profitability within $1/a of the MRTN rate. N application rates can be adjusted to reflect different prices for N and grain. See Chapter 6 in UWEX Publication A2809 for more details.
Corn:Starter fertilizer may accelerate early season corn development, which may not always translate into increased yield. Corn will benefit more from a complete starter fertilizer (e.g. 10+20+20 lbs N+P2O5+K2O/a) when grown on soils testing optimum or less in P and K.
Corn, grain:If corn is harvested for silage instead of grain add extra 30 lbs P2O5 per acre and 90 lbs K2O per acre to next crop.
Alfalfa:If alfalfa will be maintained for more than three years, increase recommended K2O by 20% each year.
All:Ca test average value of 857.61 is in Optimum category.
All:Mg test average value of 236.41 is in Optimum category.
Apply 2.0 lb B/acre
All:Mn test average value of 28.0 is in High category.
All:Zn test average value of 2.4 is in Low category.
Alfalfa, seeding:Sulfur availability is dependent upon soil test S levels, organic matter content, clay content in the soil profile, pH, manure application history, and atmospheric deposition of S. See Chapter 8, page 63 of publication A2809 for additional details.

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

Account: 314
ALCIVIA- South Hub
W2931 Walnut St
Juda, WI 53550

Report For:
Favreau Evergreen Acres

Lab #254034
County Rock
Received 11/1/2021
Field 1
Acres 1.0
Plow Depth 7.0
Soil Name
Previous Crop

Nutrient Recommendations (lbs/acre)

Cropping Sequence	Yield Goal (per acre)	Crop Nutrient Need N	P2O5	K2O	Legume N Credit	Apply N	P2O5	K2O
Alfalfa, seeding	2.2	30	0	145	0	30	0	145
Alfalfa, established	6.0	0	0	400	0	0	0	400
Alfalfa, established	6.0	0	0	400	0	0	0	400
Alfalfa, established	6.0	0	0	400	0	0	0	400

The lime required for this rotation to reach pH 6.8 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.

Laboratory Analysis for Field 1, Lab No 254034

Sample Num	Soil pH	Om %	P ppm	K ppm	60-69 Lime Req(T/a)	Ca ppm	Mg ppm	Est Cec	B ppm	Mn ppm	Zn ppm	Sulfate-S ppm	Sample Density	Buffer Code
1	5.6	1.7	75	111	2.0	593	123	5	0.5	37	6.3	2.0	1.05	6.9
2	5.8	1.9	76	102	2.0	688	150	5	0.5	39	5.9	1.2	1.07	7.0
Adj Avg	5.7	1.8	76	106		640	137	5	0.5	38	6.1	1.6		

Sample Num	Cu ppm	Fe ppm	Al ppm	Salt mmhos /cm	Na ppm	NO3 ppm	NH4 ppm	Olsen P ppm
1	1.37	209.34		0.16				
2	1.56	230.28		0.15				

Base Saturation

Est CEC	Ca %	Mg %	K %
5	69.7	24.4	5.9

Test Interpretation for Field 1, Lab No 254034

Crop Name	Very Low	Low	Optimum	High	Very High	Excessive	Very Low	Low	Optimum	High	Very High	Excessive
Alfalfa, seeding	P						K					

Additional Information, Secondary & Micronutrient Recommendations

Alfalfa, established:No expected yield level was provided for this crop. P and K application rates are based on an intermediate yield level.
Alfalfa, seeding:No expected yield level was provided for this crop. P and K application rates are based on an intermediate yield level.
All:If a legume crop preceeds the first crop listed on the sample submission form, N credits should be subtracted from the N recommendation for the first crop listed. See Chapter 9 in UWEX Publication A2809 for more details.
All:If manure, biosolids, septage or other waste materials have been applied to this field, be sure to take nutrient credits and adjust fertilizer rate. See Chapter 9 in UWEX Publication A2809 for more details.
All:No soil information was provided. Generic nutrient application rate guidelines are given on this report. They should not be used for nutrient managment planning purposes. n the future, please submit samples with county and soil map unit or soil series name to obtain the nutrient application guidelines that are more appropriate for your soil.
All:Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.
All:If lime has been applied in the last two years, more lime may not be needed due to incomplete reaction.
Corn:Nitrogen application rates for grain and silage corn reflect the maximum return to N (MRTN) at a 0.10 N:corn price ratio (eg. $0.30/lb N and $3.00/bu; or $0.40/lb N and $4.00/bu) and the range of rates that produce profitability within $1/a of the MRTN rate. N application rates can be adjusted to reflect different prices for N and grain. See Chapter 6 in UWEX Publication A2809 for more details.
Corn:Starter fertilizer may accelerate early season corn development, which may not always translate into increased yield. Corn will benefit more from a complete starter fertilizer (e.g. 10+20+20 lbs N+P2O5+K2O/a) when grown on soils testing optimum or less in P and K.
Alfalfa:If alfalfa will be maintained for more than three years, increase recommended K2O by 20% each year.
Corn, grain:If corn is harvested for silage instead of grain apply extra 90 lbs K2O per acre to next crop.
All:Ca test average value of 640.399 is in Optimum category.
All:Mg test average value of 136.747 is in Optimum category.
Apply 2.0 lb B/acre
All:Mn test average value of 38.1 is in High category.
All:Zn test average value of 6.1 is in Optimum category.
Alfalfa, established:Sulfur availability is dependent upon soil test S levels, organic matter content, clay content in the soil profile, pH, manure application history, and atmospheric deposition of S. See Chapter 8, page 63 of publication A2809 for additional details.
Alfalfa, seeding:Sulfur availability is dependent upon soil test S levels, organic matter content, clay content in the soil profile, pH, manure application history, and atmospheric deposition of S. See Chapter 8, page 63 of publication A2809 for additional details.

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

Account: 314
ALCIVIA- South Hub
W2931 Walnut St
Juda, WI 53550

Report For:
Favreau Evergreen Acres

Lab #254034
County Rock
Received 11/1/2021
Field 2
Acres 2.0
Plow Depth 7.0
Soil Name
Previous Crop

Nutrient Recommendations (lbs/acre)

Cropping Sequence	Yield Goal (per acre)	Crop Nutrient Need N	P2O5	K2O	Legume N Credit	Apply N	P2O5	K2O
Alfalfa, seeding	2.2	30	0	145	0	30	0	145
Alfalfa, established	6.0	0	0	400	0	0	0	400
Alfalfa, established	6.0	0	0	400	0	0	0	400
Alfalfa, established	6.0	0	0	400	0	0	0	400

The lime required for this rotation to reach pH 6.8 is 4 T/a of 60-69 lime or 3 T/a of 80-89 lime.

Laboratory Analysis for Field 2, Lab No 254034

Sample Num	Soil pH	Om %	P ppm	K ppm	60-69 Lime Req(T/a)	Ca ppm	Mg ppm	Est Cec	B ppm	Mn ppm	Zn ppm	Sulfate-S ppm	Sample Density	Buffer Code
1	5.6	1.4	91	114	3.0	425	96	4	0.4	33	3.1	1.7	1.07	6.8
2	6.1	1.8	87	127	2.0	681	159	6	0.5	34	4.7	2.0	1.04	6.9
3	5.7	1.8	66	86	2.0	596	159	5	0.6	25	2.7	2.0	1.12	6.9
4	5.3	1.8	89	153	8.0	557	148	5	0.6	18	2.5	1.8	1.04	6.6
Adj Avg	5.7	1.7	83	109		565	140	5	0.5	28	3.3	1.9		

Sample Num	Cu ppm	Fe ppm	Al ppm	Salt mmhos /cm	Na ppm	NO3 ppm	NH4 ppm	Olsen P ppm
1	0.93	215.40		0.16				
2	1.07	236.13		0.20				
3	1.87	323.36		0.12				
4	1.55	341.18		0.21				

Base Saturation

Est CEC	Ca %	Mg %	K %
5	66.4	27.1	6.6

Test Interpretation for Field 2, Lab No 254034

Crop Name	Very Low	Low	Optimum	High	Very High	Excessive	Very Low	Low	Optimum	High	Very High	Excessive
Alfalfa, seeding	P						K					

Call John Favreau 608-289-6158

Soil Test Report - Field: 3 Acres: 1.0

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

Account: 314
ALCIVIA- South Hub
W2931 Walnut St
Juda, WI 53550

Report For:
Favreau Evergreen Farms

Lab #254031
County Rock
Received 11/1/2021
Field 3
Acres 1.0
Plow Depth 7.0
Soil Name
Previous Crop

Nutrient Recommendations (lbs/acre)

Cropping Sequence	Yield Goal (per acre)	Crop Nutrient Need N	P2O5	K2O	Legume N Credit	Apply N	P2O5	K2O
Alfalfa, seeding	2.2	30	0	145	0	30	0	145
Alfalfa, established	6.0	0	0	400	0	0	0	400
Alfalfa, established	6.0	0	0	400	0	0	0	400
Alfalfa, established	6.0	0	0	400	0	0	0	400

The lime required for this rotation to reach pH 6.8 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.

Laboratory Analysis for Field 3, Lab No 254031

Sample Num	Soil pH	Om %	P ppm	K ppm	60-69 Lime Req(T/a)	Ca ppm	Mg ppm	Est Cec	B ppm	Mn ppm	Zn ppm	Sulfate-S ppm	Sample Density	Buffer Code
1	6.1	1.3	72	80	2.0	542	127	4	0.4	28	3.6	1.1	1.13	7.1
2	6.1	1.5	110	109	2.0	609	151	5	0.5	34	3.6	2.0	1.12	7.0
Adj Avg	6.1	1.4	91	94		575	139	4	0.5	31	3.6	1.6		

Sample Num	Cu ppm	Fe ppm	Al ppm	Salt mmhos /cm	Na ppm	NO3 ppm	NH4 ppm	Olsen P ppm
1	0.60	218.33		0.13				
2	1.26	278.27		0.17				

Base Saturation

Est CEC	Ca %	Mg %	K %
4	67.5	26.8	5.6

Test Interpretation for Field 3, Lab No 254031

Crop Name	Very Low	Low	Optimum	High	Very High	Excessive	Very Low	Low	Optimum	High	Very High	Excessive
Alfalfa, seeding	P						K					

Additional Information, Secondary & Micronutrient Recommendations

Alfalfa, established:No expected yield level was provided for this crop. P and K application rates are based on an intermediate yield level.
Alfalfa, seeding:No expected yield level was provided for this crop. P and K application rates are based on an intermediate yield level.
All:If a legume crop preceeds the first crop listed on the sample submission form, N credits should be subtracted from the N recommendation for the first crop listed. See Chapter 9 in UWEX Publication A2809 for more details.
All:If manure, biosolids, septage or other waste materials have been applied to this field, be sure to take nutrient credits and adjust fertilizer rate. See Chapter 9 in UWEX Publication A2809 for more details.
All:No soil information was provided. Generic nutrient application rate guidelines are given on this report. They should not be used for nutrient managment planning purposes. n the future, please submit samples with county and soil map unit or soil series name to obtain the nutrient application guidelines that are more appropriate for your soil.
All:Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.
All:If lime has been applied in the last two years, more lime may not be needed due to incomplete reaction.
Corn:Nitrogen application rates for grain and silage corn reflect the maximum return to N (MRTN) at a 0.10 N:corn price ratio (eg. $0.30/lb N and $3.00/bu; or $0.40/lb N and $4.00/bu) and the range of rates that produce profitability within $1/a of the MRTN rate. N application rates can be adjusted to reflect different prices for N and grain. See Chapter 6 in UWEX Publication A2809 for more details.
Corn:Starter fertilizer may accelerate early season corn development, which may not always translate into increased yield. Corn will benefit more from a complete starter fertilizer (e.g. 10+20+20 lbs N+P2O5+K2O/a) when grown on soils testing optimum or less in P and K.
Alfalfa:If alfalfa will be maintained for more than three years, increase recommended K2O by 20% each year.
Corn, grain:If corn is harvested for silage instead of grain apply extra 90 lbs K2O per acre to next crop.
Alfalfa, established:Field tests below 'optimum' in Ca, but response to Ca is unlikely.
Alfalfa, seeding:Field tests below 'optimum' in Ca, but response to Ca is unlikely.
All:Mg test average value of 139.291 is in Optimum category.
Apply 2.0 lb B/acre
All:Mn test average value of 30.7 is in High category.
All:Zn test average value of 3.6 is in Optimum category.
Alfalfa, established:Sulfur availability is dependent upon soil test S levels, organic matter content, clay content in the soil profile, pH, manure application history, and atmospheric deposition of S. See Chapter 8, page 63 of publication A2809 for additional details.
Alfalfa, seeding:Sulfur availability is dependent upon soil test S levels, organic matter content, clay content in the soil profile, pH, manure application history, and atmospheric deposition of S. See Chapter 8, page 63 of publication A2809 for additional details.

WQ1: P Trade Report

Reported For **Favreau-Evergreen Farms 6-6-396 existing**

Printed 2022-08-24

Plan Completion/Update Date 2021-12-17

SnapPlus Version 20.3 built on 2021-02-18

D:\Favreau-Evergreen 6-6-396 existing.snapDb

Prepared for:
Favreau-Evergreen Farms 6-6-396 existing
attn:John Favreau

Questions? Please contact DNRphosphorus@wisconsin.gov

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP				
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027
N field	DRESDEN	DrB	13	78	30	78	32	79
S field	DRESDEN	DrB	2	9	4	9	4	9
W field	DRESDEN	DrA	1	3	1	3	1	3
Total			**16**	**89**	**35**	**90**	**37**	**90**

WQ1: P Trade Report

Reported For **Favreau-Evergreen Farms 6-6-396 planned**

Printed 2022-08-24

Plan Completion/Update Date 2021-12-17

SnapPlus Version 20.3 built on 2021-02-18

D:\Favreau-Evergreen 6-6-396 planned.snapDb

Prepared for:
Favreau-Evergreen Farms 6-6-396 planned
attn:John Favreau

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP					
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028
N field	DRESDEN	DrB	13	8	5	3	2	2	
S field	DRESDEN	DrB	2	1	1	1	1	0	0
W field	DRESDEN	DrA	1	1	1	1	0	0	
Total			**16**	**10**	**6**	**4**	**3**	**3**	**0**

NM3: Field Data and 590 Assessment Plan

Reported For **Favreau-Evergreen Farms 6-6-396 existing**

Prepared for:
Favreau-Evergreen Farms 6-6-396 existing
attn:John Favreau

Printed 2022-08-24

Plan Completion/Update Date 2021-12-17

SnapPlus Version 20.3 built on 2021-02-18

D:\Favreau-Evergreen 6-6-396 existing.snapDb

Field Data: 16 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
N field				13.4	Rock	WARSAW WaB	4	200	2.1 - 6	301 - 1000	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg	FCD-FCD-FCD-FCD-FCD-SCD-FCD	2021-2027	3	4.3	0.0	4	29	84	-
S field				1.5	Rock	DRESDEN DrB	4	200	2.1 - 6	301 - 1000	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2027	3	3.7	0.0	4	79	84	0
W field				1.1	Rock	DRESDEN DrA	1	250	6.1 - 12	301 - 1000	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2027	3	1	0.2	2	91	84	0

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FCD	Fall Chisel, disked
SCD	Spring Chisel, disked

NM3: Field Data and 590 Assessment Plan

Reported For **Favreau-Evergreen Farms 6-6-396 planned**

Printed 2022-08-24

Plan Completion/Update Date 2021-12-17

SnapPlus Version 20.3 built on 2021-02-18

D:\Favreau-Evergreen 6-6-396 planned.snapDb

Prepared for:
Favreau-Evergreen Farms 6-6-396 planned
attn:John Favreau

Field Data: 16 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
N field				13.4	Rock	WARSAW WaB	4	200	2.1 - 6	301 - 1000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None	2021-2027	**3**	**0.5**	**0.9**	**1**	29	-262	-
S field				1.5	Rock	DRESDEN DrB	4	200	2.1 - 6	301 - 1000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None-None	2021-2028	**3**	**0.4**	**0.9**	**1**	79	-302	0
W field				1.1	Rock	DRESDEN DrA	1	250	6.1 - 12	301 - 1000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None	2021-2027	**3**	**0.1**	**0.9**	**1**	91	-262	0

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass

Tillage Abbreviations

Abbreviation	Tillage
FCD	Fall Chisel, disked

LANDOWNER: Favreau-Evergreen Farms **PARCEL:** 6-6-396

PRACTICE: Conservation Easement **Acres:** 16

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	5 YEAR TOTAL	5 YEAR ANNUAL AVERAGE
EXISTING	89	35	90	37	90						341.00	68.20
PLANNED	10	6	4	3	3						26.00	5.20
REDUCTION	79	29	86	34	87						315.00	63.00
CREDIT AFTER TRADE RATIO 1.2:1	65.83	24.17	71.67	28.33	72.50	0.00	0.00	0.00	0.00	0.00	262.50	52.50

Appendix C8

Project Name: T & S Metcalf Rev. Trust, Filter Strips, Parcel 6-7-374A,375

Landowner Information: Thomas and Sandra Metcalf Revocable Trust
5343 E County Road MM
Janesville, WI 53546
Contact: Case Metcalf 608-774-3704

The project is located in the Headwaters Blackhawk Creek HUC12 Watershed (see Location Map in Appendix). The project site provides sheet and rill erosion to an Un-named intermittent tributary to Blackhawk Creek (see Plan Map). Project isn't located in a wetland and won't require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

Plans are, in year 2022, to plant perennial vegetation 30 to 80 feet wide on the north and south edges of crop fields adjacent to the intermittent stream (See Plan Map). The fields are historically planted annually in a rotation of one year corn, one year soybean. Perennial vegetation shall consist of forage grasses/legumes that can be harvested annually. Legumes shall be less than 50% of the forage mix. Project will be designed to meet USDA-NRCS 393 Filter Strip standard by Rock County LCD who will certify project completion.

Soil phosphorus ppm was determined using information from a November 5, 2018 soil test report completed by A & L Greatlakes Laboratory, a Wisconsin Department of Agriculture, Trade and Consumer Protection certified lab (see Soil Test Report and Soil Sampling Map).

Annual pounds of phosphorus runoff for existing (baseline) and planned conditions were determined using SNAPPlus. Phosphorus runoff for existing conditions for all fields was calculated based on a rotation of 4 years grain corn and 1 year soybeans for a 10 year period with field preparations for both crops being fall chisel with disc. SNAPPlus calculations for planned conditions for the filter strips is based on no-till seeding grass/alfalfa in spring of first year and a mature stand of grass/alfalfa for the remaining 9 years. SNAPPlus calculations for planned conditions for watersheds of the filter strips is based on a rotation of 4 years grain corn and 1 year soybeans for a 10 year period with field preparations for both crops being fall chisel with disc.

Annual phosphorus runoffs were inserted into a Trade Ratio Spreadsheet to determine the estimated Trade Credit. A trade ratio of 2:1 is used for watershed of the filter strips because nutrient management is being implemented. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual acres planted to perennial vegetation and then inserting into Trade Ratio Spreadsheet.


N ^
N HENKE RD
S HENKE RD
Planned Filter Strips
Plan Map
Metcalf Revocable Trust 6-7-374A,375

Metcalf Rev Trust 6-7-374A,375
Surface Water Data Viewer Map

Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920

Report Number
F18304-4048

Account Number
20990

a&lgreatlakes LABORATORIES
Scientists who don't mind getting dirty™

3505 Conestoga Dr.
Fort Wayne, IN 46808
260.483.4759
algreatlakes.com

To: THE DELONG COMPANY INC.
601 DELCO DR
CLINTON, WI 53525-9021

Attn: BRIAN MOONEY

For: METCALF
Farm: BIER NORTH
Field: METCALF BIER NORTH

County: ROCK
Soil: UNKNOWN
Plow Depth: 7
Acres:

Date Received: 10/31/2018
Date Reported: 11/5/2018

SOIL TEST REPORT

Sample ID	Lab Number	OM *	P *	K *	Mg**	Ca **	Soil	Buffer	CEC **	Cation Saturation **				S	Zn	Mn	Fe	Cu	B	Bicarb-P	NO3-N
		%	ppm	ppm	ppm	ppm	pH	pH	meq/100g	%K	%Mg	%Ca	%H	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm**
1	48640	3.3	8	98	515	1450	6.4	6.8	14.2	1.8	30.2	51.1	16.9								
2	48641	3.4	9	124	515	1450	6.3	6.8	14.3	2.2	30.1	50.8	16.8								
3	48642	3.2	13	123	415	1300	6.1	6.9	11.5	2.7	30.1	56.7	10.5								
4	48643	3.3	15	138	445	1500	6.1	6.7	15.2	2.3	24.5	49.5	23.7								
5	48644	3.3	55	170	625	1700	7.2		14.1	3.1	36.8	60.1									
6	48645	3.2	15	86	535	1450	6.1	6.6	16.7	1.3	26.7	43.3	28.7								
7	48646	5.0	49	219	425	1300	5.8	6.7	14.2	4.0	24.9	45.8	25.3								
8	48647	3.6	18	90	410	1200	6.2	6.9	10.8	2.1	31.5	55.3	11.1								
9	48648	3.6	20	92	605	1600	7.0		13.3	1.8	38.0	60.3									
10	48649	3.2	34	125	595	1600	6.6		13.3	2.4	37.3	60.2									
11	48650	3.2	85	179	450	1450	6.5	7.0	11.5	4.0	32.7	63.3									
12	48651	2.9	88	194	605	1650	7.3		13.8	3.6	36.6	59.8									
13	48654	3.1	24	114	510	1450	6.3	7.2	11.8	2.5	36.0	61.5									
14	48655	3.6	19	87	415	1250	5.9	7.0	9.9	2.2	34.8	62.9									
15	48656	3.4	9	100	465	1300	6.2	7.2	10.6	2.4	36.4	61.1									
16	48657	4.5	16	146	460	1550	6.0	7.0	12.0	3.1	32.1	64.8									

WI DATCP Laboratory Certification Number 01-15-03-201

* Soil Test Recommendations for Field, Vegetable and Fruit Crops, UW A2809, 2012. ** Recommended Chemical Soil Test Procedures for the North Central Region, NCR No. 221, 2012. ^ Weighted average, UW-A28

Report Number
F18304-4048
Account Number
20990

a&lgreatlakes LABORATORIES
Scientists who don't mind getting dirty.™

3505 Conestoga Dr.
Fort Wayne, IN 46808
260.483.4759
algreatlakes.com

To: THE DELONG COMPANY INC.
601 DELCO DR
CLINTON, WI 53525-9021

Attn: BRIAN MOONEY

For: METCALF
Farm: BIER NORTH
Field: METCALF BIER NORTH

County: ROCK
Soil: UNKNOWN
Plow Depth: 7
Acres:

Date Received: 10/31/2018
Date Reported: 11/5/2018

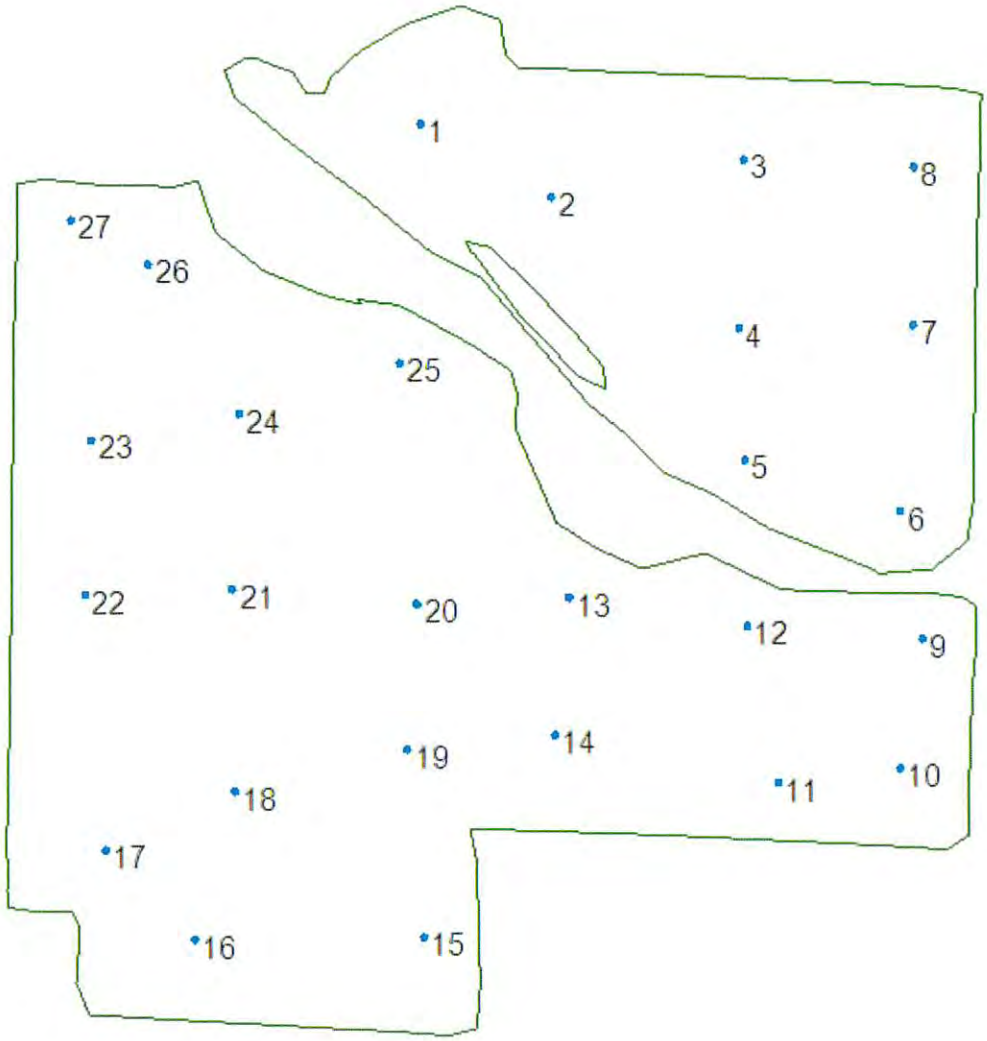
SOIL TEST REPORT

Sample ID	Lab Number	OM * %	P * ppm	K * ppm	Mg** ppm	Ca ** ppm	Soil pH	Buffer pH	CEC ** meq/100g	Cation Saturation ** %K	%Mg	%Ca	%H	S ppm	Zn ppm	Mn ppm	Fe ppm	Cu ppm	B ppm	Bicarb-P ppm	NO3-N ppm**
17	48658	3.6	22	130	480	1500	6.3	7.2	11.8	2.8	33.8	63.4									
18	48659	3.4	17	112	440	1450	6.0	7.0	11.2	2.6	32.7	64.7									
19	48660	3.4	16	109	500	1450	6.3	7.2	11.7	2.4	35.6	62.0									
20	48661	3.6	17	122	455	1400	6.3	6.8	13.5	2.3	28.1	51.8	17.8								
21	48662	3.5	12	119	530	1450	6.5	6.9	13.2	2.3	33.5	55.0	9.1								
22	48663	3.4	12	90	435	1300	6.2	6.8	12.8	1.8	28.4	51.0	18.8								
23	48664	2.7	37	102	530	1450	6.9		11.9	2.2	37.0	60.8									
24	48665	3.9	25	156	455	1450	6.4	6.9	12.6	3.2	30.0	57.4	9.5								
25	48666	2.4	76	190	615	1650	7.5		13.9	3.5	37.0	59.5									
26	48667	3.3	82	271	510	1550	6.8		12.7	5.5	33.5	61.0									
27	48668	3.5	43	160	395	1200	6.2	6.8	12.1	3.4	27.2	49.6	19.8								
Average		3.4	27^	126^	494	1446	6.4		12.8	2.7	32.4	57.1	17.3								

WI DATCP Laboratory Certification Number 01-15-03-201

* Soil Test Recommendations for Field, Vegetable and Fruit Crops, UW A2809, 2012. ** Recommended Chemical Soil Test Procedures for the North Central Region, NCR No. 221, 2012. ^ Weighted average, UW-A2809.

Soil Sampling Map



N

One in = 498 feet

0 225 450 676 901 1126

Sample ID (27)

Date:	Oct 21, 2021
Field:	Metcalf Biers North
Farm:	Biers - North
Grower:	Metcalf Farms
Name:	
Area:	132.1 ac
Lat:	42.68159°N
Lon:	088.92894°W

WQ1: P Trade Report

Reported For **T & S Metcalf Trust 6-7-374A,375**

Printed 2021-10-28

Plan Completion/Update Date 2021-10-22

SnapPlus Version 20.4 built on 2021-06-03

E:\T & S Metcalf Trust 6-7-374A,375 existing.snapDb

Prepared for: EXISTING
T & S Metcalf Trust 6-7-374A,375
attn:Case Metcalf

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
NE Filter Strip	TROXEL	TrA	1	1	1	1	2	1	1	1	1	2	1
NW Filter Strip	TROXEL	TrA	2	1	1	1	4	2	1	1	2	4	2
SE Filter strip	TROXEL	TrA	1	1	1	1	2	1	1	1	1	2	1
SW Filter Strip	TROXEL	TrA	1	1	1	1	2	1	1	1	1	1	1
Watershed of NE Filter strip	WARSAW	WaB	9	17	16	17	50	17	15	15	16	47	16
Watershed of NW Filter Strip	WARSAW	WaB	4	8	8	8	27	9	9	9	9	28	10
Watershed of SE Filter strip	PLANO	PmA	9	7	6	7	18	7	6	6	6	16	6

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Watershed of SW Filter strip	PLANO	PmA	4	3	3	4	10	4	3	3	3	9	3
Total			**31**	**38**	**38**	**40**	**114**	**40**	**36**	**35**	**38**	**110**	**38**

WQ1: P Trade Report

Reported For	**T & S Metcalf Trust 6-7-374A,375 planned**
Printed	**2021-10-28**
Plan Completion/Update Date	**2021-10-22**
SnapPlus Version 20.4 built on 2021-06-03	
E:\T & S Metcalf Trust 6-7-374A,375 planned.snapDb	

Prepared for:
T & S Metcalf Trust 6-7-374A,375 planned
attn:Case Metcalf

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
NE Filter Strip	TROXEL	TrA	1	0	0	0	0	0	0	0	0	0	0
NW Filter Strip	TROXEL	TrA	2	1	0	0	0	0	0	0	0	0	0
SE Filter strip	TROXEL	TrA	1	0	0	0	0	0	0	0	0	0	0
SW Filter Strip	TROXEL	TrA	1	1	0	0	0	0	0	0	0	0	0
Watershed of NE Filter strip	WARSAW	WaB	9	4	3	4	12	3	3	3	4	11	3
Watershed of NW Filter Strip	WARSAW	WaB	4	2	2	2	7	2	2	2	2	7	2
Watershed of SE Filter strip	PLANO	PmA	9	3	3	3	8	3	2	2	3	7	2

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Watershed of SW Filter strip	PLANO	PmA	4	1	1	1	4	1	1	1	1	4	1
Total			**31**	**12**	**11**	**12**	**32**	**10**	**9**	**9**	**10**	**30**	**9**

arm: Thomas and Sandra Metcalf Revocable Trust 6-7-374A,375, V20 Generated:10/25/2021, Crop year: 2022, Township Range Section:3N 13E s35

NM3: Field Data and 590 Assessment Plan

Reported For **T & S Metcalf Trust 6-7-374A,375**

Printed 2021-10-28

Plan Completion/Update Date 2021-10-22

SnapPlus Version 20.4 built on 2021-06-03

E:\T & S Metcalf Trust 6-7-374A,375 existing.snapDb

Prepared for: EXISTING
T & S Metcalf Trust 6-7-374A,375
attn:Case Metcalf

Field Data: 31 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
NE Filter Strip				1.2	Rock	LORENZO RrC2	9	150	0 - 2	1001 - 5000	No / No	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	3.6	0.3	3	35	-565	-
NW Filter Strip				1.6	Rock	LORENZO RrC2	9	150	0 - 2	0 - 300	No / No	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	3.6	0.3	4	8	320	-
SE Filter strip				0.9	Rock	TROXEL TrA	1	250	0 - 2	1001 - 5000	No / No	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	5	0.7	0.6	NA	54	NA	0
SW Filter Strip				0.8	Rock	LORENZO RrF	38	60	0 - 2	301 - 1000	No / No	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	13.8	-0.5	11	76	-565	0
Watershed of NE Filter strip				8.9	Rock	LORENZO RrC2	9	150	0 - 2	1001 - 5000	No / No	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	3.6	0.3	3	32	-565	-
Watershed of NW Filter Strip				3.7	Rock	LORENZO RrC2	9	150	0 - 2	0 - 300	No / No	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	3.6	0.3	4	9	320	-

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
Watershed of SE Filter strip				9.3	Rock	LORENZO RrF	38	60	0 - 2	1001 - 5000	No / No	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	**2**	**13.8**	**-0.5**	**11**	60	-565	0
Watershed of SW Filter strip				4.2	Rock	LORENZO RrF	38	60	0 - 2	301 - 1000	No / No	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	**2**	**13.8**	**-0.5**	**15**	25	-264	-

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FCD	Fall Chisel, disked

NM3: Field Data and 590 Assessment Plan

Reported For	T & S Metcalf Trust 6-7-374A,375 planned
Printed	2021-10-28
Plan Completion/Update Date	2021-10-22
SnapPlus Version 20.4 built on 2021-06-03	
E:\T & S Metcalf Trust 6-7-374A,375 planned.snapDb	

Prepared for:
T & S Metcalf Trust 6-7-374A,375 planned
attn:Case Metcalf

Field Data: 31 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
NE Filter Strip				1.2	Rock	LORENZO RrC2	9	150	0 - 2	1001 - 5000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None-None	2021-2028	**2**	**0.8**	**0.9**	**1**	35	-326	-
NW Filter Strip				1.6	Rock	LORENZO RrC2	9	150	0 - 2	0 - 300	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None-None	2021-2028	**2**	**0.7**	**0.9**	**1**	8	-163	-
SE Filter strip				0.9	Rock	TROXEL TrA	1	250	0 - 2	1001 - 5000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None-None	2021-2028	**5**	**0.1**	**0.9**	**0**	54	-340	0

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
SW Filter Strip				0.8	Rock	LORENZO RrF	38	60	0 - 2	301 - 1000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None-None	2021-2028	2	2.6	0.7	3	76	-340	0
Watershed of NE Filter strip				8.9	Rock	LORENZO RrC2	9	150	0 - 2	1001 - 5000	No / Edge	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	3.6	0.5	1	32	-565	-
Watershed of NW Filter Strip				3.7	Rock	LORENZO RrC2	9	150	0 - 2	0 - 300	No / Edge	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	3.6	0.5	1	9	320	-
Watershed of SE Filter strip				9.3	Rock	LORENZO RrF	38	60	0 - 2	1001 - 5000	No / Edge	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	13.8	0.2	2	60	-565	0
Watershed of SW Filter strip				4.2	Rock	LORENZO RrF	38	60	0 - 2	301 - 1000	No / Edge	No	No	Cg-Cg-Cg-Cg-Sg15-Cg-Cg-Cg	FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	2	13.8	0.2	2	25	-264	-

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass
AGs	Alfalfa/Grass Seeding Spring
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FCD	Fall Chisel, disked
None	None
NT	No Till

LANDOWNER: Thomas and Sandra Metcalf Rev. Trust **PARCEL:** 6-7-374A,375

PRACTICE NAME: filter strips **PRACTICE ACRES:** 3.7

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	4	4	4	10	5	4	4	5	9	5	54.00	5.40
PLANNED	2	0	0	0	0	0	0	0	0	0	2.00	0.20
REDUCTION	2	4	4	10	5	4	4	5	9	5	52.00	5.20
CREDIT AFTER TRADE RATIO 2:1	1.00	2.00	2.00	5.00	2.50	2.00	2.00	2.50	4.50	2.50	26.00	2.60

PRACTICE NAME: watershed of filter strips

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	35	33	36	105	37	33	33	34	100	35	481.00	48.10
PLANNED	10	9	10	31	9	8	8	10	29	8	132.00	13.20
REDUCTION	25	24	26	74	28	25	25	24	71	27	349.00	34.90
CREDIT AFTER TRADE RATIO 2:1	12.50	12.00	13.00	37.00	14.00	12.50	12.50	12.00	35.50	13.50	174.50	17.45

Total 10 year P credits for all practices: **200.50**

Appendix C9

Project Name: Eleven Acres, Grassed Waterway, Parcel 6-6-400

Landowner Information: Eleven Acres
6388 W. Hubbell Road
Janesville, WI, 53548
Contact Person: Mark Langer, 608-295-5858

Project is located in Camp Indian Trails Watershed (see Location Map in Appendix). Project site provides concentrated flow to waterways that convey storm water to the Rock River (see Plan Map). Project isn't located in a wetland and won't require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

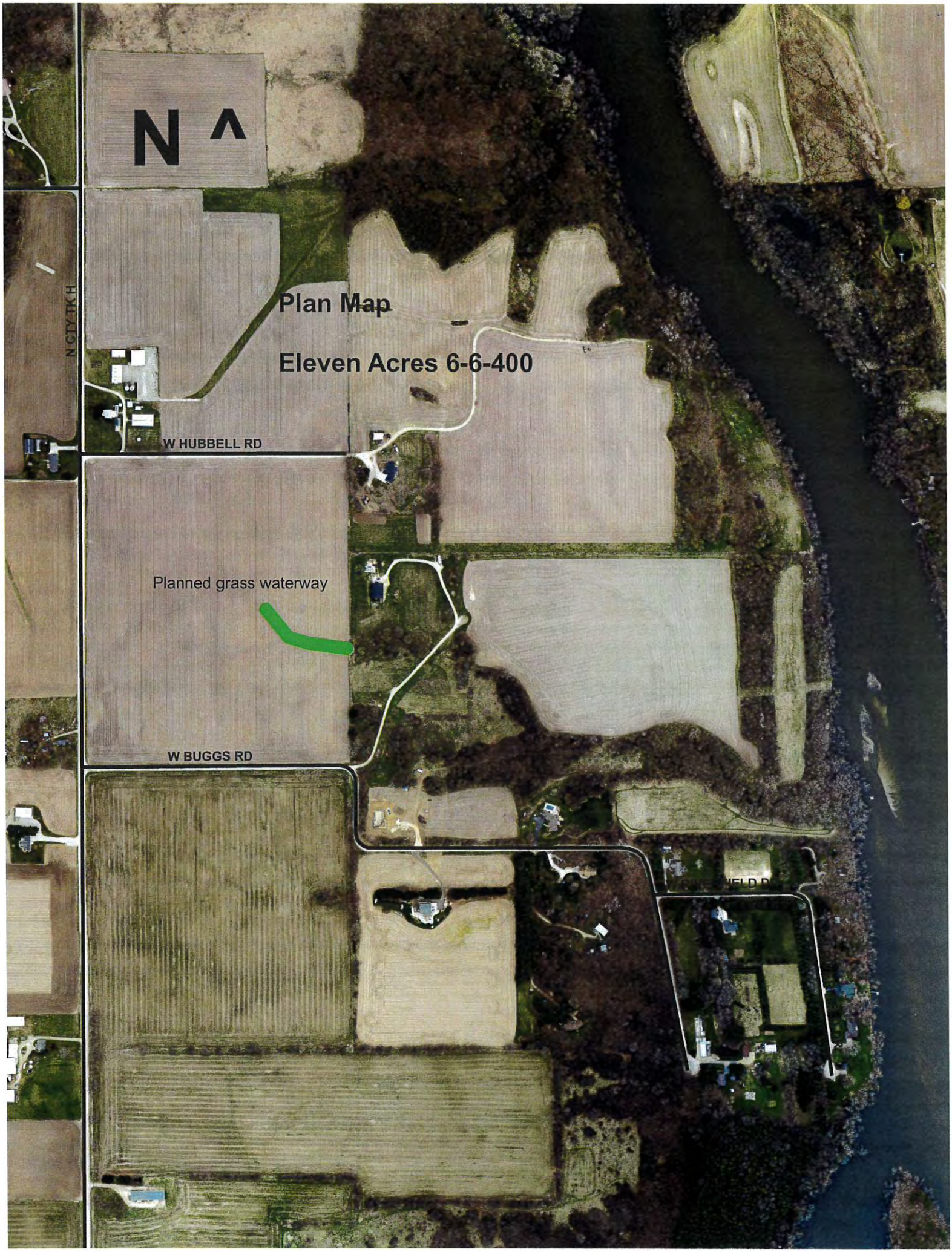
Gully erosion occurs annually on these fields that historically have been cropped annually in one year corn and one year soybean rotation. The gully erosion is approximately 510 feet in length with an average channel depth of .8 feet and an average bottom width of 1.5 feet with an average top width of 6 feet. (See pictures and maps)

Plans are to install a grass waterways with a 12 feet bottom and 8:1 side slopes in 2023. Project has been surveyed and designed by USDA-NRCS to meet 412-Grassed Waterway standard. Rock County LCD will oversee project construction and certify project completion.

Soil phosphorus ppm was determined by taking samples from the fields (along each sides of the waterways) that were combined into one sample for each site which were sent to Rock River Laboratory, Inc., a Wisconsin Department of Agriculture, Trade and Consumer Protection certified lab, who completed a Soil Test Report on May 20, 2021 (see Soil Test Report and Soil Sampling Map).

Annual phosphorus runoff for existing conditions (baseline) was determined using the modified NRCS Gully Erosion Calculation Spreadsheet. (The modification is the inclusion of equations from SNAPPlus into the worksheet to allow determination of phosphorus runoff) Zero phosphorus runoff is used for planned conditions based on the gully erosion being filled with soil and planted to perennial vegetation.

Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit.


N
Plan Map
Eleven Acres 6-6-400
N CTY TK H
W HUBBELL RD
Planned grass waterway
W BUGGS RD

Eleven Acres 6-6-400
Surface Water Data Viewer Map

Legend

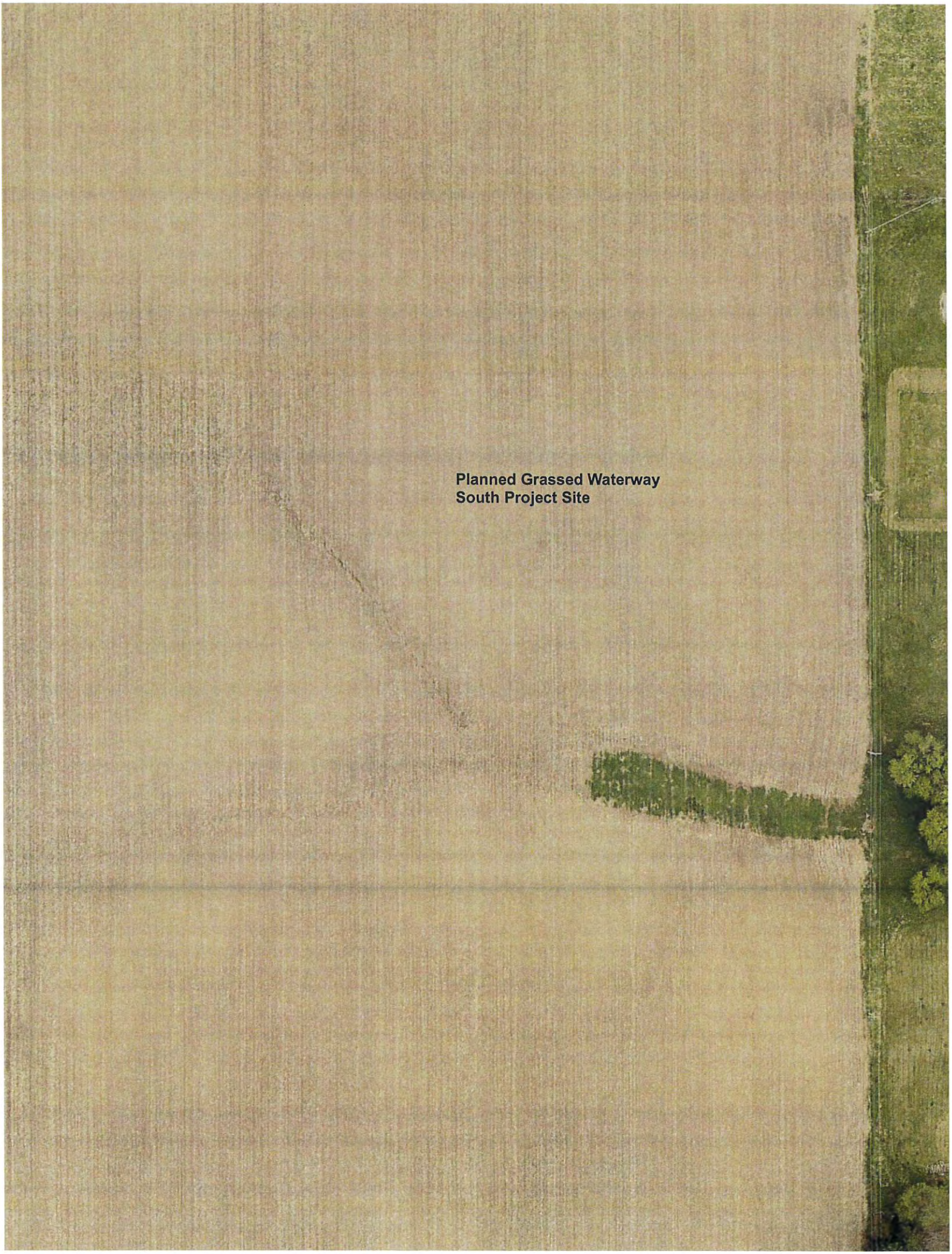
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- Index to

0.1 0 0.06 0.1 Miles

1: 3,960

NAD_1983_HARN_Wisconsin_TM

Notes


Planned Grassed Waterway
South Project Site


03/23/2021

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

Account: 1870
Landmark North Hub - Yield Edge
2580 Coffeytown Rd
Cottage Grove, WI 53527

Report For:
McGuires Big Hickory Farms
Hubble Farm

5

Lab #248937
County DANE
Received 5/18/2021
Slope 0%
Field
Hub 01
Acres 38.7
Plow Depth 7.0
Soil Name
unknown
Previous Crop

Nutrient Recommendations

Cropping Sequence	Yield Goal (per acre)	Crop Nutrient Need (lbs/acre)			Fertilizer Credit (lbs/acre)				Nutrients to Apply(lbs/acre)		
		N	P2O5	K2O	Legume N	Manure N	P2O5	K2O	N	P2O5	K2O
Corn, grain	171-190 bu	*	0	25	0	0	0	0	*	0	25
Soybean, grain	56-65 bu	0	0	45	0	0	0	0	0	0	45
Alfalfa, seeding	1.5-2.5 ton	0	0	55	0	0	0	0	0	0	55
Alfalfa, established	5.6-6.5 ton	0	0	180	0	0	0	0	0	0	180

*For information on the new N application rate guidelines for corn see http://uwlab.soils.wisc.edu/pubs/MRTN
There is no lime recommendation.

Laboratory Analysis for Field Hub 01, Lab No 248937

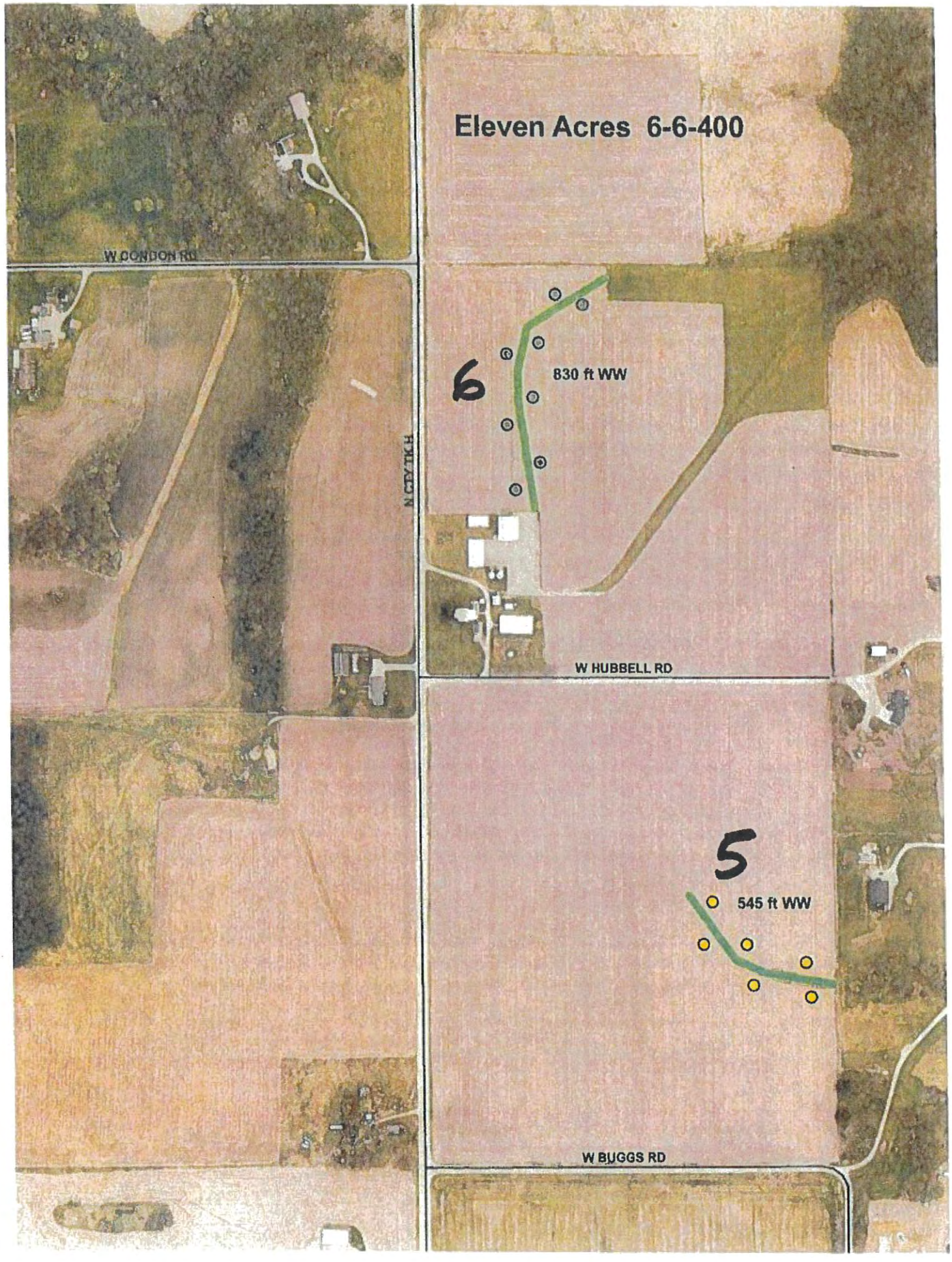
Sample Num	Soil pH	Om %	P ppm	K ppm	60-69 Lime Req(T/a)	Ca ppm	Mg ppm	Est Cec	B ppm	Mn ppm	Zn ppm	Sulfate-S ppm	Texture Code	Sample Density	Buffer Code
5	6.8	2.3	67	163		1680	375	13	0.5	30	6.1	2.5	2	1.04	N.R.

Additional Information, Secondary & Micronutrient Recommendations

N.R.=Not required for calculation of lime requirement when soil pH is 6.6 or higher.
Starter fertilizer (e.g. 10+20+20 lbs N+P2O5+K2O/a) is advisable for row crops on soils slow to warm in the spring.
Because of very high P levels, P2O5 applications from fertilizer or manure should be reduced and crops with a high P removal should be grown.
If alfalfa will be maintained for more than three years, increase recommended K2O by 20% each year.
Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.
Year 1: If corn is harvested for silage instead of grain apply extra 90 lbs K2O per acre to next crop.
Ca - H Mg-Opt B-L Mn-H Zn-Opt S-L
%Base Saturation: Ca 70.6% Mg 25.8% K 3.5%
5: Cu=1.67ppm Fe=201.93ppm Sol Salts=0.29 mmhos/cm
Response to added Ca is unlikely.
Soil Mg is optimum. Maintain level with dolomitic lime.
See Chapter 8, page 63 of publication A2809 for information on the sulfur application guidelines for Wisconsin.
Years 1, 2: Confirm the need for B by plant analysis.
Years 3, 4: Apply 2 lbs B/a.
All Years: Response to Mn is unlikely.
All Years: Response to Zn is unlikely.

Test Interpretation for Field Hub 01, Lab No 248937

Crop Name	Very Low	Low	Optimum	High	Very High	Excessive	Very Low	Low	Optimum	High	Very High	Excessive
Alfalfa, established	P						K					
Rotation pH	pH											


Eleven Acres 6-6-400
W CONDON RD
6
830 ft WW
W HUBBELL RD
5
545 ft WW
W BUGGS RD

Landowner:		Eleven Acres 6-6-400 South		
Conservation Practice:		grassed waterway		
		WW#1	WW#2	WW#3
Channel Depth	ft	0.8		
Top Channel Width	ft	6		
Bottom Channel Width	ft	1.5		
Channel Length	ft	510		
Years to Develop	year	1		
Soil Test P	ppm	67		
% Organic Matter	%	2.3		
Sediment Loss	tons/yr	72.675	#DIV/0!	#DIV/0!
P Loss	pounds/yr	65.4	#DIV/0!	#DIV/0!

Sediment loss equation from NRCS Gully Erosion Calculation Spreadsheet updated on 6/30/2015

P Loss uses sediment loss equation and equations from SNAP Plus

INCLUDE A PASTURE IF EITHER APPLIES:

- It receives mechanical applications of nutrients. Develop a NM plan for this *pasture* using soil samples collected at the frequency of 1 sample per 5 acres every four years and analyzed by a DATCP certified soil testing laboratory (ATCP 50.04(3)).
- It is stocked at an average of MORE than 1 *animal unit* (AU) per acre. Develop a NM for this pasture either using soil tests according to ATCP 50.04(3) or "assumed soil test values" of 150 ppm P and 6% OM.

DO NOT INCLUDE A PASTURE IF EITHER APPLIES:

- It is a *feedlot*, OR
- It is stocked at an average rate of 1 *AU* per acre or LESS at all times during the *grazing season*,

  AND

  It does not received mechanical nutrient applications.

LANDOWNER: Eleven Acres

PARCEL: 6-6-400

PRACTICE NAME: grass waterway **PRACTICE ACRES:** 0.33

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	654.00	65.40
PLANNED	0	0	0	0	0	0	0	0	0	0	0.00	0.00
REDUCTION	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	654.00	65.40
CREDIT AFTER TRADE RATIO 2:1	32.70	32.70	32.70	32.70	32.70	32.70	32.70	32.70	32.70	32.70	327.00	32.70

Appendix C10

Project Name: Ed Farrington, Conservation Easement, Parcel 6-6-157

Landowner Information: Ed Farrington
1008 W. Fulton Street, Edgerton, WI, 53534
Contact Person: Ed Farrington 608-295-8315

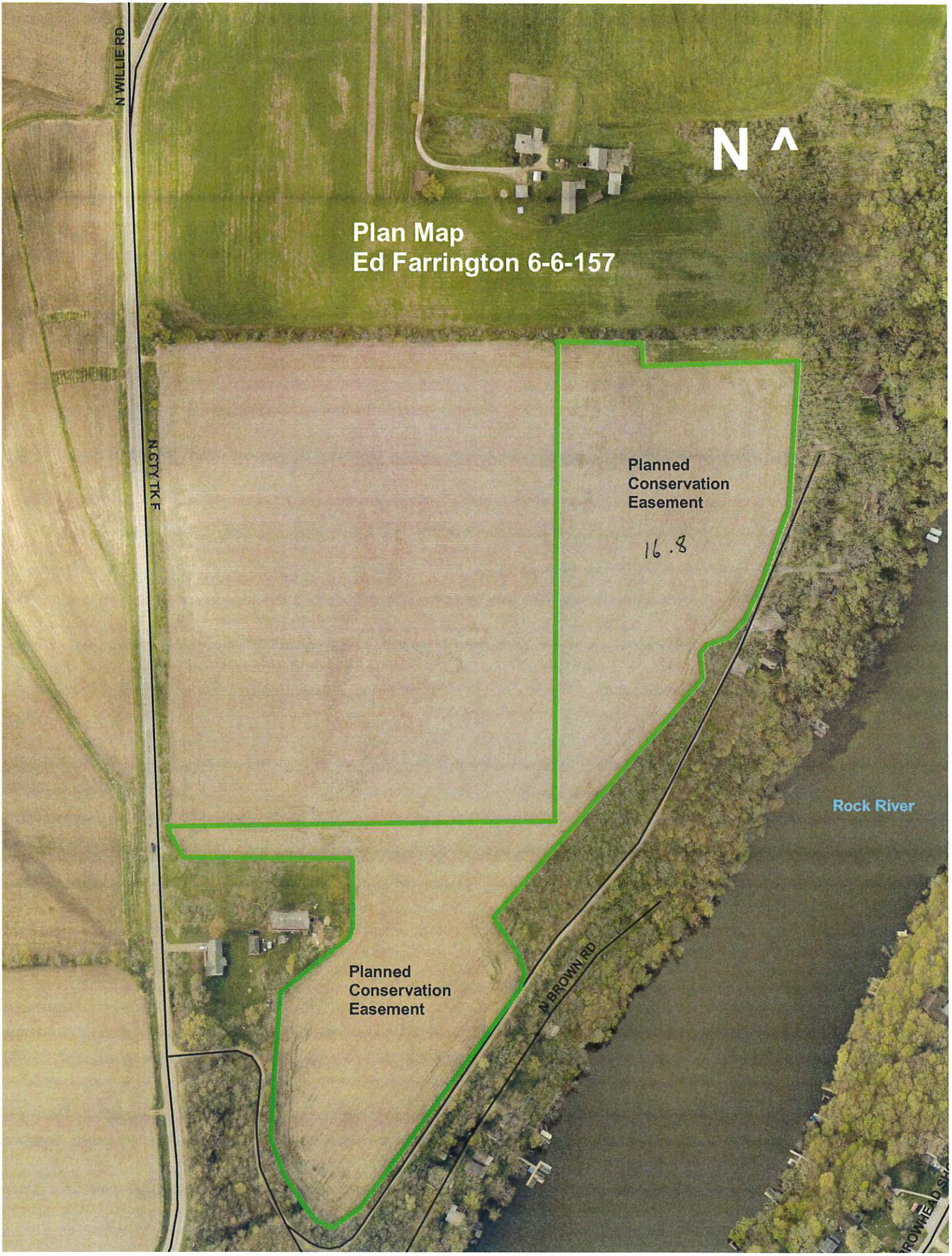
The project is located in the Newville-Rock River HUC12 Watershed (see Location Map in Appendix). The project site has sheet and rill erosion which flows to the east and south east edges of the field where it concentrates and flows to the Rock River (see Plan and Contour Maps). The project is not located within a wetland and will not require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

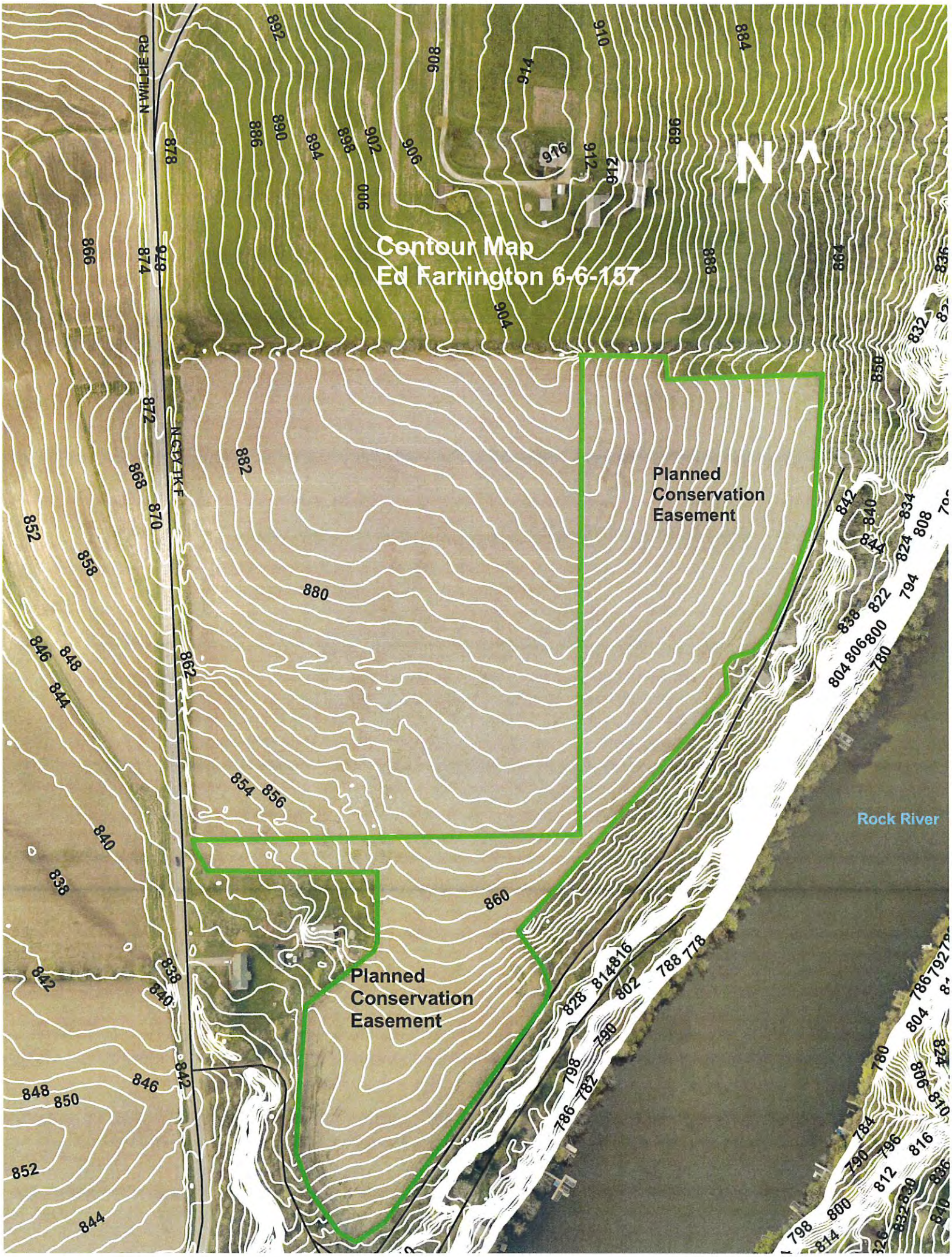
The plan is to plant approximately 16.8 acres to perennial vegetation in spring of 2022 that historically has been annual crop rotation of one year corn and one year soybean. Perennial vegetation shall consist of forage grasses/legumes that can be harvested annually. Legumes shall be less than 50% of the forage mix. Project will be designed to meet USDA-NRCS 512 Forage and Biomass Planting standards by Rock County LCD who will certify project completion.

Soil phosphorus ppm was determined by adding the multiple samples throughout the field that are used by Helena and HyGround Soil Management Services for precision applications (see 2020 Soil Test Report).

Annual pounds of phosphorus runoff for existing (baseline) and planned conditions were determined using SNAPPlus. Phosphorus runoff for existing conditions was calculated based on an annual rotation of grain corn and soybeans for a 10 year period with field preparations for soybeans being spring chisel with disk and spring cultivation for corn. SNAPPlus calculations for planned conditions for the conservation easement is based on no-till seeding grass/alfalfa in the spring of 2022 and a mature stand of grass/alfalfa for the remaining 10 years. SNAPPlus calculations for planned conditions for the watershed of the conservation easement is based on an annual rotation of grain corn and soybeans for 10 years with field preparations for both being no-till resulting in an increase of crop residue.

Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit. A trade ratio of 1.2:1 was used for the cropland seeded to perennial vegetation and because the rotational phosphorus index (PI) was greater than the Rock River TMDL PI Threshold, Interim Credits were determined (see Credit Calculations). A trade ratio of 1.2:1 was used for the watershed because a 590 nutrient management plan is being implemented along with residue management and no Interim Credits were determined because Rotational PI was below the Rock River TMDL PI Threshold. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual acres planted to perennial vegetation and then inserting into Trade Ratio Spreadsheet.


N WILLIE RD
N
Plan Map
Ed Farrington 6-6-157
N CTY TK F
Planned
Conservation
Easement
16.8
Rock River
Planned
Conservation
Easement
N BROWN RD


Contour Map
Ed Farrington 6-6-157
N
Planned
Conservation
Easement
Planned
Conservation
Easement
Rock River
N WILLIE RD
N CENTER F

Ed Farrington 6-6-157
Surface Water Data Viewer Map

Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water

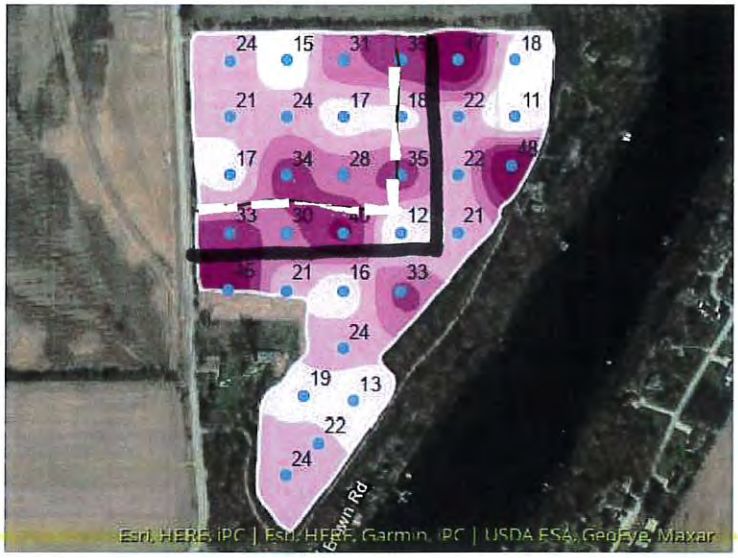
0.1 0 0.06 0.1 Miles

1: 3,960

NAD_1983_HARN_Wisconsin_TM

Notes

P - Soil Test - 2020



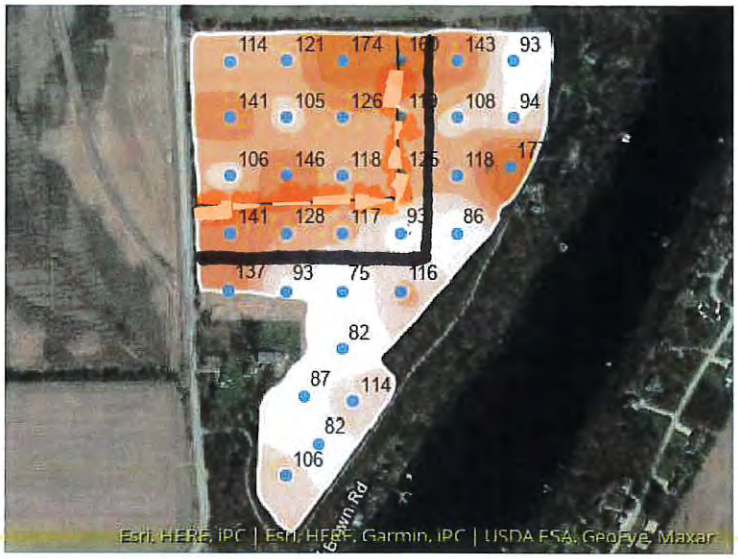
Min: 11 ppm
Avg: 25.4 ppm
Max: 48 ppm

P-Bray 1 (ppm)

- 11 - 20.3 (8.16 ac)
- 20.3 - 25.7 (13.87 ac)
- 25.7 - 31.1 (6.54 ac)
- 31.1 - 37.6 (4.77 ac)
- 37.6 - 48 (1.95 ac)

Grower: Ed Farrington Farms
Farm: browns
Field: Browns 2
Area: 35.30 ac

K - Soil Test - 2020



K (ppm)

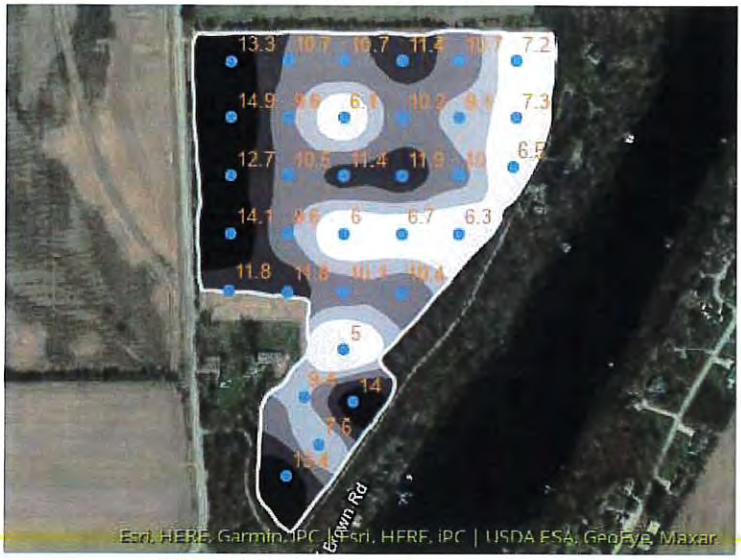
- 75 - 98 (7.66 ac)
- 98 - 113 (7.42 ac)
- 113 - 128 (11.31 ac)
- 128 - 148 (6.48 ac)
- 148 - 177 (2.43 ac)

Min: 75 ppm
Avg: 117 ppm
Max: 177 ppm

HELENA

HyGround
Soil Management Services

CEC - Soil Test - 2020



Min: 5 meq/100g
Avg: 9.99 meq/100g
Max: 14.9 meq/100g

CEC (meq/100g)
5 - 8.03 (7.49 ac)
8.03 - 9.55 (6.66 ac)
9.55 - 10.8 (9.87 ac)
10.8 - 12.4 (5.40 ac)
12.4 - 14.9 (5.88 ac)

OM - Soil Test - 2020

OM (%)
1.7 - 2.11 (1.21 ac)
2.11 - 2.44 (6.75 ac)
2.44 - 2.66 (12.61 ac)
2.66 - 2.9 (8.53 ac)
2.9 - 3.1 (6.20 ac)

Min: 1.7 %
Avg: 2.62 %
Max: 3.1 %

Grower: Ed Farrington Farms
Farm: browns
Field: Browns 2
Area: 35.30 ac

HELENA

HyGround
Soil Management Services

WQ1: P Trade Report

Reported For **Edward Farrington 6-6-157 existing**

Printed 2022-08-24

Plan Completion/Update Date 2021-01-22

SnapPlus Version 20.3 built on 2021-02-18

D:\Farrington 6-6-157 - existing.snapDb

Prepared for:
Edward Farrington 6-6-157 existing
attn:Ed Farrington

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
cons. easement	WHALAN	WIB2	17	37	65	36	65	35	64	35	63	34	63
watershed	WHALAN	WIB2	19	37	57	36	56	36	55	35	55	35	54
Total			**36**	**74**	**122**	**72**	**121**	**71**	**119**	**70**	**118**	**69**	**117**

WQ1: P Trade Report

Reported For **Edward Farrington 6-6-157 planned**

Printed 2022-08-24

Plan Completion/Update Date 2021-01-22

SnapPlus Version 20.3 built on 2021-02-18

D:\Farrington 6-6-157 - planned.snapDb

Prepared for:
Edward Farrington 6-6-157 planned
attn:Ed Farrington

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
cons. easement	WHALAN	WIB2	17	11	6	3	2	2	1	1	1	0	0
watershed	WHALAN	WIB2	19	9	8	6	6	4	5	4	4	3	4
Total			**36**	**20**	**14**	**9**	**8**	**6**	**6**	**5**	**5**	**4**	**4**

Farrington 6-6-157

Farm: Edward Farrington 6-6-157 planned, V20 Generated:8/24/2022, Crop year: 2022, Township Range Section:4N 12E s16

NM3: Field Data and 590 Assessment Plan

Reported For **Edward Farrington 6-6-157 existing**

Printed 2022-08-24

Plan Completion/Update Date 2021-01-22

SnapPlus Version 20.3 built on 2021-02-18

D:\Farrington 6-6-157 - existing.snapDb

Prepared for:
Edward Farrington 6-6-157 existing
attn:Ed Farrington

Field Data: 36 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
cons. easement				16.8	Rock	KIDDER KeC2	9	150	More than 12	301 - 1000	No / No	No	No	Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg	SCD-SFC-SCD-SFC-SCD-SFC-SCD-SFC	2021-2028	**5**	**9.3**	**-0.3**	**9**	22	-124	-
watershed				19.1	Rock	EDMUND EdC2	9	150	More than 12	301 - 1000	No / No	No	No	Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg	SCD-SFC-SCD-SFC-SCD-SFC-SCD-SFC	2021-2028	**1**	**5.2**	**0.0**	**4**	27	-124	-

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
SCD	Spring Chisel, disked
SFC	Spring Cultivation

NM3: Field Data and 590 Assessment Plan

Reported For **Edward Farrington 6-6-157 planned**

Printed 2022-08-24

Plan Completion/Update Date 2021-01-22

SnapPlus Version 20.3 built on 2021-02-18

D:\Farrington 6-6-157 - planned.snapDb

Prepared for:
Edward Farrington 6-6-157 planned
attn:Ed Farrington

Field Data: 36 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
cons. easement				16.8	Rock	KIDDER KeC2	9	150	6.1 - 12	301 - 1000	No / No	No	No	Sg15-AGs-AG-AG-AG-AG-AG-AG	SCD-NT-None-None-None-None-None-None	2021-2028	**5**	**1.4**	**0.7**	**1**	22	-272	-
watershed				19.1	Rock	EDMUND EdC2	9	150	More than 12	301 - 1000	No / Edge	No	No	Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg	SFC-NT-NT-NT-NT-NT-NT-NT	2021-2028	**1**	**1.6**	**0.8**	**1**	27	-220	-

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass
AGs	Alfalfa/Grass Seeding Spring
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
None	None
NT	No Till
SCD	Spring Chisel, disked
SFC	Spring Cultivation

LANDOWNER: Ed Farrington **PARCEL:** 6-6-157

PRACTICE NAME: Conservation Easement

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL	10 YEAR ANNUAL AVERAGE
EXISTING	37	65	36	65	35	64	35	63	34	63	497.00	49.70
PLANNED	11	6	3	2	2	1	1	1	0	0	27.00	2.70
REDUCTION	26	59	33	63	33	63	34	62	34	63	470.00	47.00
CREDIT AFTER TRADE RATIO 1.2:1	21.67	49.17	27.50	52.50	27.50	52.50	28.33	51.67	28.33	52.50	391.67	**39.17**

Annual Interim Credits = $\frac{\text{Actual Rotational PI - Rock River PI Threshold}}{\text{Actual Rotational PI}}$ X 10 Year Annual Average After Trade Ratio

Annual Interim Credits = $\frac{9 - 6}{9}$ X 39.17 = 12.92

Annual Long Term Credits = 10 Year Annual Average - Annual Interim Credits = 39.17 - 12.92 = 26.25

PRACTICE NAME: watershed of conservation easement

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL/AC	10 YEAR TOTAL P DECREASE
EXISTING	37	57	36	56	36	55	35	55	35	54	456.00	**45.60**
PLANNED	9	8	6	6	4	5	4	4	3	4	53.00	**5.30**
REDUCTION	28	49	30	50	32	50	31	51	32	50	403.00	**40.30**
CREDIT AFTER TRADE RATIO 1.2:1	23.33	40.83	25.00	41.67	26.67	41.67	25.83	42.50	26.67	41.67	335.83	**33.58**

Appendix C11

Project Name: Gary Kraus, Filter Strips, Parcel 6-10-2

Landowner Information: Gary Kraus
7232 E. US Highway 14
Janesville, WI, 53546
Contact Person: Gary Kraus, 608-289-0081

Project is located in Headwaters Blackhawk Creek HUC12 Watershed (see Location Map in Appendix). Project site provides sheet/rill erosion to an intermittent stream which is a tributary to Blackhawk Creek. Project isn't located in a wetland and won't require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

Plans are, in year 2022, to plant perennial vegetation 40 feet wide on fields adjacent to the north and south edges of the intermittent stream (see Plan Map). These fields historically have been annually cropped to a one year corn, one year soybean. Perennial vegetation shall consist of forage grasses/legumes that can be harvested annually. Legumes shall be less than 50% of the forage mix. Project will be designed by Rock County LCD who will meet USDA-NRCS 393 Filter Strip standard and certify project completion.

Soil phosphorus ppm was determined by obtaining information from the nutrient management plan. (see SnapPlus Soil Test Report).

Annual pounds of phosphorus runoff for existing (baseline) and planned conditions were determined using SNAPPlus. Phosphorus runoff for existing conditions for all fields was calculated based on annual rotation of grain corn, grain corn and soybeans for a 10 year period with field preparations for both crops being fall chisel with a disc. SNAPPlus calculations for planned conditions for the filter strips are based on no-till seeding grass/alfalfa in spring of first year and a mature stand of grass/alfalfa for the remaining 9 years. SNAPPlus calculations for planned conditions for watersheds of the filter strips is based on an annual rotation of grain corn, grain corn and soybeans for a 10 year period, with field preparation for both crops being fall chisel with a disc.

Annual phosphorus runoffs were inserted into a Trade Ratio Spreadsheet to determine the estimated Trade Credit. A trade ratio of 2:1 was used. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual acres planted to perennial vegetation and then inserting into Trade Ratio Spreadsheet.

Gary Kraus 6-10-2
Surface Water Data Viewer Map

Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960


N ^
Plan Map
Gary Kraus 6-10-2
S TARRANT RD
Planned Filter Strips

			Predominant					Samples				in ppm			
Field Name	Subfarm	Acres	Soil Map Symbol	Soil Name	Soil Test Date	Soil Test Lab	Lab Number	Rec. #	Actual #	pH	OM%	P	K	S	CEC
Home Backfield	Home	22	DuB2	DURAND	2020-12-14			**3**	**5**	6.5	3.8	51	206	0	0
Home East	Home	40	PmA	PLANO	2020-11-11			**4**	**8**	6.7	4.5	79	200	0	0
Home West	Home	15	PmA	PLANO	2020-11-10			**3**	**3**	6.7	4.6	128	286	0	0
Jenson Farm	Misc	50	RpB	ROCKTON	2020-11-01	A&L		**10**	**11**	6.2	3.6	11	82	0	0
Kopak	Misc	27	PmA	PLANO	2020-12-14	A & L Great Lakes Laboratories	F12361-4000	**4**	**6**	6.9	4.8	431	385	0	0
Lux Farm/Behind House	Lux	9.5	PmA	PLANO	2020-12-14			**2**	**2**	6.2	3.9	20	89	0	0
Lux Main	Lux	68	PmA	PLANO	2020-12-14	A & L Great Lakes Laboratories	F12361-4003	**14**	**14**	6.3	3.4	24	114	0	0
Scott North	Scott	70	PmA	PLANO	2019-11-30	A&L Great Lakes	F19303-4003	**14**	**14**	6.2	3.8	27	158	0	0
Scott South	Scott	63	PmA	PLANO	2019-11-30	A&LGreat Lakes	F19303-403	**13**	**15**	6.8	3.9	18	112	0	0
Scott South Creek	Scott	35	WnC2	WINNEBAGO	2020-10-22			**7**	**8**	5.9	4.6	27	200	0	0
Sheila's	Misc	6.5	WnC2	WINNEBAGO	2020-10-22			**1**	**2**	6.4	3.6	5	62	0	0

Crop Year Soil Test Needed

Field Name	Soil Test Date	2019	2020	2021	2022	2023	2024	2025
Albright North	2020-10-26							X
Albright South	2020-10-26							X
Becker East A	2019-11-11						X	
Becker East B	2019-11-11						X	
Becker West	2019-11-11						X	
Curve	2020-12-14							X
Darien Farm	2020-11-06							X

WQ1: P Trade Report

Reported For	**Gary Kraus 6-10-2 existing**
Printed	**2021-03-10**
Plan Completion/Update Date	**2021-03-10**

SnapPlus Version 20.3 built on 2021-02-18

H:\SnapPlus2\MySnapPlusData\Janesville\Gary Kraus 6-10-2.snapDb

Prepared for:
Gary Kraus 6-10-2 existing
attn:Gary Kraus 608-289-0081

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
north filter strip	PLANO	PmA	2	4	2	4	2	4	2	4	2	4	2
south filter strip	PLANO	PmA	2	4	2	4	1	4	1	3	1	3	1
watershed of N filter strip	PLANO	PmA	7	15	6	15	6	14	6	14	6	14	6
watershed of S filter strip	PLANO	PmA	45	92	38	91	37	89	37	87	36	86	35
Total			**56**	**115**	**47**	**113**	**47**	**111**	**46**	**109**	**45**	**107**	**44**

WQ1: P Trade Report

Reported For **Gary Kraus 6-10-2 planned**

Printed 2022-08-17

Plan Completion/Update Date 2021-03-10

SnapPlus Version 20.3 built on 2021-02-18

D:\Gary Kraus 6-10-2 planned.snapDb

Prepared for:
Gary Kraus 6-10-2 planned
attn:Gary Kraus 608-289-0081

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

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This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
north filter strip	PLANO	PmA	2	1	0	0	0	0	0	0	0	0	0
south filter strip	PLANO	PmA	2	1	0	0	0	0	0	0	0	0	0
watershed of N filter strip	PLANO	PmA	7	6	3	6	2	6	2	6	2	5	2
watershed of S filter strip	PLANO	PmA	45	38	17	37	16	36	15	35	15	34	14
Total			**56**	**45**	**20**	**43**	**19**	**42**	**18**	**41**	**17**	**39**	**17**

arm: Gary Kraus 6-10-2 existing, V20 Generated:3/10/2021, Crop year: 2021, Township Range Section:2N 13E s1

NM3: Field Data and 590 Assessment Plan

Reported For	Gary Kraus 6-10-2 existing
Printed	2021-10-18
Plan Completion/Update Date	2021-03-10
SnapPlus Version 20.4 built on 2021-06-03	
E:\Gary Kraus 6-10-2 existing.snapDb	

Prepared for:
Gary Kraus 6-10-2 existing
attn:Gary Kraus 608-289-0081

Field Data: 56 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
north filter strip				1.8	Rock	WARSAW WaB	4	200	0 - 2	0 - 300	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	FCD-FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	3	3.4	0.2	4	20	-216	-
south filter strip				1.8	Rock	WARSAW WaC2	9	150	0 - 2	0 - 300	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	FCD-FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	3	6.2	-0.1	6	24	-216	-
watershed of N filter strip				6.7	Rock	WARSAW WaB	4	200	0 - 2	0 - 300	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	FCD-FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	3	3.4	0.2	4	20	-216	-
watershed of S filter strip				45.2	Rock	PLANO PmA	1	250	0 - 2	0 - 300	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	FCD-FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	4	1	0.4	1	24	-216	-

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FCD	Fall Chisel, disked

NM3: Field Data and 590 Assessment Plan

Reported For **Gary Kraus 6-10-2 planned**

Printed **2022-08-17**

Plan Completion/Update Date **2021-03-10**

SnapPlus Version 20.3 built on 2021-02-18

D:\Gary Kraus 6-10-2 planned.snapDb

Prepared for:
Gary Kraus 6-10-2 planned
attn:Gary Kraus 608-289-0081

Field Data: 56 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
north filter strip				1.8	Rock	WARSA W WaB	4	200	0 - 2	0 - 300	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None-None	2021-2028	3	0.4	0.9	1	20	-315	-
south filter strip				1.8	Rock	WARSA W WaC2	9	150	0 - 2	0 - 300	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCD-NT-None-None-None-None-None-None	2021-2028	3	0.7	0.9	1	24	-350	-
watershed of N filter strip				6.7	Rock	WARSA W WaB	4	200	0 - 2	0 - 300	No / Edge	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	FCD-FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	3	3.4	0.3	1	20	-216	-
watershed of S filter strip				45.2	Rock	PLANO PmA	1	250	0 - 2	0 - 300	No / Edge	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	FCD-FCD-FCD-FCD-FCD-FCD-FCD-FCD	2021-2028	4	1	0.5	1	24	-216	-

LANDOWNER: Gary Kraus **PARCEL:** 6-10-2

PRACTICE NAME: filter strip - north **PRACTICE ACRES:** 1.8

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	4	2	4	2	4	2	4	2	4	2	30.00	3.00
PLANNED	1	0	0	0	0	0	0	0	0	0	1.00	0.10
REDUCTION	3	2	4	2	4	2	4	2	4	2	29.00	2.90
CREDIT AFTER TRADE RATIO 2:1	1.50	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	14.50	1.45

PRACTICE NAME: watershed of filter - north

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	15	6	15	6	14	6	14	6	14	6	102.00	10.20
PLANNED	6	3	6	2	6	2	6	2	5	2	40.00	4.00
REDUCTION	9	3	9	4	8	4	8	4	9	4	62.00	6.20
CREDIT AFTER TRADE RATIO 2:1	4.50	1.50	4.50	2.00	4.00	2.00	4.00	2.00	4.50	2.00	31.00	3.10

Total 10 year P credits for all practices: **45.50**

LANDOWNER: Gary Kraus **PARCEL:** 6-10-2

PRACTICE NAME: filter strip - south **PRACTICE ACRES:** 1.8

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	4	2	4	1	4	1	3	1	3	1	24.00	2.40
PLANNED	1	0	0	0	0	0	0	0	0	0	1.00	0.10
REDUCTION	3	2	4	1	4	1	3	1	3	1	23.00	2.30
CREDIT AFTER TRADE RATIO 2:1	1.50	1.00	2.00	0.50	2.00	0.50	1.50	0.50	1.50	0.50	11.50	1.15

PRACTICE NAME: watershed of filter - south

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	92	38	91	37	89	37	87	36	86	35	628.00	62.80
PLANNED	38	17	37	16	36	15	35	15	34	14	257.00	25.70
REDUCTION	54	21	54	21	53	22	52	21	52	21	371.00	37.10
CREDIT AFTER TRADE RATIO 2:1	27.00	10.50	27.00	10.50	26.50	11.00	26.00	10.50	26.00	10.50	185.50	18.55

Total 10 year P credits for all practices: **197.00**

Appendix C12

Project Name: Gary Kraus, Filter Strips, Parcel 6-10-83,84

Landowner Information: Gary Kraus
7232 E. US Highway 14
Janesville, WI, 53546
Contact Person: Gary Kraus, 608-289-0081

Project is located in Blackhawk Creek HUC12 Watershed (see Location Map in Appendix). Project site provides sheet/rill erosion to an intermittent stream which is a tributary to Blackhawk Creek. Part of the project is located in a wetland and may require Federal, State or Local permits which if needed, will be obtained prior to project installation (see WDNR Surface Water Data Viewer Map).

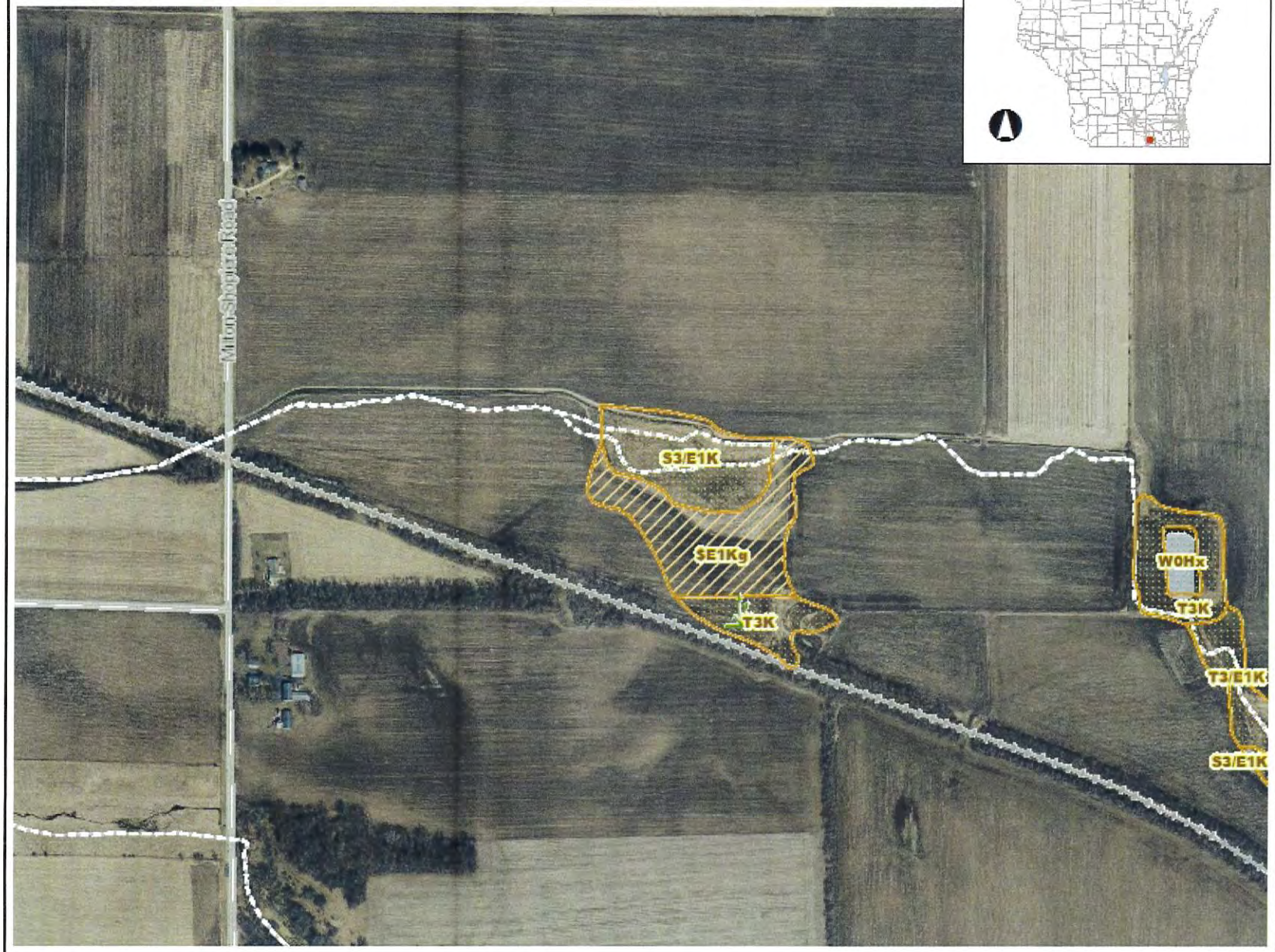
Plans are, in year 2022, to plant perennial vegetation 40 feet wide on fields adjacent to the north and south edges of the intermittent stream (see Plan Map). Fields have been historically annually cropped to a one year corn, one year soybean. Perennial vegetation shall consist of forage grasses/legumes that can be harvested annually. Legumes shall be less than 50% of the forage mix. Project will be designed to meet USDA-NRCS 393 Filter Strip standard by Rock County LCD who will certify project completion.

Soil phosphorus ppm was determined by obtaining information from the nutrient management plan. (see SnapPlus Soil Test Report).

Annual pounds of phosphorus runoff for existing (baseline) and planned conditions were determined using SNAPPlus. Phosphorus runoff for existing conditions for all fields was calculated based on a rotation of grain corn, grain corn and soybeans for a 10 year period with field preparations for both crops being fall chisel with a disc. SNAPPlus calculations for planned conditions for the filter strips are based on no-till seeding grass/alfalfa in spring of first year and a mature stand of grass/alfalfa for the remaining 9 years. SNAPPlus calculations for planned conditions for watersheds of the filter strips is based on an annual rotation of grain corn, corn grain and soybeans for a 10 year period, with field preparation for both crops being fall chisel with a disc.

Annual phosphorus runoffs were inserted into a Trade Ratio Spreadsheet to determine the estimated Trade Credit. A trade ratio of 2:1 was used. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual acres planted to perennial vegetation and then inserting into Trade Ratio Spreadsheet.

Gary Kraus 6-10-83,84
Surface Water Data Viewer Map



Legend

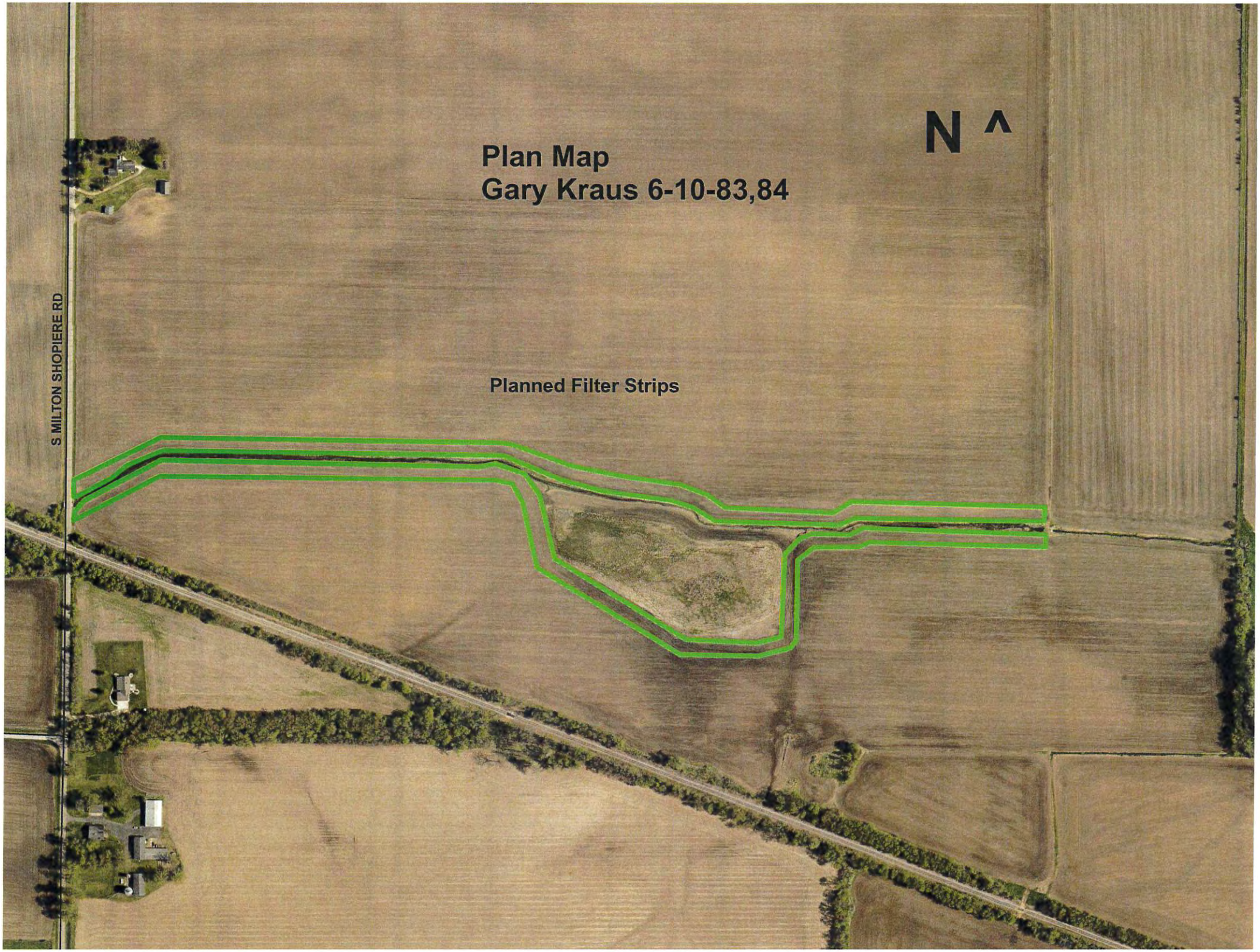
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920


Plan Map
Gary Kraus 6-10-83,84
N ^
S MILTON SHOPIERE RD
Planned Filter Strips

			Predominant					Samples				In ppm			
Field Name	Subfarm	Acres	Soil Map Symbol	Soil Name	Soil Test Date	Soil Test Lab	Lab Number	Rec. #	Actual #	pH	OM%	P	K	S	CEC
Home Backfield	Home	22	DuB2	DURAND	2020-12-14			3	5	6.5	3.8	51	206	0	0
Home East	Home	40	PmA	PLANO	2020-11-11			4	8	6.7	4.5	79	200	0	0
Home West	Home	15	PmA	PLANO	2020-11-10			3	3	6.7	4.6	128	286	0	0
Jenson Farm	Misc	50	RpB	ROCKTON	2020-11-01	A&L		10	11	6.2	3.6	11	82	0	0
Kopak	Misc	27	PmA	PLANO	2020-12-14	A & L Great Lakes Laboratories	F12361-4000	4	6	6.9	4.8	431	385	0	0
Lux Farm/Behind House	Lux	9.5	PmA	PLANO	2020-12-14			2	2	6.2	3.9	20	89	0	0
Lux Main	Lux	68	PmA	PLANO	2020-12-14	A & L Great Lakes Laboratories	F12361-4003	14	14	6.3	3.4	24	114	0	0
Scott North	Scott	70	PmA	PLANO	2019-11-30	A&L Great Lakes	F19303-4003	14	14	6.2	3.8	27	158	0	0
Scott South	Scott	63	PmA	PLANO	2019-11-30	A&LGreat Lakes	F19303-403	13	15	6.8	3.9	18	112	0	0
Scott South Creek	Scott	35	WnC2	WINNEBAGO	2020-10-22			7	8	5.9	4.6	27	200	0	0
Sheila's	Misc	6.5	WnC2	WINNEBAGO	2020-10-22			1	2	6.4	3.6	5	62	0	0

Crop Year Soil Test Needed

Field Name	Soil Test Date	2019	2020	2021	2022	2023	2024	2025
Albright North	2020-10-26							X
Albright South	2020-10-26							X
Becker East A	2019-11-11						X	
Becker East B	2019-11-11						X	
Becker West	2019-11-11						X	
Curve	2020-12-14							X
Darien Farm	2020-11-06							X

WQ1: P Trade Report

Reported For	Gary Kraus 6-10-83,84 existing
Printed	2021-10-18
Plan Completion/Update Date	2021-08-13
SnapPlus Version 20.4 built on 2021-06-03	
E:\Gary Kraus 6-10-83,84 existing.snapDb	

Prepared for:
Gary Kraus 6-10-83,84 existing
attn:Gary Kraus 6-10-83,84

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Questions? Please contact DNRphosphorus@wisconsin.gov

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P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
N filter	MAHALASVILLE	Ma	3	4	9	4	3	9	4	4	8	3	3
N watershed	DURAND	DuB2	50	106	321	109	103	315	106	100	309	104	98
South filter strip	MAHALASVILLE	Ma	6	5	14	6	5	13	16	5	5	13	5
South watershed	DURAND	DuB2	47	99	306	102	97	300	100	94	295	97	92
Total			**106**	**214**	**650**	**220**	**208**	**637**	**226**	**204**	**617**	**218**	**198**

WQ1: P Trade Report

Reported For	Gary Kraus 6-10-83,84 planned
Printed	2021-10-18
Plan Completion/Update Date	2021-08-13
SnapPlus Version 20.4 built on 2021-06-03	
E:\Gary Kraus 6-10-83,84 planned.snapDb	

Prepared for:
Gary Kraus 6-10-83,84 planned
attn:Gary Kraus 6-10-83,84

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

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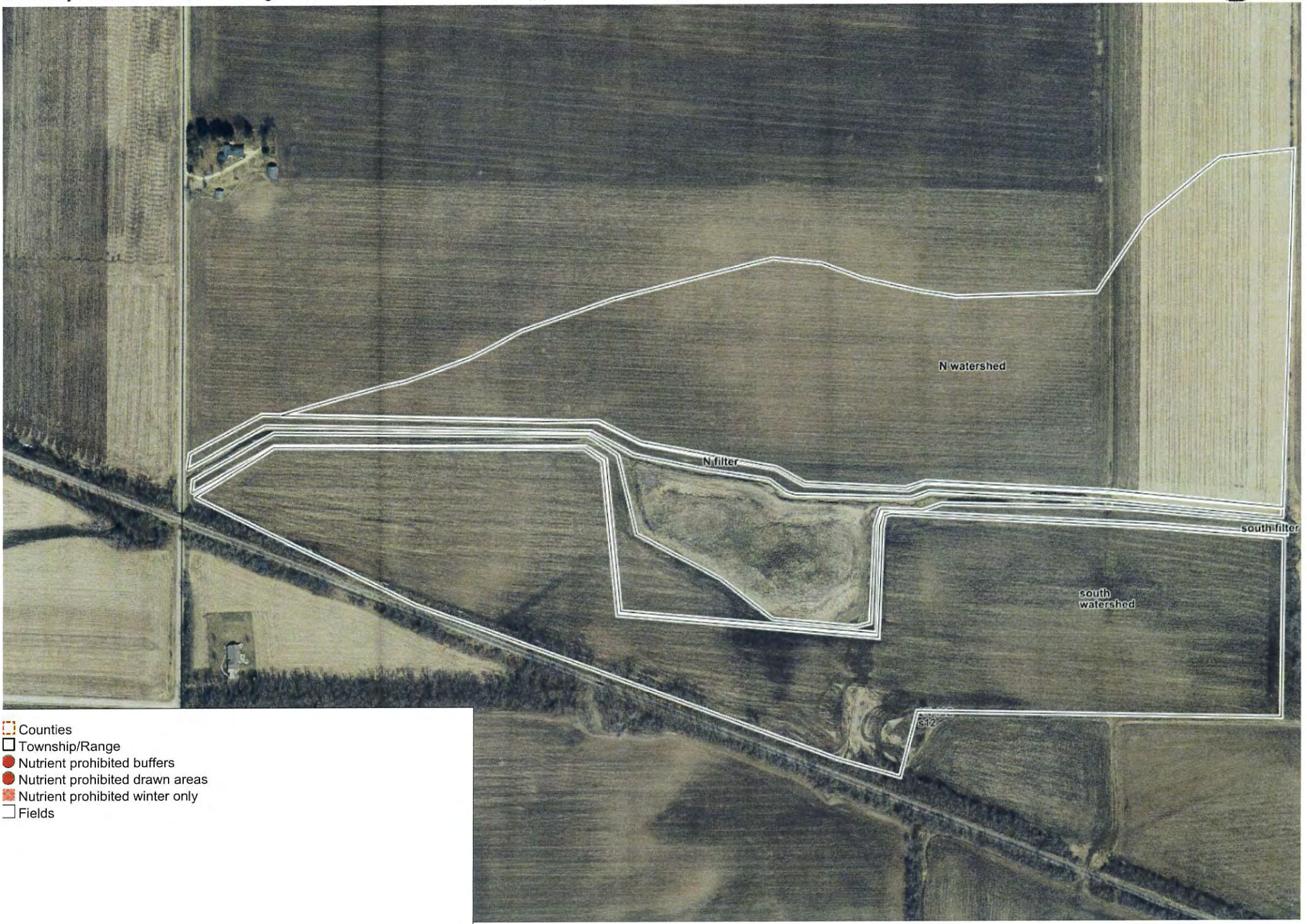
P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
N filter	MAHALASVILLE	Ma	3	3	2	2	1	1	1	1	1	1	1
N watershed	DURAND	DuB2	50	32	55	30	31	52	29	30	49	27	28
South filter strip	MAHALASVILLE	Ma	6	4	3	2	2	1	1	1	1	1	1
South watershed	DURAND	DuB2	47	28	46	26	27	43	24	26	78	23	24
Total			**106**	**68**	**106**	**59**	**61**	**97**	**55**	**57**	**129**	**52**	**54**

arm: Gary Kraus 6-10-83,84 existing, V20 Generated:10/18/2021, Crop year: 2022, Township Range Section:2N 13E s12



Counties
Township/Range
Nutrient prohibited buffers
Nutrient prohibited drawn areas
Nutrient prohibited winter only
Fields

NM3: Field Data and 590 Assessment Plan

Reported For	Gary Kraus 6-10-83,84 existing
Printed	2021-10-18
Plan Completion/Update Date	2021-08-13
SnapPlus Version 20.4 built on 2021-06-03	
E:\Gary Kraus 6-10-83,84 existing.snapDb	

Prepared for:
Gary Kraus 6-10-83,84 existing
attn:Gary Kraus 6-10-83,84

Field Data: 106 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
N filter				3.4	Rock	PLANO PmB	4	200	0 - 2	0 - 300	No / No	No	No	Cg-Cg-Sg15-Cg-Cg-Sg15-Cg-Cg	FCND-FCND-FCND-FCND-FCND-FCND-FCND-FCND	2021-2028	4	2.7	0.4	4	49	-254	-
N watershed				49.5	Rock	WINNEBAGO WnC2	9	150	0 - 2	0 - 300	No / No	No	No	Cg-Cg-Sg15-Cg-Cg-Sg15-Cg-Cg	FCND-FCND-FCND-FCND-FCND-FCND-FCND-FCND	2021-2028	5	5.4	0.2	7	49	-254	-
South filter strip				5.6	Rock	MAHALASVILLE Ma	1	250	0 - 2	0 - 300	No / No	No	No	Cg-Cg-Sg15-Cg-Cg-Sg15-Sg15-Cg	FCND-FCND-FCND-FCND-FCND-FCND-FCND-FCND	2021-2028	5	0.8	0.5	2	39	-265	-

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
South watershed				47.2	Rock	WINNEBAGO WnC2	9	150	0 - 2	0 - 300	No / No	No	No	Cg-Cg-Sg15-Cg-Cg-Sg15-Cg-Cg	FCND-FCND-FCND-FCND-FCND-FCND-FCND-FCND	2021-2028	5	5.4	0.2	7	27	-254	-

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FCND	Fall Chisel, no disk

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
South watershed				47.2	Rock	WINNEBAGO WnC2	9	150	0 - 2	0 - 300	No / No	No	No	Cg-Cg-Sg15-Cg-Cg-Sg15-Cg-Cg	FCND-FCND-FCND-FCND-FCND-FCND-FCND-FCND	2021-2028	5	5.4	0.2	7	27	-254	-

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FCND	Fall Chisel, no disk

NM3: Field Data and 590 Assessment Plan

Reported For	Gary Kraus 6-10-83,84 planned
Printed	2021-10-18
Plan Completion/Update Date	2021-08-13
SnapPlus Version 20.4 built on 2021-06-03	
E:\Gary Kraus 6-10-83,84 planned.snapDb	

Prepared for:
Gary Kraus 6-10-83,84 planned
attn:Gary Kraus 6-10-83,84

Field Data: 106 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
N filter				3.4	Rock	PLANO PmB	4	200	0 - 2	0 - 300	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCND-NT-None-None-None-None-None-None	2021-2028	**4**	**0.4**	**0.9**	**1**	49	-271	-
N watershed				49.5	Rock	WINNEBAGO WnC2	9	150	0 - 2	0 - 300	No / Edge	No	No	Cg-Cg-Sg15-Cg-Cg-Sg15-Cg-Cg	FCND-FCND-FCND-NT-FCND-FCND-NT-FCND	2021-2028	**5**	**4.1**	**0.6**	**1**	49	-254	-
South filter strip				5.6	Rock	MAHALASVILLE Ma	1	250	0 - 2	0 - 300	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	FCND-NT-None-None-None-None-None-None	2021-2028	**5**	**0.1**	**1.0**	**1**	39	-285	-
South watershed				47.1	Rock	WINNEBAGO WnC2	9	150	0 - 2	0 - 300	No / Edge	No	No	Cg-Cg-Sg15-Cg-Cg-Sg15-Cg-Cg	FCND-FCND-FCND-NT-FCND-FCND-NT-FCND	2021-2028	**5**	**4.1**	**0.6**	**1**	39	-296	-

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass
AGs	Alfalfa/Grass Seeding Spring
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FCND	Fall Chisel, no disk
None	None
NT	No Till

LANDOWNER: Gary Kraus **PARCEL:** 6-10-83,84

PRACTICE NAME: filter strip - south **PRACTICE ACRES:** 5.6

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	5	14	6	5	13	16	5	5	13	5	87.00	8.70
PLANNED	4	3	2	2	1	1	1	1	1	1	17.00	1.70
REDUCTION	1	11	4	3	12	15	4	4	12	4	70.00	7.00
CREDIT AFTER TRADE RATIO 2:1	0.50	5.50	2.00	1.50	6.00	7.50	2.00	2.00	6.00	2.00	35.00	3.50

PRACTICE NAME: watershed of filter - south

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	99	306	102	97	300	100	94	295	97	92	1582.00	158.20
PLANNED	28	46	26	27	43	24	26	78	23	24	345.00	34.50
REDUCTION	71	260	76	70	257	76	68	217	74	68	1237.00	123.70
CREDIT AFTER TRADE RATIO 2:1	35.50	130.00	38.00	35.00	128.50	38.00	34.00	108.50	37.00	34.00	618.50	61.85

Total 10 year P credits for all practices: **653.50**

LANDOWNER: Gary Kraus **PARCEL:** 6-10-83,84

PRACTICE NAME: filter strip - north **PRACTICE ACRES:** 3.4

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	4	9	4	3	9	4	4	8	3	3	51.00	5.10
PLANNED	3	2	2	1	1	1	1	1	1	1	14.00	1.40
REDUCTION	1	7	2	2	8	3	3	7	2	2	37.00	3.70
CREDIT AFTER TRADE RATIO 2:1	0.50	3.50	1.00	1.00	4.00	1.50	1.50	3.50	1.00	1.00	18.50	1.85

PRACTICE NAME: watershed of filter - north

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	106	321	109	103	315	106	100	309	104	98	1671.00	167.10
PLANNED	32	55	30	31	52	29	30	49	27	28	363.00	36.30
REDUCTION	74	266	79	72	263	77	70	260	77	70	1308.00	130.80
CREDIT AFTER TRADE RATIO 2:1	37.00	133.00	39.50	36.00	131.50	38.50	35.00	130.00	38.50	35.00	654.00	65.40

Total 10 year P credits for all practices: **672.50**

Appendix C13

Project Name: Langer, Conservation Easements, Parcel 6-6-398

Landowner Information: Mark Langer
6388 W. Hubbell Road, Janesville, WI, 53548
Contact Person: Mark Langer, 608-295-5858

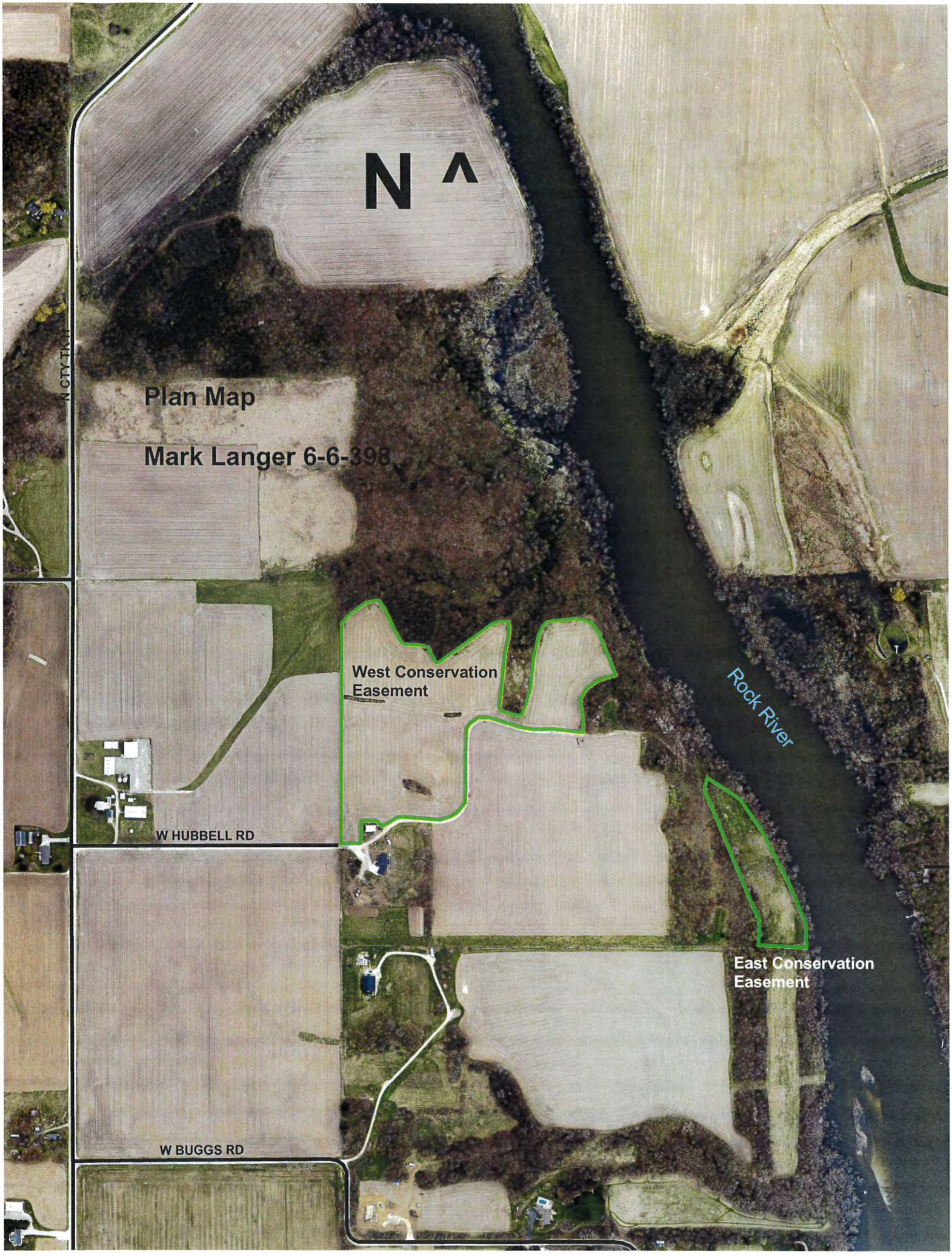
These projects are located in the Camp Indian Trails HUC12 Watershed (see Location Map in Appendix). The west project site has sheet and rill erosion flowing to the north and east entering into wooded waterways where it concentrates and flows to the Rock River. The east project site has sheet and rill erosion which flows to the east entering into the Rock River (see Plan and Contour Maps). The projects are not located within a wetland and will not require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

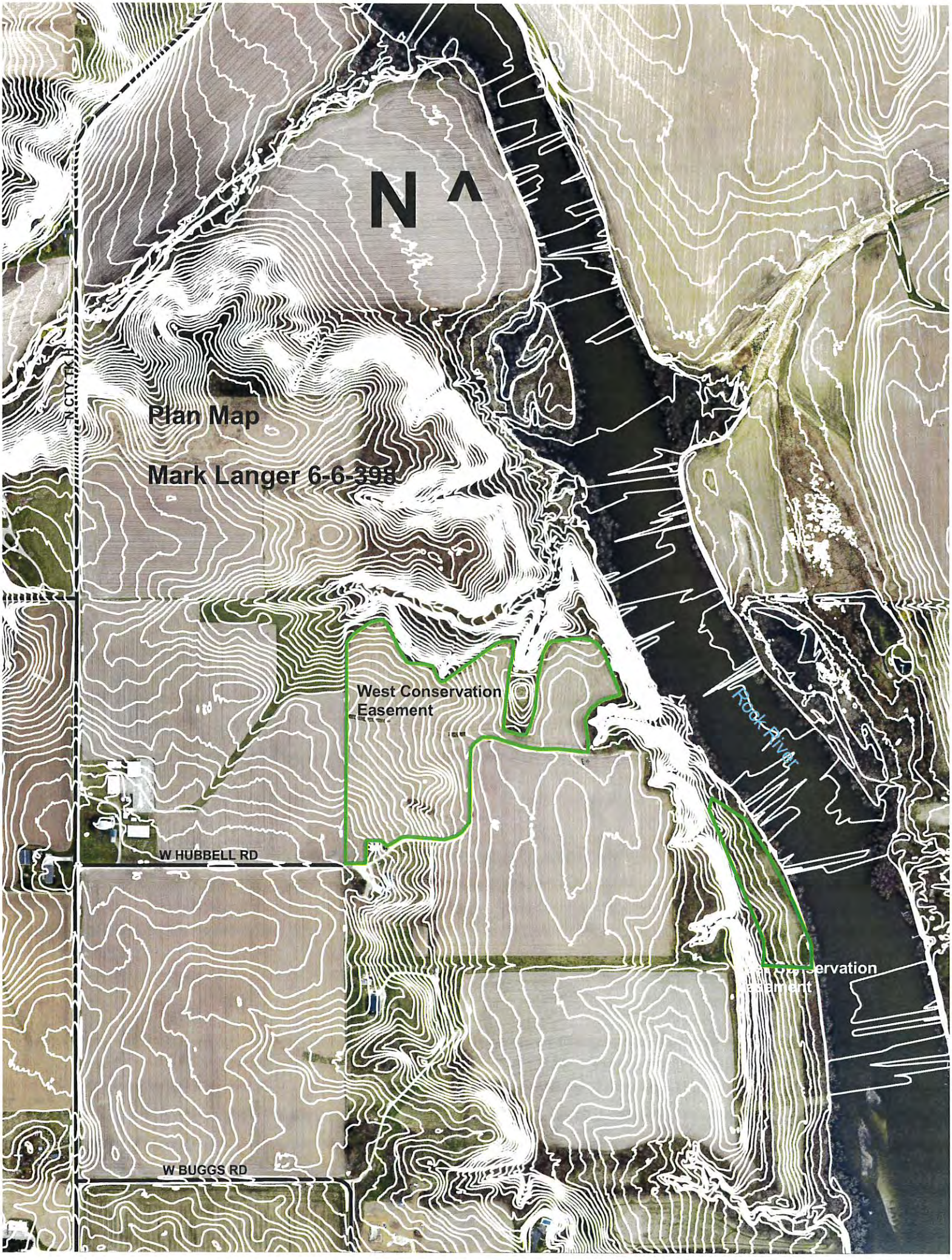
The plan is to plant the east site, approximately 2.7 acres of annual cropland, to perennial vegetation in spring of 2022. The west site, approximately 16.7 acres shall be planted to perennial vegetation in spring of 2023. Perennial vegetation shall consist of forage grasses/legumes that can be harvested annually. Legumes shall be less than 50% of the forage mix. The west project site will be rotationally grazed and east project site will be harvested mechanically. Projects will be designed to meet USDA-NRCS 512 Forage and Biomass Planting standard by Rock County LCD who will certify project completion.

Soil phosphorus ppm for the west project site was determined by multiple samples throughout the field and tested by Rock River Labs, a Wisconsin Certified Soil Testing Lab (see FieldAlytics Soil Test Report). Soil phosphorus ppm for the east project site was determined by multiple samples throughout the field and combined into one sample and tested by Rock River Labs (See Soil Test Report and Sample Map).

Annual pounds of phosphorus runoff for existing (baseline) and planned conditions were determined using SNAPPlus. Phosphorus runoff for existing conditions was calculated based on an annual rotation of grain corn and soybeans for a 10 year period with field preparations for both crops being fall vertical tillage. SNAPPlus calculations for planned conditions for the conservation easements are based on no-till seeding grass/alfalfa for year one and a mature stand of grass/alfalfa for the remaining 9 years.

Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit. A trade ratio of 1.2:1 was used for the cropland seeded to perennial vegetation and because the rotational phosphorus index (PI) was greater than the Rock River TMDL PI Threshold, Interim Credits were determined (see Credit Calculations Worksheet). Final Trade Credit will be determined by completing phosphorus runoff calculations using actual acres planted to perennial vegetation and then inserting into Trade Ratio Spreadsheet.


N
Plan Map
Mark Langer 6-6-398
West Conservation Easement
Rock River
East Conservation Easement
W HUBBELL RD
W BUGGS RD


N
Plan Map
Mark Langer 6-6-398
N CITY LN
West Conservation Easement
Rock River
W HUBBELL RD
W BUGGS RD

Mark Langer 6-6-398
Surface Water Data Viewer Map

Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960

Location	Grower	Farm	Field	Area	Centroid
Evansville	McGuires Big Hickory Farms	Amys Farm	A1	16.35 acres	42.772527, -89.124677

	Min	Max	Avg
P	18.9	181.6	51.2
K	84.5	175.4	125.1
Mg	226.8	614.8	380.8
Ca	1005	2216	1517
S	2.4	7.4	4.3
B	0.5	0.9	0.7
Cu	1.4	3.6	2.1
Fe	174.1	334.8	232.9
Mn	21.6	45.1	33.0
Zn	2.1	6.5	3.4
pH	4.7	7.1	5.5
bpH	6.40	7.40	6.72
OM	1.7	3.4	2.4
CEC	7.6	15.7	11.7
%K	1.9	3.7	3.0
%Mg	25.1	34.4	27.8
%Ca	63.7	72.4	69.2
SS	0.1	0.3	0.2

Sample Date	Soil Lab
2021-08-16	Rock River Labs

ID	P ppm	K ppm	Mg ppm	Ca ppm	S ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	pH	bpH	OM %	CEC meq	%K %	%Mg %	%Ca %	SS mmhos/cm
1	61.3	153.8	490.6	1853	5.5	0.8	1.8	257.5	27.2	5.4	5.8	6.70	3.4	14.3	2.9	29.4	67.7	0.2
2	181.6	168.2	539.5	2216	2.6	0.9	1.8	334.8	21.6	6.5	7.1	7.40	2.6	15.7	2.7	27.7	69.6	0.3
3	76.4	146.6	515.0	1982	2.4	0.9	1.9	304.5	30.4	4.5	6.4	6.90	2.7	15.4	2.6	29.1	68.3	0.2
4	36.0	108.0	316.5	1433	2.5	0.7	2.2	205.0	33.1	3.7	5.9	6.80	2.0	9.9	2.8	25.8	71.4	0.2
5	31.7	100.7	325.9	1475	3.0	0.6	1.9	202.8	31.2	3.4	5.6	6.70	2.4	11.4	2.5	25.9	71.6	0.1
6	58.2	118.2	267.0	1216	4.6	0.6	2.0	245.4	31.9	3.0	4.9	6.40	2.4	9.1	3.5	25.5	70.9	0.1
7	44.5	129.2	288.1	1311	4.7	0.7	2.3	269.3	30.5	3.6	4.9	6.50	2.3	9.7	3.6	25.5	70.9	0.2
8	57.0	108.2	277.1	1264	3.8	0.7	1.4	249.3	31.8	3.5	5.3	6.60	2.8	10.0	3.1	25.6	71.3	0.1
9	21.5	84.5	267.5	1266	6.1	0.6	2.0	190.2	38.6	3.5	5.4	6.60	2.8	9.8	2.5	25.1	72.4	0.1
10	27.7	128.2	340.9	1363	3.8	0.6	1.8	213.0	36.2	2.3	4.9	6.50	2.3	10.4	3.3	28.1	68.6	0.2

	P	K									pH		OM					
11	18.9	98.2	226.8	1062	7.4	0.5	3.6	208.5	44.3	2.6	5.1	6.70	1.7	8.0	3.4	25.1	71.6	0.1
12	21.3	104.0	231.9	1005	4.8	0.6	1.9	215.0	41.1	2.1	4.7	6.40	2.1	7.6	3.7	26.4	69.9	0.1
13	46.8	114.4	277.2	1231	4.4	0.7	1.5	203.7	45.1	2.9	5.4	6.70	2.0	9.1	3.4	26.0	70.6	0.2
14	39.0	157.3	529.1	1949	6.1	0.7	2.0	188.6	33.9	2.8	5.8	6.80	2.6	14.8	2.8	29.9	67.3	0.2
15	21.5	108.5	614.8	1869	3.3	0.7	2.1	174.1	31.2	2.6	6.4	6.90	2.3	15.5	1.9	34.4	63.7	0.2
16	47.6	122.5	438.3	1620	4.4	0.7	2.4	225.2	27.2	3.0	5.5	6.80	2.2	13.3	2.6	29.9	67.5	0.2
17	79.5	175.4	527.3	1677	4.3	0.7	2.9	272.8	25.3	2.7	5.2	6.80	2.1	14.5	3.4	32.9	63.7	0.2

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

Account: 1870
Landmark North Hub - Yield Edge
2580 Coffeytown Rd
Cottage Grove, WI 53527

Report For:
McGuires Big Hickory Farms
Hubble Farm

Lab #248937
County DANE
Received 5/18/2021
Slope 0%
Field
Hub 06
Acres
Plow Depth 7.0
Soil Name
unknown
Previous Crop

Nutrient Recommendations

Cropping Sequence	Yield Goal (per acre)	Crop Nutrient Need (lbs/acre)			Fertilizer Credit (lbs/acre)				Nutrients to Apply(lbs/acre)		
		N	P2O5	K2O	Legume N	Manure N	P2O5	K2O	N	P2O5	K2O
Corn, grain	171-190 bu	*	0	80	0	0	0	0	*	0	80
Soybean, grain	56-65 bu	0	0	115	0	0	0	0	0	0	115
Alfalfa, seeding	1.5-2.5 ton	0	0	145	0	0	0	0	0	0	145
Alfalfa, established	5.6-6.5 ton	0	0	400	0	0	0	0	0	0	400

*For information on the new N application rate guidelines for corn see http://uwlab.soils.wisc.edu/pubs/MRTN
The lime required for this rotation to reach pH 6.8 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.

Laboratory Analysis for Field Hub 06, Lab No 248937

Sample Num	Soil pH	Om %	P ppm	K ppm	60-69 Lime Req(T/a)	Ca ppm	Mg ppm	Est Cec	B ppm	Mn ppm	Zn ppm	Sulfate-S ppm	Texture Code	Sample Density	Buffer Code
10	6.5	3.7	95	107	2.1	1823	393	16	0.5	26	4.4	6.2	2	0.92	6.8

Additional Information, Secondary & Micronutrient Recommendations

Starter fertilizer (e.g. 10+20+20 lbs N+P2O5+K2O/a) is advisable for row crops on soils slow to warm in the spring.
Because of very high P levels, P2O5 applications from fertilizer or manure should be reduced and crops with a high P removal should be grown.
If alfalfa will be maintained for more than three years, increase recommended K2O by 20% each year.
If lime has been applied in the last two years, more lime may not be needed due to incomplete reaction.
Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.
Year 1: If corn is harvested for silage instead of grain apply extra 90 lbs K2O per acre to next crop.
Ca - H Mg-Opt B-L Mn-H Zn-Opt S-L
%Base Saturation: Ca 72.3% Mg 25.5% K 2.2%
10: Cu=1.41ppm Fe=242.27ppm Sol Salts=0.19 mmhos/cm
Response to added Ca is unlikely.
Soil Mg is optimum. Maintain level with dolomitic lime.
See Chapter 8, page 63 of publication A2809 for information on the sulfur application guidelines for Wisconsin.
Years 1, 2: Confirm the need for B by plant analysis.
Years 3, 4: Apply 2 lbs B/a.
All Years: Response to Mn is unlikely.
All Years: Response to Zn is unlikely.

Test Interpretation for Field Hub 06, Lab No 248937

Crop Name	Very Low	Low	Optimum	High	Very High	Excessive	Very Low	Low	Optimum	High	Very High	Excessive
Alfalfa, established	P						K					
Rotation pH	pH											

WQ1: P Trade Report

Reported For **Mark Langer 6-6-398 existing**

Printed 2022-04-14

Plan Completion/Update Date 2021-08-18

SnapPlus Version 20.3 built on 2021-02-18

D:\Mark Langer 6-6-398 existing.snapDb

Prepared for:
Mark Langer 6-6-398 existing
attn:Mark Langer

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
PVA	DRESDEN	DrC2	3	12	28	12	27	12	27	11	26	11	26
W PVA	KIDDER	KeC2	17	71	168	68	163	66	158	64	154	62	150
Total			**19**	**83**	**196**	**80**	**190**	**77**	**185**	**75**	**180**	**73**	**175**

WQ1: P Trade Report

Reported For	Mark Langer 6-6-398 planned
Printed	2022-04-14
Plan Completion/Update Date	2021-08-18

SnapPlus Version 20.3 built on 2021-02-18

D:\Mark Langer 6-6-398 planned.snapDb

Prepared for:
Mark Langer 6-6-398 planned
attn:Mark Langer

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

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This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
PVA	DRESDEN	DrC2	3	10	5	3	2	1	1	1	1	1	1
W PVA	KIDDER	KeC2	17	56	23	13	7	5	4	3	3	3	2
Total			**19**	**67**	**28**	**15**	**9**	**6**	**5**	**4**	**4**	**4**	**3**

arm: Mark Langer 6-6-398 existing, V20 Generated:9/2/2021, Crop year: 2021, Township Range Section:4N 12E s31

NM3: Field Data and 590 Assessment Plan

Reported For **Mark Langer 6-6-398 existing**

Printed 2022-04-14

Plan Completion/Update Date 2021-08-18

SnapPlus Version 20.3 built on 2021-02-18

D:\Mark Langer 6-6-398 existing.snapDb

Prepared for:
Mark Langer 6-6-398 existing
attn:Mark Langer

Field Data: 19 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
PVA				2.7	Rock	DRESDEN DrC2	9	150	More than 12	0 - 300	No / No	No	No	Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg	FVT-FVT-FVT-FVT-FVT-FVT-FVT-FVT	2021-2028	3	5.4	0.1	7	95	-404	0
W PVA				16.7	Rock	KIDDER KeD2	16	100	2.1 - 6	0 - 300	No / No	No	No	Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg	FVT-FVT-FVT-FVT-FVT-FVT-FVT-FVT	2021-2028	5	15.8	-0.7	13	51	-404	0

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FVT	Fall vertical tillage

NM3: Field Data and 590 Assessment Plan

Reported For	Mark Langer 6-6-398 planned
Printed	2022-04-14
Plan Completion/Update Date	2021-08-18
SnapPlus Version 20.3 built on 2021-02-18	
D:\Mark Langer 6-6-398 planned.snapDb	

Prepared for:
Mark Langer 6-6-398 planned
attn:Mark Langer

Field Data: 19 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
PVA				2.7	Rock	DRESDEN DrC2	9	150	More than 12	0 - 300	No / No	No	No	Sg15-Cg-AGs-AG-AG-AG-AG-AG	FVT-FVT-NT-None-None-None-None-None	2021-2028	**3**	**1.6**	**0.7**	**3**	95	-335	0
W PVA				16.7	Rock	KIDDER KeD2	16	100	2.1 - 6	0 - 300	No / No	No	No	Sg15-Cg-AGs-AG-AG-AG-AG-AG	FVT-FVT-NT-None-None-None-None-None	2021-2028	**5**	**4.7**	**0.5**	**4**	51	-335	0

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass
AGs	Alfalfa/Grass Seeding Spring
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
FVT	Fall vertical tillage
None	None
NT	No Till

LANDOWNER: Mark Langer **PARCEL:** 6-6-398

PRACTICE: Conservation Easement **Acres:** 2.7

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL	10 YEAR ANNUAL AVERAGE
EXISTING	12	28	12	27	12	27	11	26	11	26	192.00	19.20
PLANNED	10	5	3	2	1	1	1	1	1	1	26.00	2.60
REDUCTION	2	23	9	25	11	26	10	25	10	25	166.00	16.60
CREDIT AFTER TRADE RATIO 1.2:1	1.67	19.17	7.50	20.83	9.17	21.67	8.33	20.83	8.33	20.83	138.33	13.83

Annual Interim Credits = $\frac{\text{Actual Rotational PI - Rock River PI Threshold}}{\text{Actual Rotational PI}}$ X 10 Year Annual Average After Trade Ratio = $\frac{7 - 6}{7}$ X 13.83 = 1.94

Annual Long Term Credits = 10 Year Annual Average - Annual Interim Credits = 13.83 - 1.94 = 11.89

PRACTICE: Conservation Easement **Acres:** 16.7

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL	10 YEAR ANNUAL AVERAGE
EXISTING	71	168	68	163	66	158	64	154	62	150	1124.00	112.40
PLANNED	56	23	13	7	5	4	3	3	3	2	119.00	11.90
REDUCTION	15	145	55	156	61	154	61	151	59	148	1005.00	100.50
CREDIT AFTER TRADE RATIO 1.2:1	12.50	120.83	45.83	130.00	50.83	128.33	50.83	125.83	49.17	123.33	837.50	83.75

Annual Interim Credits = $\frac{\text{Actual Rotational PI - Rock River PI Threshold}}{\text{Actual Rotational PI}}$ X 10 Year Annual Average After Trade Ratio = $\frac{13 - 6}{13}$ X 83.75 = 45.23

Annual Long Term Credits = 10 Year Annual Average - Annual Interim Credits = 83.75 - 45.23 = 38.52

Appendix C14

Project Name: LaVaughn J Buehl, Conservation Easement, Parcel 6-8-195

Landowner Information: LaVaughn J Buehl
3106 W County Road A
Janesville, WI, 53548
Contact Person: Dennis Everhart, 608-290-8731

Project is located in Janesville-Rock River HUC12 Watershed (see Location Map in Appendix). Project site provides sheet/rill/gully erosion to an intermittent stream which is a tributary to the Rock River (see Plan Map). Project isn't located in a wetland and won't require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

In the spring of 2021, approximately 6.1 acres that historically was cropped one year corn, one year soybean was planted to perennial vegetation in the northeast portion of a field due to severe erosion that needed to be addressed as soon as possible (see Plan Map). Perennial vegetation consisted of forage grasses/legumes that can be harvested annually. Legumes were less than 50% of the forage mix. Project was designed to meet USDA-NRCS 512 Forage and Biomass Planting standard by Rock County LCD who will certify project completion.

Soil phosphorus ppm was determined by taking multiple samples and combining them to one sample which was sent to be analyzed by UW Soil & Forage Analysis Lab which is a Wisconsin Certified soil Testing Lab (see Soil Test Reports).

Annual pounds of phosphorus runoff for existing (baseline) and planned conditions were determined using SNAPPlus. Phosphorus runoff for existing conditions for all fields was calculated based on annual rotation of grain corn and soybeans for a 10 year period with field preparations for both crops being spring vertical tillage. SNAPPlus calculations for planned conditions for the conservation easement are based on no-till seeding grass/alfalfa in spring of first year and a mature stand of grass/alfalfa for the remaining 9 years. SNAPPlus calculations for planned conditions for watersheds of the filter strips is based on an annual rotation of grain corn and soybeans for a 10 year period, with field preparation for both crops being spring vertical tillage.

Annual phosphorus runoffs were inserted into a Trade Ratio Spreadsheet to determine the estimated Trade Credit. A trade ratio of 2:1 was used for the watershed of the conservation easement because nutrient management and residue management occur while a 1.2:1 trade ratio was used for the conservation easement. Because the rotational phosphorus index (PI) was greater than the Rock River TMDL PI Threshold for both the watershed and conservation easement, Interim Credits were determined (see Credit Calculations Worksheet). Final Trade Credit will be determined by completing phosphorus runoff calculations using actual acres planted to perennial vegetation and then inserting into Trade Ratio Spreadsheet.


Plan Map
LaVaughn Buehl Trust 6-18-195
N
Planned
Conservation Easement
NORTHRIDGE DR
FALLING LEAF TR
ARBOR RIDGE WAY
GREENWAY CIR
N CTY TK E
RIDGEWOOD DR
SUMMIT DR
WEDGEWOOD CT
N CTY TK E
N WASH ST
GOLF COURSE RD
PARKHILL DR
Rock River
PARKSIDE DR
EDGE HILL DR
Unnamed
Unnamed
Unnamed
W CTY TK A
TIMBER LA
HIGH PT CT
SHADY OAK CT
GLENVIEW CT
W MEMORIAL DR
WINCHESTER PL
CAMELOT DR
MOLE AV
ROYAL OAKS DR
OAKBROOK CT
MORELAND DR
PURVIS AV
CHURCH ST
MANOR DR
N OAKHILL AV
N PINE ST
HAMILTON AV
MYRA AV
MYRA AV
BARHAM AV
MOLE AV
FREDERICK ST
WOOD ST
CHARLES ST

LaVaughn J Buehl Rev. Trust 6-8-195
Surface Water Data Viewer Map

Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

0.5 0 0.25 0.5 Miles

NAD_1983_HARN_Wisconsin_TM

1: 15,840

Filter Strip

SOIL TEST REPORT

Samples Analyzed By:
Soil & Forage Analysis Lab
2611 Yellowstone Dr
Marshfield, WI 54449
phone: (715) 387-2523

LAB #: 3675

COOPERATIVE EXTENSION
University of Wisconsin-Extension
University of Wisconsin-Madison
Department of Soil Science

Results also available on-line at http://not available
lab number: 3675 access code: 2f4yv

Extension Rock County -
PO# P1900114, Courthouse, 51 S Main St
Janesville, WI 53545

This Report is for:
Dennis Everhart
4618 W County Road A
Janesville WI 53548

County	Account No.
Rock	555054

Date Received	Date Processed
7/19/2021	7/23/2021

Slope	Acres	Plow Depth	Irrigated
0%	5	8"	No

Soil Name: Kidder
loamy soil/high yield potential
Tiled: No

Field Name: Home 9 hay

Previous Crop: no crop

NUTRIENT RECOMMENDATIONS

Cropping Sequence	Yield Goal	Crop Nutrient Need			Fertilzer Credit				Nutrients to Apply		
		N	P2O5	K2O	Legume N	Manure N	P2O5	K2O	N	P2O5	K2O
	per acre	lbs/a			lbs/a	lbs/a			lbs/a		
Alfalfa, seeding	1.5-2.5 ton	0	25	145	0	0	0	0	0	25	145
Alfalfa, established	5.6-6.5 ton	0	80	400	0	0	0	0	0	80	400
Alfalfa, established	5.6-6.5 ton	0	80	400	0	0	0	0	0	80	400
Alfalfa, established	5.6-6.5 ton	0	80	400	0	0	0	0	0	80	400

The lime required for this rotation to reach pH 6.8 is 3 T/a of 60-69 lime or 2.5 T/a of 80-89 lime.

ADDITIONAL INFORMATION

If lime has been applied in the last two years, more lime may not be needed due to incomplete reaction.

Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.

If alfalfa will be maintained for more than three years, increase recommended K_2O by 20% each year.

SOIL TEST INTERPRETATION FOR CROPPING SEQUENCE

	Very Low	Low	Optimum	High	Very High	Excessive
Phosphorus	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP					
Potassium	KKKKKKKKKKKKKKKKK					
Rotation pH	XXXXXXXXXXXXXXXXXXXXXX					

LABORATORY ANALYSIS

Sample Identification	Soil pH	O.M %	Phosphorus ppm	Potassium ppm	60-69 Lime Req (T/a)	Calcium ppm	Magnesium ppm	Est. CEC (cmol/kg)	Boron ppm	Manganese ppm	Zinc ppm	Sulfate-Sulfur ppm		Texture Code	Sample Density	Buffer pH
1	6.1	2.9	20	94	3.2									2	0.98	6.8
Adjusted Averages	6.1	2.9	20	94												

Recommendations based on UW Extension publication 'Nutrient Application Rate Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin' (A2809).

Farmer's Copy

Watershed

SOIL TEST REPORT

Samples Analyzed By:
Soil & Forage Analysis Lab
2611 Yellowstone Dr
Marshfield, WI 54449
phone: (715) 387-2523

LAB #: 3675

COOPERATIVE EXTENSION
University of Wisconsin-Extension
University of Wisconsin-Madison
Department of Soil Science

Results also available on-line at http://not available
lab number: 3675 access code: 2f4yv

Extension Rock County -
PO# P1900114, Courthouse, 51 S Main St
Janesville, WI 53545

This Report is for:
Dennis Everhart
4618 W County Road A
Janesville WI 53548

County	Account No.
Rock	555054

Date Received	Date Processed
7/19/2021	7/23/2021

Slope	Acres	Plow Depth	Irrigated
0%	5	8"	No

Soil Name: Kidder — Tiled: No
loamy soil/high yield potential
Field Name: Home 9 corn
Previous Crop: no crop

NUTRIENT RECOMMENDATIONS

Cropping Sequence	Yield Goal	Crop Nutrient Need N	Crop Nutrient Need P2O5	Crop Nutrient Need K2O	Fertilizer Credit Legume N	Fertilizer Credit Manure N	Fertilizer Credit P2O5	Fertilizer Credit K2O	Nutrients to Apply N	Nutrients to Apply P2O5	Nutrients to Apply K2O
	per acre	lbs/a			lbs/a	lbs/a			lbs/a		
Corn, grain	171-190 bu	see below	70	80	0	0	0	0	see below	70	80
Soybean, grain	56-65 bu	0	50	115	0	0	0	0	0	50	115
Corn, grain	171-190 bu	see below	70	80	0	0	0	0	see below	70	80
Corn, grain	171-190 bu	see below	70	80	0	0	0	0	see below	70	80

The lime required for this rotation to reach pH 6.3 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.

SUGGESTED N APPLICATION RATES FOR CORN (GRAIN) AT DIFFERENT N:CORN PRICE RATIOS

Previous Crop — High Yield Potential Soils	N:Corn Price Ratio ($/lb N:$/bu) 0.05 Rate[1]	0.05 Range	0.10 Rate[1]	0.10 Range	0.15 Rate[1]	0.15 Range	0.20 Rate[1]	0.20 Range
	lb N/a (Total to Apply)[2]							
Corn, Forage legumes, Leguminous vegetables, Green manures[3]	190	170-210	165	155-180	150	140-160	135	125-150
Soybean, Small grains[4]	140	125-160	120	105-130	105	95-115	90	80-105

[1] Rate is the N rate that provides the maximum return to N (MRTN). Range is the range of profitable N rates that provide an economic return to N within $1/a of the MRTN.
[2] These rates are for total N applied including N in starter fertilizer and N used in herbicide applications.
[3] Subtract N credits for forage legumes, leguminous vegetables, green manures and animal manures. This includes 1st, 2nd and 3rd year credits where applicable. Do not subtract N credits for leguminous vegetables on sand and loamy sand soils.
[4] Subtract N credits for animal manures and 2nd year forage legumes.

Guidelines for choosing an appropriate N application rate for corn (grain)

1) If there is more than 50% residue cover at planting, use the upper end of the range.
2) If 100% of the N will come from organic sources, use the top end of the range. In addition, up to 20 lb N/a in starter fertilizer may be applied in this situation.
3) For medium and fine textured soils with 10% or more organic matter, use the low end of the range: for medium and fine textured soils with less than 2% organic matter, use the high end of the range.
4) If there is a likelihood of residual N, then use the low end of the range or use the high end of the range and subtract preplant nitrate test (PPNT) credits.
5) For corn following small grains on medium and fine textured soils, the middle to low end of the range is most appropriate.

For more information on the new N application rate guidelines for corn see http://uwlab.soils.wisc.edu/pubs/MRTN/

ADDITIONAL INFORMATION

If lime has been applied in the last two years, more lime may not be needed due to incomplete reaction.

Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.

Starter fertilizer (e.g. 10+20+20 lbs $N+P_2O_5+K_2O$/a) is advisable for row crops on soils slow to warm in the spring.

Year 1,3,4: If corn is harvested for silage instead of grain add extra 30 lbs P_2O_5 per acre and 90 lbs K_2O per acre to next crop.

SOIL TEST INTERPRETATION FOR CROPPING SEQUENCE

	Very Low	Low	Optimum	High	Very High	Excessive
Phosphorus	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP					
Potassium	KKKKKKKKKKKKKKKKKKKKK					
Rotation pH	XXXXXXXXXXXXXXXXXXXXXXX					

LABORATORY ANALYSIS

Sample Identification	Soil pH	O.M %	Phosphorus ppm	Potassium ppm	60-69 Lime Req (T/a)	Calcium ppm	Magnesium ppm	Est. CEC (cmol/kg)	Boron ppm	Manganese ppm	Zinc ppm	Sulfate-Sulfur ppm		Texture Code	Sample Density	Buffer pH
2	5.9	2.3	17	81	2.0									2	1.06	7.0
Adjusted Averages	5.9	2.3	17	81												

WQ1: P Trade Report

Reported For	**LaVaughn J Buehl Rev. Trust 6-8-195 existing**
Printed	**2022-04-14**
Plan Completion/Update Date	**2021-05-07**
SnapPlus Version 20.3 built on 2021-02-18	
D:\LaVaughn J Buehl Rev. Trust 6-8-195 - existing.snapDb	

Prepared for:
LaVaughn J Buehl Rev. Trust 6-8-195 existing
attn:Dennis Everhart 608-290-8731

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
cons easement	PECATONICA	PeC2	6	30	15	30	14	29	14	29	14	28	14
watershed of cons ease	KIDDER	KeC2	11	75	35	73	34	72	34	71	33	69	32
Total			**18**	**105**	**50**	**103**	**49**	**101**	**48**	**99**	**47**	**98**	**46**

WQ1: P Trade Report

Reported For	**LaVaughn J Buehl Rev. Trust 6-8-195 planned**
Printed	**2022-04-14**
Plan Completion/Update Date	**2021-05-07**
SnapPlus Version 20.3 built on 2021-02-18	
D:\LaVaughn J Buehl Rev. Trust 6-8-195 - planned.snapDb	

Prepared for:
LaVaughn J Buehl Rev. Trust 6-8-195 planned
attn:Dennis Everhart 608-290-8731

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

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This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
cons easement	PECATONICA	PeC2	6	5	2	1	1	0	0	0	0	0	0
watershed of cons ease	KIDDER	KeC2	11	11	8	11	8	11	8	11	8	11	8
Total			**18**	**16**	**10**	**12**	**8**	**12**	**8**	**12**	**8**	**11**	**8**

arm: LaVaughn J Buehl Rev. Trust 6-8-195 existing, V20 Generated:10/18/2021, Crop year: 2022, Township Range Section:3N 12E s22

NM3: Field Data and 590 Assessment Plan

Reported For	LaVaughn J Buehl Rev. Trust 6-8-195 existing
Printed	2022-04-14
Plan Completion/Update Date	2021-05-07
SnapPlus Version 20.3 built on 2021-02-18	
D:\LaVaughn J Buehl Rev. Trust 6-8-195 - existing.snapDb	

Prepared for:
LaVaughn J Buehl Rev. Trust 6-8-195 existing
attn:Dennis Everhart 608-290-8731

Field Data: 18 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
cons easement				6.1	Rock	KIDDER KeD2	16	100	2.1 - 6	1001 - 5000	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	SVT-SVT-SVT-SVT-SVT-SVT-SVT-SVT	2021-2028	5	14	-0.5	10	20	-204	-
watershed of cons ease				11.4	Rock	KIDDER KeD2	16	100	2.1 - 6	1001 - 5000	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	SVT-SVT-SVT-SVT-SVT-SVT-SVT-SVT	2021-2028	5	14	-0.5	9	17	-204	-

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
SVT	Spring vertical tillage

NM3: Field Data and 590 Assessment Plan

Reported For	**LaVaughn J Buehl Rev. Trust 6-8-195 planned**
Printed	**2022-04-14**
Plan Completion/Update Date	**2021-05-07**

SnapPlus Version 20.3 built on 2021-02-18

D:\LaVaughn J Buehl Rev. Trust 6-8-195 - planned.snapDb

Prepared for:
LaVaughn J Buehl Rev. Trust 6-8-195 planned
attn:Dennis Everhart 608-290-8731

Field Data: 18 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
cons easement				6.1	Rock	KIDDER KeD2	16	100	2.1 - 6	1001 - 5000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	SVT-NT-None-None-None-None-None-None	2021-2028	5	1.3	0.9	1	20	-296	-
watershed of cons ease				11.4	Rock	KIDDER KeD2	16	100	2.1 - 6	1001 - 5000	No / Edge	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	SVT-SVT-SVT-SVT-SVT-SVT-SVT-SVT	2021-2028	5	14	0.0	1	17	0	-

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass
AGs	Alfalfa/Grass Seeding Spring
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
None	None
NT	No Till
SVT	Spring vertical tillage

LANDOWNER: LaVaugn J Buehl Revocable Trust **PARCEL:** 6-8-195

PRACTICE NAME: conservation easement **PRACTICE ACRES:** 6.1

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	30	15	30	14	29	14	29	14	28	14	217.00	21.70
PLANNED	5	2	1	1	0	0	0	0	0	0	9.00	0.90
REDUCTION	25	13	29	13	29	14	29	14	28	14	208.00	20.80
CREDIT AFTER TRADE RATIO 1.2:1	20.83	10.83	24.17	10.83	24.17	11.67	24.17	11.67	23.33	11.67	173.33	17.33

Annual Interim Credits = $\frac{\text{Actual Rotational PI - Rock River PI Threshold}}{\text{Actual Rotational PI}}$ X 10 Year Annual Average After Trade Ratio = $\frac{10 - 6}{10}$ X 17.33 = 6.93

Annual Long Term Credits = 10 Year Annual Average - Annual Interim Credits = 17.33 - 6.93 = 10.4

PRACTICE NAME: watershed of easement

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	75	35	73	34	72	34	71	33	69	32	528.00	52.80
PLANNED	11	8	11	8	11	8	11	8	11	8	95.00	9.50
REDUCTION	64	27	62	26	61	26	60	25	58	24	433.00	43.30
CREDIT AFTER TRADE RATIO 2:1	32.00	13.50	31.00	13.00	30.50	13.00	30.00	12.50	29.00	12.00	216.50	21.65

Annual Interim Credits = $\frac{\text{Actual Rotational PI - Rock River PI Threshold}}{\text{Actual Rotational PI}}$ X 10 Year Annual Average After Trade Ratio = $\frac{9 - 6}{9}$ X 21.65 = 7.14

Annual Long Term Credits = 10 Year Annual Average - Annual Interim Credits = 21.65 - 7.14 = 14.51

Appendix C15

Project Name: Metcalf Farms II, Grassed Waterway, Parcel 6-7-273,274

Landowner Information: Metcalf Farms II LLC
5343 E County Road MM
Janesville, WI 53546
Contact: Case Metcalf 608-774-3704

The project is located in the Headwaters Blackhawk Creek HUC12 Watershed (see Location Map in Appendix). The project site provides concentrated flow to Blackhawk Creek (see plan map). The project is not located within a wetland and will not require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

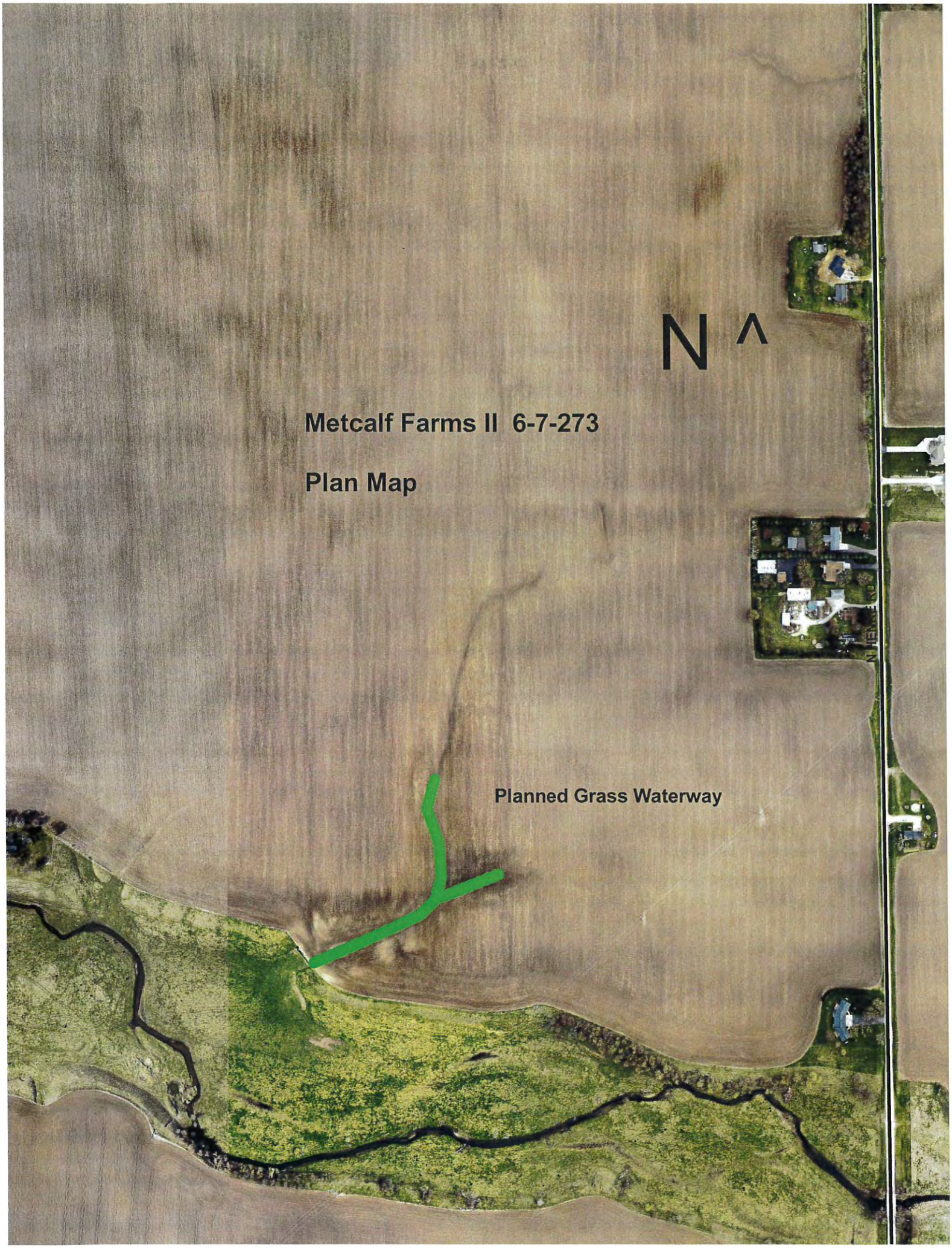
Gully erosion occurs annually within historically annually cropped field with a rotation of one year corn, one year soybean. There are 2 gullies. The main gully is on average approximately 890 feet in length with an average channel depth of 1 feet and an average bottom width of 1 foot with an average top width of 5 feet. The east branch of the gully is on average approximately 235 feet in length with an average channel depth of 1 feet and an average bottom width of 1 foot with an average top width of 8 feet (see aerial photo).

Plans are to install a grass waterway with a 20 feet bottom and 8:1 side slopes in the year 2022. Project will be surveyed and designed by Rock County LCD to meet USDA-NRCS 412 Grassed Waterway standard. Rock County LCD will oversee project construction and certify project completion.

Soil phosphorus ppm within the gully area was determined using information from a November 7, 2017 soil test report completed by A & L Greatlakes Laboratory, a Wisconsin Department of Agriculture, Trade and Consumer Protection certified lab. The soil samples were located within the area of the gully erosion (see Soil Test Report and Soil Sampling Map).

Annual phosphorus runoff for existing conditions (baseline) was determined using sediment loss equation from the modified NRCS Gully Erosion Calculation Spreadsheet. (The modification is the inclusion of equations from SNAPPlus into the worksheet to allow determination of phosphorus runoff) Zero phosphorus runoff is used for planned conditions based on the gully erosion being filled with soil and planted to perennial vegetation. Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit.

Final Trade Credit will be determined by completing phosphorus runoff calculations using actual information obtained from survey data and then inserting into Trade Ratio Spreadsheet.


N ^
Metcalf Farms II 6-7-273
Plan Map
Planned Grass Waterway

Metcalf Farms II 6-7-273,274
Surface Water Data Viewer Map

Legend

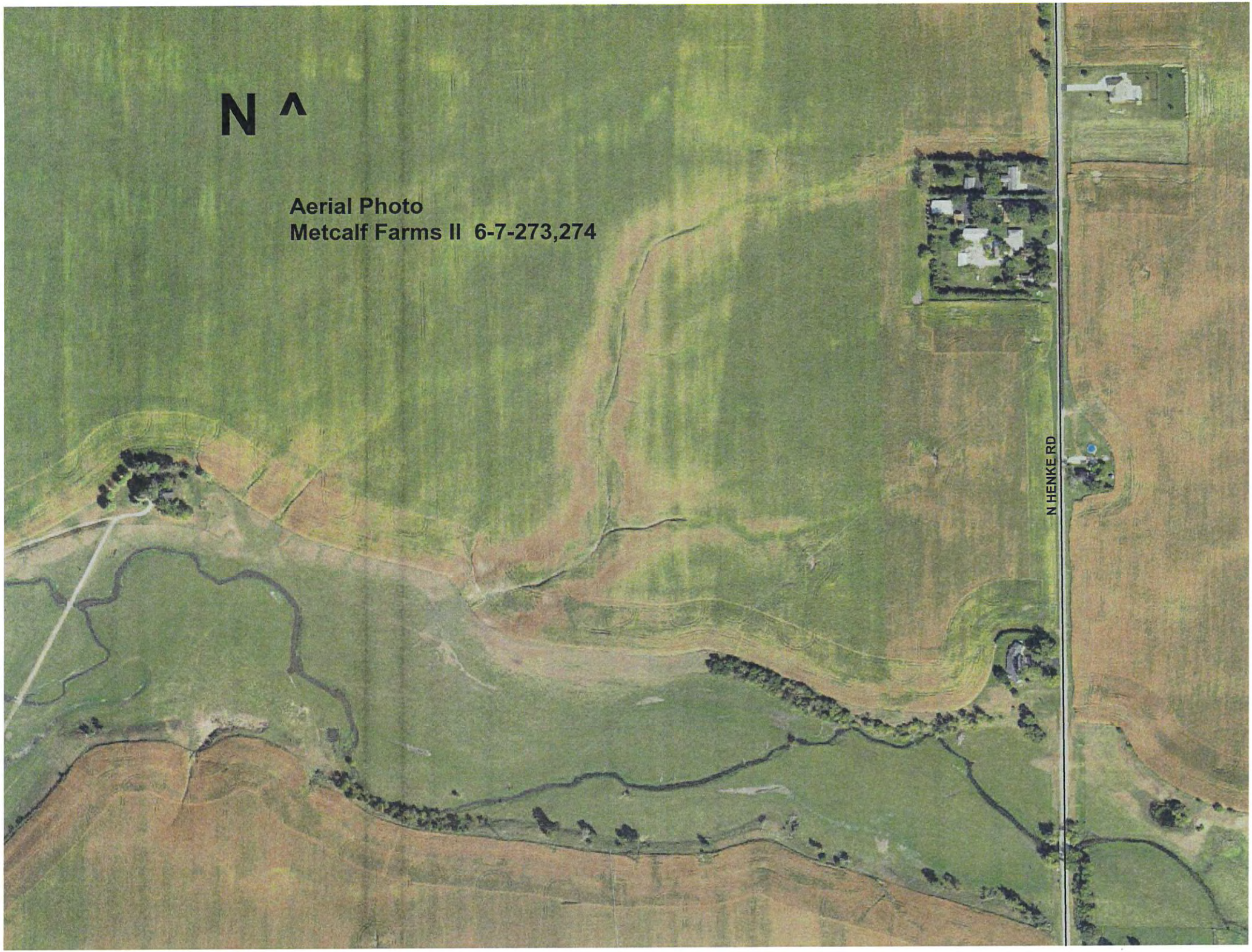
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920


N ^
Aerial Photo
Metcalf Farms II 6-7-273,274
N HENKE RD

Report Number
F17306-4017
Account Number
20990

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3505 Conestoga Dr.
Fort Wayne, IN 46808
260.483.4759
algreatlakes.com

To: THE DELONG COMPANY INC.
601 DELCO DR
CLINTON, WI 53525-9021

Attn: BRIAN MOONEY

For: METCALF
Farm: MASTERSON
Field: METCALF MASTERSON

County: ROCK
Soil: UNKNOWN
Plow Depth: 7
Acres:

Date Received: 11/2/2017
Date Reported: 11/7/2017

SOIL TEST REPORT

Sample ID	Lab Number	OM *	P *	K *	Mg**	Ca **	Soil	Buffer	CEC **	Cation Saturation **				S	Zn	Mn	Fe	Cu	B	Bicarb-P	NO3-N
		%	ppm	ppm	ppm	ppm	pH	pH	meq/100g	%K	%Mg	%Ca	%H	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm**
17	70833	3.3	7	114	250	950	5.8	6.8	9.5	3.1	21.9	49.9	25.2								
18	70834	3.1	10	142	285	950	5.7	6.7	11.1	3.3	21.4	42.8	32.5								
19	70835	3.4	8	135	440	1250	6.0	6.7	13.9	2.5	26.4	45.1	26.0								
20	70836	3.6	5	111	295	1050	5.7	6.7	11.6	2.5	21.2	45.3	31.1								
21	70837	3.1	5	90	420	1400	6.1	7.0	10.7	2.2	32.6	65.2									
22	70838	3.8	14	131	305	1150	5.9	6.5	14.6	2.3	17.4	39.3	41.0								
23	70839	3.7	14	128	350	1200	6.0	6.6	14.0	2.3	20.8	42.7	34.2								
24	70840	3.7	10	96	360	1200	5.8	6.6	14.0	1.8	21.4	42.7	34.2								
25	70844	3.5	8	118	305	1150	6.0	6.5	14.6	2.1	17.4	39.4	41.1								
26	70845	3.2	38	135	355	1150	5.9	6.5	15.1	2.3	19.7	38.2	39.9								
27	70846	4.4	50	302	430	1450	6.9		11.6	6.7	30.9	62.5									
28	70847	3.3	10	145	335	1150	5.9	6.7	12.5	3.0	22.3	46.0	28.8								
29	70848	3.3	10	126	365	1200	6.0	6.7	13.0	2.5	23.5	46.3	27.8								
30	70849	4.4	30	266	315	1200	5.8	6.3	17.7	3.9	14.8	33.9	47.4								
31	70850	4.2	15	136	315	1300	5.7	6.4	16.7	2.1	15.7	39.0	43.2								
32	70851	4.8	51	335	345	1200	5.9	6.3	18.1	4.7	15.9	33.1	46.3								

WI DATCP Laboratory Certification Number 01-15-03-201

* Soil Test Recommendations for Field, Vegetable and Fruit Crops, UW A2809, 2012. ** Recommended Chemical Soil Test Procedures for the North Central Region, NCR No. 221, 2012. ^ Weighted average, UW-A28

Report Number
F17306-4017
Account Number
20990

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260.483.4759
algreatlakes.com

To: THE DELONG COMPANY INC.
601 DELCO DR
CLINTON, WI 53525-9021

Attn: BRIAN MOONEY

For: METCALF
Farm: MASTERSON
Field: METCALF MASTERSON

County: ROCK
Soil: UNKNOWN
Plow Depth: 7
Acres:

Date Received: 11/2/2017
Date Reported: 11/7/2017

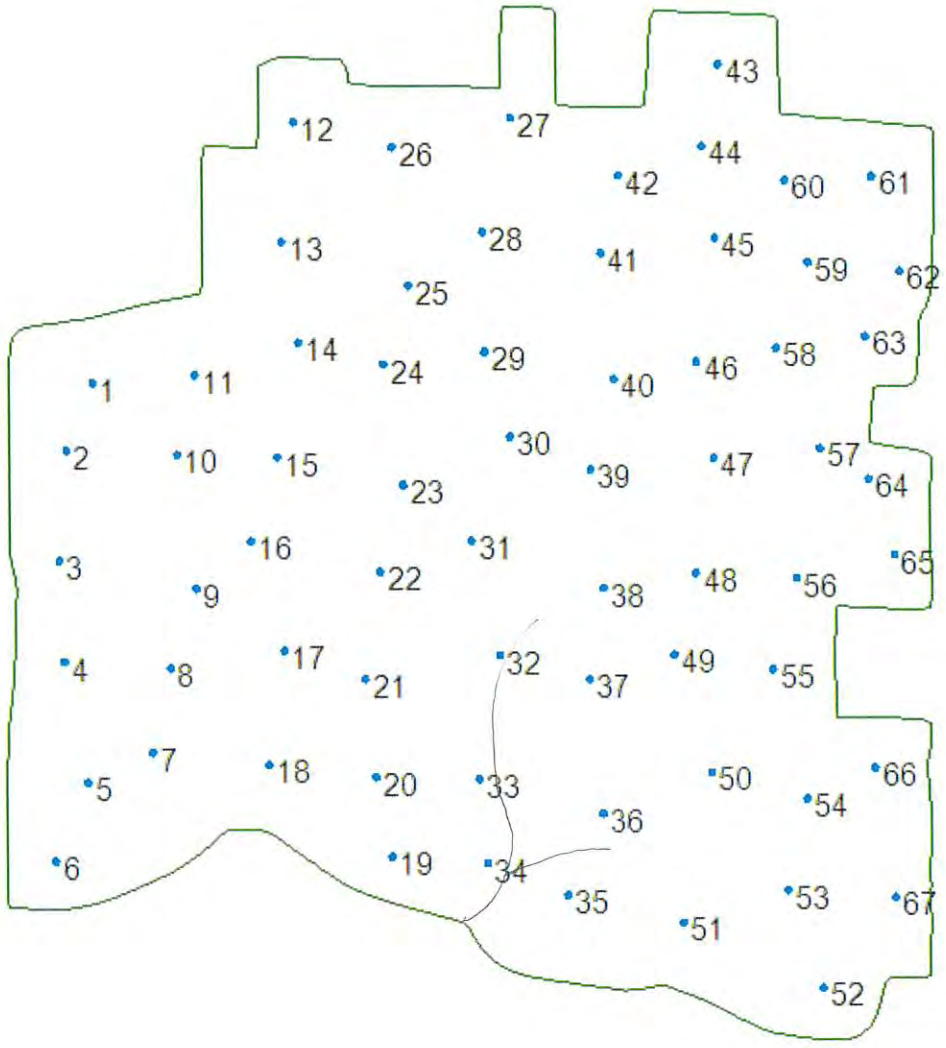
SOIL TEST REPORT

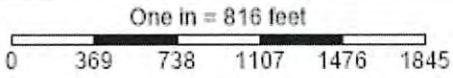
Sample ID	Lab Number	OM * %	P * ppm	K * ppm	Mg** ppm	Ca ** ppm	Soil pH	Buffer pH	CEC ** meq/100g	Cation Saturation ** %K	%Mg	%Ca	%H	S ppm	Zn ppm	Mn ppm	Fe ppm	Cu ppm	B ppm	Bicarb-P ppm	NO3-N ppm**
33	70852	3.3	11	164	460	1350	6.6		11.0	3.8	34.8	61.3									
34	70853	3.4	20	215	390	1200	6.2	7.0	9.8	5.6	33.2	61.2									
35	70854	3.0	16	151	530	1300	7.5		11.3	3.4	39.1	57.5									
36	70855	3.4	7	113	470	1200	6.2	6.8	12.6	2.3	31.1	47.6	19.0								
37	70856	3.3	7	106	420	1250	6.1	6.6	14.8	1.8	23.6	42.2	32.4								
38	70857	4.0	16	187	310	1100	5.8	6.4	15.8	3.0	16.4	34.9	45.7								
39	70858	3.3	7	113	355	1150	5.9	6.7	12.6	2.3	23.5	45.6	28.6								
40	70859	3.7	13	93	425	1400	6.2	6.8	13.2	1.8	26.9	53.1	18.2								
41	70860	3.9	22	180	365	1300	6.0	6.5	16.0	2.9	19.0	40.6	37.5								
42	70861	4.0	11	92	410	1350	6.0	6.5	16.4	1.4	20.8	41.2	36.6								
43	70862	4.1	12	100	750	1950	7.0		16.3	1.6	38.4	60.0									
44	70863	4.2	18	112	385	1400	6.0	6.8	12.9	2.2	24.9	54.3	18.6								
45	70864	3.6	13	141	360	1350	5.9	6.5	16.1	2.2	18.6	41.9	37.2								
46	70867	4.1	15	112	225	800	5.6	6.2	15.8	1.8	11.9	25.4	60.9								
47	70868	4.3	22	196	280	1150	5.5	6.4	15.8	3.2	14.8	36.4	45.6								
48	70869	3.8	38	240	320	1350	5.7	6.4	17.2	3.6	15.5	39.2	41.8								

WI DATCP Laboratory Certification Number 01-15-03-201

* Soil Test Recommendations for Field, Vegetable and Fruit Crops, UW A2809, 2012. ** Recommended Chemical Soil Test Procedures for the North Central Region, NCR No. 221, 2012. ^ Weighted average, UW-A28

Soil Sampling Map





● Sample ID (67)

Date:	Oct 21, 2021
Field:	Metcalf Mastersons All
Farm:	Mastersons
Grower:	Metcalf Farms
Name:	
Area:	331.3 ac
Lat:	42.69329°N
Lon:	088.94182°W

Landowner: Metcalf Farms 6-7-273,274

Conservation Practice: grassed waterway

		WW#1	WW#2	WW#3
Channel Depth	ft	1	1	
Top Channel Width	ft	5	8	
Bottom Channel Width	ft	1	1	
Channel Length	ft	890	235	
Years to Develop	year	1	1	
Soil Test P	ppm	27.3	11.5	
% Organic Matter	%	3.8	3.2	
Sediment Loss	tons/yr	126.825	50.23125	#DIV/0!
P Loss	pounds/yr	147.1	48.6	#DIV/0!

Sediment loss equation from NRCS Gully Erosion Calculation Spreadsheet updated on 6/30/2015. P Loss uses sediment loss equation and equations from SNAP Plus

INCLUDE A PASTURE IF EITHER APPLIES:

- It receives mechanical applications of nutrients. Develop a NM plan for this *pasture* using soil samples collected at the frequency of 1 sample per 5 acres every four years and analyzed by a DATCP certified soil testing laboratory (ATCP 50.04(3)).
- It is stocked at an average of MORE than 1 *animal unit* (AU) per acre. Develop a NM for this pasture either using soil tests according to ATCP 50.04(3) or "assumed soil test values" of 150 ppm P and 6% OM.

DO NOT INCLUDE A PASTURE IF EITHER APPLIES:

- It is a *feedlot*, OR
- It is stocked at an average rate of 1 *AU* per acre or LESS at all times during the *grazing season*,

AND

It does not received mechanical nutrient applications.

Credit Trade Ratio Spreadsheet

LANDOWNER: Metcalf Farms II **PARCEL:** 6-7-273,274

PRACTICE: Grassed Waterway

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL	10 YEAR ANNUAL AVERAGE
EXISTING	195.7	195.7	195.7	195.7	195.7	195.7	195.7	195.7	195.7	195.7	1957.00	195.70
PLANNED	0	0	0	0	0	0	0	0	0	0	0.00	0.00
REDUCTION	195.7	195.7	195.7	195.7	195.7	195.7	195.7	195.7	195.7	195.7	1957.00	195.70
CREDIT AFTER TRADE RATIO 2:1	97.85	97.85	97.85	97.85	97.85	97.85	97.85	97.85	97.85	97.85	978.50	97.85

Appendix C16

Project Name: Ochs Farm, Roof Runoff System - Vegetative Treatment Area, Parcel 6-9-158.01

Landowner Information: Ochs Farm LLC
1527 N. Tarrant Road
Milton, WI 53563
Contact Person: Dan Ochs, 608-295-3673

The project is located in Headwaters Blackhawk Creek HUC12 Watershed (see Location Map in Appendix). The project site provides concentrated, sheet and rill flow of storm water to an intermittent stream which is a tributary to Blackhawk Creek. The project isn't located within a wetland and won't require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

Storm water from the feedlot area and surrounding buildings flows to the east and then south through cropland creating gully erosion. Manure from the feedlot pens and soil from the cropland enters the perennial stream (see Plan Map). Historically the open lot pens on the north end of the site on average house 150 to170 beef calves while the roofed pens housed on average 300 feeder beef cattle. Future plans include the creation of an open lot pen on the north side of the site.

Plans are to install roof gutters on the buildings that house feeder cattle, and to install a vegetative treatment area (VTA) along the east side of the site in 2023 (see Plan Map). The storm water from the feedlot buildings will be delivered to a 60 feet wide by 800 feet long VTA. Please note on the BARNY model, the earth lot area includes 65% of the planned north open lot pen because storm water will flow from this area to the VTA while storm water from 35% of the open pen lot will flow to the east. The roof runoff system will meet USDA-NRCS 558 Roof Runoff Structures standard while the Vegetative Treatment Area will meet USDA-NRCS 635 Vegetative Treatment Area. All projects will be surveyed and designed by Rock County LCD. Rock County LCD will oversee project construction and certify project completion.

Annual phosphorus runoff for existing conditions (baseline) and planned conditions were determined using BARNY. Data inserted into BARNY was derived from landowner testimonial and measurements using ArcMap (see Inventory Map).

Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit. A 4:1 trade ratio was used to determine the phosphorus reduction for the roof runoff system that outlets to a VTA. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual information obtained from as-built data and then inserting into Trade Ratio Spreadsheet.

Ochs Farm 6-9-158.01
Surface Water Data Viewer Map

Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960


N^
Plan Map
Ochs Farm 6-9-158.01
Planned open feedlot pen
120 ft gutter
88 ft gutter
195 ft gutter
Vegetative Treatment Area
60 ft x 800 ft = 1.1 ac
E CTY TK A

BUFFER DESIGN USING BARNY (existing conditions)

OWNER: Ochs Farm DESIGNER: CM DATE: 3/4/2021

CHK BY: DATE:

	Input	Output	
Closest City of similar climate:	1		1 Madison 2 Appleton 3 Wausau 4 Eau Claire
Paved lot area:	0		sq ft
Earth lot area:	85,660		sq ft
Animal Lot size:		85,660	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2

Animals on lot:	300	number	160	number
Type of animal:	2		2	(Dairy = 1; Beef=2)
Ave. Animal Weight:	900	lbs	500	lbs
Lot Use:	2			1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	0	sq ft	sq ft
Runoff Curve Number:			
Roof area:	12,130	sq ft	

259.9 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 0 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

P (lbs) after the buffers: 259.9 lbs P per year

NO GOOD - Too much P released

BUFFER SIZING

		85,660 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width	feet		
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length	feet	#DIV/0!	

BUFFER DESIGN USING BARNY (planned conditions)

OWNER: Ochs Farm DESIGNER: CM DATE: 3/4/2021
CHK BY: DATE:

	Input	Output	
			1 Madison
			2 Appleton
Closest City of similar climate:	1		3 Wausau
			4 Eau Claire
Paved lot area:	0		sq ft
Earth lot area:	85,660		sq ft
Animal Lot size:		85,660	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2

Animals on lot:	300	number	160	number
Type of animal:	2		2	(Dairy = 1; Beef=2)
Ave. Animal Weight:	900	lbs	500	lbs
Lot Use:	2			1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	0	sq ft	sq ft
Runoff Curve Number:			
Roof area:	12,130	sq ft	

259.9 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 0 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:	800	ft (See Note Below)
	Slope:	1	%
	"c" :	0.59	→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

P (lbs) after the buffers: 0.0 lbs P per year

GOOD - Buffer length, slope, and type is OK; proceed with final area sizing calcs below.

BUFFER SIZING

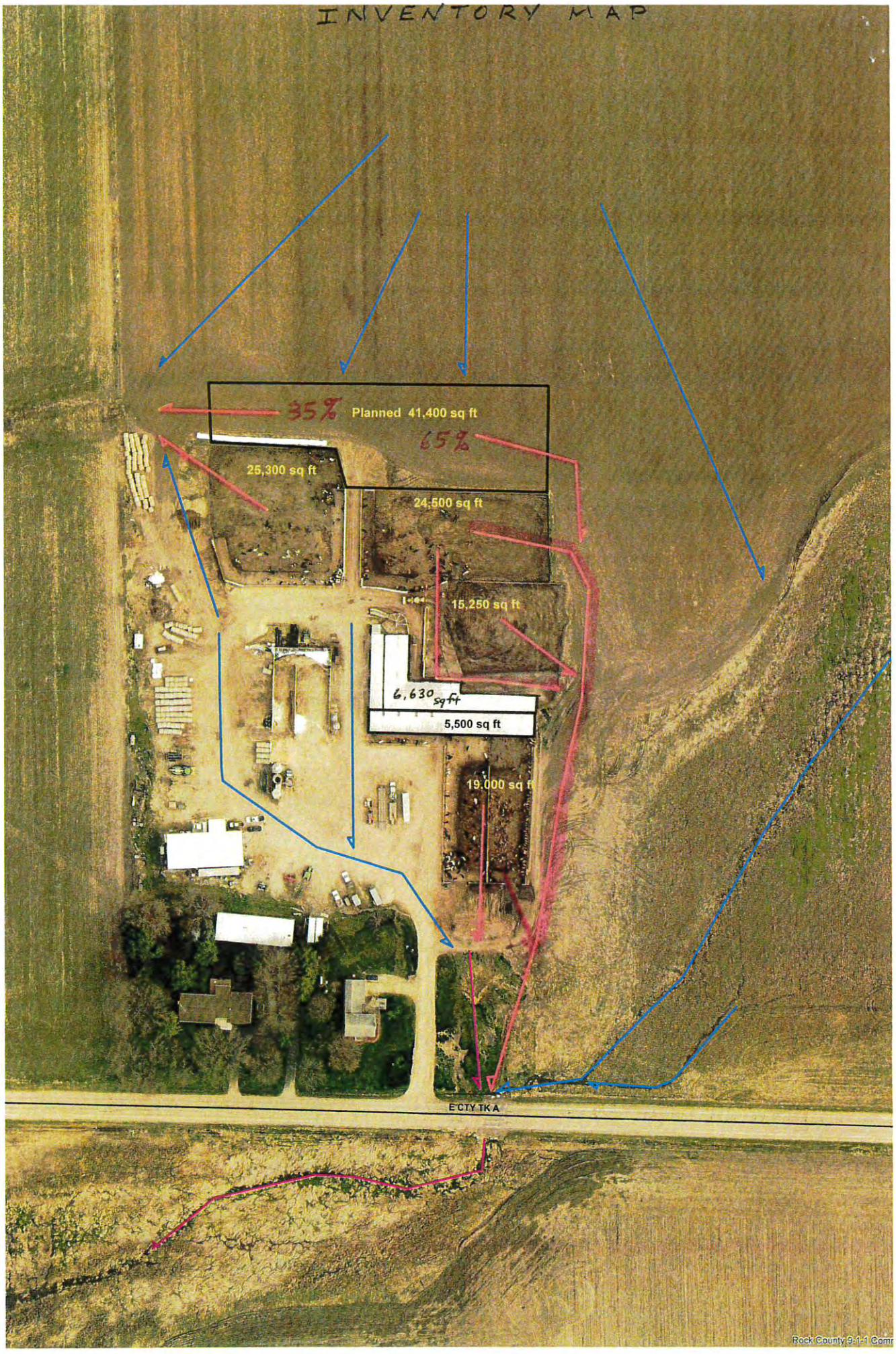
85,660 sq ft — Min. Acceptable Buffer Area

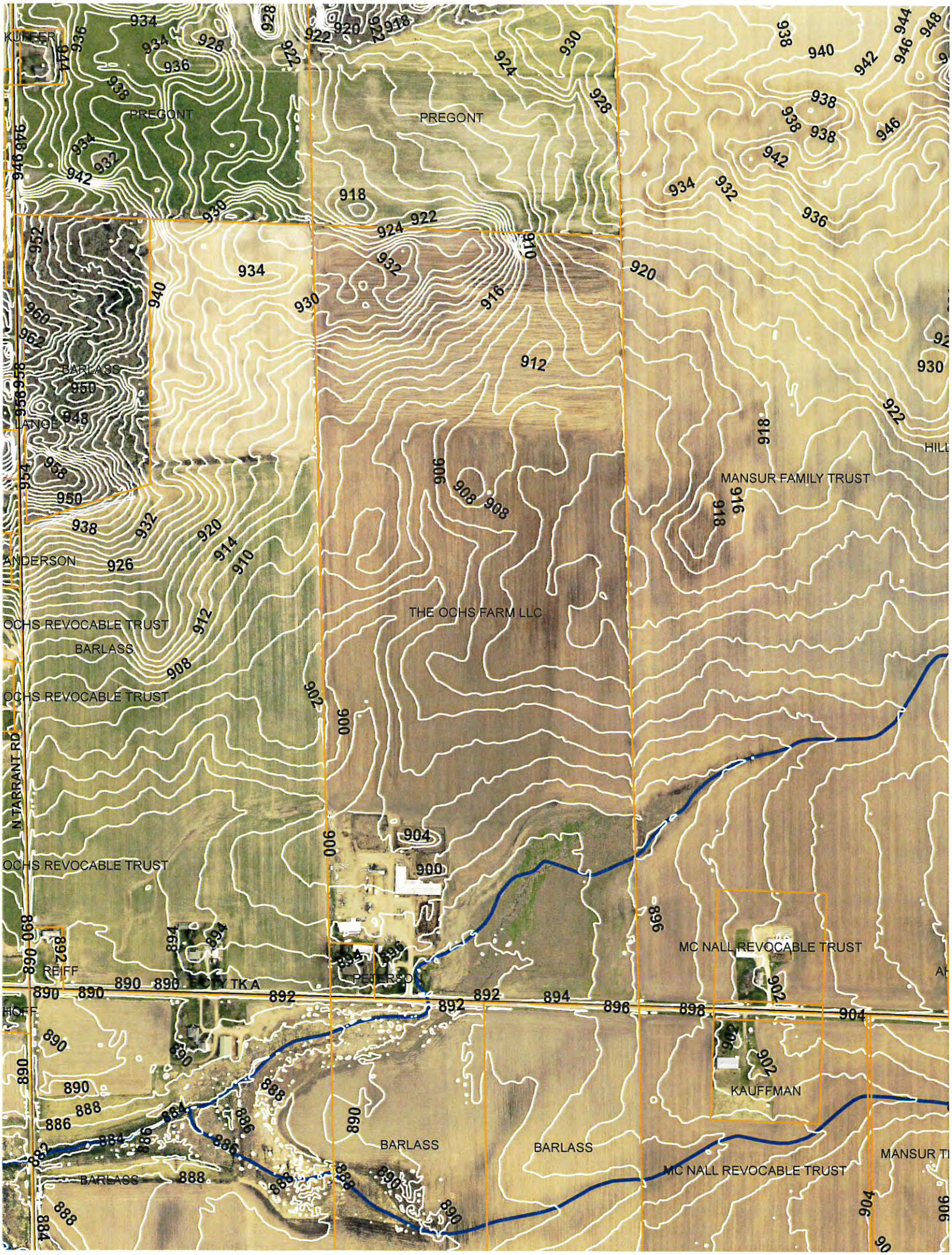
Chosen Buffer Width: 60 feet

800 feet — Min. Bfr. Len. Based on BARNY

1428 feet — Min. Bfr. Len. Based on Area

Chosen Buffer Length: 800 feet — No Good- Area is too small


INVENTORY MAP
35%
Planned 41,400 sq ft
65%
25,300 sq ft
24,500 sq ft
15,250 sq ft
6,630 sq ft
5,500 sq ft
19,000 sq ft
E CTY TK A
Rock County 9-1-1 Comm


PREGONT
PREGONT
BARLASS
LANGE
ANDERSON
OCHS REVOCABLE TRUST
BARLASS
OCHS REVOCABLE TRUST
THE OCHS FARM LLC
MANSUR FAMILY TRUST
OCHS REVOCABLE TRUST
N TARRANT RD
REIFF
HOFF
PETERSON
MC NALL REVOCABLE TRUST
KAUFFMAN
BARLASS
BARLASS
BARLASS
MC NALL REVOCABLE TRUST

LANDOWNER: Ochs Farm **PARCEL:** 6-9-158.01

PRACTICE NAME: Roof Runoff System - Vegetative Treatment Area

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL P DECREASE	AVERAGE ANNUAL P DECREASE
EXISTING	259.9	259.9	259.9	259.9	259.9	259.9	259.9	259.9	259.9	259.9	2599.00	259.90
PLANNED	0	0	0	0	0	0	0	0	0	0	0.00	0.00
REDUCTION	259.9	259.9	259.9	259.9	259.9	259.9	259.9	259.9	259.9	259.9	2599.00	259.90
CREDIT AFTER TRADE RATIO 4:1	64.98	64.98	64.98	64.98	64.98	64.98	64.98	64.98	64.98	64.98	649.75	64.98

Appendix C17

Project Name: A & K Falk Trust, Conservation Easements, Parcel 6-6-410.2

Landowner Information: Allen & Kathleen Falk Revocable Trust
5454 W. Miles Road
Janesville, WI, 53545
Contact Person: Allen Falk, 608-290-8829

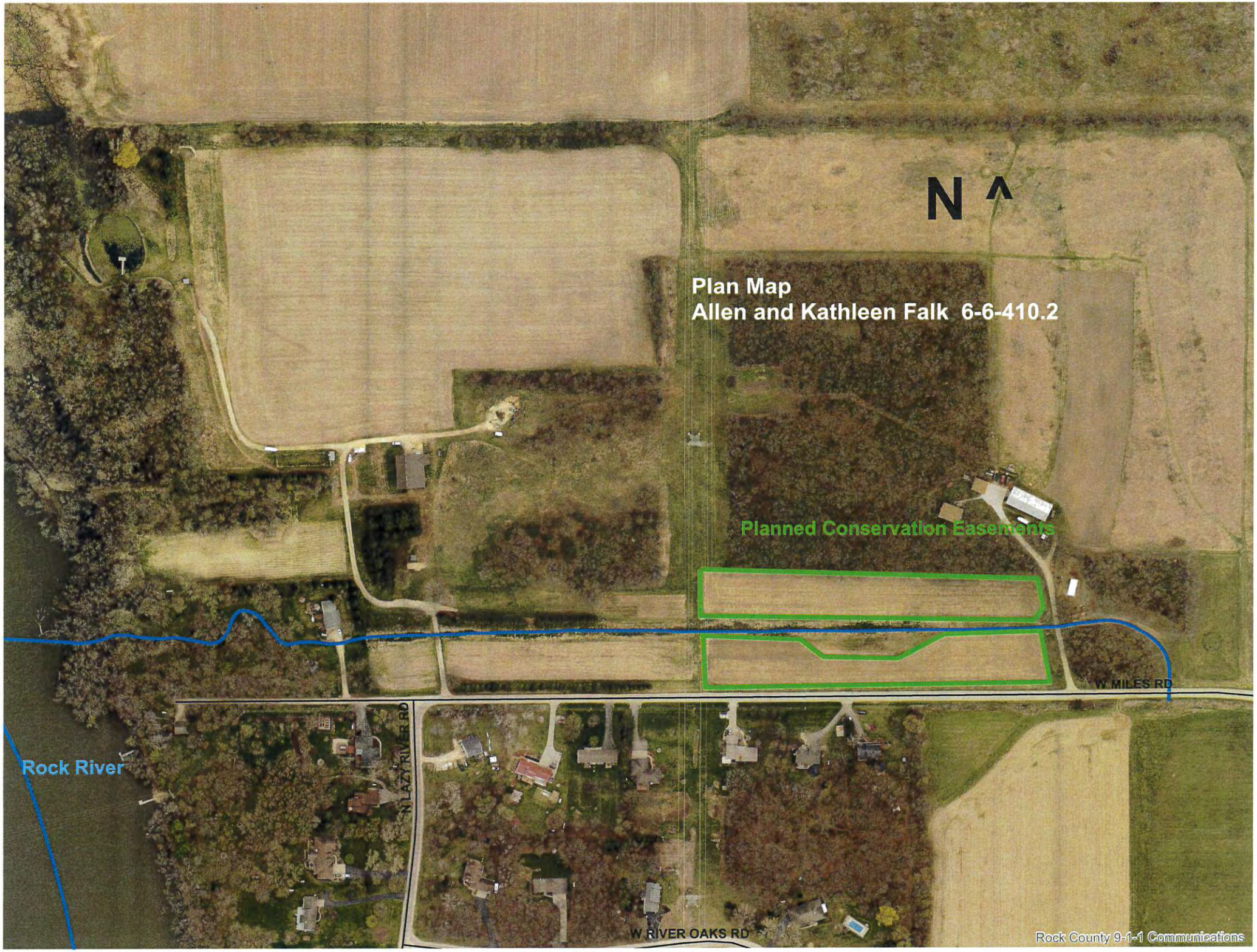
These projects are located in the Camp Indian Trails HUC12 Watershed (see Location Map in Appendix). Both project sites have sheet and rill erosion which flows to the intermittent stream which flows to the Rock River (see Plan Map). The projects are not located within a wetland and will not require Federal, State or Local permits (see WDNR Surface Water Data Viewer Map).

The plan is to plant approximately 3 acres of cropland that historically was planted annually to corn and soybeans to perennial vegetation in spring of 2022. Perennial vegetation shall consist of forage grasses/legumes that can be harvested annually. Legumes shall be less than 50% of the forage mix. Projects will be designed to meet USDA-NRCS 512 Forage and Biomass Planting standard by Rock County LCD who will certify project completion.

Soil phosphorus ppm for the project site was determined by obtaining information from the existing nutrient management plan for these fields. Soil samples will be taken and soil phosphorus ppm will be tested in 2020 prior to planting the forage seed.

Annual pounds of phosphorus runoff for existing (baseline) and planned conditions were determined using SNAPPlus. Phosphorus runoff for existing conditions was calculated based on an annual rotation of grain corn and soybeans for a 10 year period with field preparations for both crops being spring chisel with disk. SNAPPlus calculations for planned conditions for the conservation easements are based on no-till seeding grass/alfalfa in the spring of 2022 and a mature stand of grass/alfalfa for the remaining 9 years.

Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet to determine the estimated Trade Credit. A trade ratio of 1.2:1 was used for the cropland seeded to perennial vegetation. Because the rotational phosphorus index (PI) was greater than the Rock River TMDL PI Threshold for the south conservation easement, Interim Credits were determined (see Credit Calculations Worksheet). Final Trade Credit will be determined by completing phosphorus runoff calculations using actual acres planted to perennial vegetation and then inserting into Trade Ratio Spreadsheet.


N ^
Plan Map
Allen and Kathleen Falk 6-6-410.2
Planned Conservation Easements
W MILES RD
N LAZY RIVER RD
W RIVER OAKS RD
Rock River
Rock County 9-1-1 Communications

Falk Rev Trust 6-6-410.2
Surface Water Data Viewer Map

Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
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  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

Notes

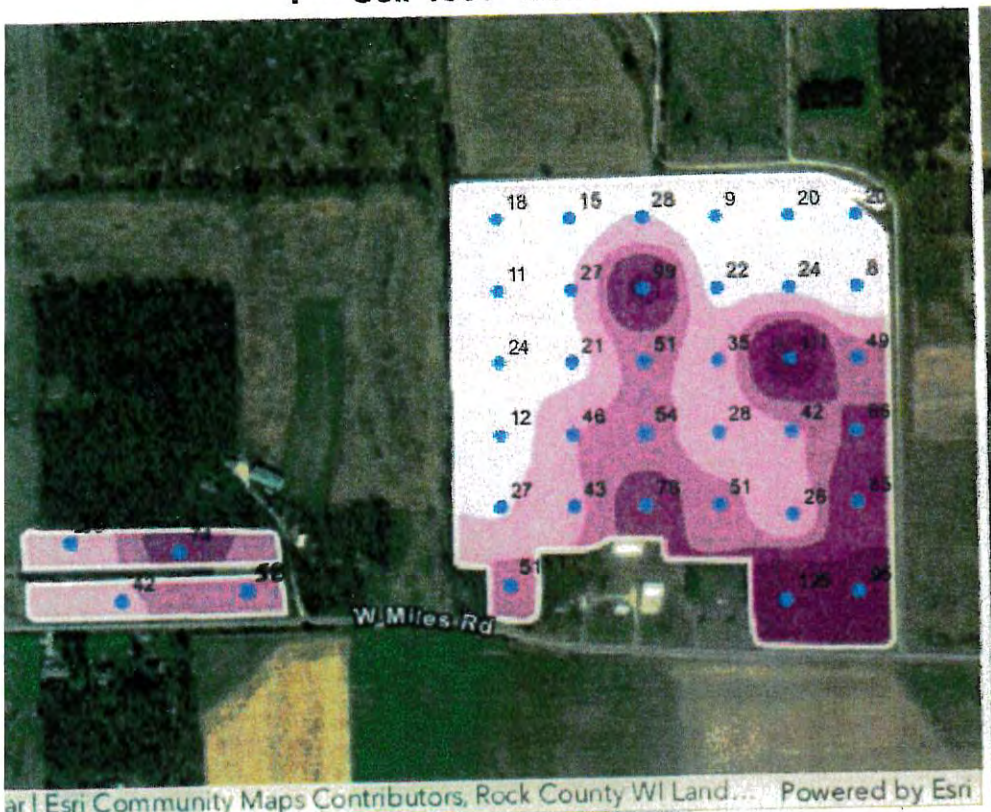
0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960

Ed Farrington Farms
Falks
Falks
40.85 ac

P - Soil Test - 2020

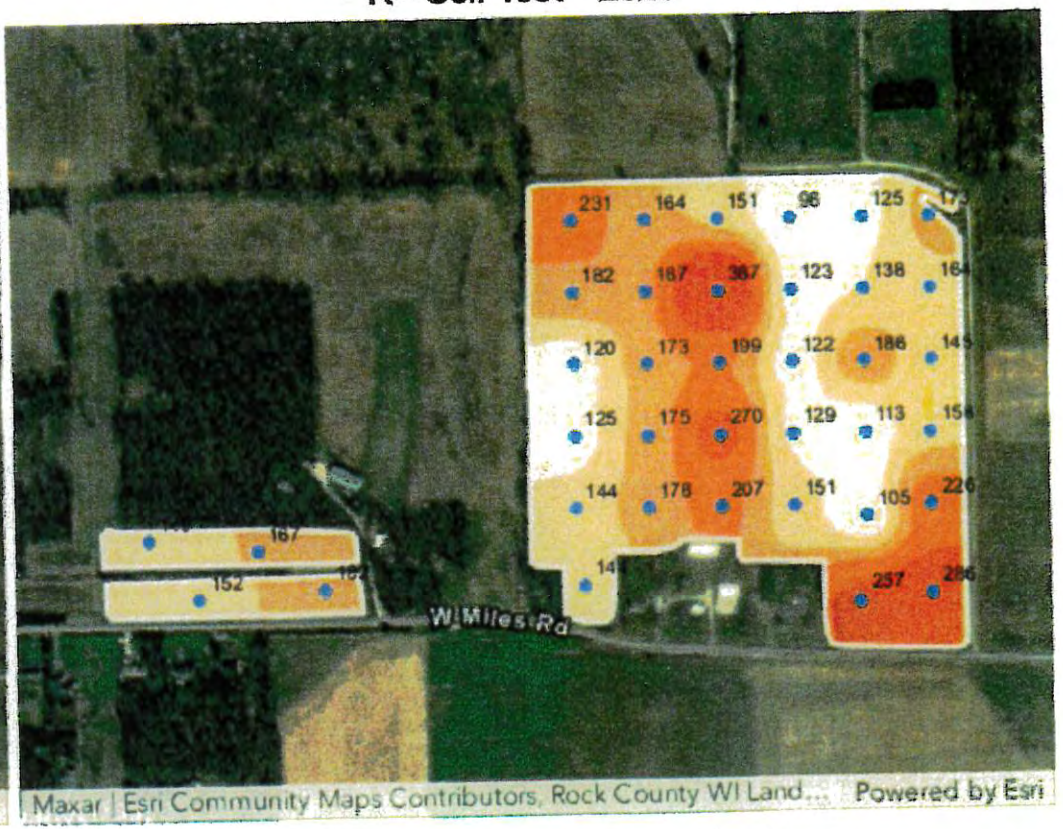


8 ppm
43.9 ppm
125 ppm

P-Bray 1 (ppm)

- 8 - 28.8 (13.69 ac)
- 28.8 - 46 (10.09 ac)
- 46 - 63.1 (8.93 ac)
- 63.1 - 87.7 (5.08 ac)
- 87.7 - 125 (3.06 ac)

K - Soil Test - 2020



Min: 96 ppm
Avg: 173 ppm
Max: 387 ppm

K (ppm)

- 96 - 139 (8.31 ac)
- 139 - 165 (12.91 ac)
- 165 - 198 (10.26 ac)
- 198 - 246 (5.74 ac)
- 246 - 387 (3.63 ac)

Ed Farrington Farms
Falks
Falks
40.85 ac

CEC - Soil Test - 2020

Min: 2.5 meq/100g
Avg: 6.19 meq/100g
Max: 14.8 meq/100g

CEC (meq/100g)

2.5 - 4.16 (2.99 ac)
4.16 - 5.59 (14.62 ac)
5.59 - 7.42 (14.91 ac)
7.42 - 9.68 (5.61 ac)
9.68 - 14.8 (2.72 ac)

OM - Soil Test - 2020

Min: 0.9 %
Avg: 1.81 %
Max: 4.6 %

OM (%)

0.9 - 1.55 (10.01 ac)
1.55 - 1.91 (18.45 ac)
1.91 - 2.47 (9.92 ac)
2.47 - 3.37 (1.81 ac)
3.37 - 4.6 (0.65 ac)

AGRIntelligence

HyGround Soil Management Services

WQ1: P Trade Report

Reported For **A & K Falk Trust 6-6-410.2 existing**

Printed 2022-08-25

Plan Completion/Update Date 2021-10-26

SnapPlus Version 20.3 built on 2021-02-18

D:\A & K Falk Trust 6-6-410.2 existing.snapDb

Prepared for:
A & K Falk Trust 6-6-410.2 existing
attn:A llen Falk

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

Questions? Please contact DNRphosphorus@wisconsin.gov

For more information go to **http://dnr.wi.gov/** and type keyword: **Water Quality Trading**

This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
N cons easement	DRESDEN	DrB	2	5	3	5	3	5	3	5	3	5	2
S cons easement	DRESDEN	DrB	1	4	2	4	2	4	2	4	2	4	2
Total			**3**	**10**	**5**	**10**	**5**	**9**	**5**	**9**	**5**	**9**	**4**

WQ1: P Trade Report

Reported For **A & K Falk Trust 6-6-410.2 planned**

Printed 2022-08-25

Plan Completion/Update Date 2021-10-26

SnapPlus Version 20.3 built on 2021-02-18

D:\A & K Falk Trust 6-6-410.2 planned.snapDb

Prepared for:
A & K Falk Trust 6-6-410.2 planned
attn:A llen Falk

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

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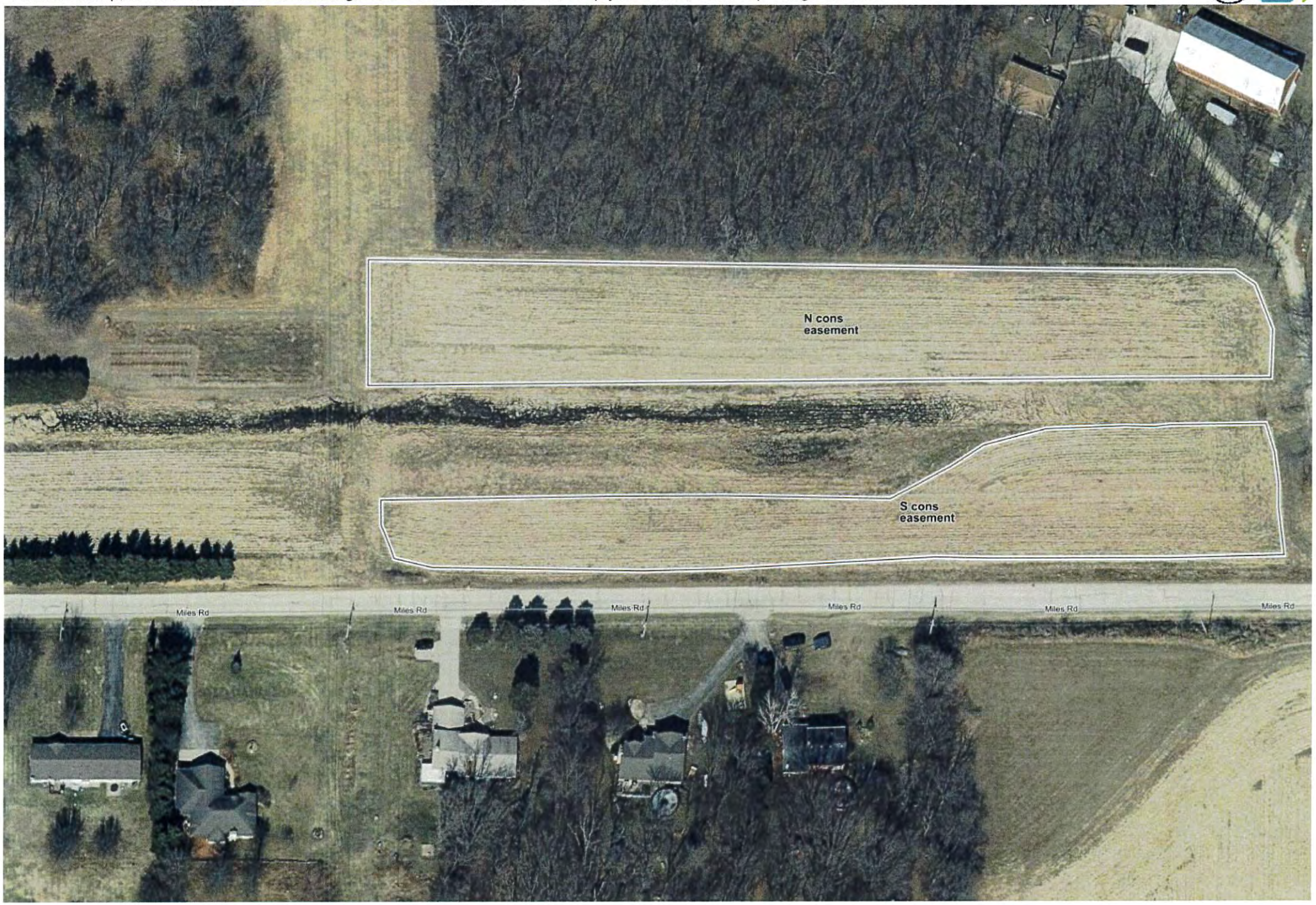
This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.

P Trade Report				PTP									
Field Name	Soil Series	Soil Symbol	Acres	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
N cons easement	DRESDEN	DrB	2	1	1	0	0	0	0	0	0	0	0
S cons easement	DRESDEN	DrB	1	1	1	0	0	0	0	0	0	0	0
Total			**3**	**2**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**

Falk 6-6-410.2

Farm: A & K Falk Trust 6-6-410.2 existing, V20 Generated:8/25/2022, Crop year: 2022, Township Range Section:4N 12E s32



NM3: Field Data and 590 Assessment Plan

Reported For	**A & K Falk Trust 6-6-410.2 existing**
Printed	**2022-08-25**
Plan Completion/Update Date	**2021-10-26**
SnapPlus Version	**20.3 built on 2021-02-18**
D:\A & K Falk Trust 6-6-410.2 existing.snapDb	

Prepared for:
A & K Falk Trust 6-6-410.2 existing
attn:A llen Falk

Field Data: 3 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
N cons easement				1.7	Rock	DRESDEN DrB	4	200	2.1 - 6	1001 - 5000	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	SCD-SCD-SCD-SCD-SCD-SCD-SCD-SCD	2021-2028	3	3.3	0.0	2	55	-240	0
S cons easement				1.3	Rock	KIDDER KeD2	16	100	2.1 - 6	1001 - 5000	No / No	No	No	Cg-Sg15-Cg-Sg15-Cg-Sg15-Cg-Sg15	SCD-SCD-SCD-SCD-SCD-SCD-SCD-SCD	2021-2028	5	22.5	-1.5	13	50	-200	-

Crop Abbreviations

Abbreviation	Crop
Cg	Corn grain
Sg15	Soybeans 15-20 inch row

Tillage Abbreviations

Abbreviation	Tillage
SCD	Spring Chisel, disked

NM3: Field Data and 590 Assessment Plan

Reported For **A & K Falk Trust 6-6-410.2 planned**

Printed **2022-08-25**

Plan Completion/Update Date **2021-10-26**

SnapPlus Version 20.3 built on 2021-02-18

D:\A & K Falk Trust 6-6-410.2 planned.snapDb

Prepared for:
A & K Falk Trust 6-6-410.2 planned
attn:A llen Falk

Field Data: 3 Total Acres Reported.

Field Name	Sub Farm	FSA Trct	FSA Fld	Acres	County	Critical Soil Series & Symbol	F. Slp %	F.Slp Len ft	Below Field Slope To Water %	Dist.To Water ft	Contour/ Filters	Irrig	Tiled	Rotation	Tillage	Report Period	Field "T" t/ac	Rot Avg Soil Loss t/ac	SCI	Rot Avg PI	Soil Test P ppm	Rot P2O5 Bal lb/ac	P2O5 Bal Target lb/ac
N cons easement				1.7	Rock	DRESDEN DrB	4	200	2.1 - 6	1001 - 5000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	SCD-NT-None-None-None-None-None-None	2021-2028	**3**	**0.3**	**0.9**	**0**	55	-335	0
S cons easement				1.3	Rock	KIDDER KeD2	16	100	2.1 - 6	1001 - 5000	No / No	No	No	Cg-AGs-AG-AG-AG-AG-AG-AG	SCD-NT-None-None-None-None-None-None	2021-2028	**5**	**1.9**	**0.8**	**1**	50	-325	-

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass
AGs	Alfalfa/Grass Seeding Spring
Cg	Corn grain

Tillage Abbreviations

Abbreviation	Tillage
None	None
NT	No Till
SCD	Spring Chisel, disked

LANDOWNER: A & K Falk Rev. Trust **PARCEL:** 6-6-410.2

PRACTICE: North Conservation Easement **Acres:** 1.8

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL	10 YEAR ANNUAL AVERAGE
EXISTING	5	3	5	3	5	3	5	3	5	2	39.00	3.90
PLANNED	1	1	0	0	0	0	0	0	0	0	2.00	0.20
REDUCTION	4	2	5	3	5	3	5	3	5	2	37.00	3.70
CREDIT AFTER TRADE RATIO 1.2:1	3.33	1.67	4.17	2.50	4.17	2.50	4.17	2.50	4.17	1.67	30.83	3.08

PRACTICE: South Conservation Easement **Acres:** 1.8

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL	10 YEAR ANNUAL AVERAGE
EXISTING	4	2	4	2	4	2	4	2	4	2	30.00	3.00
PLANNED	1	1	0	0	0	0	0	0	0	0	2.00	0.20
REDUCTION	3	1	4	2	4	2	4	2	4	2	28.00	2.80
CREDIT AFTER TRADE RATIO 1.2:1	2.50	0.83	3.33	1.67	3.33	1.67	3.33	1.67	3.33	1.67	23.33	2.33

Annual Interim Credits = $\frac{\text{Actual Rotational PI - Rock River PI Threshold}}{\text{Actual Rotational PI}}$ X 10 Year Annual Average After Trade Ratio = $\frac{13 - 6}{13}$ X 2.33 = .29

Annual Long Term Credits = 10 Year Annual Average - Annual Interim Credits = 2.33 - .29 = 2.04

Appendix C18

Project Name: McDonald, Grassed Waterway, Parcel 6-10-73,75

Landowner Information: Paul McDonald
1833 S. Van Allen Road, Janesville, WI 53546
Contact Person: Tim McDonald 608-290-9619

The project is located in Blackhawk Creek HUC12 Watershed (see Location Map in Appendix). The project site provides concentrated flow to a waterway within a cropland field that conveys water to an intermittent tributary that flows to the Rock River. The project isn't in wetlands so Federal, State or Local permits are not required (see WDNR Surface Water Data Viewer Map).

Gully erosion occurs annually within a field that historically is cropped one year corn, one year soybean. On average the gully erosion on the upper reach is approximately 1,165 feet in length with an average channel depth of .5 feet and an average bottom width of 1 foot with an average top width of 10 feet. On average the gully erosion on the lower reach is approximately 2,205 feet in length with an average channel depth of .5 feet and an average bottom width of 1 foot with an average top width of 20 feet. Gully erosion also occurs on the 2,820 feet long east waterway with an average depth of .3 and average bottom width of 6 feet and average top width of 30 feet (see aerial photo).

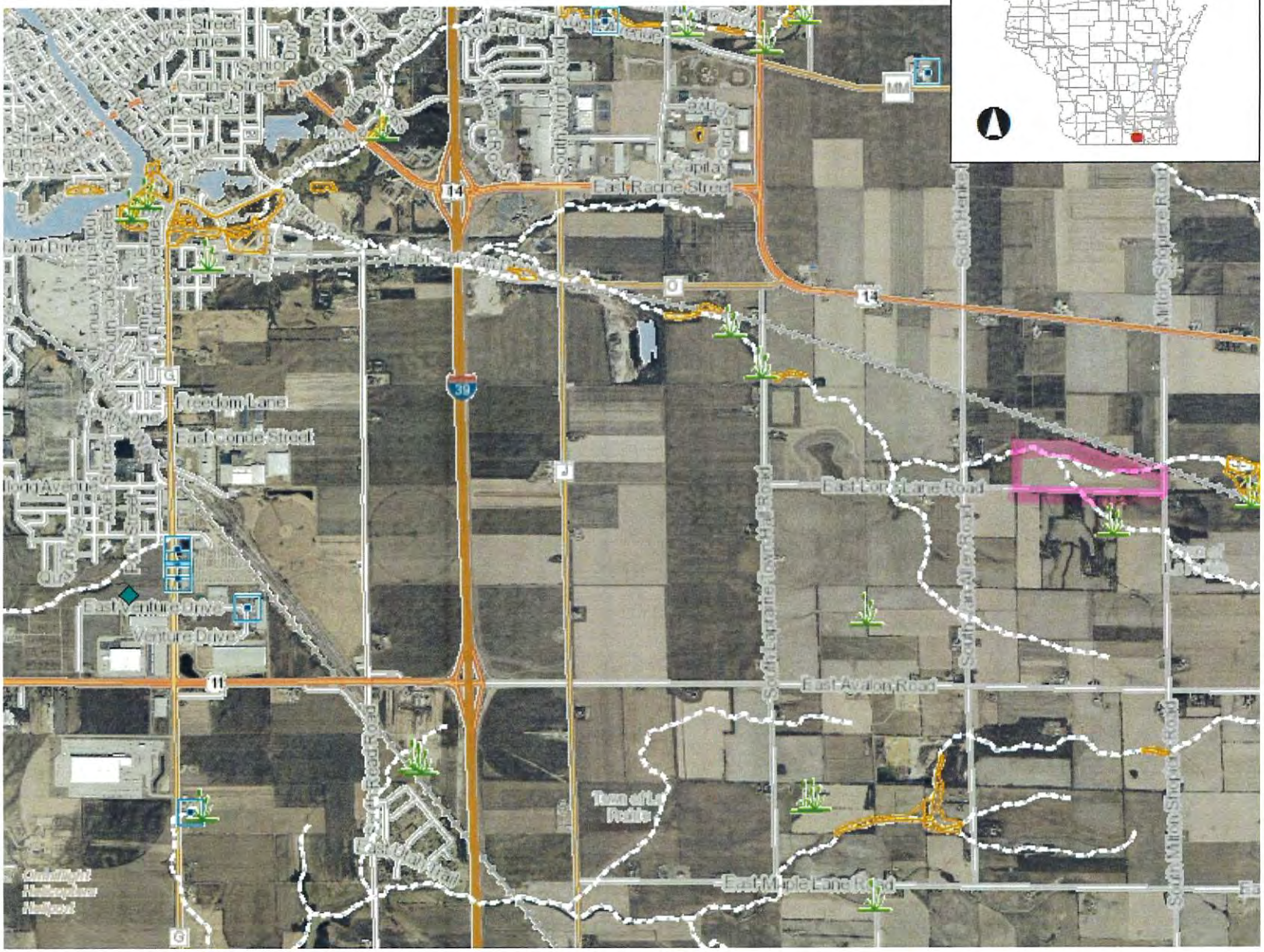
A diversion will be built to prevent storm water flow into the east waterway and a grass waterway will be located along the south edge of the annually cropped field (see plan map). The grass waterway will have a 24 feet bottom and 4:1 side slopes and will be installed in 2022. Project will be surveyed and designed by Rock County LCD to meet USDA-NRCS 412 Grass Waterway standard. Rock County LCD will oversee project construction and certify project completion.

Soil phosphorus ppm within the gully area was determined using information from a November 17, 2020 soil test report completed by Nutrien Ag Solutions. The soil samples were located within the area of the gully erosion (see Soil Test Report and Soil Sampling Map).

Annual phosphorus runoff for existing conditions (baseline) was determined using sediment loss equation from the modified NRCS Gully Erosion Calculation Spreadsheet. (The modification is the inclusion of equations from SNAPPlus into the worksheet to allow determination of phosphorus runoff) Zero phosphorus runoff is used for planned conditions based on the gully erosion being filled with soil and planted to perennial vegetation.

Annual phosphorus runoffs were inserted into the Trade Ratio Spreadsheet using a 4:1 trade ratio to determine the estimated Trade Credit. Final Trade Credit will be determined by completing phosphorus runoff calculations using actual information obtained from survey data and then inserting into Trade Ratio Spreadsheet.

Paul McDonald 6-10-73,75
Surface Water Data Viewer Map



Legend

- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams

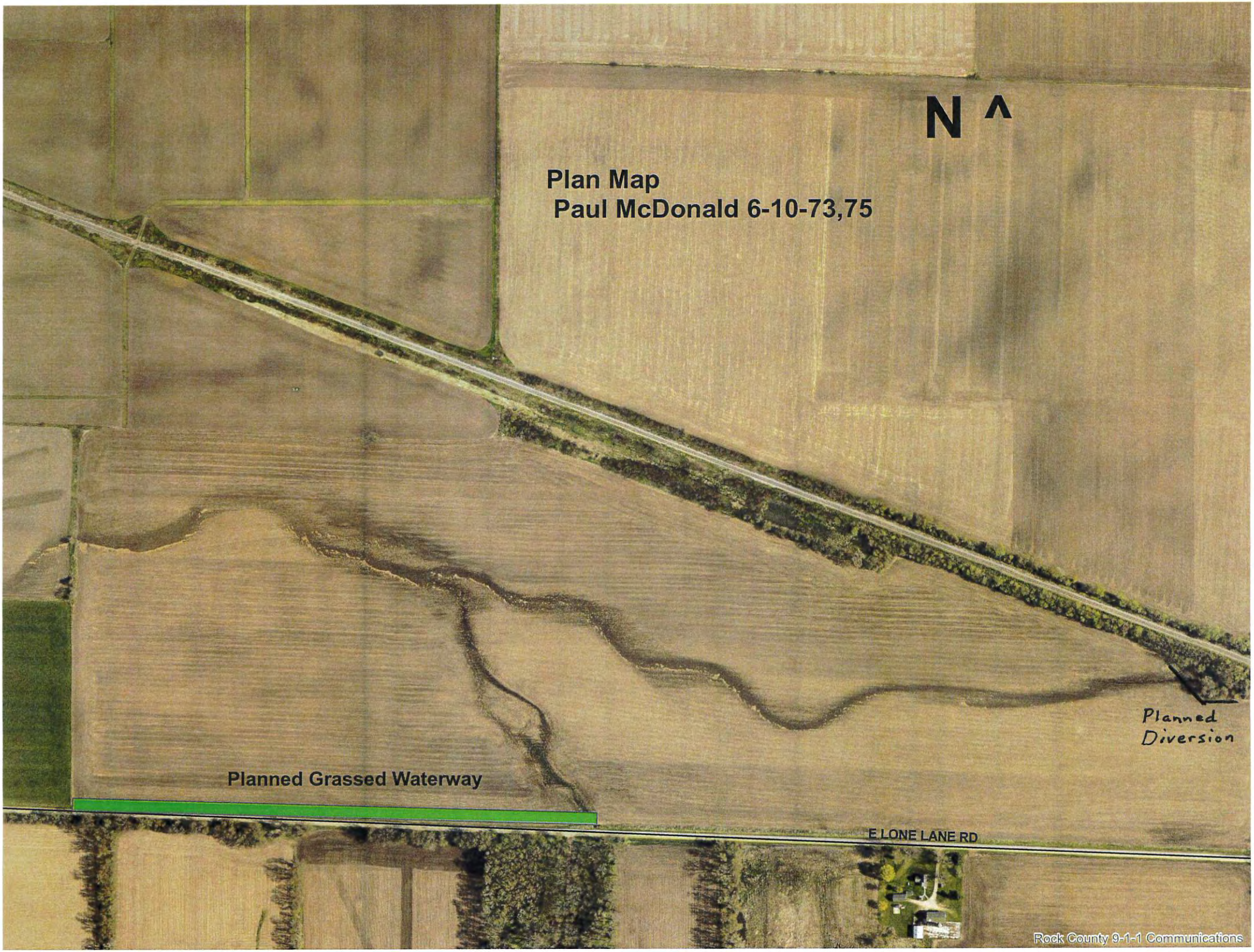
Notes

1.5 0 0.75 1.5 Miles

NAD_1983_HARN_Wisconsin_TM

1: 47,520


Aerial Photo
Paul McDonald 6-10-73,75
S MILTON SHOPIERE RD
Lower Reach
Upper reach
East ww
E LONE LANE RD
Rock County 9-1-1 Communications


N ^
Plan Map
Paul McDonald 6-10-73,75
Planned Diversion
Planned Grassed Waterway
E LONE LANE RD
Rock County 9-1-1 Communications

Nutrien Janesville WI 2656
1510 W B-R Townline Rd
Beloit, WI 53511
Office 608-756-2934

Lab Results Map

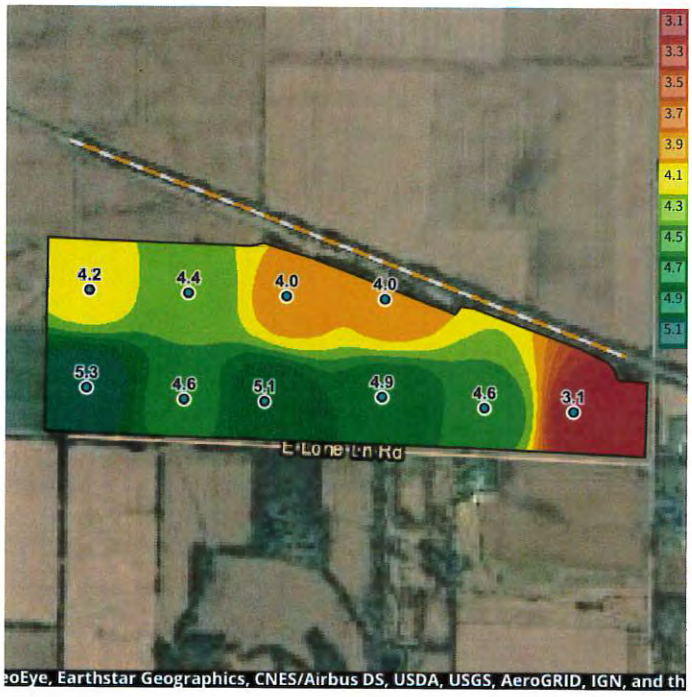
Grower **TIM MCDONALD**
Field **Dads 100**

Farm **rented ground**

Soil Sample
2020-11-17
Lab **Waypoint Analytical Illinois**
Area **99 a**

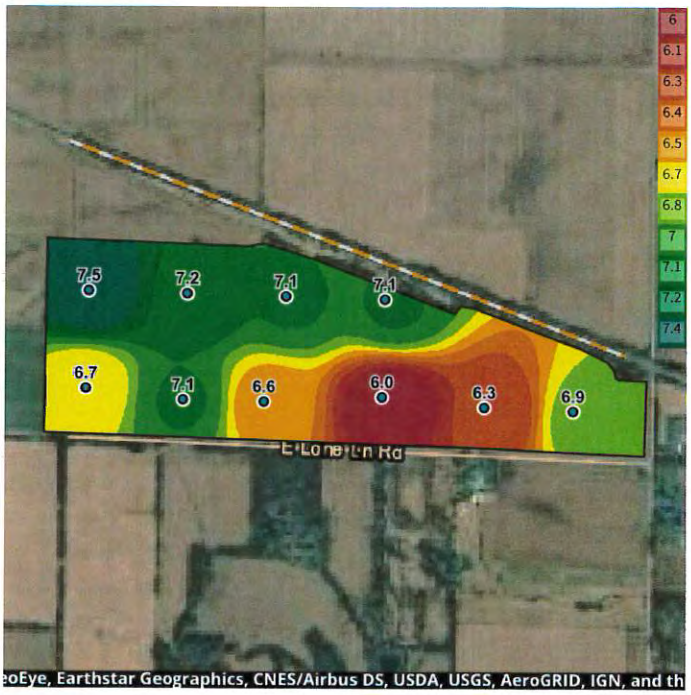
OM **Organic Matter**
0 - 6 in

4.4 %
3.1 ↔5.3



pH **pH**
0 - 6 in

6.9 None
6 ↔7.5

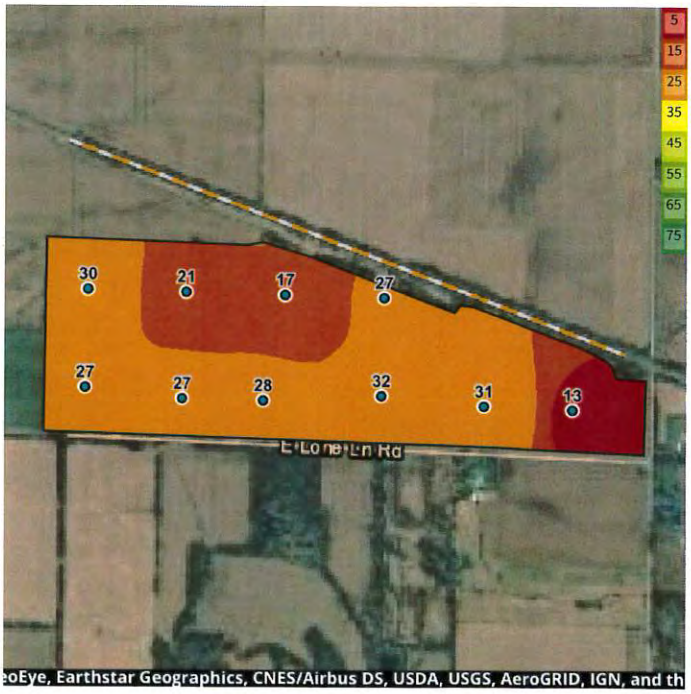


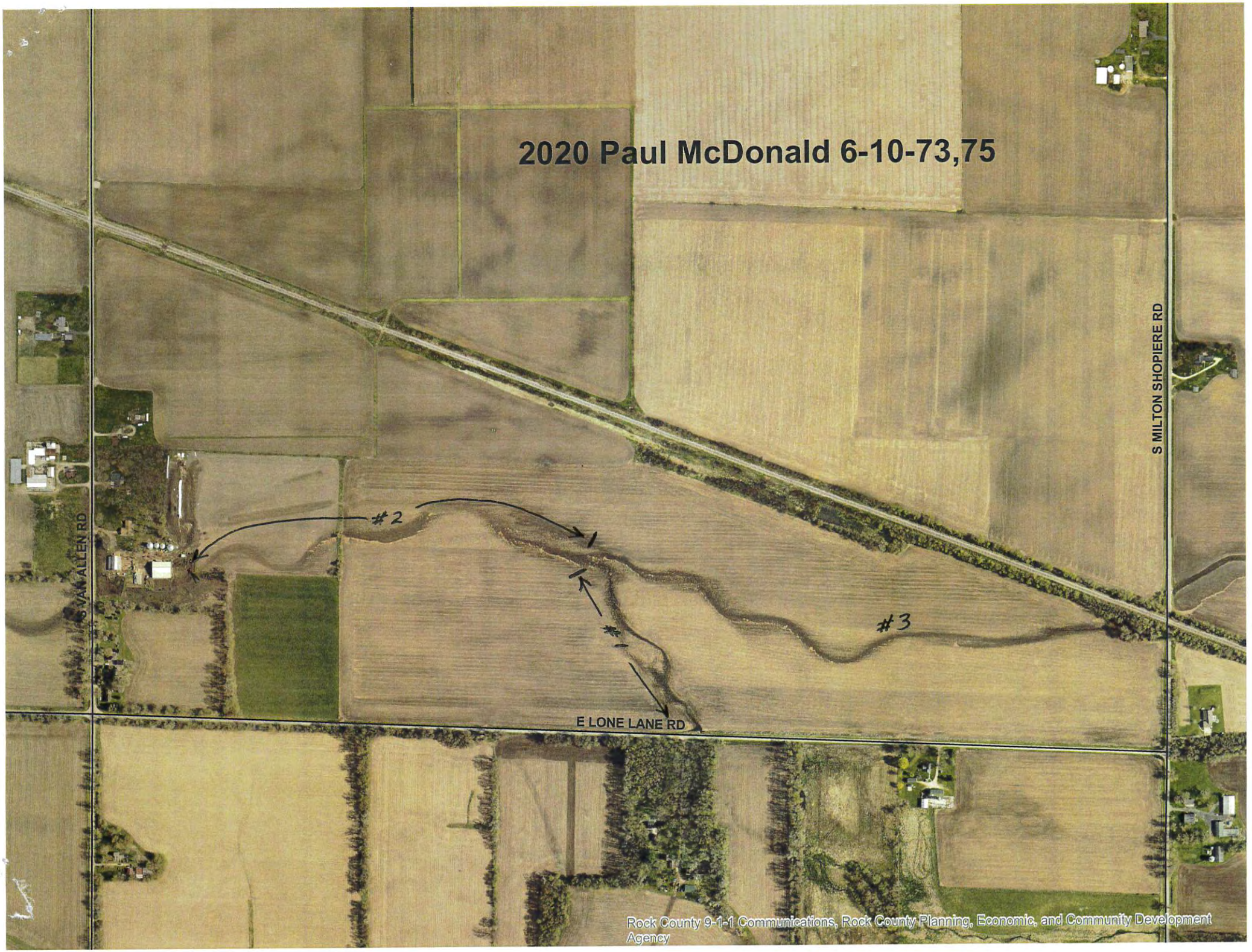
BpH **Buffer pH**
0 - 6 in

6.9 None
6.74 ↔6.93

P **Phosphorus**
0 - 6 in

25.3 ppm
13 ↔32




2020 Paul McDonald 6-10-73,75
S VAN ALLEN RD
S MILTON SHOPIERE RD
E LONE LANE RD
#2
#3
Rock County 9-1-1 Communications, Rock County Planning, Economic, and Community Development Agency

Landowner: Paul McDonald 6-10-73,75

Conservation Practice: grassed waterway

		WW#1	WW#2	WW#3
Channel Depth	ft	0.5	0.5	0.3
Top Channel Width	ft	10	20	30
Bottom Channel Width	ft	1	1	6
Channel Length	ft	1165	2205	2820
Years to Develop	year	1	1	1
Soil Test P	ppm	28	25.5	23.3
% Organic Matter	%	5.1	4.3	4.2
Sediment Loss	tons/yr	152.1781	549.8719	723.33
P Loss	pounds/yr	232.0	708.1	907.0

Sediment loss equation from NRCS Gully Erosion Calculation Spreadsheet updated on 6/30/2015. P Loss uses sediment loss equation and equations from SNAP Plus

INCLUDE A PASTURE IF EITHER APPLIES:

- It receives mechanical applications of nutrients. Develop a NM plan for this *pasture* using soil samples collected at the frequency of 1 sample per 5 acres every four years and analyzed by a DATCP certified soil testing laboratory (ATCP 50.04(3)).
- It is stocked at an average of MORE than 1 *animal unit* (AU) per acre. Develop a NM for this pasture either using soil tests according to ATCP 50.04(3) or "assumed soil test values" of 150 ppm P and 6% OM.

DO NOT INCLUDE A PASTURE IF EITHER APPLIES:

- It is a *feedlot*, OR
- It is stocked at an average rate of 1 *AU* per acre or LESS at all times during the *grazing season*,

AND

It does not received mechanical nutrient applications.

Credit Trade Ratio Spreadsheet

LANDOWNER: Paul McDonald **PARCEL:** 6-10-73,75

PRACTICE: Grassed Waterway

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10 YEAR TOTAL	10 YEAR ANNUAL AVERAGE
EXISTING	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	18471.00	1847.10
PLANNED	0	0	0	0	0	0	0	0	0	0	0.00	0.00
REDUCTION	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	1847.1	18471.00	1847.10
CREDIT AFTER TRADE RATIO 4:1	461.78	461.78	461.78	461.78	461.78	461.78	461.78	461.78	461.78	461.78	4617.75	461.78