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Strand Associates, Inc.®
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Madison, WI 53715
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August 25, 2023

Ms. Kenzie Ostien
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Re: Water Quality Trading (WQT) Plan Update
Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-0023485-09
Brooklyn Wastewater Treatment Facility (WWTF)
Village of Brooklyn, Wisconsin (Village)

Dear Ms. Ostien:

The enclosed revised WQT Plan Update is being submitted to the Wisconsin Department of Natural Resources (WDNR) on behalf of the Village. The report addresses comments provided by the WDNR on July 31, 2023.

Please call me with questions at 608-251-4843.

Sincerely,

STRAND ASSOCIATES, INC.®

Travis J. Anderson, P.E.

Enclosure: Report

c/enc: Leif Spilde, Public Works Director, Village of Brooklyn

Report for

Village of Brooklyn, Wisconsin

Wastewater Treatment Facility
Water Quality Trading Plan Update

Prepared by:

STRAND ASSOCIATES, INC.®
910 West Wingra Drive
Madison, WI 53715
www.strand.com

August 2023

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ABBREVIATIONS

The following list of abbreviations is included as an aid to the reader:

BMP	best management practice
BNR	biological nutrient removal
BOD_5	five-day biochemical oxygen demand
BPR	biological phosphorus removal
CPR	chemical phosphorus removal
Facilities Plan	Wastewater Management Facilities Plan
FCAP	Final Compliance Alternative Plan
Guidance	Guidance for Implementing Water Quality Trading in WPDES Permits
HUC	Hydrologic Unit Code
lb/day	pounds per day
Ib/year	pounds per year
MGD	million gallons per day
mg/L	milligrams per liter
NMP	nutrient management plan
NPS	nonpoint source
NRCS	National Resources Conservation Service
O&M	operation and maintenance
RAS	return activated sludge
SnapPlus	Soil Nutrient Application Planner model
TKN	total Kjeldahl nitrogen
TP	total phosphorus
TSS	total suspended solids
USEPA	United States Environmental Protection Agency
Village	Village of Brooklyn
WAS	waste activated sludge
WDNR	Wisconsin Department of Natural Resources
WPDES	Wisconsin Pollutant Discharge Elimination System
WQBELs	water quality-based effluent limits
WQT	water quality trading
WWTF	Wastewater Treatment Facility

INTRODUCTION

The Village of Brooklyn, Wisconsin (Village), is located in Dane and Green Counties. The Brooklyn Wastewater Treatment Facility (WWTF) serves the Village and discharges to Allen Creek in Green County, near the Green County-Rock County line. A *Wastewater Management Facilities Plan* (Facilities Plan) was completed in March 2006 and approved by Wisconsin Department of Natural Resources (WDNR) in November 2006, which led to major improvements at the WWTF in 2008. The 2008 project included new WWTFs including screening, influent pumping, activated sludge treatment, final clarification, and biosolids storage. In March 2017, the Village submitted its *Final Compliance Alternative Plan* (FCAP) for phosphorus, which concluded with a recommendation to implement water quality trading (WQT) along with WWTF capital improvements in order to meet final phosphorus water quality-based effluent limits (WQBELs).

This report is intended to satisfy the WQT plan update requirement necessary to include WQT in the future reissuance of the Village's Wisconsin Pollutant Discharge Elimination System (WPDES) permit. A Notice of Intent to conduct WQT was submitted to the WDNR in December 2016 and can be found in Appendix A, and the completed WQT checklist can be found in Appendix B. For background information related to the Village collection system, design flows and loadings, and environmental impacts, refer to the 2006 Facilities Plan. For a full explanation regarding the Village's strategy to meet phosphorus WQBELs, refer to the 2017 FCAP. There have been no changes made to the Village's WQT strategy since submittal of the 2020 WQT Plan.

GENERAL AND BACKGROUND INFORMATION

The WWTF is an activated sludge plant. Preliminary treatment consists of a cylindrical mechanical screen. Influent sampling occurs following the mechanical fine screen. Screened influent is pumped to a new biological phosphorus removal (BPR) structure that was completed in summer 2020. The flow then enters an oxidation ditch that provides extended aeration and biological treatment of wastewater organics along with removal of ammonia. Chemical phosphorus removal (CPR) was also completed in summer 2020 with the ability to add phosphorus removal chemical at the effluent of the oxidation ditch. Wastewater then flows to the final clarifier where the microorganisms are separated by gravity from the treated effluent. Effluent from the clarifiers is metered and discharged to Allen Creek. The microorganisms are returned to the oxidation ditch (or to the future BPR structure) as return activated sludge (RAS). Waste activated sludge (WAS) is gravity thickened with optional polymer addition in a biosolids storage tank. The decanted liquid from the storage tank is returned to the oxidation ditch influent. The liquid biosolids are disposed of either by land application or disposal at a larger WWTP. A process flow schematic of the WWTF is provided in Figure 1. BPR and CPR have both proved successful at the WWTF and phosphorus discharges have been consistently less than the required target values when considering the implemented WQT.

The WWTF operates under WPDES Permit No. WI-0023485-09. Design flows and loadings and relevant permit limitations are shown in Table 1. Current WWTF flows average 0.083 million gallons per day (MGD) based on an average of data from 2016 through 2019. Recent flows have been lower due to dryer conditions (for example, the average flow in 2022 was 0.068 MGD). A current average flow of 0.083 MGD will be used for the purposes of the WQT Plan Update to be conservative.

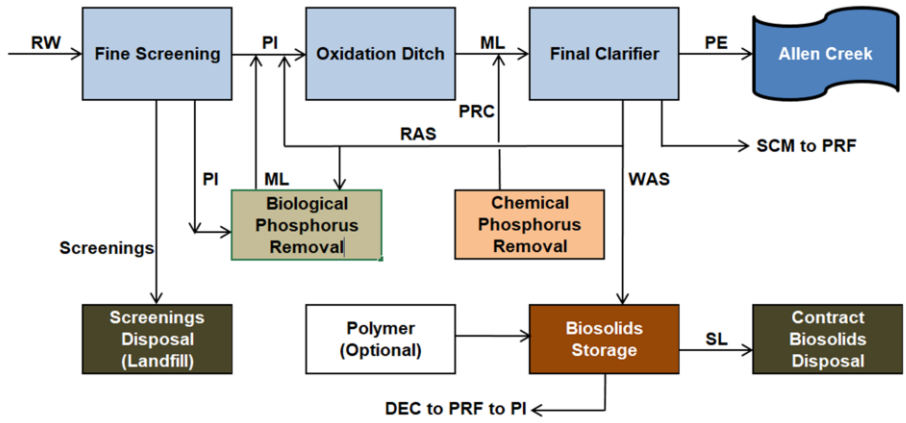


Figure 1 Village WWTF Process Schematic

Design Flows (MGD)	
Average Day	0.20
Peak Hour	0.60
Design Average Influent Loadings (Pounds per Day [lb/day])	
Five-Day Biochemical Oxygen Demand (BOD_5)	428
Total Suspended Solids (TSS)	755
Total Kjeldahl Nitrogen (TKN)	71
Total Phosphorus (TP)	21
Phosphorus Effluent Limits (Milligrams per Liter [mg/L])	
Current Interim Limit–Monthly Average	7.9
Future WQBEL–6-Month Average[1]	0.075
Future WQBEL–Monthly Average	0.225

[1]Averaging periods are May to October and November to April.

Table 1 Design Flows, Loads, and WPDES Permit Phosphorus Limitations

A. WWTF Capital Improvements

Within the FCAP submitted in March 2017, a variety of WWTF Improvement alternatives were explored for phosphorus removal. Alternatives included BPR, CPR, biological nutrient removal (BNR), one- and two-stage reactive sand filters, cloth disk filtration, and an activated algae system.

BPR and CPR jar tests and a CPR pilot test were completed and summarized in the 2015 phosphorus compliance status letter and 2017 FCAP. The results of the tests indicated that CPR, with or without BPR, was capable of producing effluent phosphorus in the range of a 0.5- to 1.0-mg/L monthly average. Neither of the alternatives alone or together would be able to consistently meet the 0.075-mg/L WQBEL.

Reactive sand filtration, cloth disk filtration, and the activated algae system, while potentially capable of meeting the final WQBELs, were not as cost effective as the chosen alternative. The Village began construction of a BPR system with a backup CPR system, to meet less than 1.0-mg/L effluent phosphorus concentrations. Construction was in summer 2020. WQT will be used to achieve the remaining load reduction.

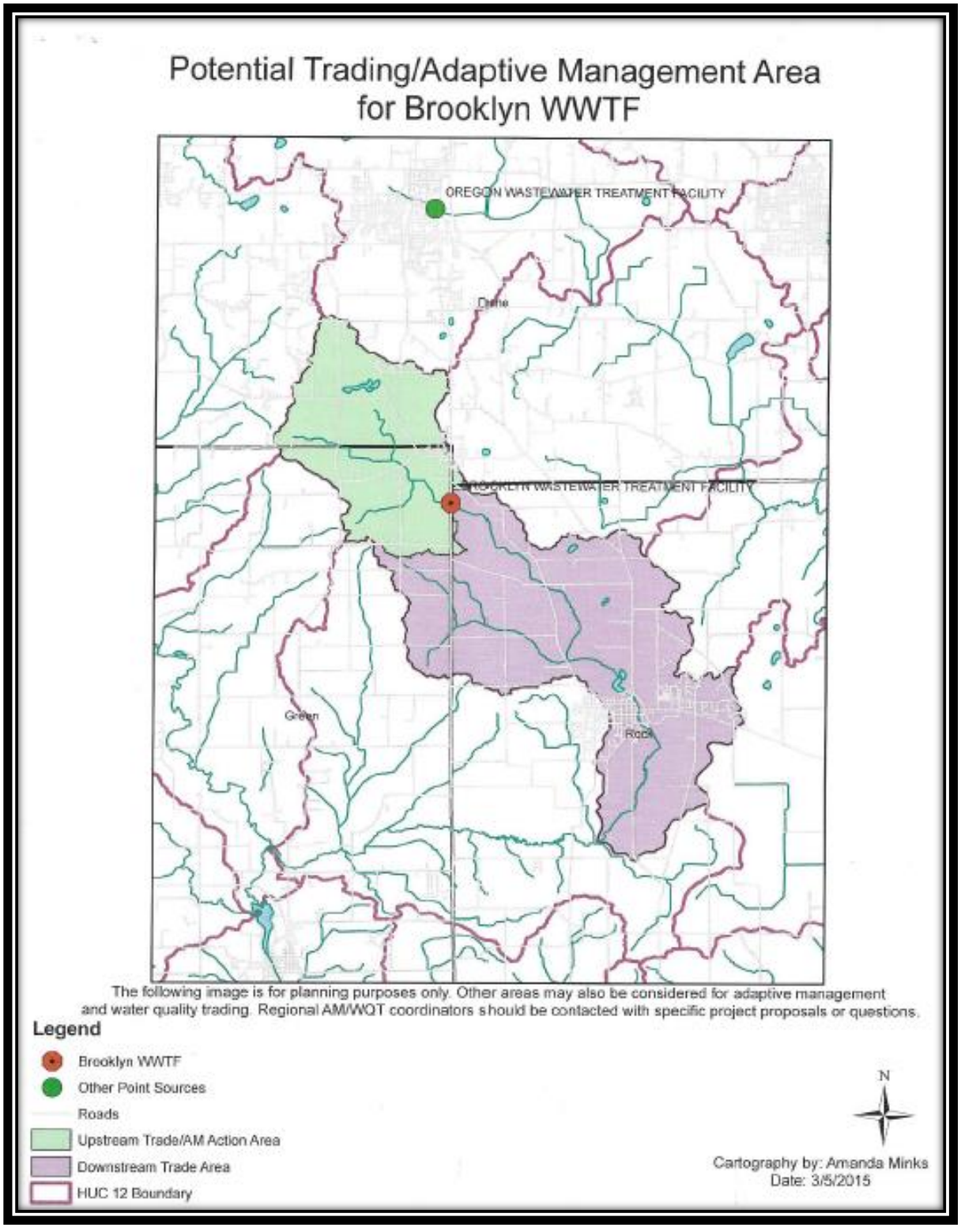
Combining both BPR and CPR allows for less generation of WAS and additional area for grit settling upstream of the oxidation ditches rather than CPR alone. BPR is generally viewed as a more sustainable process compared to CPR alone, as BPR will result in less chemical handling requirements.

WATER QUALITY TRADING

WQT was reviewed in detail in the *2016 Preliminary Compliance Alternatives Plan* and 2017 FCAP. This option was anticipated to employ rural or urban best management practices (BMPs) to reduce nonpoint source (NPS) phosphorus loadings in the watershed. As previously noted, the WWTF discharges to Allen Creek, which is in the Sugar River watershed. According to the WDNR's Surface Water Data Viewer Internet-based tool, the Hydrologic Unit Code (HUC) 12 subwatershed is identified as City of Evansville-Allen Creek, ID No. 070900040301, and it contains 21,660 acres. A map of the HUC 12 and surrounding area, provided by the WDNR at a March 2015 public workshop held in the Village of New Glarus, Wisconsin, is included in Figure 2.

WQT is used to meet effluent limits rather than being used to meet the in-stream water quality criterion. Therefore, stream monitoring is not required. However, field-scale (e.g., SnapPlus P Trade) or similar modeling or monitoring is required to demonstrate that the BMPs will achieve the NPS load reductions. Additionally, a trade ratio is applied to account for uncertainties (because the BMP and stream are not monitored) and other factors. Monitoring may be used to justify a site-specific trade ratio. For WQT, BMPs are generally installed upstream of the outfall; however, the WDNR allows some downstream trading if it is within the HUC 12. Trade ratios for NPS to point source trades within a HUC 12 are typically 1.2 to 2.0. This means that if the WWTF was required to reduce effluent phosphorus by 100 pounds per year (lb/year), for example, it would need to arrange for 120 to 200 lb/year of NPS phosphorus load reductions.

Figure 2 City of Evansville–Allen Creek HUC 12 (ID No. 070900040301)



A. Description of Properties

Two landowners within the Village's HUC 12 watershed and upstream of the WWTF were identified with land parcels (Tax Parcels 2300600840000, 2300600850000, 2300600854000, and 2300600855000) that have historically been used for corn and soybean production. There is an agreement between the landowner and the owner of Tax Parcel 2300600085600 to farm the agricultural land associated with that parcel (a portion of field Amidon D). The two landowners partnered with the Village to provide Whole Field Management as defined in Appendix H of WDNR's *Guidance for Implementing WQT in WPDES Permits* (Guidance). This resulted in phosphorus credit generation beginning in January 2022.

The location of the fields, Allen Creek and its tributaries, and the WWTF and associated outfall (as displayed in the WDNR Surface Water Data Viewer) are shown in the basemap in Figure 3. Each property is split into subfields for the purposes of SnapPlus modeling.

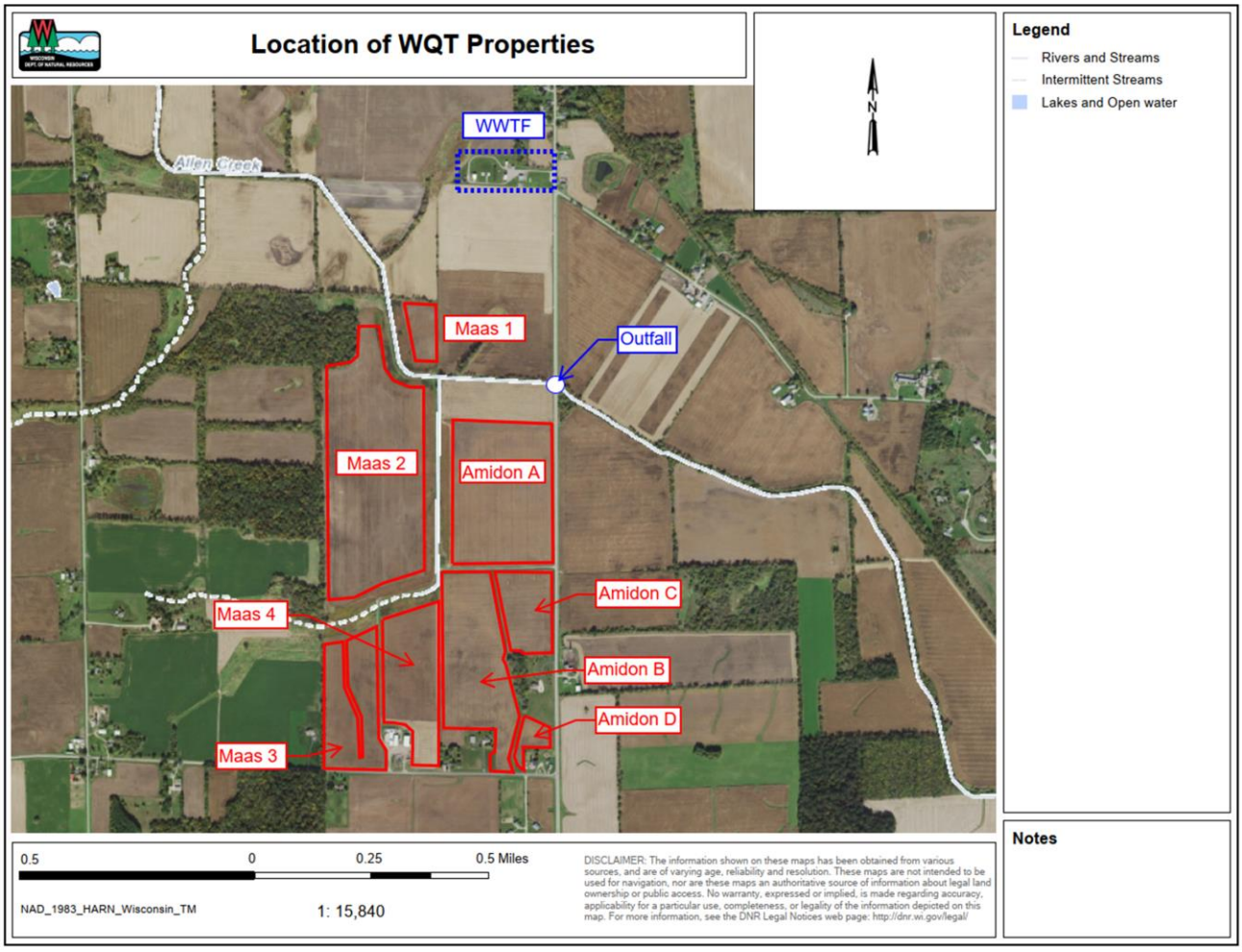


Figure 3 Location of WQT Properties

B. Load Reduction

The required load reductions will be generated upstream from the WWTF discharge location on properties that drain directly to either Allen Creek or tributaries to Allen Creek.

A map of the soil types of both properties can be found in Appendix C. The SnapPlus modeling performed for this trade includes soil phosphorus concentrations from sampling at the two properties to calculate the baseline phosphorus loading and the resulting phosphorus reduction from the proposed filter strips. Soil sampling was performed according to Method A2100 from the University of Wisconsin-Extension and the results are shown in Appendix F. The baseline SnapPlus modeling results are included in Appendix D. Refer to this appendix for details on crop rotation and tillage methods. Tillage methods are different for fields Maas 1 and Maas 2 because the landowner prefers to chisel plow these fields to prevent compaction. These fields are at a relatively low elevation and therefore do not drain as well.

The baseline conditions do not include filters strips or cover crops. Filter strips that were previously installed at the field edges were removed in 2018 and have been planted in corn and beans beginning in 2019. This timeframe meets WDNR's requirements for a minimum of 2 years to establish the baseline condition.

1. Trade Ratio

Trade Ratios are calculated using the following formula:

$$Trade\ Ratio = (Delivery + Downstream + Equivalency + Uncertainty - Habitat\ Adjustment): 1$$

Each factor is assigned a value based on Appendix H of the Guidance. Because the trade occurs within the same HUC 12 watershed and the properties are upstream of the WWTF outfall, both Delivery and Downstream factors are zero. The Equivalency factor is assigned a value of zero for phosphorus trades, while the Uncertainty factor is assigned a value of 1 for using Whole Field Management according to Appendix H of the Guidance. As there are no aquatic habitat restoration efforts on either properties, Habitat Adjustment is assigned a value of zero.

Whole Field Management requires an approved nutrient management plan (NMP), filter strips, grassed waterway, conservation or no till methods, and cover crops. All fields shown in Figure 4 will include filter strips, conservation or no till methods, and cover crops. The proposed filter strip locations are shown in Figure 4. All flow from the fields will pass through the filter strips before entering the receiving stream. There are existing grassed waterways on the fields in areas of concentrated flow as shown in Figure 5. The landowners will use small grain cover crops such as rye or wheat. The post-trade tillage methods will be adjusted to meet the Soil Tillage Intensity Rating value of 35 or less as required for Whole Field Management.

Based on the formula previously described, the trade ratio is calculated at 1:1. However, the minimum trade ratio allowable according to Guidance for NPSs is 1.2:1. Therefore, a trade ratio of 1.2:1 is used for all fields involved in this trade

Figure 4 Proposed Filter Strip Locations

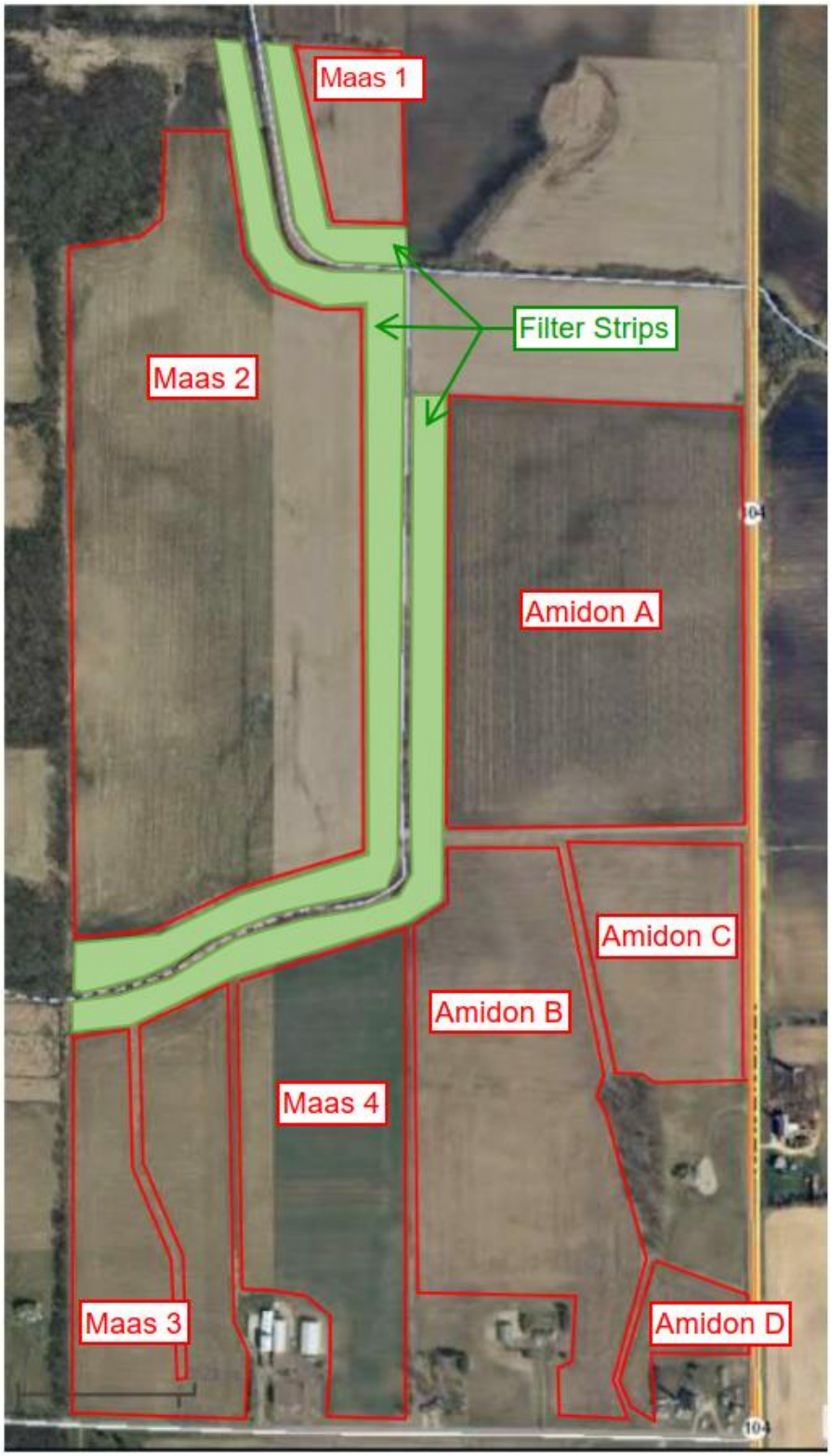
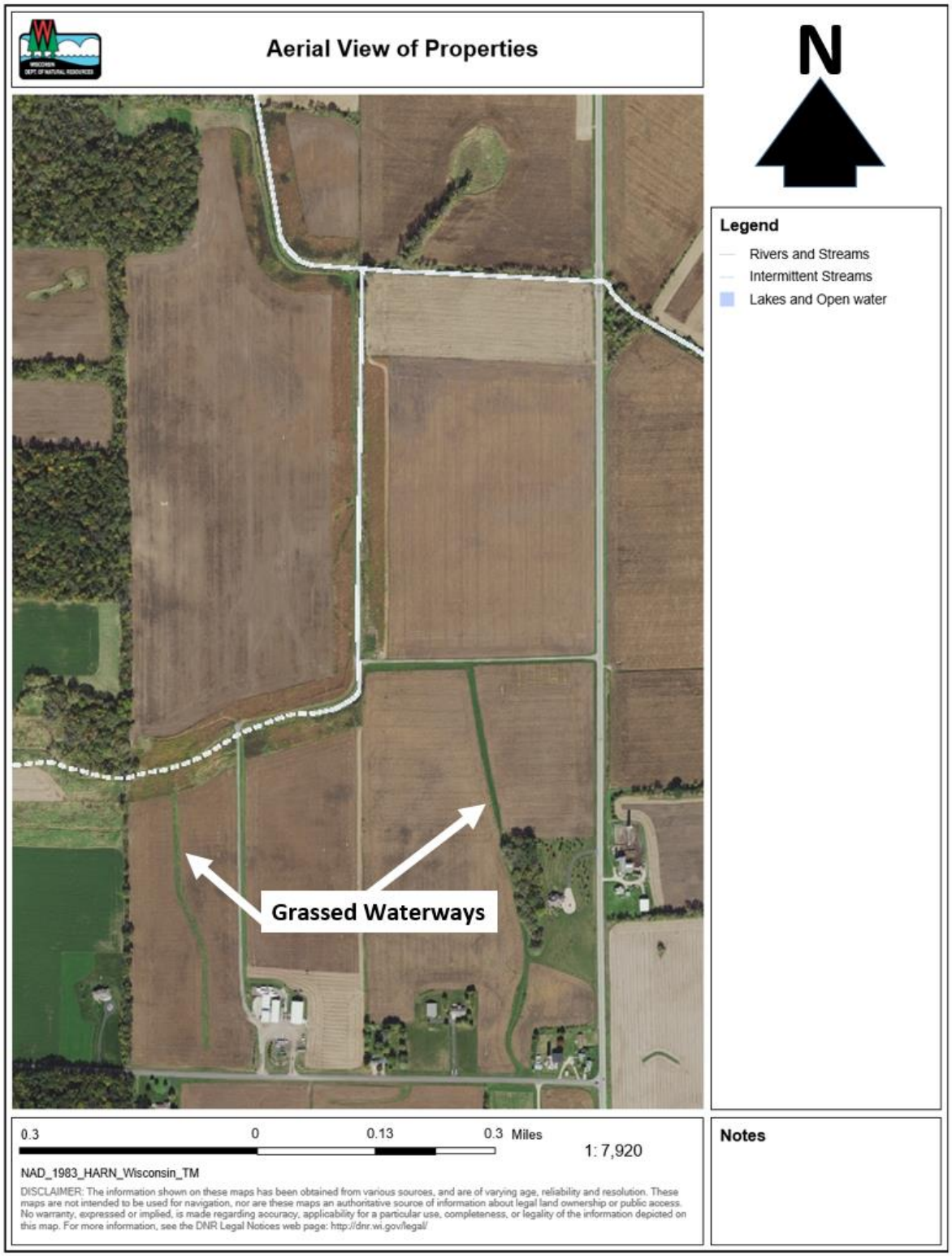


Figure 5 Existing Grassed Waterway Locations



2. Credit Generation Timeline

Credits started being generated on January 1, 2022. This required that the filter strips be planted in 2021 so they were functional in 2022. The other improvements (cover crops and improved tillage methods) began in 2022. The 5-year averaging period for credit generation will be 2024 through 2028.

3. SnapPlus Modeling and NMPs

The post-trade SnapPlus modeling results are included in Appendix E and include all the requirements for Whole Field Management. Refer to this appendix for details on crop rotation and tillage methods. A NMP has been developed for each property as required in Appendix H of the Guidance. All the land owned by the trading partners was included in an NMP by 2021. In addition, the landowners agree to not take any action to cause or permit an overloading of nutrients (i.e., application of more than reasonably determined annual nutrient needs of the crops) or a shifting of nutrients to other properties. Manure is not applied to the fields now and there is no incentive to apply (purchase) more nutrients than necessary for crop growth as dictated by the NMP. The NMPs for the fields are included in Appendix F.

4. Load Reductions, Credits, and Effluent Targets

A summary of the phosphorus load reduction pounds and credits generated from each property and resulting target effluent concentrations are shown in Tables 2 and 3, respectively. An average of 224 pounds phosphorus credits are generated per year from the combined properties using the 5-year average 2024 through 2028. Incorporating the phosphorus credits, the resulting effluent phosphorus target is approximately 0.44 mg/L at the design average flow (DAF) of 0.2 MGD, The current average flow is approximately 0.083 MGD, therefore, allowing for a higher resulting effluent phosphorus target, initially 0.96 mg/L, as shown in Table 3.

The WWTF is expected to be capable of meeting the phosphorus effluent target throughout the 5-year term (2024 through 2028) with the recently installed BPR and CPR systems. The combination of BPR and CPR has been working very well following start-up related optimization efforts demonstrating the ability for the WWTF to meet the targets necessary, additional credits are not anticipated at this time. The need for obtaining additional phosphorus credits will be determined based on actual increases in WWTF flow over time and future performance of the BPR and CPR systems.

Year	2024	2025	2026	2027	2028
Acres Modeled Fields	232	232	232	232	232
Pre-Trade Load Fields (lb/year)	515	251	408	334	320
Post-Trade Load (lb/year)	107	107	93	76	99
Load Reduction (lb/year)	408	144	315	258	221
Trade Ratio	1.2	1.2	1.2	1.2	1.2
Credits Generated	340	120	263	215	184

Table 2 WQT Annual Credits Generated

Credits Generated (5-year average, lb/year)	224
DAF (MGD)	0.2
Current Average Flow (MGD)	0.083
WQBEL (mg/L)	0.075
Resulting Design Effluent Target (mg/L)	0.44
Resulting Current Effluent Target (mg/L)	0.96

Table 3 WQT Annual Credits Generated and Target Effluent Concentrations

C. Operation and Maintenance (O&M)

The landowners will be responsible for installation and maintenance of the whole field management practices in accordance with National Resources Conservation Service (NRCS) standards according to with the trade agreement with the Village. The applicable NRCS standards include Code 393 for filter strips, Code 329/345 for conservation tillage, Code 412 for grassed waterways, Code 340 for cover crops, and Code 590 for NMPs. The filter strips, grassed waterways, and cropping practices will be inspected at least once a year during the month of June by an inspector selected by the Village who has applicable knowledge and is licensed or certified to practice in Wisconsin or is otherwise accepted by WDNR to verify proper installation and O&M. The inspector will inspect the fields generating the TP credits to confirm proper maintenance of the filter strips, installation of cover crops, tillage method, and type of crop. The inspector will take note of ecological health of plantings, confirm that the filter strips remain in compliance with appropriate standards, and identify potential problems such as erosion. The landowners will be responsible for correcting any problems, in accordance with NRCS standards and the trade agreement. Inspection reports will be included in the annual WQT report.

D. Inspections and Reporting

A WQT agreement has been completed between the Village and the two property owners with an agreement duration through December 31, 2036. The signature page of the agreement is included in Appendix G. The completed Registration Form 3400-207 for WQT Management Practice Registration is included in Appendix H.

The Village will submit an annual WQT report to the WDNR by January 31 of each year. This report will reference the approved WQT Plan and include the number of TP credits (pounds per month) used each month of the previous year to demonstrate compliance, and O&M inspection reports from the past year of the whole field management practices, and identification of noncompliance or failure to implement any terms or conditions of WPDES permit with respect to WQT that have not been reported in discharge monitoring reports. The most recent annual report is included in Appendix I.

In the event that the phosphorus reduction credits used or intended for use by the Village are not being generated as defined in the approved WQT Plan, the Village will notify the WDNR in writing within 7 days. In accordance with the contracts in place between the Village and the landowners, damage to the filter strips will be corrected to the maximum extent practical within 30 days of discovering the damage.

Any duly authorized officer, employee, or representative of the WDNR shall have the right to access and inspect the fields in accordance with Wisconsin Statutes 283.55(2) as long as the approved WQT Plan remains in effect.

CONCLUSIONS AND RECOMMENDATIONS

Credits have been generated since January 2022 and the Village is in compliance related to their phosphorous limits.

The following steps will be taken for compliance with the phosphorus WQBEL using WQT.

1. Continue operation of the BPR system with supplemental phosphorus removal chemical being added as needed.

2. Continue to evaluate the potential need for additional credits as the WWTF flows increase over time and based on the actual BPR and CPR system performance.

APPENDIX A–NOTICE OF INTENT TO CONDUCT WATER QUALITY TRADING (COMPLETED)

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Notice of Intent to Conduct Water Quality Trading

Form 3400-206 (1/14)

Notice: Pursuant to s. 283.84, Wis. Stats., and ch. NR 217 Wis. Adm. Code, this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Applicant Information

Permittee Name	Permit Number	Facility Site Number
Village of Brooklyn	WI- 0023485-08-0	6038

Facility Address	City	State	ZIP Code
102 Windy Lane	Brooklyn	WI	53521

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Mark A. Langer	210 Commercial Street P.O. Box 189	Brooklyn	WI	53521

Project Name
Village of Brooklyn Water Quality Trading

Receiving Water Name	Parameter(s) being traded	HUC 12(s)
Allen Creek	Phosphorus	070900040301

Is the permittee in a point or nonpoint source dominated watershed? (See PRESTO results - http://dnr.wi.gov/topic/surfacewater/presto.html)
- (●) Point source dominated
- ( ) Nonpoint source dominated

Credit Generator Information

Credit generator type (select all that apply):
- [ ] Permitted Discharge (non-MS4/CAFO)
- [ ] Permitted MS4
- [ ] Permitted CAFO
- [ ] Urban nonpoint source discharge
- [x] Agricultural nonpoint source discharge
- [ ] Other - Specify: _____

Are any of the credit generators in a different HUC 12 than the applicant?
- ( ) Yes; HUC 12: _____
- (●) No
- ( ) Unsure

Are any of the credit generators downstream of the applicant?
- ( ) Yes
- (●) No
- ( ) Unsure

Will a broker/exchange be used to facilitate trade?
- ( ) Yes; Name: _____
- (●) No
- ( ) Unsure

Point to Point Trades (Traditional Municipal / Industrial Discharge, MS4, CAFO)

Discharge Type	Permit Number	Name	Contact Address	Is the point source credit generator currently in compliance with their permit requirements?
( ) Traditional ( ) MS4 ( ) CAFO				( ) Yes ( ) No ( ) Unsure
( ) Traditional ( ) MS4 ( ) CAFO				( ) Yes ( ) No ( ) Unsure
( ) Traditional ( ) MS4 ( ) CAFO				( ) Yes ( ) No ( ) Unsure
( ) Traditional ( ) MS4 ( ) CAFO				( ) Yes ( ) No ( ) Unsure
( ) Traditional ( ) MS4 ( ) CAFO				( ) Yes ( ) No ( ) Unsure

Point to Nonpoint Trades (Non-permitted Agricultural, Non-Permitted Urban, etc.)

List the practices that will be used to generate credits:

Filter strips (Natural Resources Conservation Service Code 393) will be installed down gradient of agricultural practices to reduce runoff and associated phosphorus from entering the receiving stream. Credit generating practices will be installed on tax parcels 2300600840000 and 2300600850000 in Green County. Assuming a trade ratio f 2:1 for filter strips, the phosphorus credits generated per year are approximately 403 to 517 lb/year. It is intended that water quality trading will be used in conjunction with wastewater treatment plant improvements for compliance with the water quality based effluent limit. Credit generating practices will be installed in the future on tax parcel 2300600897000.

Method for quantifying credits generated:
- ☐ Monitoring
- ☒ Modeling, Names: SNAP Plus
- ☐ Other: _____

Projected date credits will be available: 01/01/2019

The preparer certifies all of the following:

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.

Signature of Preparer	Date Signed
Travis J. Gibson	12/22/16

Authorized Representative Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed
Mark A. Langer	12/22/16

APPENDIX B
WATER QUALITY TRADING CHECKLIST (COMPLETED)

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Water Quality Trading Checklist

Notice: Pursuant to s. 283.84, Wis. Stats., this form must be completed by any WPDES permittee that intends to pursue pollutant trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Applicant Information

Permittee Name	Permit Number	Facility Site Number
Village of Brooklyn	WI- 0023485-09-0	

Facility Address	City	State	ZIP Code
102 Windy Lane	Brooklyn	WI	53521

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Leif Spilde	210 Commercial Street P.O. Box 189	Brooklyn	WI	53521

Project Name
Village of Brooklyn Water Quality Trading

Receiving Water Name	Parameter(s) being traded	HUC 12(s)
Allen Creek	Phosphorus	070900040301

Credit Generator Information

Credit generator type (select all that apply):

- ☐ Permitted Discharge (non-MS4CAFO)
- ☐ Permitted MS4
- ☐ Permitted CAFO
- ☐ Urban nonpoint source discharge
- ☒ Agricultural nonpoint source discharge
- ☐ Other - Specify: _____

Are any of the credit generators in a different HUC 12 than the applicant?
- ○ Yes; HUC 12: _____
- ◉ No

Are any of the credit generators downstream of the applicant?
- ○ Yes
- ◉ No

Will a broker/exchange be used to facilitate trade?
- ○ Yes *(include description and contact information in WQT plan)*
- ◉ No

Point to Point Trades (Traditional Municipal / Industrial, MS4, CAFO)

Are each of the point source credit generators identified in this section in compliance with their WDPES permit requirements?
- ○ Yes
- ○ No

Discharge Type	Permit Number	Name	Contact Information	Trade Agreement Number
○ Traditional ○ MS4 ○ CAFO				
○ Traditional ○ MS4 ○ CAFO				
○ Traditional ○ MS4 ○ CAFO				
○ Traditional ○ MS4 ○ CAFO				
○ Traditional ○ MS4 ○ CAFO				

Point to Point Trades (Traditional Municipal / Industrial, MS4, CAFO) *cont.*

Does plan have a narrative that describes:			Plan Section
a. Summary of discharge and existing treatment including optimization	◯ Yes	◯ No	
b. Amount of credit being generated	◯ Yes	◯ No	
c. Timeline for credits and agreements	◯ Yes	◯ No	
d. Method for quantifying credits	◯ Yes	◯ No	
e. Tracking and verification procedures	◯ Yes	◯ No	
f. Location of credit generator in proximity to receiving water and credit user	◯ Yes	◯ No	
g. Other: _____	◯ Yes	◯ No	

Point to Nonpoint Trades (Non-Permitted Urban, Agricultural, Other)

Discharge Type	Practices Used to Generate Credits	Method of Quantification	Trade Agreement Number	Have the practice(s) been formally registered?
◯ Urban NPS ◉ Agricultural NPS ◯ Other	Whole Field Management	Modeling: SNAP Plus P Trade Report		◯ Yes ◉ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part

Does plan have a narrative that describes:			Plan Section
a. Description of existing land uses	◉ Yes	◯ No	3-A
b. Management practices used to generate credits	◉ Yes	◯ No	3-B
c. Amount of credit being generated	◉ Yes	◯ No	3-B
d. Description of applicable trade ratio per agreement/management practice	◉ Yes	◯ No	3-B
e. Location where credits will be generated	◉ Yes	◯ No	3-A, 3-B
f. Timeline for credits and agreements	◉ Yes	◯ No	3-B
g. Method for quantifying credits	◉ Yes	◯ No	3-B

Does plan have a narrative that describes:			Plan Section
h. Tracking procedures	◉ Yes	○ No	3-D
i. Conditions under which the management practices may be inspected	◉ Yes	○ No	3-D
j. Reporting requirements should the management practice fail	◉ Yes	○ No	3-D
k. Operation and maintenance plan for each management practice	◉ Yes	○ No	3-C
l. Location of credit generator in proximity to receiving water and credit user	◉ Yes	○ No	3-A
m. Practice registration documents, if available	◉ Yes	○ No	App. H
n. History of project site(s)	◉ Yes	○ No	3-A
o. Other: _____	○ Yes	○ No	

The preparer certifies all of the following:

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

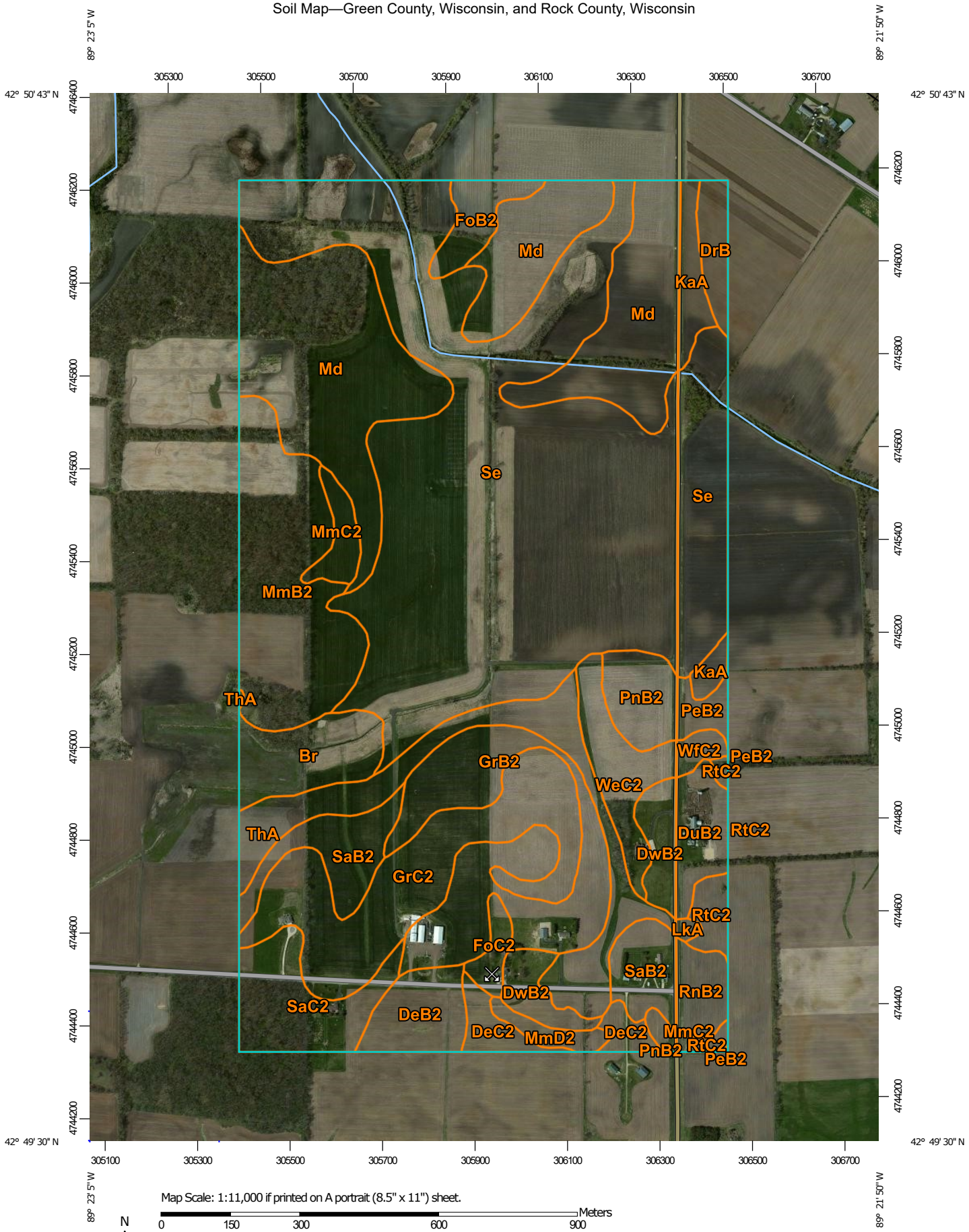
Signature of Preparer	Date Signed
Tan J. Ah	8/24/23

Authorized Representative Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed
Scott Miller	8-24-2023

APPENDIX C
SOIL MAP


89° 23' 5" W
89° 21' 50" W
42° 50' 43" N
42° 49' 30" N
305300
305500
305700
305900
306100
306300
306500
306700
305100
4746400
4746200
4746000
4745800
4745600
4745400
4745200
4745000
4744800
4744600
4744400
4744200
FoB2
Md
DrB
KaA
Md
Md
Se
Se
MmC2
MmB2
KaA
ThA
PnB2
PeB2
Br
GrB2
WfC2
PeB2
RtC2
WeC2
ThA
DuB2
RtC2
DwB2
SaB2
GrC2
RtC2
LkA
FoC2
SaB2
DwB2
RnB2
SaC2
DeB2
DeC2
MmD2
DeC2
MmC2
PnB2
RtC2
PeB2
Map Scale: 1:11,000 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
150
300
600
900
Feet
0
500
1000
2000
3000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

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

Special Point Features

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

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:12,000 to 1:20,000.

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

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

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

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

Soil Survey Area: Green County, Wisconsin
Survey Area Data: Version 20, Sep 10, 2019

Soil Survey Area: Rock County, Wisconsin
Survey Area Data: Version 17, Sep 14, 2019

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Apr 29, 2011—Jun 13, 2011

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Br	Brookston silt loam, 0 to 2 percent slopes	11.6	2.4%
DeB2	Dodge silt loam, 2 to 6 percent slopes, moderately eroded	8.5	1.7%
DeC2	Dodge silt loam, 6 to 12 percent slopes, moderately eroded	5.7	1.2%
DwB2	Durand silt loam, 2 to 6 percent slopes, moderately eroded	9.3	1.9%
FoB2	Fox loam, 2 to 6 percent slopes, moderately eroded	5.5	1.1%
FoC2	Fox loam, 6 to 12 percent slopes, eroded	2.8	0.6%
GrB2	Griswold silt loam, 2 to 6 percent slopes, moderately eroded	30.9	6.3%
GrC2	Griswold silt loam, 6 to 12 percent slopes, moderately eroded	33.5	6.8%
Md	Matherton silt loam	75.6	15.3%
MmB2	Miami silt loam, 2 to 6 percent slopes, moderately eroded	33.3	6.8%
MmC2	Miami silt loam, 6 to 12 percent slopes, moderately eroded	4.7	0.9%
MmD2	Miami silt loam, 12 to 20 percent slopes, moderately eroded	2.7	0.5%
PnB2	Pecatonica silt loam, 2 to 6 percent slopes, moderately eroded	7.2	1.5%
SaB2	Saybrook silt loam, 2 to 6 percent slopes, moderately eroded	15.9	3.2%
SaC2	Saybrook silt loam, 6 to 12 percent slopes, moderately eroded	13.9	2.8%
Se	Sebewa silt loam, 0 to 2 percent slopes	147.1	29.9%
ThA	Thackery silt loam, 0 to 3 percent slopes	23.4	4.7%
WeC2	Westville silt loam, 6 to 12 percent slopes, moderately eroded	10.1	2.1%
Subtotals for Soil Survey Area		**441.6**	**89.7%**
Totals for Area of Interest		**492.3**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DrB	Dresden silt loam, 2 to 6 percent slopes	4.4	0.9%
DuB2	Durand silt loam, 2 to 6 percent slopes, eroded	7.0	1.4%
KaA	Kane loam, 0 to 3 percent slopes	6.2	1.3%
LkA	Locke loam, 0 to 3 percent slopes	0.5	0.1%
PeB2	Pecatonica silt loam, 2 to 6 percent slopes, eroded	2.8	0.6%
RnB2	Ringwood silt loam, 2 to 6 percent slopes, eroded	5.1	1.0%
RtC2	Rotamer loam, 6 to 12 percent slopes, eroded	4.5	0.9%
Se	Sebewa silt loam, 0 to 2 percent slopes	18.5	3.8%
WfC2	Westville loam, 6 to 12 percent slopes, eroded	1.8	0.4%
Subtotals for Soil Survey Area		**50.8**	**10.3%**
Totals for Area of Interest		**492.3**	**100.0%**

APPENDIX D
PRE-TRADE SNAPPLUS MODELING RESULTS

NM1: Narrative and Crops Report

Starting Year	**2019**
Reported For	**Kevin Klahn**
Printed	**2020-04-23**
Plan Completion/Update Date:	**2020-04-15**
SnapPlus Version 18.1 built on 2019-01-15	
C:\Users\travisa\Desktop\4.23Village of Brooklyn - Pre Trade - Todd only chisel.snapDb	

Prepared for:
Kevin Klahn
attn:Kevin Klahn
N8995 State Highway 104
Brooklyn, 53521

Farm has 8 fields totalling 232.4 acres
Farm Narrative: None

Annual Farm Notes:

Crop Year	Annual Notes
2020	An in row starter mix of 10-34-0, ATS, and 28% is used on all corn acres. VRT maps are available upon request for any applied acres.

Spreader Calibration Methods: Custom applications, Amount applied / Acres

Narrative and Crops:

Field Name	Acres	2019	2020	2021	2022	2023	2024	2025	2026
Amidon A	47.4	Corn grain Strip Till 191-210 bu/acre	Corn grain Spring Chisel, no disk 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre
Amidon B	31.8	Corn grain Strip Till 191-210 bu/acre	Corn grain Spring Chisel, no disk 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre

Field Name	Acres	2019	2020	2021	2022	2023	2024	2025	2026
Amidon C	12.9	Corn grain Strip Till 191-210 bu/acre	Corn grain Spring Chisel, no disk 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre
Amidon D	3.2	Corn grain Strip Till 191-210 bu/acre	Corn grain Spring Chisel, no disk 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre
Maas 1 - 1	8.2	Corn silage, 18 in rows Spring Chisel, no disk 25.1-30 ton/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre
Maas 1 - 2	81.5	Corn silage, 18 in rows Spring Chisel, no disk 25.1-30 ton/acre	Corn grain Fall Chisel, no disk 171-190 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre
Maas 1 - 3	22.5	Corn grain Spring Chisel, no disk 191-210 bu/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre
Maas 1 - 4	24.9	Corn grain Spring Chisel, no disk 191-210 bu/acre	Corn grain Fall Chisel, no disk 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre	Soybeans 15-20 inch row Fall vertical tillage 56-65 bu/acre	Corn grain Strip Till 191-210 bu/acre

Summary by Crop:

NOTE: Yields calculated using the midpoint of the SnapPlus yield goal range for each crop.

Crops Grouped By Category		2019	2020	2021	2022	2023	2024	2025	2026
Corn grain	Acres bu	143 28,672	232 46,516	95 19,048	232 46,516		232 46,516	95 19,048	137 27,469
Soybeans 15-20 inch row	Acres bu			137 8,289		232 14,036		137 8,289	95 5,748

Crops Grouped By Category		2019	2020	2021	2022	2023	2024	2025	2026
Corn silage, 18 in rows	Acres ton	90 2,480							

WQ1: P Trade Report

Reported For	Kevin Klahn
Printed	2020-04-23
Plan Completion/Update Date	2020-04-15
SnapPlus Version 18.1 built on 2019-01-15	
C:\Users\travisa\Desktop\4.23Village of Brooklyn - Pre Trade - Todd only chisel.snapDb	

Prepared for:
Kevin Klahn
attn:Kevin Klahn
N8995 State Highway 104
Brooklyn, 53521

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**

Questions? Please contact DNRphosphorus@wisconsin.gov

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	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Amidon A	SEBEWA	Se	47	72	49	44	36	36	57	33	31	50	26	26
Amidon B	GRISWOLD	GrB2	32	89	54	48	39	42	77	40	40	73	37	38
Amidon C	WESTVILLE	WeC2	13	73	42	34	26	32	64	28	31	62	27	30
Amidon D	SAYBROOK	SaB2	3	13	8	7	6	6	11	6	6	11	6	6
Maas 1 - 1	SEBEWA	Se	8	8	17	7	16	6	15	6	14	5	7	5
Maas 1 - 2	SEBEWA	Se	82	66	157	58	139	49	131	46	131	46	70	45
Maas 1 - 3	GRISWOLD	GrC2	23	55	63	58	109	63	108	61	105	59	101	57

P Trade Report				PTP										
Field Name	Soil Series	Soil Symbol	Acres	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Maas 1 - 4	GRISWOLD	GrB2	25	28	31	30	53	32	52	30	49	29	47	27
Total			**232**	**404**	**421**	**287**	**423**	**267**	**515**	**251**	**408**	**334**	**320**	**233**

APPENDIX E
POST-TRADE SNAPPLUS MODELING RESULTS

NM1: Narrative and Crops Report

Starting Year	**2021**
Reported For	**Klahn Brooklyn WQT**
Printed	**2023-06-22**
Plan Completion/Update Date:	**2023-06-21**
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership \Brooklyn WQT\Klahn Brooklyn WQT.snapDb	

Prepared for:
Klahn Brooklyn WQT
attn:Klahn Brooklyn WQT
N8995 State Highway 104
Brooklyn, 53521

Prepared by: The DeLong Company
PO Box 552
Clinton,Rock,53525
608-676-2255, amansfield@delongcompany.com

Farm has 8 fields totalling 208.3 cropped acres.
Farm Narrative: The Amidon Farm plans to follow a corn-corn-soybean rotation, with a small grain cover crop planted each fall after harvest.

The Maas Farm plans to follow a corn-soybean rotation, with a small grain cover crop planted each fall after harvest.

An in-row starter mix of 10-34-0, ATS, and 28% is used on all corn acres.

No manure or biosolids are applied at anytime to either of these farms.

Annual Farm Notes:

Crop Year	Annual Notes
2023	Post Trade

Spreader Calibration Methods: Custom applications, Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2021	2022	2023	2024	2025	2026	2027	2028
Amidon A	42.6	Corn grain Strip Till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre

Field Name	Field Acres	2021	2022	2023	2024	2025	2026	2027	2028
Amidon B	31.8	Corn grain Strip Till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Amidon C	12.9	Corn grain Strip Till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Amidon D	3.2	Corn grain Strip Till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Maas 1 - 1	5.5	Soybeans 15-20 inch row Spring vertical tillage 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Maas 1 - 2	67.8	Soybeans 15-20 inch row Spring vertical tillage 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Spring vertical tillage, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Maas 1 - 3	21.1	Soybeans 15-20 inch row Spring vertical tillage 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre

Field Name	Field Acres	2021	2022	2023	2024	2025	2026	2027	2028
Maas 1 - 4	23.4	Soybeans 15-20 inch row Spring vertical tillage 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre

Summary by Crop:

NOTE: Yields calculated using the midpoint of the SnapPlus yield goal range for each crop.

Crops Grouped By Category		2021	2022	2023	2024	2025	2026	2027	2028
Corn grain	Acres bu	91 18,246							
Corn grain to small grain cover crop	Acres bu		208 41,704	91 18,246	118 23,659	91 18,246	208 41,704		208 41,704
Soybeans to small grain cover crop	Acres bu			118 7,139	91 5,506	118 7,139		208 12,584	
Soybeans 15-20 inch row	Acres bu	118 7,139							

WQ1: P Trade Report

Reported For	Klahn Brooklyn WQT
Printed	2023-06-22
Plan Completion/Update Date	2023-06-21
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership \Brooklyn WQT\Klahn Brooklyn WQT.snapDb	

Prepared for:
Klahn Brooklyn WQT
attn:Klahn Brooklyn WQT
N8995 State Highway 104
Brooklyn, 53521

Prepared by: The DeLong Company
PO Box 552
Clinton,Rock,53525
608-676-2255, amansfield@delongcompany.com

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**

Questions? Please contact DNRphosphorus@wisconsin.gov

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	2021	2022	2023	2024	2025	2026	2027	2028	2029
Amidon A	SEBEWA	Se	43	23	19	14	14	17	12	11	12	6
Amidon B	GRISWOLD	GrB2	32	20	17	14	15	20	14	14	18	12
Amidon C	WESTVILLE	WeC2	13	12	10	7	9	14	9	9	14	8
Amidon D	SAYBROOK	SaB2	3	8	6	5	5	10	6	5	10	6
Maas 1 - 1	SEBEWA	Se	6	3	4	3	3	2	2	2	2	1
Maas 1 - 2	SEBEWA	Se	68	29	31	21	23	16	15	10	11	10

P Trade Report				PTP								
Field Name	Soil Series	Soil Symbol	Acres	2021	2022	2023	2024	2025	2026	2027	2028	2029
Maas 1 - 3	GRISWOLD	GrC2	21	21	28	17	23	16	21	15	20	14
Maas 1 - 4	GRISWOLD	GrB2	23	15	18	12	15	11	13	10	12	9
Total			**208**	**131**	**133**	**94**	**107**	**107**	**93**	**76**	**99**	**66**

APPENDIX F
NUTRIENT MANAGEMENT PLAN DOCUMENTATION

Wisconsin Department of Agriculture, Trade and Consumer Protection
Division of Agricultural Resource Management
Bureau of Land and Water Resources
PO Box 8911, Madison WI 53708-8911, Phone: 608-224-4605

Use this form to check nutrient management (NM) plans for compliance with the WI NRCS 2015-590 Standard.

Nutrient Management Checklist

Wis. Stat. §92.05(3) (k), Wis. Admin. Code §ATCP50.04(3) and Ch. 51

COUNTY Green | DATE PLAN SUBMITTED **6/23/2023** | GROWING SEASON YEAR PLAN IS WRITTEN FOR **2023** (from harvest to harvest)

TOWNSHIP: (T. N.) RANGE: (R. E., W). | CHECK ONE: Initial Plan or Updated Plan

NAME OF FARM OPERATOR RECEIVING NM PLAN	FARM NAME (OPTIONAL)	BUSINESS PHONE
Kevin Klahn	**Klondike Farms General Partnership**	**608-455-1096**

STREET ADDRESS	CITY	STATE	ZIP
N8995 State Road 104	**Brooklyn**	**WI**	**53521**

REASON THE PLAN WAS DEVELOPED: DATCP – Farmland Preservation

CROPLAND ACRES (OWNED & RENTED): **91**

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed
Kevin & Erika Klahn, Lloyd & Ruth Klahn, Dennis Strand

WAS THE PLAN WRITTEN IN SNAPPLUS? **YES** If yes, which software version, if known? **20.4**

CHECK PLANNER'S QUALIFICATION:
(1. NAICC-CPCC, 2. ASA-CCA, 3. SSSA-Soil Scientist, 4. DATCP approved training course, 5. Other approved by DATCP)

NAME OF QUALIFIED NUTRIENT MANAGEMENT PLANNER	BUSINESS PHONE
Amy Mansfield CCA#354436	**(608) 676-2255**

STREET ADDRESS	CITY	STATE	ZIP
PO Box 552	**Clinton**	**WI**	**53525**

Use header sections to add comments. Mark NA in the shaded sections if no manure is applied.

1. Does the plan include the following nutrient application requirements to protect surface and groundwater?

This section applies to fields and pastures. If no manure is applied, check NA for 1.c., 1.h., 1.i., 1.n., 1.o., 1.q., 1.s.	Yes	No	NA
a. Determine field nutrient levels from soil samples analyzed by a DATCP **certified laboratory**.	X		
b. For fields or pastures with mechanical nutrient applications, determine field nutrient levels from **soil samples** collected within the last **4 years** according to 590 Standard (590) and UWEX Pub. A2809, *Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin* (A2809) typically collecting **1 sample per 5 acres** of 10 cores. Soil tests are not required on **pastures** that do not receive mechanical applications of nutrients if either of the following applies: 1. The pasture average stocking rate is one animal unit per acre or less at all times during the grazing season. 2. The pasture is winter grazed or stocked at an average stocking rate of more than one animal unit per acre during the grazing season, and a nutrient management plan for the pasture complies with 590 using an assumed soil test phosphorus level of 150 PPM and organic matter content of 6%.	X		
c. For **livestock siting permit approval**, collect and analyze soil samples meeting the requirements above in 1. b., excluding pastures, within 12 months of approval and revise the nutrient management plan accordingly. Until then, either option below maybe used: 1. Assume soil test phosphorus levels are greater than 100 ppm soil test P, OR 2. Use preliminary estimates analyzed by a certified DATCP laboratory with soil samples representing > 5 ac/sample.			X
d. **Identify all fields'** name, boundary, acres, and location.	X		
e. Use the field's previous year's legume credit and/or applications, predominant soil series, and realistic yield goals to determine the crop's nutrient **application rates consistent with A2809 for ALL forms of N, P, and K**.	X		
f. Make no **winter applications of N and P** fertilizer, except on grass pastures and winter grains.	X		
g. Document method used to determine **application rates**. Nutrients shall not runoff during or immediately after application.	X		
h. Identify in the plan that **adequate acreage** is available for manure produced and/or applied.			X
i. Apply a single phosphorus (P) assessment using either the **P Index** or **soil test P** management strategy to all fields within a tract when fields receive manure or organic by-products during the crop rotation.			X
j. Use **complete crop rotations** and the field's **critical soil** series to determine that sheet and rill erosion estimates will not exceed **tolerable soil loss** (T) rates on fields that receive nutrients.	X		
k. Use contours; reduce tillage; adjust the crop rotation; or implement other practices to **prevent ephemeral erosion**; and maintain perennial vegetative cover to **prevent reoccurring gullies** in areas of concentrated flow.	X		
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			X
m. Make no nutrient applications within **50' of all direct conduits to groundwater**, unless directly deposited by gleaning/pasturing animals or applied as starter fertilizer to corn.	X		

	Yes	No	NA
n. Make no **untreated manure applications** to areas within 1000' of a **community potable water well** or within 100' of a **non-community potable water well** (ex. church, school, restaurant) unless manure is treated to substantially eliminate pathogens.			X
o. Make no manure applications to areas **locally delineated** by the Land Conservation Committee or in a conservation plan as areas contributing runoff to direct conduits to groundwater unless manure is substantially buried within 24 hours of application.			X
p. Make no applications of **late summer or fall commercial N fertilizer** to the following areas UNLESS needed for establishment of fall seeded crops OR to meet A2809 with a blended commercial fertilizer. Commercial fertilizer N applications shall not exceed 36 lbs. N/acre on: • Sites vulnerable to N leaching **PRW Soils** (P=high permeability, R= bedrock < 20 inches, or W= wet < 12 inches to apparent water table); • Soils with depths of 5 feet or less to bedrock; • Area within 1,000 feet of a community potable water well. On **P soils, when commercial N is applied** for full season crops in **spring and summer**, follow A2809 and apply one of the following: 1. A split or delayed N application to apply a majority of crop N requirement after crop establishment. 2. Use a nitrification inhibitor with ammonium forms of N. 3. Use slow and controlled release fertilizers for a majority of the crop N requirement applied near the time of planting.	X		
q. Limit manure applications in late summer or fall using the lesser of A2809 or the following 590 rates on **PRW Soils.** Use ≤ 120 lbs. available N/acre on: **P and R soils** on *all crops, except annual crops*. Additionally, manure with ≤ 4% dry matter (DM) wait until after soil temp. < 50°F or Oct. 1, and use either a nitrification inhibitor OR surface apply and do not incorporate for at least 3 days. **W soils or combo. W soils** on *all crops.* Additionally, manure with ≤ 4% DM on *all crops* use at least one of the following: **1.** Use a nitrification inhibitor; **2.** Apply on an established cover crop, an overwintering annual, or perennial crop; **3**. Establish a cover crop within 14 days of application; **4**. Surface apply & don't incorporate for at least 3 days; **5.** Wait until after soil temp. < 50°F or Oct. 1. Use ≤ 90 lbs. available N/acre on: **P and R soils** on *annual crops* wait until after soil temp. < 50°F or Oct. 1. Additionally, manure with ≤ 4% DM use either a nitrification inhibitor OR surface apply and do not incorporate for at least 3 days. **W soils or combination W soils** receiving manure with ≤ 4% DM on *all crops*.			X
r. Use at least one of the following practices on **non-frozen soils for all nutrient applications** within **Surface Water Quality Management Area (SWQMA)** = 1000' of lakes/ponds or 300' of rivers: **1.** Maintain > 30% cover after nutrient application; **2.** Effective incorporation within 72 hours of application; **3.** Establish crops prior to, at, or promptly following application; **4.** Install/maintain vegetative buffers or filter strips; **5**. Have at least 3 consecutive years no-till for applications to fields with < 30% residue (silage) and apply nutrients within 7 days of planting.	X		
s. Limit mechanical applications to **12,000 gals/acre of unincorporated liquid manure or organic by-products with 11% or less dry matter where subsurface drainage is present** OR **within SWQMA**. Wait a minimum of 7 days between sequential applications AND use one or more of the practice options on non-frozen soils listed in 1.r.1. through **1.r.5.**			X

2. When frozen or snow-covered soils prevent effective incorporation, does the plan follow these requirements for winter applications of all mechanically applied manure or organic by-products? *This section doesn't apply to winter gleaning/pasturing meeting 590 N and P requirements.*

If no manure is applied, check NA for 2.a. through 2.g..	Yes	No	NA
a. Identify **manure quantities planned to be spread during the winter**, or the amount of manure generated in 14 days, whichever is greater. *For daily haul systems, assume 1/3 of the manure produced annually will need to be winter applied.*			X
b. Identify **manure storage capacity** for each type applied and stacking capacity for manure ≥ 16% DM if permanent storage does not exist.			X
c. Show on map and make no applications within the **SWQMA**.			X
d. Show on map and make no surface applications of liquid manure during **February and March** where **Silurian dolomite** is within 60 inches of the soils surface OR where **DNR Well Compensation** funds provided replacement water supplies for wells contaminated with livestock manure.			X
e. Show on map and make no applications of manure within **300 feet** of **direct conduits to groundwater**.			X
f. Do not exceed the P removal of the following growing season's crop when applying manure. Liquid manure applications are limited to **7,000 g/acre**. All winter manure applications are not to exceed **60 lbs. of P2O5/acre**.			X
g. Make no applications of manure to fields with **concentrated flow channels** unless using two of the following: **1.** Contour buffer strips or contour strip cropping; **2.** Leave all crop residue and no fall tillage; **3.** Apply manure in intermittent strips on no more than 50% of field; **4.** Apply manure on no more than 25% of the field waiting a minimum of 14 days between applications; **5.** Reduce manure app. rate to 3,500 gal. or 30 lbs. P2O5, whichever is less; **6.** No manure application within 200 feet of all concentrated flow channels; **7.** Fall tillage is on the contour and slopes are lower than 6%. Make no applications to **slopes greater than 6%** (soil map units with C, D, E, and F slopes) unless the plan documents that no other accessible fields are available for winter spreading AND two of the options 2.g.**1.** through 2.g.**5.** are used.			X

I certify that the plan represented by the answers on this checklist complies with Wisconsin's NRCS 2015-590 NM Standard or is otherwise noted.

Qualified NM planner signature NAICC-*Certified Professional Crop Consultant*, ASA-*Certified Crop Adviser*, or SSSA-*Soil Scientist*			Date
Amy Mansfield	6/23/2023		
Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan	Date	Signature if reviewed for quality assurance	Date

NM1: Narrative and Crops Report

Starting Year	**2022**
Reported For	**Klondike Farms General Partnership Subfarm: Amidon**
Printed	**2023-06-23**
Plan Completion/Update Date:	**2023-02-20**
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership\Kevin Klahn.snapDb	

Prepared for:
Klondike Farms General Partnership
attn:Kevin Klahn
N8995 State Road 104
Brooklyn, 53521

Prepared by: The Delong Company
PO Box 552
Clinton,Rock,53525
(608) 676-2255,
amansfield@delongcompany.com

SubFarm has 4 fields totalling 90.5 cropped acres.
Farm Narrative: The Amidon farm is part of a WQT with the village of Brooklyn. A specific rotation of strip tilled corn - strip tilled corn - spring vertical till soybeans, with a no till cover crop every year should be followed. Amidon A, B, and C have designed field edge filter strips.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2022	2023	2024	2025
Amidon A	42.6	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Amidon B	31.8	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre

Field Name	Field Acres	2022	2023	2024	2025
Amidon C	12.9	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Amidon D	3.2	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre

Summary by Crop:

NOTE: Yields calculated using the midpoint of the SnapPlus yield goal range for each crop.

Crops Grouped By Category		2022	2023	2024	2025
Corn grain to small grain cover crop	Acres bu	91 18,246	91 18,246		91 18,246
Soybeans to small grain cover crop	Acres bu			91 5,506	

NM3: Field Data and 590 Assessment Plan

Reported For	Klondike Farms General Partnership Subfarm: Amidon
Printed	2023-06-23
Plan Completion/Update Date	2023-02-20
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership\Kevin Klahn.snapDb	

Prepared for:
Klondike Farms General Partnership
attn:Kevin Klahn
N8995 State Road 104
Brooklyn, 53521

Prepared by: The Delong Company
PO Box 552
Clinton,Rock,53525
(608) 676-2255,
amansfield@delongcompany.com

Field Data: 91 Total Acres Reported.

Field Name	SubFarm	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
Amidon A	Amidon	12723	18	42.6	Green	SEBEWA Se	1	250	0 - 2	301 - 1000	No / Edge	No	No	Cg+cv-Cg+cv-Sg+cv-Cg+cv	ST/NTcvr-ST/NTcvr-SVT/NTcvr-ST/NTcvr	2022-2025	**3**	**0.4**	**1.0**	**0**	24	-215	-
Amidon B	Amidon			31.8	Green	GRISWOLD GrC2	9	200	2.1 - 6	301 - 1000	No / Edge	No	No	Cg+cv-Cg+cv-Sg+cv-Cg+cv	ST/NTcvr-ST/NTcvr-SVT/NTcvr-ST/NTcvr	2022-2025	**5**	**2.5**	**0.9**	**1**	52	-215	0
Amidon C	Amidon			12.9	Green	WESTVILLE WeC2	9	200	0 - 2	1001 - 5000	No / Edge	No	No	Cg+cv-Cg+cv-Sg+cv-Cg+cv	ST/NTcvr-ST/NTcvr-SVT/NTcvr-ST/NTcvr	2022-2025	**5**	**2.9**	**0.8**	**1**	52	-215	0
Amidon D	Amidon			3.2	Green	SAYBROOK SaB2	4	200	2.1 - 6	1001 - 5000	No / No	No	No	Cg+cv-Cg+cv-Sg+cv-Cg+cv	ST/NTcvr-ST/NTcvr-SVT/NTcvr-ST/NTcvr	2022-2025	**5**	**1.1**	**0.9**	**2**	104	-215	-69

Crop Abbreviations

Abbreviation	Crop
Cg+cv	Corn grain to small grain cover crop
Sg+cv	Soybeans to small grain cover crop

Tillage Abbreviations

Abbreviation	Tillage
ST/NTcvr	Strip Till, cover crop no till
SVT/NTcvr	Spring vertical tillage, cover crop no till

NM5: Spreading and Nutrient Management Sorted By Crop Report

Crop Year	**2023**
Reported For	**Klondike Farms General Partnership Subfarm: Amidon**
Printed	**2023-06-23**
Plan Completion/Update Date	**2023-02-20**
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership\Kevin Klahn.snapDb	

Prepared for:
Klondike Farms General Partnership
attn:Kevin Klahn
N8995 State Road 104
Brooklyn, 53521

Prepared by: The Delong Company
PO Box 552
Clinton,Rock,53525
(608) 676-2255,
amansfield@delongcompany.com

Corn on Corn Fields						Crop Removal			Soil Test ppm		Adjusted Recs lb/ac			Planned Applications and Credits lb/ac			Over(+) Under(-) Adj. UW Recs lb/ac			Applications				
Name	Field Ac.	Soil Map Symbol (pred) & N Res	Prior Crop	2023 Crop	Yield Goal	P2O5	K2O	Tillage	Avg P	Avg K	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	Product Name and Analysis	Rate and Method	N-P2O5-K2O credit	App Acres and Time	Total Amt
Amidon A	42.6	Se W	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	24	132	145	40	0	163	20	122	18	-20	122	Potassium Chloride 0-0-61	200 lb Fall Subsurface	0-0-122	42.6 Entire field Pre Planting	8520 lb
																				28% UAN (Liquid 28-0-0) 28-0-0	8 gal Spring Subsurface	24-0-0	42.6 Entire field At Planting	341 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	9 gal Spring Unincorp	32-0-0	42.6 Entire field Pre Planting	383 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	28 gal Spring Unincorp	99-0-0	42.6 Entire field Post Planting	1193 gal
																				Ammonium thiosulfate (ATS) 12-0-0	2 gal Spring Subsurface	3-0-0	42.6 Entire field At Planting	85 gal

Corn on Corn Fields					Crop Removal				Soil Test ppm		Adjusted Recs lb/ac			Planned Applications and Credits lb/ac			Over(+) Under(-) Adj. UW Recs lb/ac			Applications				
Name	Field Ac.	Soil Map Symbol (pred) & N Res	Prior Crop	2023 Crop	Yield Goal	P2O5	K2O	Tillage	Avg P	Avg K	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	Product Name and Analysis	Rate and Method	N-P2O5-K2O credit	App Acres and Time	Total Amt
Amidon A	42.6	SeW	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	24	132	145	40	0	163	20	122	18	-20	122	Liquid 10-34-0 10-34-0	5 gal Spring Subsurface	6-20-0	42.6 Spreadable At Planting	213 gal
Amidon B	31.8	GrB2W	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	52	140	190	0	0	202	20	122	12	20	122	Potassium Chloride 0-0-61	200 lb Fall Subsurface	0-0-122	31.8 Entire field Pre Planting	6360 lb
																				28% UAN (Liquid 28-0-0) 28-0-0	8 gal Spring Subsurface	24-0-0	31.8 Entire field At Planting	254 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	20 gal Spring Unincorp	71-0-0	31.8 Entire field Pre Planting	636 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	28 gal Spring Unincorp	99-0-0	31.8 Entire field Post Planting	890 gal
																				Ammonium thiosulfate (ATS) 12-0-0	2 gal Spring Subsurface	3-0-0	31.8 Entire field At Planting	64 gal
																				Liquid 10-34-0 10-34-0	5 gal Spring Subsurface	6-20-0	31.8 Spreadable At Planting	159 gal
Amidon C	12.9	WeC2	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	52	114	190	0	0	202	20	122	12	20	122	Potassium Chloride 0-0-61	200 lb Fall Subsurface	0-0-122	12.9 Entire field Pre Planting	2580 lb
																				28% UAN (Liquid 28-0-0) 28-0-0	8 gal Spring Subsurface	24-0-0	12.9 Entire field At Planting	103 gal

Corn on Corn Fields					Crop Removal				Soil Test ppm		Adjusted Recs lb/ac			Planned Applications and Credits lb/ac			Over(+) Under(-) Adj. UW Recs lb/ac			Applications				
Name	Field Ac.	Soil Map Symbol (pred) & N Res	Prior Crop	2023 Crop	Yield Goal	P2O5	K2O	Tillage	Avg P	Avg K	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	Product Name and Analysis	Rate and Method	N-P2O5-K2O credit	App Acres and Time	Total Amt
Amidon C	12.9	WeC2	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	52	114	190	0	0	202	20	122	12	20	122	32% UAN (Liquid 32-0-0) 32-0-0	20 gal Spring Unincorp	71-0-0	12.9 Entire field Pre Planting	258 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	28 gal Spring Unincorp	99-0-0	12.9 Entire field Post Planting	361 gal
																				Ammonium thiosulfate (ATS) 12-0-0	2 gal Spring Subsurface	3-0-0	12.9 Entire field At Planting	26 gal
																				Liquid 10-34-0 10-34-0	5 gal Spring Subsurface	6-20-0	12.9 Spreadable At Planting	64 gal
Amidon D	3.2	SaB2	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	104	203	190	0	0	202	20	122	12	20	122	Potassium Chloride 0-0-61	200 lb Fall Subsurface	0-0-122	3.2 Entire field Pre Planting	640 lb
																				28% UAN (Liquid 28-0-0) 28-0-0	8 gal Spring Subsurface	24-0-0	3.2 Entire field At Planting	26 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	20 gal Spring Unincorp	71-0-0	3.2 Entire field Pre Planting	64 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	28 gal Spring Unincorp	99-0-0	3.2 Entire field Post Planting	90 gal
																				Ammonium thiosulfate (ATS) 12-0-0	2 gal Spring Subsurface	3-0-0	3.2 Entire field At Planting	6 gal

Corn on Corn Fields					Crop Removal				Soil Test ppm		Adjusted Recs lb/ac			Planned Applications and Credits lb/ac			Over(+) Under(-) Adj. UW Recs lb/ac			Applications				
Name	Field Ac.	Soil Map Symbol (pred) & N Res	Prior Crop	2023 Crop	Yield Goal	P2O5	K2O	Tillage	Avg P	Avg K	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	Product Name and Analysis	Rate and Method	N-P2O5-K2O credit	App Acres and Time	Total Amt
Amidon D	3.2	SaB2	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	104	203	190	0	0	202	20	122	12	20	122	Liquid 10-34-0 10-34-0	5 gal Spring Subsurface	6-20-0	3.2 Spreadable At Planting	16 gal

90.5 planned Corn on Corn acres

724 planned gal 28% UAN (Liquid 28-0-0)

3,875 planned gal 32% UAN (Liquid 32-0-0)

181 planned gal Ammonium thiosulfate (ATS)

452 planned gal Liquid 10-34-0

18,100 planned lb Potassium Chloride

91 total planned acres

Total Manure Volume	Manure App Plan	Remaining Manure
0 tons	0	0
1340080 gals	0	1,340,080

724 planned gal 28% UAN (Liquid 28-0-0)

3,875 planned gal 32% UAN (Liquid 32-0-0)

181 planned gal Ammonium thiosulfate (ATS)

452 planned gal Liquid 10-34-0

18,100 planned lb Potassium Chloride

Tillage Abbreviations

Abbreviation	Tillage
ST/NTcvr	Strip Till, cover crop no till

FM6: Soil Test Report

Reported For	Klondike Farms General Partnership Subfarm: Amidon
Printed	2023-06-23
Plan Completion/Update Date	2023-02-20
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership \Kevin Klahn.snapDb	

Prepared for:
Klondike Farms General Partnership
attn:Kevin Klahn
N8995 State Road 104
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Prepared by: The Delong Company
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			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
Amidon A	Amidon	42.6	Se	SEBEWA	2020-11-25	A & L Great Lakes Laboratories	F20330-4046	**9**	**12**	6.6	5.3	24	132	0	21
Amidon B	Amidon	31.8	GrB2	GRISWOLD	2020-11-25	A & L Great Lakes Laboratories	F20330-4046	**4**	**8**	6.2	2.6	52	140	0	9
Amidon C	Amidon	12.9	WeC2	WESTVILLE	2020-11-25	A & L Great Lakes Laboratories	F20330-4046	**3**	**4**	6.4	2.8	52	114	0	10
Amidon D	Amidon	3.2	SaB2	SAYBROOK	2020-11-25	A & L Great Lakes Laboratories	F20330-4046	**1**	**2**	5.8	3.0	104	203	0	10

Crop Year Soil Test Needed

Field Name	Soil Test Date	2020	2021	2022	2023	2024	2025	2026
Amidon A	2020-11-25						X	
Amidon B	2020-11-25						X	
Amidon C	2020-11-25						X	
Amidon D	2020-11-25						X	

Wisconsin Department of Agriculture, Trade and Consumer Protection
Division of Agricultural Resource Management
Bureau of Land and Water Resources
PO Box 8911, Madison WI 53708-8911, Phone: 608-224-4605

Use this form to check nutrient management (NM) plans for compliance with the WI NRCS 2015-590 Standard.

Nutrient Management Checklist

Wis. Stat. §92.05(3) (k), Wis. Admin. Code §ATCP50.04(3) and Ch. 51

COUNTY Green | DATE PLAN SUBMITTED **6/23/2023** | GROWING SEASON YEAR PLAN IS WRITTEN FOR **2023** (from harvest to harvest)

TOWNSHIP: (T. N.) RANGE: (R. E., W). | CHECK ONE: Initial Plan or Updated Plan

NAME OF FARM OPERATOR RECEIVING NM PLAN	FARM NAME (OPTIONAL)	BUSINESS PHONE
Kevin Klahn	**Klondike Farms General Partnership**	**608-455-1096**

STREET ADDRESS	CITY	STATE	ZIP
N8995 State Road 104	**Brooklyn**	**WI**	**53521**

REASON THE PLAN WAS DEVELOPED: DATCP – Farmland Preservation

CROPLAND ACRES (OWNED & RENTED): **91**

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed
Kevin & Erika Klahn, Lloyd & Ruth Klahn, Dennis Strand

WAS THE PLAN WRITTEN IN SNAPPLUS? **YES** If yes, which software version, if known? **20.4**

CHECK PLANNER'S QUALIFICATION:
(1. NAICC-CPCC, 2. ASA-CCA, 3. SSSA-Soil Scientist, 4. DATCP approved training course, 5. Other approved by DATCP)

NAME OF QUALIFIED NUTRIENT MANAGEMENT PLANNER	BUSINESS PHONE
Amy Mansfield CCA#354436	**(608) 676-2255**

STREET ADDRESS	CITY	STATE	ZIP
PO Box 552	**Clinton**	**WI**	**53525**

Use header sections to add comments. Mark NA in the shaded sections if no manure is applied.

1. Does the plan include the following nutrient application requirements to protect surface and groundwater?

This section applies to fields and pastures. If no manure is applied, check NA for 1.c., 1.h., 1.i., 1.n., 1.o., 1.q., 1.s.	Yes	No	NA
a. Determine field nutrient levels from soil samples analyzed by a DATCP **certified laboratory**.	X		
b. For fields or pastures with mechanical nutrient applications, determine field nutrient levels from **soil samples** collected within the last **4 years** according to 590 Standard (590) and UWEX Pub. A2809, *Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin* (A2809) typically collecting **1 sample per 5 acres** of 10 cores. Soil tests are not required on **pastures** that do not receive mechanical applications of nutrients if either of the following applies: 1. The pasture average stocking rate is one animal unit per acre or less at all times during the grazing season. 2. The pasture is winter grazed or stocked at an average stocking rate of more than one animal unit per acre during the grazing season, and a nutrient management plan for the pasture complies with 590 using an assumed soil test phosphorus level of 150 PPM and organic matter content of 6%.	X		
c. For **livestock siting permit approval**, collect and analyze soil samples meeting the requirements above in 1. b., excluding pastures, within 12 months of approval and revise the nutrient management plan accordingly. Until then, either option below maybe used: 1. Assume soil test phosphorus levels are greater than 100 ppm soil test P, OR 2. Use preliminary estimates analyzed by a certified DATCP laboratory with soil samples representing > 5 ac/sample.			X
d. **Identify all fields'** name, boundary, acres, and location.	X		
e. Use the field's previous year's legume credit and/or applications, predominant soil series, and realistic yield goals to determine the crop's nutrient **application rates consistent with A2809 for ALL forms of N, P, and K**.	X		
f. Make no **winter applications of N and P** fertilizer, except on grass pastures and winter grains.	X		
g. Document method used to determine **application rates**. Nutrients shall not runoff during or immediately after application.	X		
h. Identify in the plan that **adequate acreage** is available for manure produced and/or applied.			X
i. Apply a single phosphorus (P) assessment using either the **P Index** or **soil test P** management strategy to all fields within a tract when fields receive manure or organic by-products during the crop rotation.			X
j. Use **complete crop rotations** and the field's **critical soil** series to determine that sheet and rill erosion estimates will not exceed **tolerable soil loss** (T) rates on fields that receive nutrients.	X		
k. Use contours; reduce tillage; adjust the crop rotation; or implement other practices to **prevent ephemeral erosion**; and maintain perennial vegetative cover to **prevent reoccurring gullies** in areas of concentrated flow.	X		
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			X
m. Make no nutrient applications within **50' of all direct conduits to groundwater**, unless directly deposited by gleaning/pasturing animals or applied as starter fertilizer to corn.	X		

	Yes	No	NA
n. Make no **untreated manure applications** to areas within 1000' of a **community potable water well** or within 100' of a **non-community potable water well** (ex. church, school, restaurant) unless manure is treated to substantially eliminate pathogens.			X
o. Make no manure applications to areas **locally delineated** by the Land Conservation Committee or in a conservation plan as areas contributing runoff to direct conduits to groundwater unless manure is substantially buried within 24 hours of application.			X
p. Make no applications of **late summer or fall commercial N fertilizer** to the following areas UNLESS needed for establishment of fall seeded crops OR to meet A2809 with a blended commercial fertilizer. Commercial fertilizer N applications shall not exceed 36 lbs. N/acre on: • Sites vulnerable to N leaching **PRW Soils** (P=high permeability, R= bedrock < 20 inches, or W= wet < 12 inches to apparent water table); • Soils with depths of 5 feet or less to bedrock; • Area within 1,000 feet of a community potable water well. On **P soils, when commercial N is applied** for full season crops in **spring and summer**, follow A2809 and apply one of the following: 1. A split or delayed N application to apply a majority of crop N requirement after crop establishment. 2. Use a nitrification inhibitor with ammonium forms of N. 3. Use slow and controlled release fertilizers for a majority of the crop N requirement applied near the time of planting.	X		
q. Limit manure applications in late summer or fall using the lesser of A2809 or the following 590 rates on **PRW Soils.** Use ≤ 120 lbs. available N/acre on: **P and R soils** on *all crops, except annual crops*. Additionally, manure with ≤ 4% dry matter (DM) wait until after soil temp. < 50°F or Oct. 1, and use either a nitrification inhibitor OR surface apply and do not incorporate for at least 3 days. **W soils or combo. W soils** on *all crops.* Additionally, manure with ≤ 4% DM on *all crops* use at least one of the following: **1.** Use a nitrification inhibitor; **2.** Apply on an established cover crop, an overwintering annual, or perennial crop; **3**. Establish a cover crop within 14 days of application; **4**. Surface apply & don't incorporate for at least 3 days; **5.** Wait until after soil temp. < 50°F or Oct. 1. Use ≤ 90 lbs. available N/acre on: **P and R soils** on *annual crops* wait until after soil temp. < 50°F or Oct. 1. Additionally, manure with ≤ 4% DM use either a nitrification inhibitor OR surface apply and do not incorporate for at least 3 days. **W soils or combination W soils** receiving manure with ≤ 4% DM on *all crops*.			X
r. Use at least one of the following practices on **non-frozen soils for all nutrient applications** within **Surface Water Quality Management Area (SWQMA)** = 1000' of lakes/ponds or 300' of rivers: **1.** Maintain > 30% cover after nutrient application; **2.** Effective incorporation within 72 hours of application; **3.** Establish crops prior to, at, or promptly following application; **4.** Install/maintain vegetative buffers or filter strips; **5**. Have at least 3 consecutive years no-till for applications to fields with < 30% residue (silage) and apply nutrients within 7 days of planting.	X		
s. Limit mechanical applications to **12,000 gals/acre of unincorporated liquid manure or organic by-products with 11% or less dry matter where subsurface drainage is present** OR **within SWQMA**. Wait a minimum of 7 days between sequential applications AND use one or more of the practice options on non-frozen soils listed in 1.r.1. through **1.r.5.**			X

2. When frozen or snow-covered soils prevent effective incorporation, does the plan follow these requirements for winter applications of all mechanically applied manure or organic by-products? *This section doesn't apply to winter gleaning/pasturing meeting 590 N and P requirements.*

If no manure is applied, check NA for 2.a. through 2.g..	Yes	No	NA
a. Identify **manure quantities planned to be spread during the winter**, or the amount of manure generated in 14 days, whichever is greater. *For daily haul systems, assume 1/3 of the manure produced annually will need to be winter applied.*			X
b. Identify **manure storage capacity** for each type applied and stacking capacity for manure ≥ 16% DM if permanent storage does not exist.			X
c. Show on map and make no applications within the **SWQMA**.			X
d. Show on map and make no surface applications of liquid manure during **February and March** where **Silurian dolomite** is within 60 inches of the soils surface OR where **DNR Well Compensation** funds provided replacement water supplies for wells contaminated with livestock manure.			X
e. Show on map and make no applications of manure within **300 feet** of **direct conduits to groundwater**.			X
f. Do not exceed the P removal of the following growing season's crop when applying manure. Liquid manure applications are limited to **7,000 g/acre**. All winter manure applications are not to exceed **60 lbs. of P2O5/acre**.			X
g. Make no applications of manure to fields with **concentrated flow channels** unless using two of the following: **1.** Contour buffer strips or contour strip cropping; **2.** Leave all crop residue and no fall tillage; **3.** Apply manure in intermittent strips on no more than 50% of field; **4.** Apply manure on no more than 25% of the field waiting a minimum of 14 days between applications; **5.** Reduce manure app. rate to 3,500 gal. or 30 lbs. P2O5, whichever is less; **6.** No manure application within 200 feet of all concentrated flow channels; **7.** Fall tillage is on the contour and slopes are lower than 6%. Make no applications to **slopes greater than 6%** (soil map units with C, D, E, and F slopes) unless the plan documents that no other accessible fields are available for winter spreading AND two of the options 2.g.**1.** through 2.g.**5.** are used.			X

I certify that the plan represented by the answers on this checklist complies with Wisconsin's NRCS 2015-590 NM Standard or is otherwise noted.

Qualified NM planner signature NAICC-*Certified Professional Crop Consultant*, ASA-*Certified Crop Adviser*, or SSSA-*Soil Scientist*			Date
Amy Mansfield	6/23/2023		
Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan	Date	Signature if reviewed for quality assurance	Date

NM1: Narrative and Crops Report

Starting Year	**2022**
Reported For	**Klondike Farms General Partnership Subfarm: Amidon**
Printed	**2023-06-23**
Plan Completion/Update Date:	**2023-02-20**
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership\Kevin Klahn.snapDb	

Prepared for:
Klondike Farms General Partnership
attn:Kevin Klahn
N8995 State Road 104
Brooklyn, 53521

Prepared by: The Delong Company
PO Box 552
Clinton,Rock,53525
(608) 676-2255,
amansfield@delongcompany.com

SubFarm has 4 fields totalling 90.5 cropped acres.
Farm Narrative: The Amidon farm is part of a WQT with the village of Brooklyn. A specific rotation of strip tilled corn - strip tilled corn - spring vertical till soybeans, with a no till cover crop every year should be followed. Amidon A, B, and C have designed field edge filter strips.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2022	2023	2024	2025
Amidon A	42.6	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Amidon B	31.8	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre

Field Name	Field Acres	2022	2023	2024	2025
Amidon C	12.9	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre
Amidon D	3.2	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre	Soybeans to small grain cover crop Spring vertical tillage, cover crop no till 56-65 bu/acre	Corn grain to small grain cover crop Strip Till, cover crop no till 191-210 bu/acre

Summary by Crop:

NOTE: Yields calculated using the midpoint of the SnapPlus yield goal range for each crop.

Crops Grouped By Category		2022	2023	2024	2025
Corn grain to small grain cover crop	Acres bu	91 18,246	91 18,246		91 18,246
Soybeans to small grain cover crop	Acres bu			91 5,506	

NM3: Field Data and 590 Assessment Plan

Reported For	Klondike Farms General Partnership Subfarm: Amidon
Printed	2023-06-23
Plan Completion/Update Date	2023-02-20
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership\Kevin Klahn.snapDb	

Prepared for:
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attn:Kevin Klahn
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Brooklyn, 53521

Prepared by: The Delong Company
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Field Data: 91 Total Acres Reported.

Field Name	SubFarm	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
Amidon A	Amidon	12723	18	42.6	Green	SEBEWA Se	1	250	0 - 2	301 - 1000	No / Edge	No	No	Cg+cv-Cg+cv-Sg+cv-Cg+cv	ST/NTcvr-ST/NTcvr-SVT/NTcvr-ST/NTcvr	2022-2025	**3**	**0.4**	**1.0**	**0**	24	-215	-
Amidon B	Amidon			31.8	Green	GRISWOLD GrC2	9	200	2.1 - 6	301 - 1000	No / Edge	No	No	Cg+cv-Cg+cv-Sg+cv-Cg+cv	ST/NTcvr-ST/NTcvr-SVT/NTcvr-ST/NTcvr	2022-2025	**5**	**2.5**	**0.9**	**1**	52	-215	0
Amidon C	Amidon			12.9	Green	WESTVILLE WeC2	9	200	0 - 2	1001 - 5000	No / Edge	No	No	Cg+cv-Cg+cv-Sg+cv-Cg+cv	ST/NTcvr-ST/NTcvr-SVT/NTcvr-ST/NTcvr	2022-2025	**5**	**2.9**	**0.8**	**1**	52	-215	0
Amidon D	Amidon			3.2	Green	SAYBROOK SaB2	4	200	2.1 - 6	1001 - 5000	No / No	No	No	Cg+cv-Cg+cv-Sg+cv-Cg+cv	ST/NTcvr-ST/NTcvr-SVT/NTcvr-ST/NTcvr	2022-2025	**5**	**1.1**	**0.9**	**2**	104	-215	-69

Crop Abbreviations

Abbreviation	Crop
Cg+cv	Corn grain to small grain cover crop
Sg+cv	Soybeans to small grain cover crop

Tillage Abbreviations

Abbreviation	Tillage
ST/NTcvr	Strip Till, cover crop no till
SVT/NTcvr	Spring vertical tillage, cover crop no till

NM5: Spreading and Nutrient Management Sorted By Crop Report

Crop Year	**2023**
Reported For	**Klondike Farms General Partnership Subfarm: Amidon**
Printed	**2023-06-23**
Plan Completion/Update Date	**2023-02-20**
SnapPlus Version 20.4 built on 2021-06-03	
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Prepared for:
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Brooklyn, 53521

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Corn on Corn Fields						Crop Removal			Soil Test ppm		Adjusted Recs lb/ac			Planned Applications and Credits lb/ac			Over(+) Under(-) Adj. UW Recs lb/ac			Applications				
Name	Field Ac.	Soil Map Symbol (pred) & N Res	Prior Crop	2023 Crop	Yield Goal	P2O5	K2O	Tillage	Avg P	Avg K	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	Product Name and Analysis	Rate and Method	N-P2O5-K2O credit	App Acres and Time	Total Amt
Amidon A	42.6	Se W	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	24	132	145	40	0	163	20	122	18	-20	122	Potassium Chloride 0-0-61	200 lb Fall Subsurface	0-0-122	42.6 Entire field Pre Planting	8520 lb
																				28% UAN (Liquid 28-0-0) 28-0-0	8 gal Spring Subsurface	24-0-0	42.6 Entire field At Planting	341 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	9 gal Spring Unincorp	32-0-0	42.6 Entire field Pre Planting	383 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	28 gal Spring Unincorp	99-0-0	42.6 Entire field Post Planting	1193 gal
																				Ammonium thiosulfate (ATS) 12-0-0	2 gal Spring Subsurface	3-0-0	42.6 Entire field At Planting	85 gal

Corn on Corn Fields					Crop Removal				Soil Test ppm		Adjusted Recs lb/ac			Planned Applications and Credits lb/ac			Over(+) Under(-) Adj. UW Recs lb/ac			Applications				
Name	Field Ac.	Soil Map Symbol (pred) & N Res	Prior Crop	2023 Crop	Yield Goal	P2O5	K2O	Tillage	Avg P	Avg K	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	Product Name and Analysis	Rate and Method	N-P2O5-K2O credit	App Acres and Time	Total Amt
Amidon A	42.6	SeW	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	24	132	145	40	0	163	20	122	18	-20	122	Liquid 10-34-0 10-34-0	5 gal Spring Subsurface	6-20-0	42.6 Spreadable At Planting	213 gal
Amidon B	31.8	GrB2W	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	52	140	190	0	0	202	20	122	12	20	122	Potassium Chloride 0-0-61	200 lb Fall Subsurface	0-0-122	31.8 Entire field Pre Planting	6360 lb
																				28% UAN (Liquid 28-0-0) 28-0-0	8 gal Spring Subsurface	24-0-0	31.8 Entire field At Planting	254 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	20 gal Spring Unincorp	71-0-0	31.8 Entire field Pre Planting	636 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	28 gal Spring Unincorp	99-0-0	31.8 Entire field Post Planting	890 gal
																				Ammonium thiosulfate (ATS) 12-0-0	2 gal Spring Subsurface	3-0-0	31.8 Entire field At Planting	64 gal
																				Liquid 10-34-0 10-34-0	5 gal Spring Subsurface	6-20-0	31.8 Spreadable At Planting	159 gal
Amidon C	12.9	WeC2	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	52	114	190	0	0	202	20	122	12	20	122	Potassium Chloride 0-0-61	200 lb Fall Subsurface	0-0-122	12.9 Entire field Pre Planting	2580 lb
																				28% UAN (Liquid 28-0-0) 28-0-0	8 gal Spring Subsurface	24-0-0	12.9 Entire field At Planting	103 gal

Corn on Corn Fields					Crop Removal				Soil Test ppm		Adjusted Recs lb/ac			Planned Applications and Credits lb/ac			Over(+) Under(-) Adj. UW Recs lb/ac			Applications				
Name	Field Ac.	Soil Map Symbol (pred) & N Res	Prior Crop	2023 Crop	Yield Goal	P2O5	K2O	Tillage	Avg P	Avg K	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	Product Name and Analysis	Rate and Method	N-P2O5-K2O credit	App Acres and Time	Total Amt
Amidon C	12.9	WeC2	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	52	114	190	0	0	202	20	122	12	20	122	32% UAN (Liquid 32-0-0) 32-0-0	20 gal Spring Unincorp	71-0-0	12.9 Entire field Pre Planting	258 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	28 gal Spring Unincorp	99-0-0	12.9 Entire field Post Planting	361 gal
																				Ammonium thiosulfate (ATS) 12-0-0	2 gal Spring Subsurface	3-0-0	12.9 Entire field At Planting	26 gal
																				Liquid 10-34-0 10-34-0	5 gal Spring Subsurface	6-20-0	12.9 Spreadable At Planting	64 gal
Amidon D	3.2	SaB2	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	104	203	190	0	0	202	20	122	12	20	122	Potassium Chloride 0-0-61	200 lb Fall Subsurface	0-0-122	3.2 Entire field Pre Planting	640 lb
																				28% UAN (Liquid 28-0-0) 28-0-0	8 gal Spring Subsurface	24-0-0	3.2 Entire field At Planting	26 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	20 gal Spring Unincorp	71-0-0	3.2 Entire field Pre Planting	64 gal
																				32% UAN (Liquid 32-0-0) 32-0-0	28 gal Spring Unincorp	99-0-0	3.2 Entire field Post Planting	90 gal
																				Ammonium thiosulfate (ATS) 12-0-0	2 gal Spring Subsurface	3-0-0	3.2 Entire field At Planting	6 gal

Corn on Corn Fields					Crop Removal				Soil Test ppm		Adjusted Recs lb/ac			Planned Applications and Credits lb/ac			Over(+) Under(-) Adj. UW Recs lb/ac			Applications				
Name	Field Ac.	Soil Map Symbol (pred) & N Res	Prior Crop	2023 Crop	Yield Goal	P2O5	K2O	Tillage	Avg P	Avg K	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	Product Name and Analysis	Rate and Method	N-P2O5-K2O credit	App Acres and Time	Total Amt
Amidon D	3.2	SaB2	Corn grain to small grain cover crop	Corn grain to small grain cover crop	191-210	75	60	ST/NTcvr	104	203	190	0	0	202	20	122	12	20	122	Liquid 10-34-0 10-34-0	5 gal Spring Subsurface	6-20-0	3.2 Spreadable At Planting	16 gal

90.5 planned Corn on Corn acres

724 planned gal 28% UAN (Liquid 28-0-0)

3,875 planned gal 32% UAN (Liquid 32-0-0)

181 planned gal Ammonium thiosulfate (ATS)

452 planned gal Liquid 10-34-0

18,100 planned lb Potassium Chloride

91 total planned acres

Total Manure Volume	Manure App Plan	Remaining Manure
0 tons	0	0
1340080 gals	0	1,340,080

724 planned gal 28% UAN (Liquid 28-0-0)

3,875 planned gal 32% UAN (Liquid 32-0-0)

181 planned gal Ammonium thiosulfate (ATS)

452 planned gal Liquid 10-34-0

18,100 planned lb Potassium Chloride

Tillage Abbreviations

Abbreviation	Tillage
ST/NTcvr	Strip Till, cover crop no till

FM6: Soil Test Report

Reported For	Klondike Farms General Partnership Subfarm: Amidon
Printed	2023-06-23
Plan Completion/Update Date	2023-02-20
SnapPlus Version 20.4 built on 2021-06-03	
C:\Users\amansfield\Documents\NMP\Klondike General Partnership \Kevin Klahn.snapDb	

Prepared for:
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			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
Amidon A	Amidon	42.6	Se	SEBEWA	2020-11-25	A & L Great Lakes Laboratories	F20330-4046	**9**	**12**	6.6	5.3	24	132	0	21
Amidon B	Amidon	31.8	GrB2	GRISWOLD	2020-11-25	A & L Great Lakes Laboratories	F20330-4046	**4**	**8**	6.2	2.6	52	140	0	9
Amidon C	Amidon	12.9	WeC2	WESTVILLE	2020-11-25	A & L Great Lakes Laboratories	F20330-4046	**3**	**4**	6.4	2.8	52	114	0	10
Amidon D	Amidon	3.2	SaB2	SAYBROOK	2020-11-25	A & L Great Lakes Laboratories	F20330-4046	**1**	**2**	5.8	3.0	104	203	0	10

Crop Year Soil Test Needed

Field Name	Soil Test Date	2020	2021	2022	2023	2024	2025	2026
Amidon A	2020-11-25						X	
Amidon B	2020-11-25						X	
Amidon C	2020-11-25						X	
Amidon D	2020-11-25						X	



N

One in = 800 feet

0 268 537 805 1074 1342

Farm: Amidon
Grower: Klahn, Kevin



N

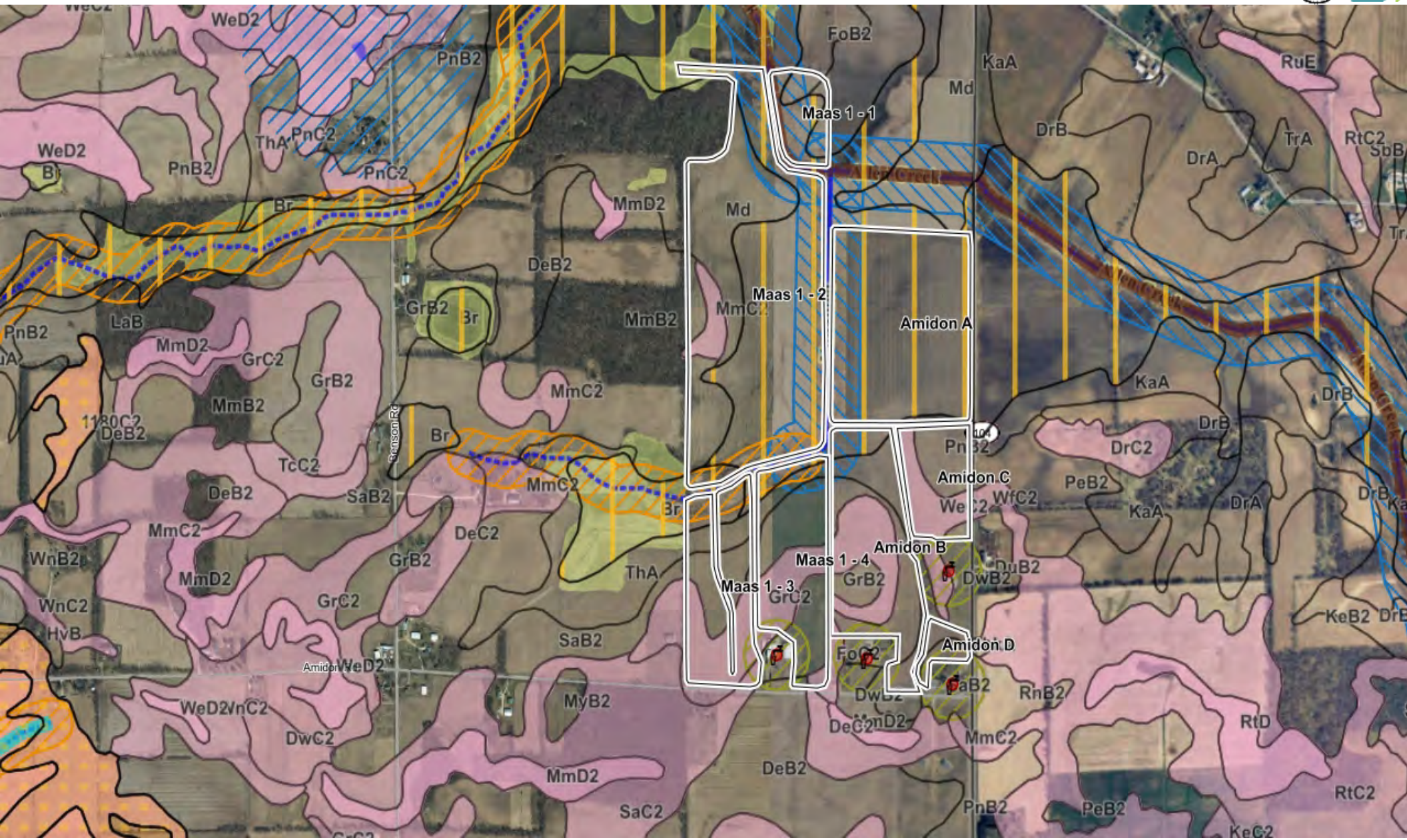
One in = 1063 feet

0 356 713 1069 1426 1782

Farm: Todd Klahn Maas 1

Klahn Amidon/Maas

Farm: Kevin Klahn, V18 Generated:5/1/2020, Crop year: n/a, Township Range Section:4N 9E s12



Klahn Amidon/Maas

Farm: Kevin Klahn, V18 Generated:5/1/2020, Crop year: n/a, Township Range Section:4N 9E s12

- DNR Wetland
- Slopes > 6%
- SWQMA 300FT
- SWQMA 1000FT
- SWQMA 1000FT Dismissed
- Bedrock depth <5ft
- Well compensation
- Shallow Silurian (0-5 ft bedrock)
- Feb/Mar liquid manure prohibited areas
- Local Prohibitions
- Channelized Flow 200ft Buffer
- Direct Conduit to GW 300ft
- Perennial Streams
- Intermittent Streams
- Waterbodies
- HUC 12 Watershed
- HUC 8 Basin
- Impaired Waters (303d)
- Outstanding/Exceptional Waters
- Roads
- Soils
- Areas of contribution to dc's to gw
- P - High Permeability
- R - Bedrock <20"
- W - Wet <12" to Watertable
- Surface lead mining
- Processing site
- Gravel pit
- Abandoned mining railroad
- Borehole
- Mine shaft
- Lower WI River Valley PA
- Atrazine Prohibition Area
- Soil samples
- Silurian 0-2ft
- Silurian 2-5ft
- 5-20 ft to Silurian (16 ft. Door County only)
- 0-2 ft
- Headland stacks
- Tile lines
- Not farmed
- Grass filter area
- Vegetated buffer
- Non-metallic mine
- Water
- Sinkhole/other karst feature
- Other
- Nutrient prohibited buffers
- Nutrient prohibited drawn areas
- Nutrient prohibited winter only
- Winter manure prohibited areas
- Fields
- Grassed waterway
- Non-eroding
- Ephemeral erosion
- Ditch
- Gully
- Drinking well
- Public well
- Irrigation well
- Sinkhole
- Non-metallic mine
- Fractured bedrock
- Other direct conduit
- Tile outlet
- Tile inlet
- County Defined Karst

APPENDIX G
TRADE AGREEMENT SIGNATURE PAGE

In lieu of the entire Contract, a copy of the following section of this Contract can be supplied independently to the Wisconsin DNR to certify that a WQT Contract exists and has been agreed to by the signatories.

13. Signatures, Notarization, and Certification	
Buyer Name (Printed): Brittany Springer Village of Brooklyn Village President - Brit Springer	Seller Name (Printed): Todd Klahn Todd Klahn
Buyer Agent Name (if applicable): Brit Springer	Seller Agent Name (if applicable): NA
HUC12 code: 070900040301 Watershed name: Allen Creek WPDES permit: WI-0023485-09	HUC 12 code: 070900040301 Watershed name: Allen Creek Tax Parcel(s): 2300600840000
Buyer/Buyer Agent Signature: Brittany A Springer	Seller/Seller Agent Signature: Todd Klahn Landowner Signature (if applicable):
Date: 6/10/20	Date: 6-22-2020
Persons listed above personally came before me this 10 day of June 2020. I hereby certify that the above named person Brittany Springer is known to be the person who executed the foregoing Water Quality Trading Contract and acknowledge the same.	Persons listed above personally came before me this 22nd day of June 2020. I hereby certify that the above named person Todd Klahn is known to be the person who executed the foregoing Water Quality Trading Contract and acknowledge the same.
Notary Public Green County, Wisconsin	Notary Public Green County, Wisconsin
Signature of Notary Public: Vicki L. Olson My Commission expires: August 31, 2020	Signature of Notary Public: Linda Kuhlman My commission expires: 7-19-22
Seal of Notary Public	Seal of Notary Public

NOTARY PUBLIC VICKI L. OLSON STATE OF WISCONSIN

In lieu of the entire Contract, a copy of the following section of this Contract can be supplied independently to the Wisconsin DNR to certify that a WQT Contract exists and has been agreed to by the signatories.

13. Signatures, Notarization, and Certification	
Buyer Name (Printed): Brittany Springer Village of Brooklyn Village President - Brit Springer	Seller Name (Printed): Kevin Klahn Kevin Klahn.
Buyer Agent Name (if applicable): Brit Springer	Seller Agent Name (if applicable): NA
HUC12 code: 070900040301 Watershed name: Allen Creek WPDES permit: WI-0023485-09	HUC 12 code: 070900040301 Watershed name: Allen Creek Tax Parcel(s): 2300600850000, 2300600854000, 2300600855000, and 230060085600
Buyer/Buyer Agent Signature: Brittany A Springer	Seller/Seller Agent Signature: Landowner Signature (if applicable):
Date: 6/10/20	Date: 6-22-20
Persons listed above personally came before me this 10 day of June 2020. I hereby certify that the above named person Brittany Springer is known to be the person who executed the foregoing Water Quality Trading Contract and acknowledge the same.	Persons listed above personally came before me this 22nd day of June 2020. I hereby certify that the above named person Kevin Klahn is known to be the person who executed the foregoing Water Quality Trading Contract and acknowledge the same.
Notary Public Green County, Wisconsin	Notary Public Green County, Wisconsin
Signature of Notary Public: Vicki L. Olson My commission expires: August 31, 2020	Signature of Notary Public: Linda Kuhlman My commission expires: 7-19-22
Seal of Notary Public NOTARY PUBLIC VICKI L. OLSON STATE OF WISCONSIN	Seal of Notary Public

APPENDIX H–WATER QUALITY TRADING MANAGEMENT PRACTICE REGISTRATION FORM

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Water Quality Trading Management Practice Registration

Form 3400-207 (R 1/14)

Notice: Pursuant to s. 283.84, Wis. Stats., this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Applicant Information

Permittee Name	Permit Number	Facility Site Number
Village of Brooklyn	WI- 0023485-09-0	6038

Facility Address	City	State	ZIP Code
102 Windy Lane	Brooklyn	WI	53521

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Leif Spilde	210 Commercial St P.O. Box 189	Brooklyn	WI	53521

Project Name
Village of Brooklyn Water Quality Trading

Broker/Exchange Information (if applicable)

Was a broker/exchange be used to facilitate trade? ○ Yes ◉ No

Broker/Exchange Organization Name	Contact Name	
Address	Phone Number	Email

Trade Registration Information (Use a separate form for each trade agreement)

Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction	Trade Ratio	Method of Quantification
○ Urban NPS ◉ Agricultural NPS ○ Other		Whole Field Management	265	1.2	SnapPlus

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Green	Allen Creek	2300600840000, 2300608	Phosphorus

The preparer certifies all of the following:

- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

Signature of Preparer	Date Signed
[signature]	5/11/2022

Authorized Representative Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed
[signature] DPW	5-11-2022

Leave Blank – For Department Use Only

Date Received		Trade Docket Number
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

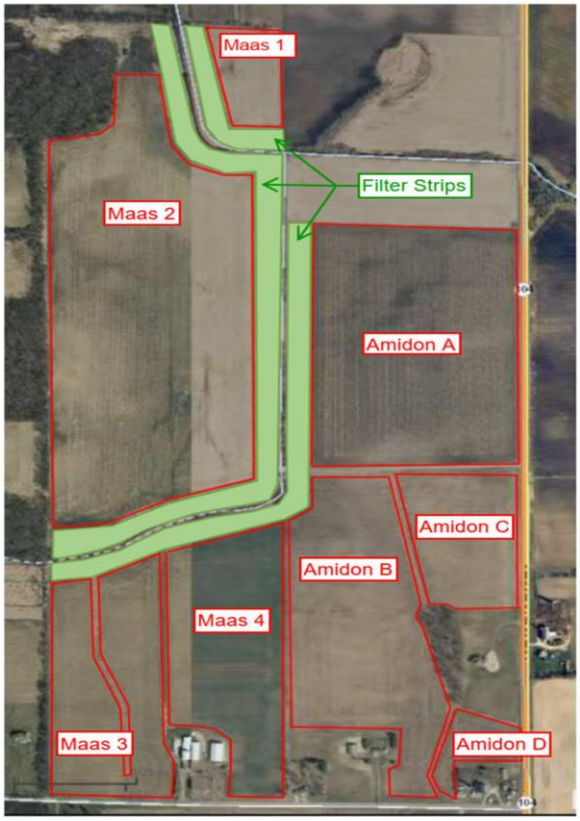
APPENDIX I
WQT ANNUAL REPORT

Todd and Kevin Klahn

Water Quality Trade Inspection Report

By Leif Spilde, Director of Public Works Village of Brooklyn

The site was inspected by Leif Spilde on December 20th, May 24th, June 20th August 22nd and November 4th .All areas were inspected by foot. Close up and distance photographs of site characteristics were taken and are attached and described below.



Seed Establishment for Filter Strips NRCS 393

The site was disked in early November in preparation of seeding. Seed was planted mid-November per plan to have established filter strips in early spring 2022. The photographs taken 12-20-2021 show the filter strips were planted and the 5-24-2022 show that they have started to establish really nicely.

The seed establishment criteria for 2022 are as follow:

- Germination of Filter Strips grass species shall be apparent by mid – July. Areas of erosion where seed has likely been lost will be reseeded and appropriate erosion control measures applied.
- Establishment of Filter Strips should be consistent and widespread by the middle of September 2022. Areas greater than 100 square yards that do not have grasses shall be reseeded as soon as possible.

Crop Rotation and Tillage Practice

5 year schedule NRCS 329/345

2022	2023	2024	2025	2026
Corn grain Strip Till	Soybeans 15-20 inch row Fall vertical tillage	Corn grain Strip Till	Corn grain Strip Till	Soybeans 15-20 inch row Fall vertical tillage

Tillage Practice for 2022 Strip Tillage

- Strip-tillage system used in which residue-free strips of soil are tilled ahead of planting using a knife fertilizer injection shank. The strips are approximately 6 inches wide, or about 1/3 the row width, and 4 to 8 inches deep. These strips are cleared of residue and tilled for warming and drying purposes either before or during the planting operation. Fertilizer was incorporated at this time. The seeds are planted directly into the strip of loosened soil.

Crop Rotation 2022 was corn grain.

- Corn was planted mid May 2022. Documented by photo.
- Corn was removed the last week of October documented by photo.

Seed Establishment for Cover Crops NRCS 340

The site was disked in early November in preparation of seeding. Winter Rye was planted mid-November per plan to have establish a cover crop by December 15th 2022. The photographs taken 11-4-2022 show the cover crop was planted.

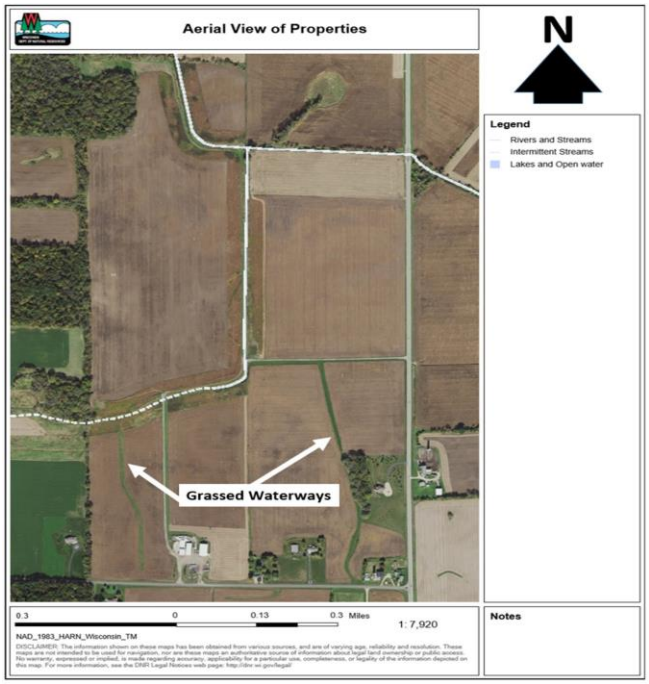
The seed establishment criteria for cover crop as follow.

- Germination of cover crops shall occur within 20 days of installation. Cover crop establishment shall be uniform and consistent. Any more than 1 square yard that is devoid of cover crop shall be reseeded within 3 weeks.
- Establishment of cover crops should be consistent and widespread by December 15th. Areas greater than 100 square yards that do not have grasses shall be reseeded as soon as possible.

Established Grass Waterways

The site already had grass ways established. The photographs taken during the inspections in 2022 show well maintained and established grasses.

- Maintenance of waterways mowing, fertilizing, and sediment removal. Look for damaged caused by machinery, herbicides or erosion. These must be repaired promptly.



Nutrient Management Plan NRCS 590

Manage rate, source, placement, and timing of plant nutrients and soil amendments while reducing environmental impacts. The latest NMP is provided to the village each year and a copy is attached.

- Minimize agricultural nonpoint source pollution of surface and groundwater resources.
- Properly utilize manure, municipal and industrial biosoilds, and other organic byproducts as plant nutrient sources.
- To protect air quality by reducing odors, nitrogen emissions, and the formation of atmospheric particulates.
- To maintain or improve the physical, chemical, and biological condition of soil.

Pollutant Reduction Credits (lbs/month) used each by month

- Total WQT credits available 221lbs per WQT-2020-0012. The permittee may use water quality trading to demonstrate compliance with WQBELs for total phosphorus (TP) of 0.225 mg/L monthly average and 0.075 mg/L 6-month average and 0.13 lbs/day monthly average.
- The table below breaks down Total Phosphorus by month for the year and total credits used. Attachment (Brooklyn 2022 Phos data shows by month Phosphorus data).

Month	Total Credits Needed (TP) (lb/month)	WQT Computed Compliance TP (mg/L)	WQT Computed Compliance TP (lb/day)
Jan-22	6.3	0.075	0.04
Feb-22	18.5	0.075	0.01
Mar-22	15.8	0.075	0.06
Apr-22	7.0	0.075	0.04
May-22	13.6	0.075	0.04
Jun-22	9.3	0.075	0.05
Jul-22	13.9	0.075	0.05
Aug-22	8.5	0.075	0.03
Sep-22	9.8	0.075	0.04
Oct-22	5.6	0.075	0.03
Nov-22	17.2	0.075	0.50
Dec-22	1.8	0.075	0.04
Average	10.6	0.075	0.078

Total 2022 Credits used	127.2

Conclusion

- Erosion No major erosion was found anywhere on the site.
- Weed Competition and Mowing There are many weeds noted on site; although none appear to be in danger of overwhelming the plantings. Mowing was completed in August.
- The entire site met the criteria for 2022 described above.
- The filter strips are installed and functional. Healthy and green throughout the site.
- Strip tillage was used as required.
- Cover crops were used and are healthy.
- Grass waterways are installed and are healthy, maintained and working properly.
- Nutrient Management Plan as provided.