Permit Fact Sheet

General Information

Permit Number:	WI-0041149-09-0
Permittee Name:	PHILLIPS PLATING CORPORATION
Address:	P O Box 72 984 North Lake Ave
City/State/Zip:	Phillips WI 54555-0072
Discharge Location:	721 North Lake Ave (SW¼, SW¼ of Section 7; T37N-R01E)
Receiving Water:	Elk Lake (2240000) within the Elk River watershed in the Upper Chippewa River drainage basin, Price County
StreamFlow ($Q_{7,10}$):	Typical lake dilution of 10:1; The Elk River flows through a chain of impoundments in the Phillips area. The receiving water does not exhibit a unidirectional flow at the point of discharge.
Stream Classification:	Warm Water Sport Fishery, Recreational Water, Non-public Water Supply and within the Ceded Territory
Discharge Type:	Phillips Plating is an existing noncontinuous discharger (discharges occur approximately 4-5 days per week).
Wild Rice Impacts: *(no specific wild rice standards exist at this time)*	There are no wild rice waters inventoried near the outfall in Long Lake or Elk River. No impacts from this facility have been identified. (Evaluation completed March 2017).

Facility Description

Phillips Plating Corporation at Phillips electroplates nickel, copper, and chrome onto plastic parts. The electroplating process produces wastewater that has a low pH and contains soluble forms of the metals. The wastewater is treated by chromium reduction, pH adjustment, neutralization, a proprietary chemical precipitation and oxidation process and filtration to remove the metals. The processes cause the metals to clump and settle. Effluent is discharged on a noncontinuous basis via Sample Point (Outfall) 101 to the southwest bank of Elk Lake.

Effluent from the City of Phillips wastewater treatment system combines with Phillips Plating's effluent prior to discharge to Elk Lake (Sample Point 102). Effluent limitations have been developed for the combined discharges that protect the receiving water quality. The settled solids are removed, dewatered via filter press, dried and hauled to a hazardous waste disposal site.

Substantial Compliance Determination

Enforcement During Last Permit: All conditions and standard requirements of the current permit are being met.

After a desk top review of all discharge monitoring reports, compliance schedule items, and a previous site visit on 06/21/22, by Arthur Ryzak, WDNR, Phillips Plating Corporation has been found to be in substantial compliance with their current permit.

Compliance determination entered by Arthur Ryzak on September 8, 2023.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)**
001	**COMBINED FLOW** N/A – flow is not a required parameter.	Representative samples shall be collected from the separate wastewater discharges from the City of Phillips and Phillips Plating Company and combined for testing. Both the City of Phillips and Phillips Plating Company are responsible for conducting the acute and chronic WET monitoring requirements on the combined discharge and may share costs and efforts to that end. The same monitoring requirements are contained in the City's permit. Duplicate WET test results will be entered on both facilities' DMRs.
101	**INPLANT EFFLUENT** An average of 0.02 MGD (2019 – 2023 data)	Representative samples shall be collected from the Company's treated process wastewaters (from the effluent collection tank after treatment) prior to mixing with the effluent from the City of Phillips municipal wastewater treatment plant and prior to discharge to Elk Lake via outfall 001.
102	**FIELD BLANK** N/A – flow is not a required parameter.	At least one mercury field blank shall be collected for each day a sample of mercury is collected via inplant sample point 101. The purpose of the field blank is to determine whether the field or sample transporting procedures and environment have contaminated the sample.

1 Inplant - Monitoring and Limitations

Sample Point Number: 102- MERCURY FIELD BLANK

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Grab	

Changes from Previous Permit:

Monitoring requirements were re-evaluated for the proposed permit term and no changes were required in this permit section. Sampling requirements and frequencies are the same as the previous permit.

Explanation of Limits and Monitoring Requirements

At least one field blank shall be collected for each set of mercury samples (a set of samples may include any combination of influent, effluent, or other samples collected on the same day) per ss. NR 106.145(9) and (10) Wis. Adm. Code. The purpose of the field blank is to determine if the field or sample transporting procedures and environment have contaminated the sample.

2 Surface Water - Monitoring and Limitations

Sample Point Number: 001- COMBINED EFFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See the "Whole Effluent Toxicity Testing" section for monitoring schedule.
Chronic WET		TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See the "Whole Effluent Toxicity Testing" section for monitoring schedule.
pH Field		su	Quarterly	Grab	Monitoring is required July 1, 2026 to June 30, 2027. See schedule section "Combined Effluent pH Monitoring" for details.

Changes from Previous Permit

Limitations and monitoring requirements were re-evaluated for the proposed permit term and the following changes were made from the previous permit.

One year of pH sampling of the combined effluent has been added the permit term.

Explanation of Limits and Monitoring Requirements

This outfall is the combined effluent from the City of Phillips and Phillips Plating Corporation. Both facilities are responsible for conducting the acute and chronic WET monitoring requirements on the combined discharge and may share costs and efforts to that end. A Whole Effluent Toxicity (WET) screening worksheet that takes into consideration the toxicity of a facility's effluent on the receiving water over the short (acute) and long (chronic) term was completed. Based on the total points accumulated annual Acute and Chronic WET Tests are required during rotating quarters.

Originally the City of Phillips and Phillips Plating were reissued together, but due to different reissuing processes the permit term dates became unsynchronized. In consideration of the cooperative nature used to sample the Acute and Chronic WET tests, the schedules for both facilities will continue to be the same regardless of when the two permits begin and end. WET testing shall continue in accordance with the quarterly rotation of quarters 4-3-2-1.

- **2025** – October 1 to December 31 (4th quarter)
- **2026 -** July 1 to September 30 (3rd quarter)
- **2027** – April 1 to June 30 (2nd quarter)
- **2028** - January 1 to March 31 (1st quarter)
- **2029** - October 1 to December 31 (4th quarter)
- **2030** - July 1 to September 30 (3rd quarter)
- **2031 -** April 1 to June 30 (2nd quarter)
- **2032** - January 1 to March 31 (1st quarter)
- **2033** - October 1 to December 31 (4th quarter)
- **2034** – July 1 to September 30 (3rd quarter)

pH - There is concern estimating the combined discharge pH based solely on mixing may not be accurate because it does not account for the effects of alkalinity and other factors that may influence the concentration of hydrogen ions in the combined discharge. Consequently, one year's worth of weekly monitoring at Outfall 001 is required from July 1, 2026, through June 30, 2027 during periods when both discharges are present. Both facilities are responsible for conducting pH sampling on the combined discharge. A schedule has been added to allow time for both permittees to coordinate a sampling procedure. Monitoring and a schedule was also included in the City of Phillips reissuance.

Sample Point Number: 101- INPLANT EFFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
pH Field	Daily Min	6.0 su	Daily	Grab	
pH Field	Daily Max	9.0 su	Daily	Grab	
Chromium, Total Recoverable	Daily Max	2.77 mg/L	Weekly	24-Hr Flow Prop Comp	
Chromium, Total Recoverable	Monthly Avg	1.71 mg/L	Weekly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Daily Max	3.98 mg/L	Weekly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Weekly Avg	3.69 mg/L	Weekly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Monthly Avg	2.38 mg/L	Weekly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Weekly Avg	0.86 lbs/day	Weekly	Calculated	
Suspended Solids, Total	Daily Max	60 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	31 mg/L	Weekly	24-Hr Flow Prop Comp	
Phosphorus, Total	Rolling 12 Month Avg	3.9 mg/L	Weekly	24-Hr Flow Prop Comp	Effective upon reissuance, this limit will be retained beyond the effective date of the final limits as it represents a minimum control level. See Water Quality Trading (WQT) sections in the permit for more information.
Phosphorus, Total		lbs/day	Weekly	Calculated	Report daily mass discharged using Equation 1a in the Water Quality

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					Trading (WQT) section of the permit.
WQT Credits Used (TP)		lbs/month	Monthly	Calculated	Report WQT TP Credits used per month using Equation 2b in the 'Water Quality Trading (WQT)' section of the permit. Available TP Credits are specified in Table 2 of the permit and in the approved Water Quality Trading Plan.
WQT Computed Compliance (TP)	Monthly Avg	0.09 mg/L	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3a in the Water Quality Trading (WQT) section of the permit. Value entered on the last day of the month.
WQT Computed Compliance (TP)	6-Month Avg	0.03 mg/L	Monthly	Calculated	Value entered on the last day of June and December. Compliance with the six-month average limit is evaluated at the end of the six-month period on June 30 and Dec 31.
WQT Computed Compliance (TP)	Annual Total	2.1 lbs/yr	Annual	Calculated	Report the WQT TP Computed Compliance value using Equation 3b in the Water Quality Trading (WQT) section of the permit. Compliance is measured in December.
WQT Credits Used (TP)	Annual Total	244.8 lbs/yr	Annual	Calculated	The annual total of monthly credits used (Equation 2b) may not exceed annual available credits shown in Table 2. The result of Equation 2c may not exceed annual available credits shown in Table 2.
BOD5, Total		mg/L	Monthly	24-Hr Flow Prop Comp	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	24-Hr Flow Prop Comp	
PFOS		ng/L	Monthly	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
PFOA		ng/L	Monthly	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
Cadmium, Total Recoverable	Daily Max	330 ug/L	Quarterly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Weekly Avg	140 ug/L	Quarterly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Monthly Avg	140 ug/L	Quarterly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Daily Max	0.17 lbs/day	Quarterly	Calculated	
Cadmium, Total Recoverable	Weekly Avg	0.05 lbs/day	Quarterly	Calculated	
Copper, Total Recoverable	Daily Max	290 ug/L	Quarterly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Monthly Avg	290 ug/L	Quarterly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Daily Max	0.15 lbs/day	Quarterly	Calculated	
Cyanide, Amenable	Daily Max	420 ug/L	Quarterly	Grab	
Cyanide, Amenable	Monthly Avg	420 ug/L	Quarterly	Grab	
Cyanide, Amenable	Daily Max	0.22 lbs/day	Quarterly	Calculated	
Oil & Grease (Hexane)	Daily Max	52 mg/L	Quarterly	Grab	
Oil & Grease (Hexane)	Monthly Avg	26 mg/L	Quarterly	Grab	
Hardness, Total as CaCO3		mg/L	Quarterly	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	Total Nitrogen = Total Kjeldahl Nitrogen + Total Nitrite + Nitrate Nitrogen.
Lead, Total Recoverable	Daily Max	0.69 mg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Lead, Total Recoverable	Monthly Avg	0.43 mg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Silver, Total Recoverable	Daily Max	0.43 mg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Silver, Total Recoverable	Monthly Avg	0.24 mg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Daily Max	2.2 mg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Monthly Avg	1.48 mg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Daily Max	1.2 lbs/day	1/ 6 Months	Calculated	

Changes from Previous Permit

Effluent limitations and monitoring requirements were re-evaluated for the proposed permit term and the following changes were made from the previous permit. See additional explanation of limits under "Explanation of Limits and Monitoring Requirements" below.

- Continuous monitoring requirements for **pH** are not required this term and the limit range has changed to 6.0 – 9.0 s.u.
- A **Water Quality Trading** (WQT) has been accepted as an alternative phosphorus compliance option. Applicable monitoring, limits and schedule have been included.
- **PFOS** and **PFOA** monthly monitoring is included in the permit in accordance with s. NR 106.98(2)(d), Wis. Adm. Code.
- Quarterly **Nitrogen Series** (nitrate + nitrite, total Kjeldahl nitrogen and total nitrogen) monitoring has been added this permit term.

Explanation of Limits and Monitoring Requirements

Sample point 101 is the discharge from the facility prior to the combined discharge with the City of Phillips. Categorical limits for discharge to surface waters are based in part on ch. NR 261, Metal Finishing, Wis. Adm. Code. More information on monitoring and limits can be found in the "Water Quality-Based Effluent Limitations for Phillips Plating

Corporation WPDES Permit # WI-0041149" memo dated December 12, 2023, and the "Technology-Based Effluent Limitations for Phillips Plating Corporation WPDES Permit #WI-0041149-09-0" memo dated December 12, 2023.

pH – s. NR 102.04(4)c Wis. Adm. Code states "pH shall be within the range of 6.0 to 9.0." Industry specific limitations through best practicable technology (BPT) technology based effluent limits (TBELs) found in 40 CFR Part 433 Subpart A shows a 9.0 s.u. daily maximum pH limit in federal regulations which is more stringent than state regulations of 9.5 s.u. State wastewater regulations must be at least as stringent as federal regulations; therefore, the daily maximum pH limit of 9.0 s.u. is required. The daily minimum pH limit of 6.0 s.u. is required during the reissued permit term because Phillips Plating must comply with the limit before mixing with other non-metal finishing process wastewaters.

In the previous reissuance the facility monitored pH continuously per s. NR 205.06, Wis. Adm. Code. Because Phillips Plating must comply with the pH limit range of 6.0 – 9.0 s.u. consistently and are based on TBEL requirements, continuous pH monitoring requirements are not required this permit reissuance. The parameters "pH total exceedance time in minutes" and the number of "pH exceedances greater than 60 minutes" are not included in this reissuance.

BOD_5 – Monitoring for BOD_5 remains the same as the previous permit issuance. Limits are not required at this time.

Total Suspended Solids – TBELs are described in ch. NR 261 Wis. Adm. Code, applicable to metal finishing facilities that discharge into waters of the state. Monitoring and limits remain the same as the previous permit issuance.

Phosphorus - Phosphorus requirements are based on the Phosphorus Rules as detailed in NR 102 (water quality standards) and NR 217, Wis. Adm. Code (effluent standards and limitations for phosphorus). Chapter NR 217 of the Wis. Adm. Code addresses point source dischargers of phosphorus to surface waters. Currently in NR 217 Wis. Adm. Code there are three types of limit calculations used to determine if a phosphorus limit is needed: a technology based effluent limit (TBEL), a water quality-based effluent limit (WQBEL) determined by stream criteria and a WQBEL based on a Total Daily Maximum Daily Load (TMDL) allocation.

In the case of Phillips Plating Corporation:

- A TBEL of 1.0 mg/L is needed if a facility discharges more than the threshold of 60 pounds per month (rolling average) (s. NR 217.04(1)(b)1 Wis. Adm. Code). The limit memo determined that the facility discharges more than the threshold, but the facility demonstrated the need for an Alternative Effluent Limit (AEL). Based on a review of current data an **AEL of 3.9 mg/L as a 12-month rolling average is applicable** this permit term.
- Based on the size and classification of the stream, the water quality criteria for the Elk Lake is 30 ug/L. This criteria and instream background phosphorus data are used to calculate the stream criteria-based WQBELs. **The calculated WQBELs are 0.09 mg/L (monthly average), 0.03 mg/L (6-month average*)**. The wastewater treatment facility is not able to meet the WQBEL. This permit authorizes the use of trading as a tool to demonstrate compliance with the phosphorus WQBELs.

  This permit includes terms and conditions related to the Water Quality Trading Plan (WQT-2022-0004) or approved amendments thereof. The total 'WQT TP Credits' available are designated in the approved WQT Plan. The AEL of **3.9 mg/L as a 12-month rolling average will be used as the minimum control level (MCL)** and will be retained throughout the permit term. Phillips Plating Corporation proposes to convert dairy production cropping practices to permanent perennial vegetation. This vegetative cover will continue to be maintained to generate credits.

  Additional WQT subsections in the permit provide information on compliance determinations, annual reporting and re-opening of the permit.

  **Please note: compliance with the 6-month average is measured each June and December.*
- The facility does not lie within the boundaries of any approved total maximum daily load (TMDL) area, thus a phosphorus WQBEL based on a TMDL allocation is likewise not required during this permit term.

Ammonia - Using current acute and chronic ammonia toxicity criteria for the protection of aquatic life and limit calculating procedures found in ss. NR 105 and 106, Wis. Adm. Code (both effective March 1, 2004), Ammonia

limitations were calculated for the combined effluent flows from the City and Phillips Plating. Daily Maximum (35 mg/L), Weekly Average (65 mg/L – lowest limitation July – September) and Monthly Average (26 mg/L –lowest limitation July - September) limits were considered. The data from the combined facilities were compared, there is no reasonable potential for the combined discharge to exceed any of the calculated ammonia nitrogen limits. Limits are not required this permit term, but monitoring is required to continue to determine the need for limits at the next permit reissuance.

PFOS and PFOA – NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. At the first reissuance of a WPDES permit after August 1, 2022, the new rule requires WPDES permits for industrial dischargers to be evaluated on a case-by-case basis to determine if monitoring is required pursuant to s. NR 106.98(2)(d), Wis. Adm. Code. The department evaluated the need for PFOS and PFOA monitoring taking into consideration industry type and other potential sources of PFOS or PFOA. Based on information available at the time the proposed permit was drafted, it was identified that previous PFOS/PFOA sample results were within 1/5 of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code. Therefore, monthly monitoring is included. The initial determination of need for sampling shall be conducted for up to two years in order to determine if the permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code.

Total Toxic Organics (TTO) = the sum of all quantifiable effluent concentrations greater than 10 ug/L of the toxic organic pollutants listed s. NR 215.03(1)-(5), Wis. Adm. Code. The permittee shall make a TTO certification statement monthly, in lieu of monitoring, as printed on the Discharge Monitoring Report form, in accordance with s. NR 261.13(1)(a), Wis. Adm. Code, which states the following:

> "*Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics, I certify that to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the Department".*

Metals and **Oil and Grease** (including Cadmium, Chromium, Copper, Cyanide, Lead, Nickel, Sliver, Zinc and oil and grease) - Based on the contributions of metals by Phillips Plating to the combined flow discharged by Phillips Plating and the City of Phillips, several metals continue to require limitations.

Limit Origins

Metal	Daily Maximum	Weekly Average	Monthly Average
Cadmium	WQBEL	WQBEL	NR 205.065(7)
Chromium	NR 261	n/a	NR 261
Copper	WQBEL	n/a	NR 205.065(7)
Cyanide	WQBEL	n/a	NR 205.065(7)
Lead	NR 261	n/a	NR 261
Nickel	NR 261	WQBEL	NR 261
Sliver	NR 261	n/a	NR 261
Zinc	WQBEL	n/a	NR 261
Oil & Grease	NR 261	n/a	NR 261

WQBEL **-** Calculation methods for water quality based effluent limitations of toxic and organoleptic substances is found in NR 106.06 Wis. Adm. Code. In the November 18, 2005, limit memo for the 6th reissuance evaluated all the metal requirements including potential contributions from the City of Phillips. Four metals, cadmium, copper, cyanide, and zinc were identified to need WQBELs. The WQBELs were calculated by back calculating from the water quality-based limit at the combined outfall to sample point 101 by subtracting the City of Phillips' contribution. This approach recognized the variability in the City's effluent without the need to include limits in both permits.

NR 205.065, Wis. Adm. Code - The code requires limits to be expressed as daily maximum and monthly average limits whenever practicable. To comply with this regulation, monthly average limits equal to the daily limit (Copper and Cyanide) or weekly average limit (Cadmium) have been included.

NR 261, Wis. Adm. Code – Table 1 and 2 of s. NR 261.12(1), Wis. Adm. Code contains the technology based effluent limits (TBELs) for discharge of metal finishing process wastewater to waters of the state.

Please note: Different approved analytical methods are required for samples of copper and lead that are less than 9.5 ug/L and 18.5 ug/L respectively. This is needed to better determine the need for limits at the next permit reissuance.

Mercury - A mercury effluent limit is not required this permit term. The most restrictive calculated limit (based on Wildlife Criteria) of the combined (Phillips and Phillips Plating) effluent is a monthly average limit of 14.3 ng/L, for this receiving water, based on NR 106 Wis. Adm Code. This value is greater than the 30-day effluent p99 value (0.33 n/L). Since the effluent statistical mercury concentration is less than the limit necessary to protect water quality, a limit is not required; however quarterly monitoring is required to continue tracking concentrations.

Nitrogen Series - (nitrate +nitrite, total Kjeldahl nitrogen and total nitrogen) **–** In 2011, the Upper Mississippi River Basin Association (UMRBA) completed the report "Upper Mississippi River Nutrient Monitoring, Occurrence, and Local Impacts: A Clean Water Act Perspective". Among the many recommendations of this report was that the states should expand their NPDES discharge monitoring requirements to include both phosphorus and nitrogen as they have important impacts on the mainstem upper Mississippi River as well as in the Gulf of Mexico. Consequently, the department developed the "Guidance for Total Nitrogen Monitoring in WPDES Permits" document dated October 2019, where quarterly effluent monitoring for total nitrogen (total nitrogen = total Kjeldahl + (nitrite+nitrate)) is required for major municipal and industrial facilities discharging to surface waters. Section 283.55(1)(e) Wis. Stats. allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and s. NR 200.065 (1)(h) Wis. Adm. Code allows for this monitoring to be collected during the permit term.

Sampling Frequencies - The "Monitoring Frequencies for Individual Wastewater Permits" guidance document (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure fairness and consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term. The department has determined at this time that the facility meets the guidance and no changes in the monitoring frequency is required this permit term.

3 Schedules

3.1 PFOS/PFOA Minimization Plan Determination of Need

Required Action	Due Date
Report on Effluent Discharge: Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code. This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.	03/31/2025
Report on Effluent Discharge and Evaluation of Need: Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a	03/31/2026

comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan. This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results. The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA minimization plan. If the Department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for Department approval no later than 90 days after written notification was sent from the Department. The Department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued. If, however, the Department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.	

3.2 Combined Effluent pH Monitoring

Required Action	Due Date
Submit a plan: Submit a sampling plan for department approval that was developed in cooperation with Phillip's Plating Company with the goal to monitor pH levels in the combined effluent (sample point 003) once per week for one year. The plan may include either sampling the combined effluent directly or through flow proportional mixing.	12/31/2025
Begin Monitoring: Implement sampling of the combined effluent for one year beginning July 1, 2026, through June 30, 2027. The City of Phillips and Phillips Plating Company are jointly responsible for conducting the pH monitoring for the combined discharge. Monitoring and this schedule will also be contained in the reissued permit for Phillips Plating Company. Duplicate pH test results will be entered on both facilities' DMRs.	07/01/2026

3.3 Annual Water Quality Trading (WQT) Report

Required Action	Due Date
Annual WQT Report: Submit an annual WQT report that shall cover the first year of the permit term. The WQT Report shall include: The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance; The source of each month's pollutant reduction credits by identifying the approved water quality trading plan that details the source; A summary of the annual inspection of each nonpoint source management practice that generated any of the pollutant reduction credits used during the previous year; and Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports.	01/31/2025
Annual WQT Report #2: Submit an annual WQT report that shall cover the previous year.	01/31/2026
Annual WQT Report #3: Submit an annual WQT report that shall cover the previous year.	01/31/2027

Annual WQT Report #4: Submit the 4th annual WQT report. If the permittee wishes to continue to comply with phosphorus limits through WQT in subsequent permit terms, the permittee shall submit a revised WQT plan including a demonstration of credit need, compliance record of the existing WQT, and any additional practices needed to maintain compliance over time.	01/31/2028
Annual WQT Report Required After Permit Expiration: In the event that this permit is not reissued by the expiration date, the permittee shall continue to submit annual WQT reports by January 31 each year covering the total number of pollutant credits used, the source of the pollution reduction credits, a summary of annual inspection reports performed, and identification of noncompliance or failure to implement any terms or conditions of the approved water quality trading plan for the previous calendar year.	

Explanation of Schedules

PFOS/PFOA Minimization Plan Determination of Need - NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. S. NR 106.98, Wis. Adm. Code, specifies steps to generate data in order to determine the need for reducing PFOS and PFOA in the discharge. Data generated per the effluent monitoring requirements will be used to determine the need for developing a PFOS/PFOA minimization plan. As part of the schedule, the permittee is required to submit two annual Reports on Effluent Discharge.

If the department determines that a minimization plan is needed, the permit will be modified or revoked/reissued to include additional requirements.

Combined Effluent pH Monitoring - A schedule has been added to allow time for both permittees (Phillips Plating and the City of Phillips) to coordinate a sampling procedure.

Annual Water Quality Trading (WQT) Report - Reports are required to include the following information:

- Verification that site inspections occurred;
- Brief summary of site inspection findings;
- Identification of noncompliance or failure to implement any terms or conditions of the permit or trading plan that have not been reported in discharge monitoring reports;
- Any applicable notices of termination or management practice registration; and
- A summary of credits used each month over the calendar year

Other Comments:

Phillips Plating Corporation and the City of Phillips share a surface water outfall. Because of the shared outfall, both permits have been reissued with the same annual WET testing schedule of rotating quarters (4^{th}, 3^{rd}, 2^{nd}, 1^{st}). This same schedule will also be listed in future reissuances.

Attachments:

Water Flow Schematic created June 2006

"Water Quality-Based Effluent Limitations for Phillips Plating Corporation WPDES Permit # WI-0041149" memo dated December 12, 2023

"Technology-Based Effluent Limitations for Phillips Plating Corporation WPDES Permit #WI-0041149-09-0" memo dated December 12, 2023

"Water Trading Plan WQT-2022-0004" approved April 22, 2022

Expiration Date:

March 31, 2029

Justification Of Any Waivers From Permit Application Requirements

N/A

Prepared By: Sheri A. Snowbank, Wastewater Specialist

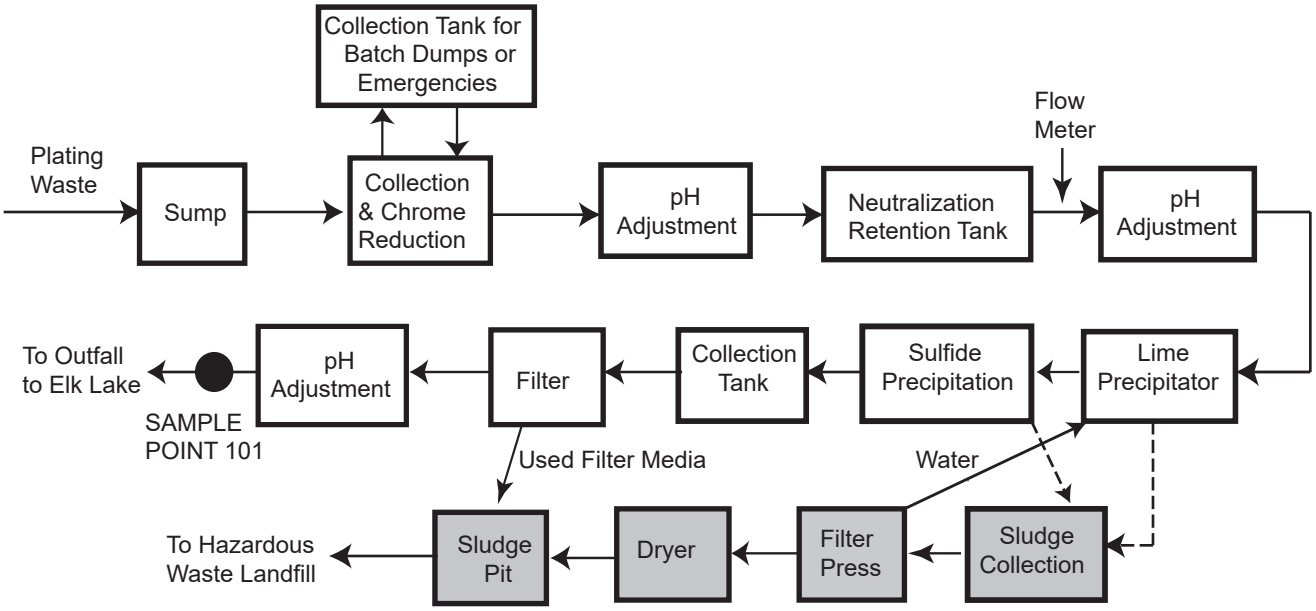
Date: December 27, 2023

Date updated based on Factcheck comments: N/A (No changes were requested, February 1, 2024)

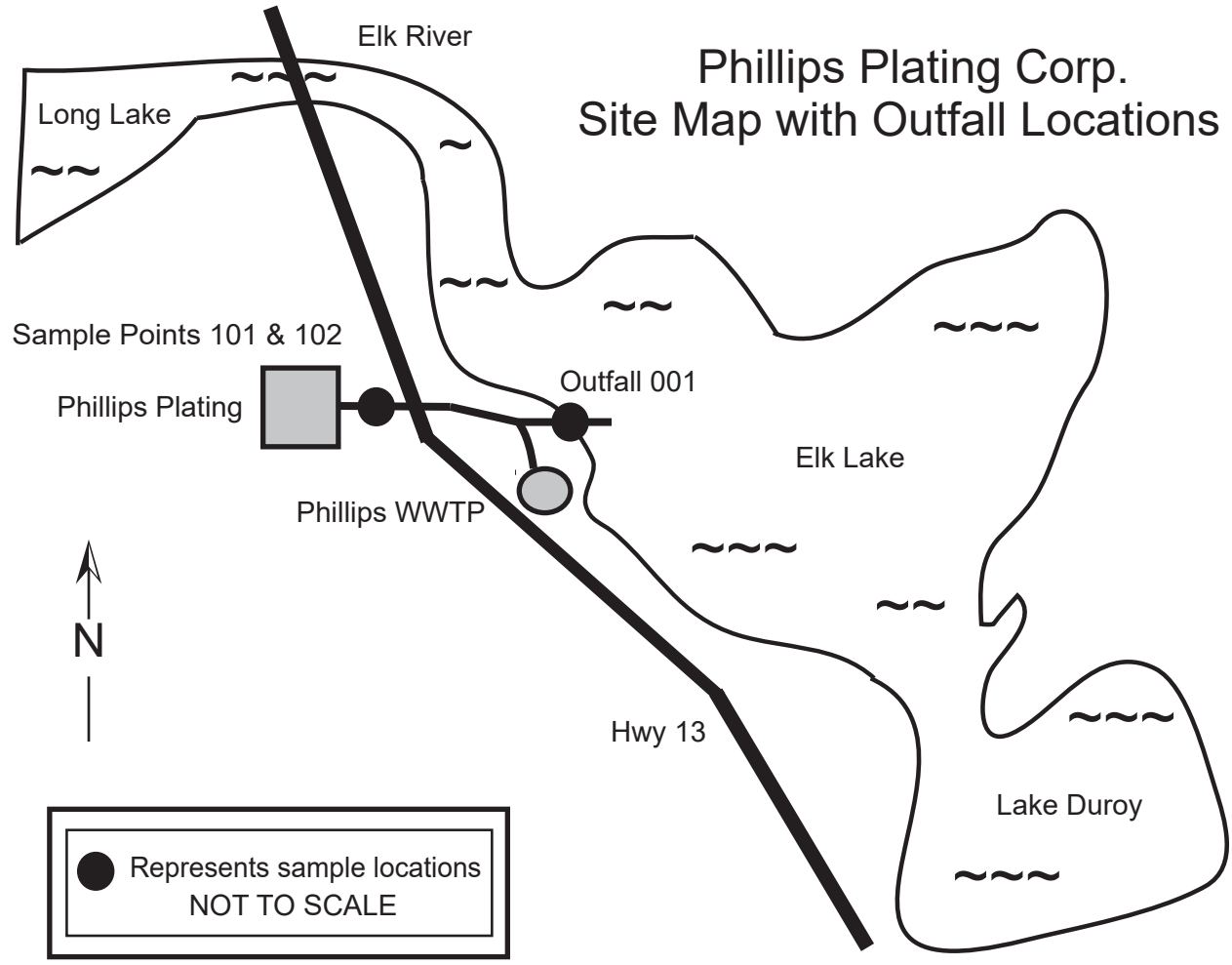
Date updated based on public notice comments:

Notice of reissuance was published in the Price County Review, PO Box 170, Phillips, WI 54555-0170.

Phillips Plating Corp.
Wastewater Treatment System



Phillips Plating Corp.
Site Map with Outfall Locations



CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: December 12, 2023

TO: Sheri Snowbank – NOR/Spooner Service Center

FROM: Michael Polkinghorn – NOR/Rhinelander Service Center

SUBJECT: Water Quality-Based Effluent Limitations for Phillips Plating Corporation
WPDES Permit No. WI-0041149-09-0

This is in response to your request for an evaluation of the need for water quality-based effluent limitations (WQBELs) using chapters NR 102, 104, 105, 106, 207, 210, 212, and 217 of the Wisconsin Administrative Code (where applicable), for the discharge from Phillips Plating Corporation in Price County. This primary industrial facility discharges to Elk Lake, located in the Elk River Watershed in the Upper Chippewa River Basin. The evaluation of the permit recommendations is discussed in more detail in the attached report.

Based on our review, the following recommendations are made on a chemical-specific basis at Sample Point (Outfall) 101 and Outfall 001:

Sample Point (Outfall) 101

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	6-Month Average	12-month Rolling Average	Annual Total	Footnotes
Flow Rate								1
TSS	60 mg/L			31 mg/L				1, 2
pH	9.0 s.u.	6.0 s.u.						2
Cadmium (Total Recoverable)	330 µg/L 0.17 lbs/day		140 µg/L 0.05 lbs/day	**140 µg/L**				1, 3
Chromium (Total Recoverable)	2.77 mg/L			1.71 mg/L				1, 2
Copper (Total Recoverable)	290 µg/L 0.15 lbs/day			**290 µg/L**				1, 3, 4
Cyanide (Amenable)	420 µg/L 0.22 lbs/day			**420 µg/L**				1, 3
Lead (Total Recoverable)	0.69 mg/L			0.43 mg/L				1, 2, 5
Nickel (Total Recoverable)	3.98 mg/L		3.69 mg/L 0.86 lbs/day	2.38 mg/L				1, 2
Silver (Total Recoverable)	0.43 mg/L			0.24 mg/L				1, 2
Zinc (Total Recoverable)	2.2 mg/L			1.48 mg/L				1, 2
Oil & Grease (Hexane)	52 mg/L			26 mg/L				1, 2
Phosphorus								6

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	6-Month Average	12-month Rolling Average	Annual Total	Footnotes
MCL						3.9 mg/L		
Final				0.090 mg/L	0.030 mg/L		2.1 lbs/yr	
PFOS and PFOA								7
Mercury (Total Recoverable)								1, 8
Hardness (Total as $CaCO_3$)								1, 8
BOD_5								1, 8
Ammonia Nitrogen								1, 8
TKN, Nitrate+Nitrite, and Total Nitrogen								9

Footnotes:

1. No changes from the current permit.
2. These daily maximum and monthly average concentration limits, and the pH limits, are technology-based effluent limits (TBELs) as described in ch. NR 261, Wis. Adm. Code, applicable to metal finishing discharges into waters of the state. These limits are not addressed in this evaluation and may need to be adjusted based on current production. The daily maximum zinc limit is a WQBEL.
3. Additional limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are included in bold.
4. A different approved analytical method is recommended for future samples for copper such that the limit of detection is less than 9.5 µg/L to better determine the need for copper limits at the next permit reissuance.
5. A different approved analytical method is recommended for future samples for lead such that the limit of detection is less than or equal to 18.5 µg/L to better determine the need for lead limits at the next permit reissuance.
6. A water quality trading plan has been submitted as an alternative compliance option to offset any total phosphorus discharged from this outfall that exceed the phosphorus WQBELs. The phosphorus WQBELs may be expressed as computed compliance limits, but the minimum control level (MCL) limit must be met at the point of discharge. The MCL limit is also an alternate effluent limit for phosphorus as described in s. NR 217.04(2)(a)1, Wis. Adm. Code,.
7. Monthly monitoring is required in accordance with s. NR 106.98(2), Wis. Adm. Code.
8. Monitoring only.
9. As recommended in the Department's October 1, 2019 Guidance for Total Nitrogen Monitoring in Wastewater Permits, quarterly total nitrogen monitoring is recommended for facilities with total nitrogen greater than 40 mg/L. Total nitrogen is the sum of nitrate (NO_3), nitrite (NO_2), and total Kjeldahl nitrogen (TKN) (all expressed as N).

Outfall 003

Parameter	Footnotes
pH	1
Acute WET	2, 4
Chronic WET	3, 4

Footnotes:

1. Weekly pH monitoring at the combined discharge for 1 year is required whenever both discharges are present. Both facilities are responsible for conducting pH sampling on the combined discharge.
2. Annual acute whole effluent toxicity (WET) testing is recommended because Phillips Plating is a primary industry. According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests.
3. Annual chronic WET testing is recommended because Phillips Plating Company is a primary industry. The Instream Waste Concentration (IWC) to assess chronic test results is 9%. According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), chronic testing shall be performed using a dilution series of 100%, 30%, 10%, 3% & 1% and the dilution water used in WET tests conducted on Outfall 003 shall be a grab sample collected from Elk Lake outside of the confluence with the combined discharge.
4. Sampling WET concurrently with any chemical-specific toxic substances is recommended. Tests should be done in rotating quarters, to collect seasonal information about this discharge and should continue after the permit expiration date (until the permit is reissued). Representative samples shall be collected from the separate wastewater discharges from the City of Phillips and Phillips Plating and combined for testing. Both facilities are responsible for conducting the acute and chronic WET requirements on the combined discharge to ensure 1 acute and 1 chronic WET test are available for each calendar year. These same WET requirements are also contained in the permit for the City of Phillips.

Additional limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are not required due to the non-continuous nature of the discharge.

Please consult the attached report for details regarding the above recommendations. If there are any questions or comments, please contact Michael Polkinghorn at (715) 360-3379 or Michael.Polkinghorn@wisconsin.gov and Diane Figiel at Diane.Figiel@wisconsin.gov.

Attachments (4) – Narrative, discharge area map, weekly/monthly average ammonia nitrogen limits, & thermal table.

PREPARED BY: Michael A. Polkinghorn, E.I.T. – Water Resources Engineer

E-cc: Arthur Ryzak, Wastewater Engineer – NOR/Ladysmith Service Center
Michelle BalkLudwig, Regional Wastewater Supervisor – NOR/Spooner Service Center

Diane Figiel, Water Resources Engineer – WY/3
Nathaniel Willis, Wastewater Engineer – WY/3

Attachment #1

Water Quality-Based Effluent Limitations for
Phillips Plating Corporation

WPDES Permit No. WI-0041149-09-0

Prepared by: Michael A. Polkinghorn, E.I.T.

PART 1 – BACKGROUND INFORMATION

Facility Description

Phillips Plating Corporation (Phillips Plating) at Phillips WI electroplates nickel, copper, and chrome onto plastic parts. The electroplating process produces wastewater that has a low pH and contains soluble forms of the metals. The wastewater is treated by chromium reduction, pH adjustment, neutralization, a proprietary chemical precipitation and oxidation process and filtration to remove the metals. The processes cause the metals to clump and settle. The settled solids (sludge) are removed, dewatered via filter press, dried, and hauled to a hazardous waste disposal site. Effluent is discharged on a noncontinuous basis via Sample Point (Outfall) 101 to the southwest bank of Elk Lake.

Prior to entering Elk Lake, the effluent from Phillips Plating is combined with effluent from the City of Phillips Wastewater Treatment Facility (Sample Point/Outfall 102) via Outfall 001. Effluent limitations based the combined discharge are considered for this evaluation because they share assimilative capacity in Elk Lake. Effluent limitations specifically for Phillips Plating (Sample Point/Outfall 101) are not needed for Elk Lake because the City of Phillips is a continuous discharger while Phillips Plating is a noncontinuous discharger. Phillips Plating does not discharge approx. 2 – 3 days/wk on average (October 2018 – September 2023) and implies their discharge will only be present at Outfall 001 as a combined discharge for 4 – 5 days/wk on average.

The need for both facility-specific and combined discharge limits with respect to the City of Phillips have been evaluated prior in the limit evaluation dated 01/17/2023. Any limits and/or monitoring recommendations that were made in that evaluation with respect to Phillips Plating will be reiterated in this evaluation.

Attachment #2 is a discharge area map of Outfall 001.

Existing Permit Limitations

The current permit, expired on 09/30/2023, includes the following effluent limitations and monitoring requirements.

Sample Point (Outfall) 101

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	6-Month Average	12-Month Rolling Average	Footnotes
Flow Rate							1
TSS	60 mg/L			31 mg/L			2
pH	9.5 s.u.	4.0 s.u.					2, 3

Attachment #1

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	6-Month Average	12-Month Rolling Average	Footnotes
Cadmium (Total Recoverable)	330 µg/L 0.17 lbs/day		140 µg/L 0.05 lbs/day	**140 µg/L**			4
Chromium (Total Recoverable)	2.77 mg/L			1.71 mg/L			2
Copper (Total Recoverable)	290 µg/L 0.15 lbs/day			**290 µg/L**			4
Cyanide (Amenable)	420 µg/L 0.22 lbs/day			**420 µg/L**			4
Lead (Total Recoverable)	0.69 mg/L			0.43 mg/L			2
Nickel (Total Recoverable)	3.98 mg/L		3.69 mg/L 0.86 lbs/day	2.38 mg/L			2
Silver (Total Recoverable)	0.43 mg/L			0.24 mg/L			2
Zinc (Total Recoverable)	2.2 mg/L			1.48 mg/L			2
Oil & Grease (Hexane)	52 mg/L			26 mg/L			2
Phosphorus							5
Interim						6.0 mg/L	
Final				0.12 mg/L	0.04 mg/L		
Mercury (Total Recoverable)							1
Hardness (Total as $CaCO_3$)							1
BOD_5							1
Ammonia Nitrogen							1

Footnotes:

1. Monitoring only.
2. These daily maximum and monthly average concentration limits are technology-based effluent limits (TBELs) as described in ch. NR 261, Wis. Adm. Code, applicable to metal finishing discharges into waters of the state. These limits are not addressed in this evaluation and may need to be adjusted based on current production. The daily maximum zinc limit is a WQBEL.
3. These limits are TBELs applicable to discharges with continuous pH monitoring as described in s. NR 205.06, Wis. Adm. Code. Additional conditions are outlined in section 2.2.2.1. of the current permit. TBEL pH limits are consistent with s. NR 102.04(4)(c), and s. NR 102.05(3)(h), Wis. Adm. Codes.
4. Additional limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are included in bold.
5. The phosphorus limit of 6.0 mg/L as a 12-month rolling average is an alternate effluent limit for phosphorus as described in s. NR 217.04(2)(a)1, Wis. Adm. Code, and also serves as an interim limit for the phosphorus compliance schedule to meet the final phosphorus WQBELs.

Outfall 001

Parameter	Footnotes
Acute WET	1
Chronic WET	1

Footnotes:

1. Annual acute and chronic whole effluent toxicity (WET) testing is required because Phillips Plating is a primary industry. Representative samples shall be collected from the separate wastewater discharges from the City of Phillips and Phillips Plating and combined for testing. Both facilities are responsible for conducting the acute and chronic WET requirements on the combined discharge. These same WET requirements are also contained in the permit for the City of Phillips. The instream waste concentration (IWC) used for chronic WET testing is 9%.

Receiving Water Information

- Name: Elk Lake
- Waterbody Identification Code (WBIC): 2240000
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: Warm Water Sport Fish (WWSF) community, non-public water supply.
- Flow: A ten-to-one dilution ratio will be used for calculating effluent limitations based on chronic or long-term impacts, in accordance with s. NR 106.06(4)(b)2, Wis. Adm. Code, because the receiving water does not exhibit a unidirectional flow at the point of discharge.
- Hardness = 31 mg/L as $CaCO_3$. This value represents the geometric mean of data from WET testing (n = 8, December 2014 – June 2023).
- Source of background concentration data: Metals data from Elk Lake at the Highway 13 Bridge in Phillips WI, are used for this evaluation. The numerical values are shown in the tables in Part 2 of this evaluation. If no data is available, the background concentration is assumed to be negligible and a value of zero is used in the computations. This background data was taken at a location approximately 0.4 mi downstream of the discharge(s) and is not ideal because they take into account the assimilative capacity used by the discharge(s). Background data for calculating effluent limitations for ammonia nitrogen is described later in this evaluation.
- Multiple dischargers: As discussed earlier, the City of Phillips shares an outfall structure with Phillips Plating (Outfall 001) therefore a combined discharge will be considered for limits.
- Impaired water status: There are no known impairments for Elk Lake. Approximately 9.3 mi downstream, Lac Sault Dore (Soo Lake) is on the Clean Water Act Section 303(d) list and is impaired by total phosphorus.

Effluent Information

- Flow rate(s):
  365-day maximum annual average = 0.0229 million gallons per day (MGD)
  - The effluent flow used in the previous WQBEL evaluation (July 2017) for the combined discharge-based limits was the sum of the maximum annual average flows from Sample Point (Outfall) 102 from the City of Phillips and Sample Point (Outfall) 101 from Phillips Plating. That effluent flow was 0.282 MGD using the sum of the maximum average flows of 0.254 and 0.028 MGD respectively. This evaluation will continue the use of the combined discharge flows of both facilities because both discharges share the assimilative capacity in Elk Lake. The sum of the

annual average design flow of the City of Phillips (0.374 MGD) and the maximum 365-day annual average flow of Phillips Plating Company, will be used to be consistent with limit evaluations for municipal and industrial discharges statewide respectively. The maximum 365-day annual average flow from Phillips Plating Company is 0.0229 MGD. This flowrate excludes days discharge did not occur during October 2018 – September 2023. For informational purposes, this flow becomes 0.0165 MGD including days discharge did not occur. Therefore, the representative combined effluent flow is 0.374 + 0.0229 = 0.397 MGD.

- Hardness (Outfall 001) = 236 mg/L as $CaCO_3$. This value represents the geometric mean of data from WET testing performed during the current permit term (n = 18, August 2018 – June 2023).
- Acute dilution factor used in accordance with s. NR 106.06(3)(c), Wis. Adm. Code: Not applicable – this facility does not have an approved zone of initial dilution (ZID).
- Water source: City of Phillips municipal supply.
- Additives: Phillips Plating utilizes 5 additives total in Outfall 001 and are listed below:
  - Sodium bisulfite
  - Lime
  - Caustic Soda (Sodium hydroxide)
  - Cationic polymer
  - Anionic polymer
  - An additive review is not necessary for any additives where either the toxicity is well documented and understood, can be controlled by a WQBEL, or are not believed to be present in the discharge. An initial review shows this is the case for all the additives used in the discharge of Phillips Plating. **Therefore, an additive review is not needed at this time.**
- Effluent characterization: This facility is categorized as a primary industrial discharger, so the permit application required effluent sample analyses for all the "priority pollutants" except for the Dioxins and Furans as specified in s. NR 200.065, Table 1, Wis. Adm. Code. The current permit required monitoring for BOD_5, ammonia nitrogen, hardness, and mercury.
- Effluent data from the City of Phillips during January 2018 – September 2023 will be used to calculate flow-weighted concentrations of substances for the combined discharge with Phillips Plating. This effort will only be evaluated for substances both facilities have sampled for during the current permit term. If 11 or more detectable samples are available for a given substance from <u>both</u> discharges (and if substance effluent data shows nondetectable concentrations for a facility), P_{99} statistic concentrations will be used to calculate the combined discharge concentration. Otherwise, the overall average concentrations from both discharges will be used. Effluent flows used in the mass balance for Phillips Plating and the City of Phillips are 0.0229 and 0.374 MGD respectively. The flow-weighted concentrations are shown in the tables below, along with the facility-specific effluent data. Facility-specific effluent data and calculated flow-weighted data for other substances will also be shown in their respective parts in this evaluation.
- Additional copper effluent data (n = 1, September 2018) is used to better determine the need for copper limits in the combined discharge.
- Mercury field blanks from Sample Point 102 were used to evaluate if contamination was present from either sample transportation or environmental sources for the respective effluent mercury sample. In this case all the field blanks were nondetectable, so no effluent mercury samples were excluded from this evaluation due to these concerns.

Phillips Plating Toxic Substances Effluent Data – 11 or More Detects

Statistic	Nickel (µg/L)	Chromium (+3) (µg/L)	Copper (µg/L)
1-day P_{99}	3,450	332	82
4-day P_{99}	2,611	180	45
30-day P_{99}	1,213	91	21
Mean	262	55	11
Std	1,346	70	20
Sample size	254	254	21
Range	20 – 21,000	11 – 610	<1.6 – 79

"<" means that the pollutant was not detected at the indicated level of detection. The mean concentration was calculated using zero in place of the non-detected results.

Phillips Plating Toxic Substances Effluent Data – Less Than 11 Detects

Sample Date	Cyanide (Amenable) (µg/L)	Zinc (µg/L)	Mercury (ng/L)
12/19/2018	<7	<18	2.10
03/20/2019	<7		0.12
06/19/2019	<7	<18	<0.12
09/11/2019	7		1.80
12/11/2019	<7	<18	<0.12
03/23/2020	<7		1.70
06/10/2020	<7	<29	<0.12
09/16/2020	<7		<0.12
12/16/2020	<7	<29	<0.24
03/10/2021	<7		<0.12
06/16/2021	<7	<29	<0.12
09/22/2021	<7		<0.12
12/08/2021	<7	<29	0.20
03/16/2022	<7		<0.12
06/08/2022	<11	<29	0.24
09/14/2022	<11		<0.12
12/07/2022	<11	<29	0.15
03/22/2023	<11		0.15
06/14/2023	<11	110	0.19
09/20/2023	12		<0.12
Mean	0.95	11	0.33

"<" means that the pollutant was not detected at the indicated level of detection. The mean concentration was calculated using zero in place of the non-detected results.

Phillips Plating Toxic Substances Effluent Data – Single Sample Detects

Substance	Sample Date	Conc. (µg/L, unless noted otherwise)

Attachment #1

Substance	Sample Date	Conc. (µg/L, unless noted otherwise)
Chloride	02/28/2023	160 mg/L
Antimony	02/28/2023	85
Chromium (+6)	03/07/2023	5.4
Thallium	02/28/2023	0.018
Phenols (Total)	02/28/2023	18
Chloroform	03/07/2023	0.11
Methylene chloride	03/07/2023	0.9

City of Phillips Copper & Chloride Effluent Data

Sample Date	Copper (µg/L)	Chloride (mg/L)
05/17/2022	16	120
05/20/2022	14	
05/23/2022	11	
05/26/2022	15	
05/29/2022	15	
06/01/2022	18	
06/03/2022	15	
06/06/2022	19	
06/09/2022	12	120
06/12/2022	13	110
06/15/2022	11	160
Mean		128
1-day P_{99}	22	
4-day P_{99}	18	

City of Phillips Zinc Effluent Data

Sample Date	Conc. (µg/L)
01/05/2021	50
02/02/2021	60
03/02/2021	28
04/01/2021	29
05/04/2021	21
06/01/2021	16
07/06/2021	40
08/11/2021	43
09/08/2021	25
10/07/2021	38
11/03/2021	30
12/01/2021	40
05/17/2022	33

Attachment #1

Sample Date	Conc. (µg/L)
Mean	35

City of Phillips Toxic Substances Effluent Data – Single Sample Detects

Substance	Sample Date	Concentration µg/L
Chromium (+3)	05/17/2022	<5.5
Nickel	05/17/2022	8.9

"<" means that the pollutant was not detected at the indicated level of detection. The mean concentration was calculated using zero in place of the non-detected results.

Combined Discharge Calculated Flow-Weighted Effluent Data

Substance	Conc. (µg/L, unless noted otherwise)	1-day P_{99} (µg/L, unless noted otherwise)	4-day P_{99} (µg/L, unless noted otherwise)	30-day P_{99} (µg/L, unless noted otherwise)
Chloride	130			
Chromium (+3)		19	10	5.3
Copper		25	20	
Nickel	23			
Zinc	33			

The following table presents the average concentrations and loadings at Sample Point (Outfall) 101 from October 2018 – September 2023 for all parameters with limits in the current permit to meet the requirements of s. NR 201.03(6), Wis. Adm. Code:

Parameter Averages with Limits

Parameter	Average Conc.	Average Mass
TSS	1.3 mg/L	
pH	Min – 8.3 s.u. Max – 8.7 s.u.	
Cadmium	<0.95 µg/L	0 lbs/day
Chromium (+3)	0.055 mg/L	
Copper	11 µg/L	0.0021 lbs/day
Cyanide (Amenable)	0.95 µg/L	0.00012 lbs/day
Lead	<0.022 mg/L	
Nickel	0.26 mg/L	0.045 lbs/day
Silver	<0.0041 mg/L	
Zinc	0.011 mg/L	
Oil & Grease (Hexane)	0.71 mg/L	
Phosphorus	3.2 mg/L	

*Results below the level of detection (LOD) were included as zeroes in calculation of average.

PART 2 – WATER QUALITY-BASED EFFLUENT LIMITATIONS

Attachment #1

FOR TOXIC SUBSTANCES – EXCEPT AMMONIA NITROGEN

Permit limits for toxic substances are required whenever any of the following occur:

1. The maximum effluent concentration exceeds the calculated limit (s. NR 106.05(3), Wis. Adm. Code)
2. If 11 or more detected results are available in the effluent, the upper 99th percentile (or P_{99}) value exceeds the comparable calculated limit (s. NR 106.05(4), Wis. Adm. Code)
3. If fewer than 11 detected results are available, the mean effluent concentration exceeds 1/5 of the calculated limit (s. NR 106.05(6), Wis. Adm. Code)

The following tables list the calculated WQBELs for this discharge along with the results of effluent sampling for all the detected substances. All concentrations are expressed in terms of micrograms per liter (µg/L), except for hardness and chloride (mg/L) and mercury (ng/L).

Phillips Plating is required to sample for multiple toxic substances either from the permit application or for determining compliance with the TBELs, that are not required sampling for the City of Phillips. Therefore, the calculated limits based on the combined discharge and the associated sample from Phillips Plating for those toxic substances will be included in the tables below in *italics*. Reasonable potential for the need of limits for those toxic substances will not be evaluated at this time unless the same sampling is done at the City of Phillips' discharge or the concentration of the toxic substance in the City of Phillips' discharge is expected to be nondetectable.

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

RECEIVING WATER FLOW = 10:1 dilution.

SUBSTANCE	REF. HARD. mg/L	ATC	MAX. EFFL. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	1-day P_{99}
Chloride (mg/L)		757	1,514	303	130	
Chromium (+3)	236	3,643	7,286			19
Copper	236	34.9	69.8			25
Nickel	236	970	1,940	388	23	
Zinc	236	255	510	102	33	
Chromium (+6)		16.0	32.0	6.41	5.4	
Cyanide (Amenable)		45.8	91.6	18.3	0.95	
Mercury (ng/L)		830	1,660	332	0.33	
*Phenols (Total)**		4,460.3	4,460.3	892	18	

* The limit for this substance is based on a secondary value. Acute limits are set equal to the secondary value rather than two times or using the 1-Q_{10} s. NR 106.06(3)(b)2, and s. NR 105.05(2)(f)6), Wis. Adm Codes.

Weekly Average Limits based on Chronic Toxicity Criteria (CTC)

RECEIVING WATER FLOW = 10:1 dilution.

SUBSTANCE	REF. HARD. mg/L	CTC	MEAN BACK-GRD.	WEEKLY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	4-day P_{99}
Chloride (mg/L)		395	3.5	4,310	862	130	
Chromium (+3)	31	50.3	0.819	545			10

Attachment #1

SUBSTANCE	REF. HARD. mg/L	CTC	MEAN BACK-GRD.	WEEKLY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	4-day P_{99}
Copper	31	3.78	1.16	30.0			20
Nickel	31	19.3	0.83	204	40.7	23	
Zinc	31	43.0	1.82	454	90.9	33	
Chromium (+6)		11.0		121	24.2	5.4	
Cyanide (Amenable)		11.5		126	25.2	0.95	
Mercury (ng/L)		440		4,840	968	0.33	
*Phenols (Total)**		2,197.2		24,169	4,834	18	

* The limit for this substance is based on a secondary value.

Monthly Average Limits based on Wildlife Criteria (WC)

RECEIVING WATER FLOW = 10:1 dilution.

SUBSTANCE	WC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Mercury (ng/L)	1.3		14.3	2.86	0.33

Monthly Average Limits based on Human Threshold Criteria (HTC)

RECEIVING WATER FLOW = 10:1 dilution.

SUBSTANCE	HTC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	30-day P_{99}
Chromium (+3)	3,818,000	0.819	41,997,992			5.4
Nickel	43,000	0.83	472,992	94,598	23	
Antimony	373		4,103	821	85	
Chromium (+6)	7,636		83,996	16,799	5.4	
Mercury (ng/L)	1.5		16.5	3.30	0.33	
Methylene chloride	95,000		1,045,000	209,000	0.9	
*Thallium**	3.5		39	7.70	0.018	

* The limit for this substance is based on a secondary value.

Monthly Average Limits based on Human Cancer Criteria (HCC)

RECEIVING WATER FLOW = 10:1 dilution.

SUBSTANCE	HCC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Chloroform	1,960		21,560	4,312	0.11
Methylene chloride	2,700		29,700	5,940	0.9

In addition to evaluating the need for limits for each individual substance for which HCC exist, s. NR 106.06(8), Wis. Adm. Code, requires the evaluation of the cumulative cancer risk. Because no effluent

limits are needed based on HCC, determination of the cumulative cancer risk is not needed per s. NR 106.06(8), Wis. Adm. Code.

Conclusions and Recommendations
Based on a comparison of the effluent data and calculated effluent limitations, **WQBELs are not recommended for any toxic substances.** TBELs Monitoring recommendations are made in the paragraphs below:

Copper – The following recommendation was made in the limits evaluation for the City of Phillips (January 2023). The limit of detection of <9.5 µg/L of some samples taken during March 2020 – September 2022 for Phillips Plating is significantly higher than the limit of detection and detects of earlier samples taken June 2017 – December 2019. This contributes to an overall uncertainty if copper concentrations in the effluent are actually higher than they are. **A different approved analytical method is recommended for future samples for copper such that the limit of detection is less than 9.5 µg/L to better determine the need for copper limits at the next permit reissuance.**

Lead – The following recommendation was made in the limits evaluation for the City of Phillips (January 2023). The limit of detection of the City of Phillips' sample submitted for lead is <22 µg/L using the EPA 200.7 analytical method. The limit of detection of this analytical method is higher than 1/5th of the calculated limit (18.5 µg/L, based on CTC for the combined discharge in the City of Phillips limit evaluation) and is not certain if a nondetect sample is actually lower than that value. This limit of detection is also used in lead samples for Phillips Plating from December 2018 – June 2023. **A different approved analytical method is recommended for future samples for lead such that the limit of detection is less than or equal to 18.5 µg/L to better determine the need for lead limits at the next permit reissuance.**

Mercury – Effluent mercury sampling over the current permit term (n = 20, December 2018 – September 2023) shows the mean effluent concentration is 0.33 ng/L. This concentration is below the calculated combined discharge-based mercury WQBELs and is expected to be lower assuming the effluent mercury concentration in the City of Phillips discharge is nondetectable. Effluent mercury monitoring was not recommended for the City of Phillips based on requirements in sections NR 106.145(3)(a)3, and 200.02(8), Wis. Adm. Codes, so this assumption is valid. **Therefore, mercury limits are not recommended during the reissued permit term.** Because mercury is present in Sample Point (Outfall) 101, **mercury monitoring is recommended to continue during the reissued permit term to determine the need for mercury limits at the next permit reissuance.**

PFOS and PFOA – The need for PFOS and PFOA monitoring is evaluated in accordance with s. NR 106.98(2), Wis. Adm. Code. Previous monitoring produced a PFOS result of 0.885 ng/L and a PFOA result of nondetectable at <0.176 ng/L. A PFOS result of 0.61 ng/L (05/23/2023) was also sampled from the City of Phillips municipal supply (Well #: BG722, Sample ID: CB05457-01). These results are less than one fifth of the respective criteria for each substance. Based on the type of discharge, **PFOS and PFOA monitoring is recommended at a monthly frequency during the reissued permit term.**

Attachment #1

PART 3 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR AMMONIA NITROGEN

The State of Wisconsin promulgated revised water quality standards for ammonia nitrogen in ch. NR 105, Wis. Adm. Code, effective March 1, 2004 which includes criteria based on both acute and chronic toxicity to aquatic life. Given the fact that Phillips Plating does not currently have ammonia nitrogen limits, the need for limits is evaluated at this time.

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)
Daily maximum limitations are based on acute toxicity criteria in ch. NR 105, Wis. Adm. Code, which are a function of the effluent pH and the receiving water classification. The acute toxicity criterion (ATC) for ammonia is calculated using the following equation:

$$\text{ATC in mg/L} = [A \div (1 + 10^{(7.204 - pH)})] + [B \div (1 + 10^{(pH - 7.204)})]$$

Where:

A = 0.411 and B = 58.4 for a WWSF community, and
pH (s.u.) = that characteristic of the effluent.

The effluent pH data was examined as part of this evaluation. A total of 1,232 sample results were reported from October 2018 – September 2023. The maximum reported value was 9.5 s.u. (Standard pH Units). The effluent pH was 9.5 s.u. or less 99% of the time. The 1-day P_{99}, calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 9.5 s.u. The mean plus the standard deviation multiplied by a factor of 2.33, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 9.5 s.u. Therefore, a value of 9.5 s.u. is believed to represent the maximum reasonably expected pH, and therefore most appropriate for determining daily maximum limitations for ammonia nitrogen.

The effluent pH data from the City of Phillips was also examined as part of this evaluation. A total of 2,099 sample results were reported from January 2018 – September 2023. The maximum reported value was 7.5 s.u. (Standard pH Units). The effluent pH was 7.4 s.u. or less 99% of the time. The 1-day P_{99}, calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 7.5 s.u. The mean plus the standard deviation multiplied by a factor of 2.33, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 7.5 s.u. Therefore, a value of 7.5 s.u. is believed to represent the maximum reasonably expected pH, and therefore most appropriate for determining daily maximum limitations for ammonia nitrogen. Using this pH value with the maximum expected pH value of 9.5 s.u. for Phillips Plating, the calculated flow-weighted maximum expected pH value for the combined discharge would be 7.6 s.u. Substituting a value of 7.6 s.u. into the equation above yields an ATC = 17.59 mg/L.

There was a concern raised during the City of Phillips limit evaluation (January 2023) that estimating the combined discharge pH based solely on mixing may not be accurate because it does not account for the effects of alkalinity and other factors that may influence the concentration of hydrogen ions in the combined discharge. **Weekly pH monitoring at the combined discharge (Outfall 003 in the City of Phillips permit) for 1 year is required whenever both discharges are present and is recommended for Phillips Plating at Outfall 001.** Both facilities are responsible for conducting pH sampling on the combined discharge.

Daily Maximum Ammonia Nitrogen Effluent Limitations Calculation Method
In accordance with s. NR 106.32(2), Wis. Adm. Code daily maximum ammonia limitations are either set equal to two times the acute criteria (the final acute value) or calculated using the mass balance equation

in s. NR 106.32(2)(e), Wis. Adm. Code. In this case, limits calculated set equal to two times ATC are more restrictive. This method is used to calculate the daily maximum limit of 35 mg/L for the combined discharge.

Weekly and Monthly Average Limits based on Chronic Toxicity Criteria (CTC)
The weekly and monthly average ammonia nitrogen limits calculation from the previous limit evaluation (July 2017) do not change because a 10:1 dilution ratio is used for lake dischargers as described in s. NR 106.06(4)(b)2, Wis. Adm. Code, regardless of the change in the effluent flows from Phillips Plating or the City of Phillips. The calculations from the previous limit evaluation are included as attachment #3.

Effluent Data
The following table presents the statistics based upon effluent ammonia data reported from both Phillips Plating and the City of Phillips. The calculated flow-weighted P_{99} results are compared to the calculated weekly and monthly average combined discharge limits to determine the need to include ammonia limits in the Phillips Plating permit for the respective month ranges. This need is also determined by comparing the 1-day P_{99} results of the combined discharge to the respective daily maximum limits.

Ammonia Nitrogen Effluent Data

Statistics mg/L	Phillips Plating	City of Phillips	Combined Discharge
1-day P_{99}	61	28.1	30
4-day P_{99}	43	15.7	17
30-day P_{99}	33	9.2	11
Mean*	29	6.5	
Std	10	5.7	
Sample size	60	66	
Data Range	9.1 - 59	<0.1 - 28.2	
Date Range	10/24/2018 – 09/20/2023	01/02/2018 – 09/05/2023	

*Values lower than the level of detection were substituted with a zero.

Based on this comparison, there is no reasonable potential for the combined discharge to exceed any of the calculated ammonia nitrogen limits. **Therefore, ammonia nitrogen limits are not recommended during the reissued permit term. Ammonia nitrogen monitoring is recommended to continue during the reissued permit term to determine the need for limits at the next permit reissuance.**

PART 4 – PHOSPHORUS

Technology-Based Effluent Limit
Subchapter II of Chapter NR 217, Wis. Adm. Code, requires industrial facilities that discharge greater than 60 pounds of total phosphorus per month to comply with a 12-month rolling average limit of 1.0 mg/L, or an approved alternative concentration limit. Phillips Plating has demonstrated the need of this limit in historic limit evaluations and had the approved alternative effluent phosphorus limit (AEL) of 6.0 mg/L as a 12-month rolling average by meeting the requirements as described in s. NR 217.04(2)(a)1, Wis. Adm. Code. The applicability of continuing a phosphorus AEL must be reevaluated as every permit issuance. Otherwise the 1.0 mg/L limit shall apply.

The phosphorus AEL was originally implemented in Phillips Plating's permit on the basis of the 1.0 mg/L limit not being practically achievable as described in s. NR 217.04(2)(a)1, Wis. Adm. Code. The Department approved the use of a phosphorus AEL on the basis of the small mass of phosphorus discharged and the relatively high cost per pound for its removal from the electroless nickel rinse (ENR) process wastewater. This decision is discussed in detail in the phosphorus AEL approval memorandum dated 12/17/2009. The regional compliance engineer had contacted Phillips Plating and had stated their processes have remained unchanged from the time the phosphorus AEL approval was originally given in the permit. The following table summarizes effluent total phosphorus monitoring data from Phillips Plating from May 2020 – September 2023. Effluent total phosphorus data from April 2020 – August 2020 is excluded from this evaluation because correspondence with the facility stated production had decreased significantly to a maximum of 50% in this timeframe due to the COVID pandemic. Calculated flow-weighted effluent data with the City of Phillips effluent phosphorus data is not utilized because the phosphorus WQBEL is set equal to the applicable criterion and is applied to both discharges before they combine.

Total Phosphorus Effluent Data

Statistics	Conc. (mg/L)	Mass (lbs/day)
1-day P_{99}	7.2	1.4
4-day P_{99}	5.0	0.94
30-day P_{99}	3.9	0.71
Mean	3.3	0.60
Std	1.2	0.25
Sample size	234	234
Range	0.17 – 8.2	0.027 – 1.6

Based on a review of the above information, the use of a phosphorus AEL is still appropriate for the current discharge. The phosphorus AEL shall be established considering the effluent quality achievable as described in s. NR 217.04(2)(a)1.b, Wis. Adm. Code. **Therefore, the phosphorus AEL of 3.9 mg/L as a 12-month rolling average is recommended during the reissued permit term.** This value is based on the 30-day P_{99} of effluent phosphorus data shown above. A review of 12-month rolling average effluent phosphorus data from September 2019 – March 2020 and September 2021 – September 2023 shows Phillips Plating would have met this limit 100% of the time, with a maximum value of 3.5 mg/L (October 2020 – September 2021).

Water Quality-Based Effluent Limits (WQBEL)

Revisions to administrative rules regulating phosphorus took effect on December 1, 2010. These rule revisions include additions to s. NR 102.06, Wis. Adm. Code, which establish phosphorus standards for surface waters. Subchapter III of NR 217, Wis. Adm. Code, establishes procedures for determining WQBELs for phosphorus, based on the applicable standards in ch. NR 102, Wis. Adm. Code.

Elk Lake has a stratified deep lowland drainage lake hydrology as reported by surface water data viewer (SWDV) where the phosphorus criterion of 0.030 mg/L, as described in s. NR 102.06(4)(b)2, Wis. Adm. Code, applies. This lake hydrology has been updated from a non-stratified lake to a stratified lake since the previous limit evaluation (July 2017), which has decreased the applicable phosphorus criterion from 0.040 to 0.030 mg/L. The decision to assess Elk Lake as a deep lowland was made in 2014 using a stratification equation developed by Department researchers (Lathrop and Lillie, 1980) and multiple samples of background temperature data at the top and bottom of the lake on the same dates. Based on the

stratification equation and a couple of paired background temperature samples that indicate possible stratification, the lake most likely stratifies.

Because Elk Lake is an inland lake, the effluent limit will be set equal to the criterion of 0.030 mg/L as described in s. NR 217.13(3), Wis. Adm. Code. Reasonable potential is not evaluated for the need of the phosphorus WQBEL in the permit because Phillips Plating intends to comply with the phosphorus WQBELs via their approved WQT plan.

Limit Expression
According to s. NR 217.14(2), Wis. Adm. Code, because the calculated WQBEL is less than or equal to 0.3 mg/L, **the effluent limit of 0.030 mg/L may be expressed as a 6-month average.** If a concentration limitation expressed as a 6-month average is included in the permit, **a monthly average concentration limitation of 0.090 mg/L, equal to three times the WQBEL calculated under s. NR 217.13, Wis. Adm. Code shall also be included in the permit.** The 6-month average should be averaged during the months of May – October and November – April.

Mass Limits
A mass limit is also required, pursuant to s. NR 217.14(1)(c), Wis. Adm. Code, because the discharge is to an inland lake. This final mass limit shall be 0.030 mg/L × 0.0229 MGD × 8.34 × 365 days/yr = **2.1 lbs/yr expressed as an annual total.**

Water Quality Trading Minimum Control Level
A WQT plan has been submitted as an alternative compliance option to offset any total phosphorus discharged from Sample Point (Outfall) 101 that exceed the phosphorus WQBELs. The phosphorus WQBELs may be expressed as computed compliance limits, but a MCL must be set as a limit not to be exceeded at the outfall location. **Therefore, the phosphorus AEL of 3.7 mg/L as a 12-month rolling average is recommended during the reissued permit term to serve as the MCL.**

PART 5 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR THERMAL

Surface water quality standards for temperature took effect on October 1, 2010. These regulations are detailed in chs. NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. Daily maximum and weekly average temperature criteria are available for the 12 different months of the year depending on the receiving water classification.

In accordance with s. NR 106.53(2)(b), Wis. Adm. Code, the highest daily maximum flow rate for a calendar month is used to determine the acute (daily maximum) effluent limitation. In accordance with s. NR 106.53(2)(c), Wis. Adm. Code, the highest 7-day rolling average flow rate for a calendar month is used to determine the sub-lethal (weekly average) effluent limitation. For days where the combined discharge is present, the sum of the actual flows reported between Phillips Plating (October 2018 – September 2023) and the City of Phillips (January 2018 – September 2023) and are used to calculate the combined discharge temperature limits.

Neither the City of Phillips nor Phillips Plating have monitored for temperature during the current permit term. Historic daily maximum and weekly average temperature effluent data for the City of Phillips are

available from a previous limit evaluation (February 2011) and will be used to calculate flow-weighted effluent temperatures for the combined discharge. The previous limit evaluation for the City of Phillips (January 2023) assumes an overall effluent temperature of 62 °F (01/05/2023) for Phillips Plating based on correspondence with Phillips Plating. The permit application has an effluent temperature sample of 70 °F (02/28/2023) and will be used as an updated estimate of the maximum effluent temperature to calculate the flow-weighted effluent temperature for the combined discharge.

The following tables below summarize the calculated temperature limits for the combined discharge, along with calculated flow-weighted maximum temperatures values.

Monthly Temperature Effluent Data & Limits

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum (°F)	Daily Maximum (°F)	Weekly Average Effluent Limitation (°F)	Daily Maximum Effluent Limitation (°F)
JAN	51	52	61	86
FEB	48	49	69	88
MAR	50	50	69	86
APR	55	55	66	89
MAY	63	64	73	90
JUN	66	67	87	98
JUL	68	69	85	94
AUG	70	71	99	116
SEP	69	70	95	120
OCT	64	66	72	110
NOV	62	62	65	120
DEC	53	55	59	87

Reasonable Potential

Permit limits for temperature are recommended based on the procedures in s. NR 106.56, Wis. Adm. Code.

- An acute limit for temperature is recommended for each month in which the representative daily maximum effluent temperature for that month exceeds the acute WQBEL. The representative daily maximum effluent temperature is the greater of the following:
  (a) The highest recorded representative daily maximum effluent temperature
  (b) The projected 99th percentile of all representative daily maximum effluent temperatures
- A sub−lethal limitation for temperature is recommended for each month in which the representative weekly average effluent temperature for that month exceeds the weekly average WQBEL. The representative weekly average effluent temperature is the greater of the following:
  (a) The highest weekly average effluent temperature for the month.
  (b) The projected 99th percentile of all representative weekly average effluent temperatures for the month

Based on the available effluent data compared to the calculated limits, **temperature limits for the combined discharge are not recommended during the reissued permit term.** The complete thermal table used for the limit calculation of the combined discharge is included as attachment #4. **Monthly monitoring for 1 year is recommended during the reissued permit term to have updated effluent temperature data to determine the need for limits at the next permit reissuance.**

PART 6 – WHOLE EFFLUENT TOXICITY (WET)

WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time and effects are recorded. Decisions below related to the selection of representative data and the need for WET limits were made according to ss. NR 106.08 and 106.09, Wis. Adm. Code. WET monitoring frequency and toxicity reduction evaluation (TRE) recommendations were made using the best professional judgment of staff familiar with the discharge after consideration of the guidance in the *Whole Effluent Toxicity (WET) Program Guidance Document (2022).*

- Acute tests predict the concentration that causes lethality of aquatic organisms during a 48 to 96-hour exposure. To assure that a discharge is not acutely toxic to organisms in the receiving water, WET tests must produce a statistically valid LC_{50} (Lethal Concentration to 50% of the test organisms) greater than 100% effluent, according to s. NR 106.09(2)(b), Wis. Adm Code.

- Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven-day exposure. To assure that a discharge is not chronically toxic to organisms in the receiving water, WET tests must produce a statistically valid IC_{25} (Inhibition Concentration) greater than the instream waste concentration (IWC), according to s. NR 106.09(3)(b), Wis. Adm Code. The IWC is an estimate of the proportion of effluent to total volume of water (receiving water + effluent). The IWC is 9% based on dilution of 10 parts lake water to 1-part effluent, as specified in s. NR 106.06(4)(b)2, Wis. Adm. Code, or a factor of 1 in 11 to calculate the IWC.

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests, unless the use of different dilution water is approved by the Department prior to use. The primary control water must be specified in the WPDES permit.

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), receiving water must be used as the dilution water and primary control in chronic WET tests, unless the use of different dilution water is approved by the Department prior to use. The dilution water used in WET tests conducted on Outfall 001 shall be a grab sample collected from the receiving water location, upstream and out of the influence of the mixing zone and any other known discharge. The specific receiving water location must be specified in the WPDES permit.

- Shown below is a tabulation of all available WET data for Outfall 001. Efforts are made to ensure that decisions about WET monitoring and limits are made based on representative data, as specified in s. NR 106.08(3), Wis. Adm Code. Data which is not believed to be representative of the discharge was not included in reasonable potential calculations. The table below differentiates between tests used and not used when making WET determinations. Significant changes were made to WET test methods in 2004

and these changes were assumed to be fully implemented by certified labs by no later than June 2005. Therefore, only WET data available from June 2005 to present are shown in the table below:

WET Data History

Date Test Initiated	Acute Results LC_{50} %				Chronic Results IC_{25} %				Footnotes or Comments
	C. dubia	Fathead minnow	Pass or Fail?	Used in RP?	*C. dubia*	Fathead Minnow	Pass or Fail?	Use in RP?	
08/17/2005	>100	>100	Pass	Yes				Yes	
11/16/2005	>100	>100	Pass	Yes				Yes	
11/01/2007	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
07/29/2008	>100	>100	Pass	No	>100	>100	Pass	No	1
05/12/2009	>100	>100	Pass	No	>100	>100	Pass	No	1
12/02/2014	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
07/28/2015	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
10/06/2015	>100	>100	Pass	Yes	79.1	99.4	Pass	Yes	
05/03/2016	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
08/14/2018	>100	>100	Pass	Yes	62.3	>100	Pass	Yes	
06/04/2019	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
03/10/2020	>100	>100	Pass	Yes	23.7	52.4	Pass	Yes	
11/15/2021	>100	>100	Pass	Yes	50.4	>100	Pass	Yes	
08/30/2022	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
06/12/2023	>100	>100	Pass	Yes	>100	98.8	Pass	Yes	

Footnotes:

1. *Tests done by S-F Analytical, July 2008 – March 2011.* The DNR has reason to believe that WET tests completed by SF Analytical Labs from July 2008 through March 31, 2011 were not performed using proper test methods. Therefore, WET data from this lab during this period has been disqualified and was not included in the analysis.

- According to s. NR 106.08, Wis. Adm. Code, WET reasonable potential is determined by multiplying the highest toxicity value that has been measured in the effluent by a safety factor, to predict the likelihood (95% probability) of toxicity occurring in the effluent above the applicable WET limit. The safety factor used in the equation changes based on the number of toxicity detects in the dataset. The fewer detects present, the higher the safety factor, because there is more uncertainty surrounding the predicted value. WET limits must be given, according to s. NR 106.08(6), Wis. Adm. Code, whenever the applicable Reasonable Potential equation results in a value greater than 1.0.

  Acute Reasonable Potential = [(TUa effluent) (B)(AMZ)]

  According to s. NR 106.08(6)(d), Wis. Adm. Code, TUa and TUc effluent values are equal to zero whenever toxicity is not detected (i.e. when the LC_{50}, IC_{25} or $IC_{50} \geq 100\%$).

  Acute Reasonable Potential = $0 < 1.0$, **reasonable potential is not shown, and a limit is not required.**

  Chronic Reasonable Potential = [(TU_c effluent) (B)(IWC)]

Attachment #1

Chronic WET Limit Parameters

TUc (maximum) $100/IC_{25}$	**B** (multiplication factor from s. NR 106.08(6)(c), Wis. Adm. Code, Table 4)	IWC
100/23.7 = 4.2	2.3 Based on 5 detects	9%

[(TUc effluent) (B)(IWC)] = 0.87 < 1.0

Therefore, no reasonable potential is shown for a chronic WET limit using the procedures in s. NR 106.08(6) and representative data from August 2005 – June 2023.

The WET checklist was developed to help DNR staff make recommendations regarding WET limits, monitoring, and other related permit conditions. The checklist indicates whether acute and chronic WET limits are needed, based on requirements specified in s. NR 106.08, Wis. Adm. Code. The checklist steps the user through a series of questions, assesses points based on the potential for effluent toxicity, and suggests monitoring frequencies based on points accumulated during the checklist analysis. As toxicity potential increases, more points accumulate, and more monitoring is recommended to ensure that toxicity is not occurring. A summary of the WET checklist analysis completed for this permittee is shown in the table below. Staff recommendations based on best professional judgment are provided below the summary table. For guidance related to reasonable potential and the WET checklist, see Chapter 1.3 of the WET Guidance Document: https://dnr.wisconsin.gov/topic/Wastewater/WET.html.

WET Checklist Summary

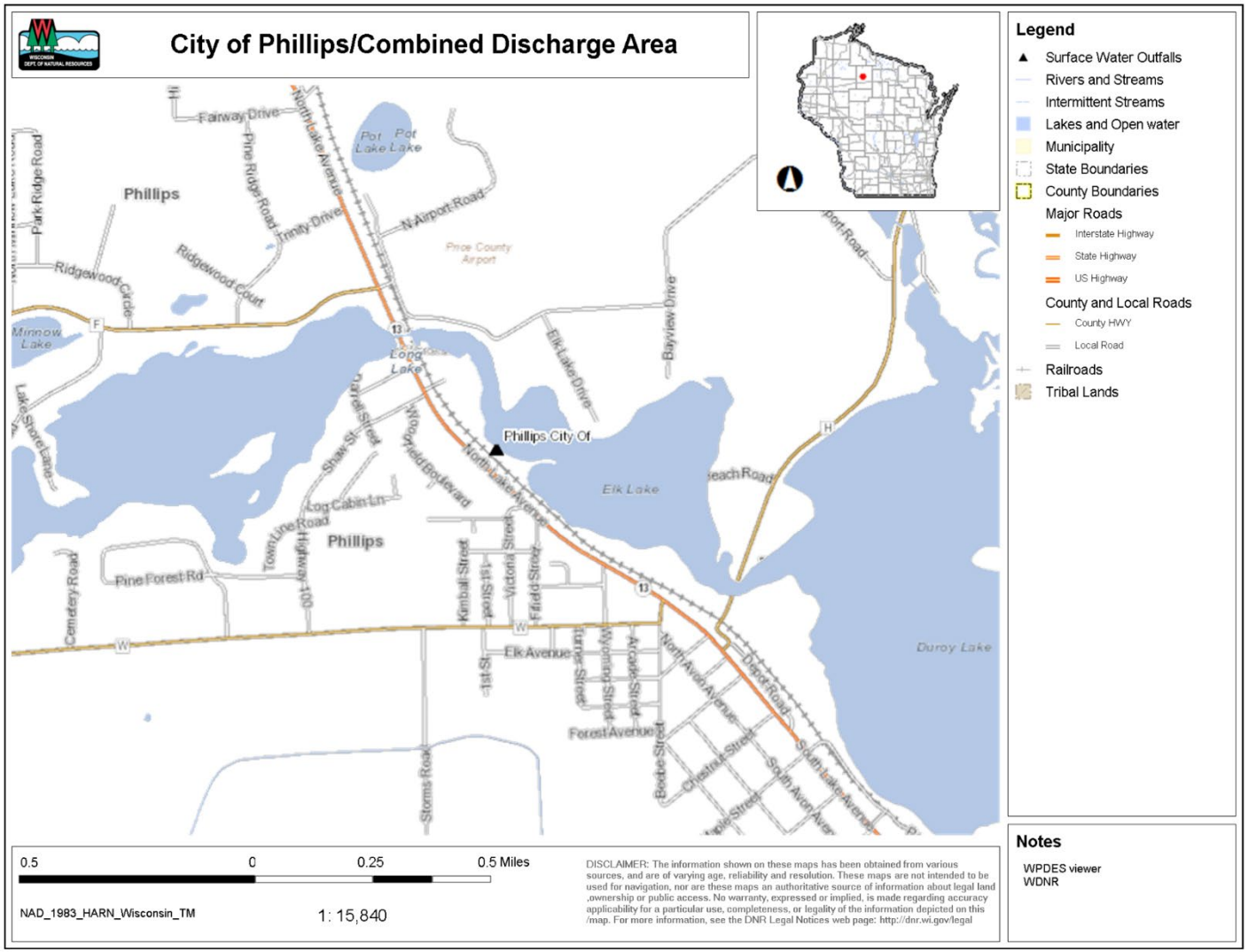
	Acute	**Chronic**
AMZ/IWC	Not applicable. **0 Points**	IWC = 9%. **0 Points**
Historical Data	13 tests used to calculate RP. No tests failed. **0 Points**	13 tests used to calculate RP. No tests failed. **0 Points**
Effluent Variability	Phillips Plating - Little variability, no violations or upsets, consistent WWTF operations. City of Phillips - Little variability, no violations or upsets, consistent WWTF operations. **0 Points**	Same as acute. **0 Points**
Receiving Water Classification	WWSF community. **5 Points**	Same as acute. **5 Points**
Chemical-Specific Data	No reasonable potential for limits based on ATC; multiple substances detected. No additional compounds of concern. **3 Points**	No reasonable potential for limits based on CTC; multiple substances detected. No additional compounds of concern. **3 Points**
Additives	Phillips Plating – 5 water quality conditioners used. City of Phillips - 1 water quality conditioner added (ferric chloride). Permittee has proper P chemical SOPs in place by prioritizing optimization of biological P removal over ferric chloride use and conducting in-house process	Phillips Plating – All additives used for 4 consecutive days. City of Phillips - Ferric chloride is used on an as needed basis but has the potential to be used for 4 consecutive days.

	Acute	Chronic
	control tests. **6 Points**	 **6 Points**
Discharge Category	Phillips Plating – Metal processing facility. City of Phillips – 2 industrial contributors. **21 Points**	Same as acute. **21 Points**
Wastewater Treatment	Secondary or better. **0 Points**	Same as acute. **0 Points**
Downstream Impacts	No impacts known. **0 Points**	Same as acute. **0 Points**
Total Checklist Points:	**35 Points**	**35 Points**
Recommended Monitoring Frequency (from Checklist):	Annual acute tests recommended.	Annual chronic tests recommended.
Limit Required?	No.	No.
TRE Recommended? (from Checklist)	No.	No.

- A minimum of **annual acute and chronic WET testing is recommended during the reissued permit term** because Phillips Plating is a primary industry. Tests should be done in rotating quarters to collect seasonal information about this discharge. WET testing should continue after the permit expiration date (until the permit is reissued). The WET checklist conducted for the combined discharge in the SWAMP database is 6 points lower than above because it does not account for industrial contributors when an industry-specific discharge is claimed and vice versa. The WET checklist for the combined discharge is stored in SWAMP under the City of Phillips WET information because all WET tests conducted on the combined discharge are stored in the same location.

Attachment #1

Attachment #3



Attachment #3

Calculated Weekly & Monthly Average Ammonia Nitrogen Limits (July 2017 Limit Evaluation)

Parameter	April – June	July – September	October – December	January – March
Mean Ambient pH* (s.u.)	7.38	7.61	7.15	7.15
Ambient Temp.# (deg F)	67	72	52	35
4-day Criterion (mg/L)	8.74	5.99	17.23	22.46
Weekly Ave. Limit (mg/L)	**96**	**65**	**189**	**246**
30-day Criterion (mg/L)	3.50	2.40	6.89	8.98
Monthly Ave. Limit (mg/L)	**38**	**26**	**75**	**98**

* - pH based on actual in-lake samples from Elk Lake in Price County, from the State Labe of Hygiene, 1996 – 2006

- Default ambient temperature values for northern lakes in Table 4 of ch. NR 102, temperatures represent the warmest monthly default in each of the indicated monthly ranges.

@ - Criteria based on the assumed absence of early life stages of fish.

Attachment #4

Temperature Limits for Receiving Waters without Unidirectional Flow

(calculation using default ambient temperature data)

Facility: Phillips Plating

Outfall(s): 001

Date Prepared: 11/15/2023

Design Flow (Qe): 0.397 MGD

Lake Type: Northern Inland Lakes

Discharge Type: Inland lake or impoundment shore discharge

Maximum area of mixing zone allowed (coefficient "A"): 15,708 ft^2

Month	Water Quality Criteria			Representative Highest Effluent Flow Rate (Qe)		B	e^{-a} (for SL-WQBEL)	e^{-a} (for A-WQBEL)	Representative Highest Monthly Effluent Temperature		**Calculated Effluent Limit**	
	Ta (default)	Sub-Lethal WQC	Acute WQC	7-day Rolling Average (Qesl)	Daily Maximum Flow Rate (Qea)				Weekly Average	Daily Maximum	**Weekly Average Effluent Limitation**	**Daily Maximum Effluent Limitation**
	(°F)	(°F)	(°F)	(MGD)	(MGD)				(°F)	(°F)	(°F)	(°F)
JAN	35	49	76	0.36	1.00	0.405	0.547	0.805	51	52	61	86
FEB	34	52	76	0.32	0.89	0.405	0.510	0.784	48	49	69	88
MAR	35	55	76	0.41	0.96	0.405	0.588	0.798	50	50	69	86
APR	41	60	78	0.76	0.84	0.405	0.750	0.771	55	55	66	89
MAY	55	67	81	0.53	0.75	0.405	0.664	0.748	63	64	73	90
JUN	67	75	85	0.28	0.47	0.555	0.398	0.573	66	67	87	98
JUL	72	79	86	0.48	0.67	0.667	0.545	0.649	68	69	85	94
AUG	71	79	86	0.24	0.26	0.667	0.290	0.332	70	71	99	116
SEP	63	72	84	0.21	0.23	0.555	0.282	0.317	69	70	95	120
OCT	52	61	80	0.28	0.30	0.405	0.460	0.481	64	66	72	110
NOV	43	50	78	0.19	0.21	0.405	0.322	0.350	62	62	65	120
DEC	35	49	76	0.41	0.95	0.405	0.588	0.796	53	55	59	87

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: December 12, 2023

TO: Sheri Snowbank – NOR/Spooner Service Center

FROM: Michael Polkinghorn – NOR/Rhinelander Service Center Michael Polkinghorn

SUBJECT: Technology-Based Effluent Limitations for Phillips Plating Corporation
WPDES Permit No. WI-0041149-09-0

This is in response to your request for an evaluation of the need for technology-based effluent limitations (TBELs) using chapters NR 220 and NR 261 of the Wisconsin Administrative Code (where applicable), for the discharge from Phillips Plating Corporation in Price County. This primary industrial facility discharges to Elk Lake, located in the Elk River Watershed in the Upper Chippewa River Basin.

Facility Description

Phillips Plating Corporation (Phillips Plating) at Phillips WI electroplates nickel, copper, and chrome onto plastic parts. The electroplating process produces wastewater that has a low pH and contains soluble forms of the metals. The wastewater is treated by chromium reduction, pH adjustment, neutralization, a proprietary chemical precipitation and oxidation process and filtration to remove the metals. The processes cause the metals to clump and settle. The settled solids (sludge) are removed, dewatered via filter press, dried, and hauled to a hazardous waste disposal site. Effluent is discharged on a noncontinuous basis via Sample Point (Outfall) 101 to the southwest bank of Elk Lake.

Prior to entering Elk Lake, the effluent from Phillips Plating is combined with effluent from the City of Phillips Wastewater Treatment Facility (Sample Point/Outfall 102) via Outfall 001. Effluent limitations based on the combined discharge are not considered in this evaluation because the metal finishing process wastewater cannot be augmented or diluted in place of adequate treatment to achieve compliance with any applicable TBELs as described in s. NR 261.12, Wis. Adm. Code. Therefore, any applicable TBELs will be implemented at Sample Point (Outfall) 101.

Existing Permit Limitations

The current permit, expired on 09/30/2023, includes the following effluent limitations and monitoring requirements.

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	6-Month Average	12-Month Rolling Average	Footnotes
Flow Rate							1
TSS	60 mg/L			31 mg/L			2
pH	9.5 s.u.	4.0 s.u.					2, 3
Cadmium (Total Recoverable)	330 µg/L 0.17 lbs/day		140 µg/L 0.05 lbs/day	**140 µg/L**			4
Chromium (Total Recoverable)	2.77 mg/L			1.71 mg/L			2
Copper (Total Recoverable)	290 µg/L 0.15 lbs/day			**290 µg/L**			4

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	6-Month Average	12-Month Rolling Average	Footnotes
Cyanide (Amenable)	420 µg/L 0.22 lbs/day			**420 µg/L**			4
Lead (Total Recoverable)	0.69 mg/L			0.43 mg/L			2
Nickel (Total Recoverable)	3.98 mg/L		3.69 mg/L 0.86 lbs/day	2.38 mg/L			2
Silver (Total Recoverable)	0.43 mg/L			0.24 mg/L			2
Zinc (Total Recoverable)	2.2 mg/L			1.48 mg/L			2
Oil & Grease (Hexane)	52 mg/L			26 mg/L			2
Phosphorus							
Interim						6.0 mg/L	
Final				0.12 mg/L	0.04 mg/L		
Mercury (Total Recoverable)							1
Hardness (Total as $CaCO_3$)							1
BOD_5							1
Ammonia Nitrogen							1

Footnotes:

1. Monitoring only.
2. These daily maximum and monthly average concentration limits are technology-based effluent limits (TBELs) as described in ch. NR 261, Wis. Adm. Code, applicable to metal finishing discharges into waters of the state. The daily maximum zinc limit is a WQBEL.
3. These limits are TBELs applicable to discharges with continuous pH monitoring as described in s. NR 205.06, Wis. Adm. Code. Additional conditions are outlined in section 2.2.2.1. of the current permit. TBEL pH limits are consistent with s. NR 102.04(4)(c), and s. NR 102.05(3)(h), Wis. Adm. Codes.
4. Additional limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are included in bold.

Industrial Category

Chapter NR 261, Wis. Adm. Code, specifies effluent limit guidelines (ELGs) for any point source discharges of metal finishing process wastewater into waters of the state. Phillips Plating has historically discharged metal finishing process wastewater generated from the electroplating of nickel, copper, and chrome. This practice was brought into compliance from previous evaluations using the effluent limit guidelines in ch. NR 261, Wis. Adm. Code. The facility has stated in the permit application their process has not changed during the current permit term nor do they plan on altering the current process or adding additional processes to generate additional process wastewater in the reissued permit term. The permittee must meet the applicable ELGs as described in this subchapter. These ELGs include:

- Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT) in s. NR 261.12(1), Wis. Adm. Code.
- Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT) in s. NR 261.12(2), Wis. Adm. Code.
- If determined to be a new source, new source performance standards (NSPS) in s. NR 261.12(3), Wis. Adm. Code.

Chapter NR 261, Wis. Adm. Code is based on federal effluent guidelines in 40 CFR Part 433 Subpart A. Section NR 220.13, Wis. Adm. Code, includes provisions that address cases where federal and state rule differ. Wisconsin statutes at s. 283.11, Wis. Stats., address compliance with federal standards. In this case, the state rules are consistent with federal rules with a few exceptions. In such cases, the permit will be based on the most stringent regulations. The omissions are described below.

New Source Determination

Regarding NSPS, the state defines the new source date for direct dischargers as August 29, 1983 as described in s. NR 261.03(4), Wis. Adm. Code. However, the new source date for direct dischargers is July 15, 1983 based the Boornazian memo (September 28, 2006) which specifies new source dates for federal effluent limit guidelines. The Department relies on the Boornazian memo to establish date of applicability for NSPS when it is not specified in the state or federal rules or if state rules differ. Therefore, the federal-based date will be utilized in this evaluation.

A review of the applicable ELGs in ch. NR 261, Wis. Adm. Code, and in 40 CFR Part 433 Subpart A show the NSPS TBELs are equal to the BPT TBELs, with the exception that the NSPS cadmium TBELs are more stringent. The current permit contains daily maximum and monthly average cadmium WQBELs that are more stringent than either ELGs' cadmium TBELs. Therefore, this date does not need to be determined for Phillips Plating at this time. In addition the BPT TBELs are more stringent than the BAT TBELs. Therefore, only BPT standards are implemented as specified in s. NR 261.12(1), Wis. Adm. Code.

BPT - (Table 1 of s. NR 261.12(1), Wis. Adm. Code)

These standards state that any discharge of metal finishing process wastewater to waters of the state shall achieve the following:

BPT Effluent Limits

Parameter	Daily Maximum	Daily Minimum	Monthly Average
Cadmium (Total Recoverable)	0.69 mg/L		0.26 mg/L
Chromium (Total Recoverable)	2.77 mg/L		1.71 mg/L
Copper (Total Recoverable)	3.38 mg/L		2.07 mg/L
Lead (Total Recoverable)	0.69 mg/L		0.43 mg/L

Nickel (Total Recoverable)	3.98 mg/L		2.38 mg/L
Silver (Total Recoverable)	0.43 mg/L		0.24 mg/L
Zinc (Total Recoverable)	2.61 mg/L		1.48 mg/L
Cyanide (Total Recoverable)[1]	1.20 mg/L		0.65 mg/L
Total Toxic Organics (TTO)[2]	2.13 mg/L		
Oil & Grease	52 mg/L		26 mg/L
Total Suspended Solids (TSS)	60 mg/L		31 mg/L
pH	9.5 s.u.	6.0 s.u.	

Footnotes:

1. For facilities with cyanide treatment and upon Department approval, the amenable cyanide daily maximum and monthly average limits of 0.86 and 0.32 mg/L respectively may be applied in place of the total recoverable cyanide limits.
2. In place of TTO monitoring, the Department may allow dischargers to make the following certification statement: "Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for TTO, I certify that to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the TTO management plan submitted to the Department." If this alternative is implemented, the discharger shall submit a TTO management plan. The plan shall specify the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and procedures for ensuring that toxic organic do not routinely spill or leak into the wastewater. This plan shall be incorporated as a provision in the permit.

Phillips Plating has been implementing the amenable cyanide and TTO provisions in footnotes 1 and 2 respectively in the current permit. **These provisions may be continued in the reissued permit term** as the permit application stated their process has not changed during the current permit term nor do they plan on altering the current process during the reissued permit term. The TTO limit is not explicitly implemented in the current permit term because the alternate TTO monitoring provisions equivalently control the concentration of TTO in the discharge regardless of whether the limit is effective in the permit or not. **Therefore, the daily maximum TTO limit of 2.13 mg/L may continue to be omitted given the alternate TTO monitoring provisions continue during the reissued permit term.**

A review of the above BPT TBELs with the BPT TBELs in 40 CFR Part 433 Subpart A shows the daily maximum pH limit in federal regulations is more stringent than in state regulations at 9.0 s.u. State wastewater regulations must be at least as stringent as federal regulations; **therefore, the daily maximum pH limit of 9.0 s.u. is required during the reissued permit term instead. The daily minimum pH limit of 6.0 s.u. is required during the reissued permit term** because Phillips Plating must comply with the limit before mixing with other non-metal finishing process wastewaters. In addition, the current

permit has continuous pH monitoring requirements as described in s. NR 205.06, Wis. Adm. Code. Because Phillips Plating has to comply with the pH limit range of 6.0 – 9.0 s.u. consistently and are based on TBEL requirements, **continuous pH monitoring requirements are recommended to be removed during the reissued permit term.**

Recommended Final TBELs

Numeric TBELs Recommended for Sample Point (Outfall) 101

Parameter	Daily Maximum	Daily Minimum	Monthly Average
Cadmium (Total Recoverable)	0.69 mg/L		0.26 mg/L
Chromium (Total Recoverable)	2.77 mg/L		1.71 mg/L
Copper (Total Recoverable)	3.38 mg/L		2.07 mg/L
Lead (Total Recoverable)	0.69 mg/L		0.43 mg/L
Nickel (Total Recoverable)	3.98 mg/L		2.38 mg/L
Silver (Total Recoverable)	0.43 mg/L		0.24 mg/L
Zinc (Total Recoverable)	2.61 mg/L		1.48 mg/L
Cyanide (Amenable)	0.86 mg/L		0.32 mg/L
Oil & Grease	52 mg/L		26 mg/L
Total Suspended Solids (TSS)	60 mg/L		31 mg/L
pH	9.0 s.u.	6.0 s.u.	

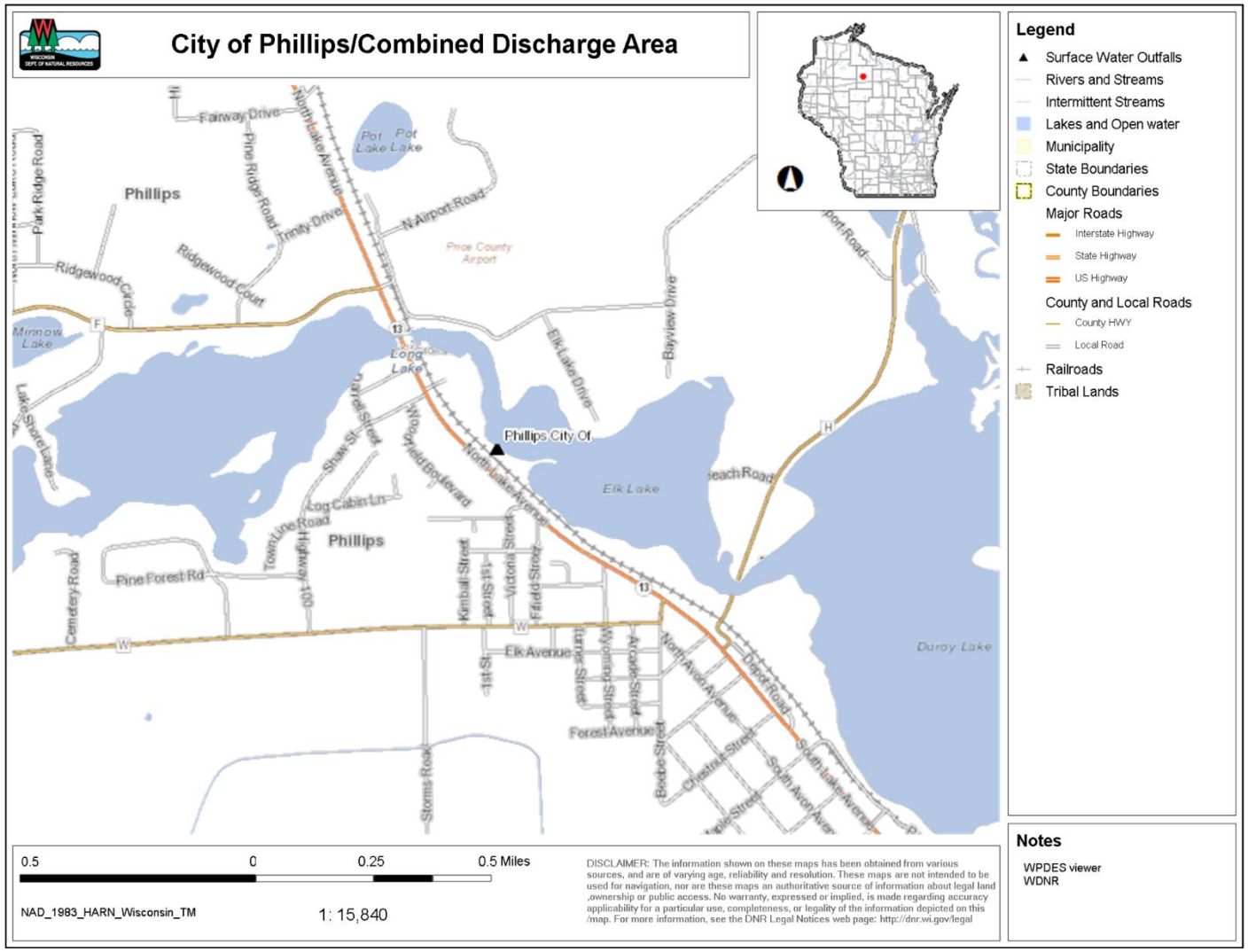
Narrative TBELs & Monitoring Recommended for Outfall 001

- TTO: The following certification statement: "Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for TTO, I certify that to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the TTO management plan submitted to the Department." A TTO management plan shall be submitted to the Department. The plan shall specify the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and procedures for ensuring that toxic organic do not routinely spill or leak into the wastewater.

Conclusion

The Department has determined that TBEL limits are the same as those limits determined in the previous permit with the exception of the daily maximum pH limit of 9.0 s.u., the daily minimum pH limit of 6.0 s.u., and removal of the continuous pH monitoring requirements. **Therefore, the above limits and monitoring are recommended during the reissued permit term.** These limits are recommended in addition to any limits determined in the WQBEL evaluation dated 12/12/2023.

Attachment #1



WATER QUALITY TRADING PLAN

for

THE PHILLIPS PLATING CORPORATION, LLC

prepared by

BENZEL SOIL SERVICES, LLC
P.O. BOX 542
MERCER, WI 54547

February 17, 2022

TABLE OF CONTENTS

PHILLIPS PLATING CORPORATION
WATER QUALITY TRADING PLAN

I. Introduction/Summary

The purpose of this water quality trading plan is to describe the Phillips Plating Corporation's use of water quality trading to comply with the total phosphorus Water Quality Based Effluent Limits for its WPDES No. WI- 0041149. This water quality trading plan was developed pursuant to the Notice of Intent to Conduct Water Quality Trading included in Attachment A. In particular, Phillips Plating will trade with upstream agricultural properties which generate trading credits via reduction of P losses by conversion from dairy production cropping practices to perennial vegetation. Phillips Plating has entered into written agreements with Neil Foytik, Anders Lund, Richard Norek and Albert Norek to maintain the new crop rotation and practices described in this trade plan through December 31, 2028.

With a total phosphorus monthly average limit of 0.04 mg/L and an average monthly flow of 0.02 million gallons per day (MGD) in 2019, Phillips Plating expects its monthly phosphorus discharge to exceed the future WPDES, monthly limit by 16.8 lbs/mo or approximately 202 lbs/yr. Phillips Plating has used SnapPlus P Trade Reports to quantify P loss reductions attributable to management practice changes on whole fields and pastures and also used the U.W. Madison's APLE-Lots Beta online tool to quantify P loss reductions attributable to practice changes which converted barnyard/dry lot exercise/feedlots to permanent vegetation. Using the appropriate trade ratios as per WDNR guidance, Phillips Plating calculated the phosphorus water quality credits available per year based on the change in management practices (i.e. conversion from dairy farming to permanent vegetative cover). Phillips Plating will use these credits to document compliance with its total phosphorus limit in its WPDES permit. A Notice of Intent to Conduct Water Quality Trading Form 3400-206 (Attachment A) and a Water Quality Trading Management Practice Registration Form 3400-207 (Attachment B) for each Trade Agreement were submitted to the WDNR in early 2020 prior to implementation of the credit-generating, management practice changes.

II. Background and Purpose

A. Background

The Phillips Plating Corporation, LLC at Phillips, WI, electroplates nickel, copper, and chrome onto plastic parts. The electroplating process produces wastewater that has a low pH and contains soluble forms of the metals. The treated wastewater is discharged to Elk Lake. The current WPDES permit is due to expire September 30, 2023. With a variance that established phosphorus discharge limits for the current WPDES permit, the Phillips Plating wastewater treatment facility has been in compliance with its permit limits and continues to make

operational improvements to reduce its phosphorus discharge. Most of the total phosphorus discharged by Phillips Plating is in the phosphite-P form which is technologically untreatable and is unavailable to aquatic ecosystem uptake or cycling; therefore, the removal of sediment and soluble P from upstream sources is expected to significantly improve water quality.

B. Phillips Plating Current Operations

The existing wastewater treatment facility was constructed in 1978. The wastewater is treated by chromium reduction, pH adjustment, neutralization, a proprietary chemical precipitation and oxidation process, and filtration to remove the metals. The removed metals are part of a precipitate sludge which is dried and hauled to a hazardous waste disposal site. The treated outfall discharges to Elk Lake located in HUC 12 070500030107.

The current phosphorus effluent limit of 6.0 mg/L based on a 12-month rolling average is allowed by variance. This variance will expire on September 30, 2023. The monthly average of daily flow in 2019 was 0.02 MGD. Operational improvements implemented in 2019 reduced total P discharges and discounted the usefulness of previous years' data sets to predict compliance needs which will start October 1, 2023. In 2019 the average effluent phosphorous concentration varied from 2.4 to 4.4 mg/L across the year. Table 1 shows each month's average flow, P concentration, P discharge, the 2023-2028 predicted, allowable P discharge and predicted monthly exceedances based on 0.02 MGD flow and the 2023, total P, Water Quality Based Effluent Limit (WQBEL) of 0.04 mg/L.

Table 1. Phillips Plating 2019 monthly average flow, P concentration, and P discharge, and predicted 2023-2028 allowable discharge and monthly exceedance.

	2019			Predicted 2023-2028	
	Avg. Flow (MGD)	P Conc. Avg. (mg/L)	P Discharge (lbs/mo)	Allowable P Discharge (lbs/mo)	Monthly Exceedance (lbs/mo)
Jan	0.020	3.85	19.8	0.21	19.6
Feb	0.021	4.12	20.2	0.20	20.0
Mar	0.019	3.70	17.7	0.19	17.5
Apr	0.020	4.23	20.7	0.20	20.5
May	0.020	4.42	22.8	0.21	22.5
Jun	0.021	2.68	14.1	0.21	13.9
Jul	0.021	3.39	18.4	0.22	18.2
Aug	0.020	2.88	14.9	0.21	14.7
Sep	0.022	2.40	13.0	0.22	12.8
Oct	0.021	2.84	15.1	0.21	14.8
Nov	0.019	3.05	14.7	0.19	14.5
Dec	0.020	2.53	13.0	0.20	12.8
Total Annual			204.4	2.46	201.9

C. Purpose

A new total phosphorus WQBEL will be required in the next permit. Partly because there is no technology available to treat/remove phosphite-P as a method to reduce the total P discharge, water quality trading involving upstream agricultural operations is planned to generate phosphorus trading credits for compliance. Because the technology available to treat/remove phosphite-P is unavailable, there has been no economic evaluation for that non-option.

Using the 2019 monthly average flow (MGD) and the monthly average effluent P concentration (mg/L) to calculate the monthly discharged P (lbs/mo), the annual total P discharge from 2019 totalled 204.4 lbs. Using the 2019 monthly average flow and the future WQBEL of 0.04 mg/L to calculate the allowable monthly discharge (lbs/mo), the future water quality based allowable load will total 2.46 lbs P/yr.

D. Annual P Load Reduction & Minimum Credit Need

Table 1 shows the future WPDES permit will only allow 2.46 pounds of phosphorous to be discharged to Elk Lake on an annual basis, a P load reduction of 202 lbs/yr. This will require a minimum of 242.4 lbs/yr of upstream P load reduction from agricultural practice changes when considering the minimum trade ratio of 1.2:1.

Water Quality Trading (WQT) will be used as the method to comply. This water quality trading plan details how credits will be generated for trading by agricultural management changes in the upstream HUC 12 070500030106. A Water Quality Trading Management Practice Registration Form 3400-207 (Attachment B) for each Trade Agreement was submitted to the WDNR in early 2020 prior to implementation of the credit-generating, management practice changes.

III. Potentially Tradeable Phosphorus, Phosphorus Loss Reductions & Credits

This section describes the characteristics of the non-point source, credit-generating, agricultural lands of the Foytik Family Farm, LLC operation relevant to the modeled P loss reductions from fields and pastures (SnapPlus) and barnyard/dry lot exercise/feedlots (APLE-Lots Beta).

The Foytik Family Farm operation, located in section 26 T37N R1E (Attachment C1), was in dairy production until spring 2020 with a corn/alfalfa/grass rotation on cropped fields and rotation- grazing on pastures. The fields and pastures total approximately 97 acres with 64 acres tillable. Additional nearby rental properties increased the total tillable acres to approximately 111 acres. These rental properties are owned by Anders Lund (NW1/4 SE1/4 S26 T37N R1E), Albert Norek (SW1/4 S23 T37N R1E), and Richard Norek (NE1/4 SW1/4 S23 T37N R1E).

Dairy production typically milked 35 head with 7 dry cows and a heifer herd totaling 34 head. An 8-yr crop rotation of silage corn, alfalfa, and grass/hay included corn for one or two years of the 8-yr rotation with the winter (Nov 16 - May 15) months' manure production (all cattle indoors 24 hr/d) surfaced spread onto future corn fields (approx. 15 acres) via daily haul. The corn and alfalfa plantings were preceded by spring mold board plowing and spring disking. Corn received supplemental fertilizers prior to planting. Alfalfa plantings received supplemental fertilizer after the crop was established.

In summer (May 16 - Nov 15) outdoor manure was delivered to pastures during grazing of the milk and heifer herds and the indoor barn (milking/over night) manure was spread onto the grassiest (old alfalfa) hay fields which were typically scheduled for corn the following year. Rental lands were in the same rotation receiving daily haul winter manure for planned corn fields, but some of the farther rental fields (Richard Norek and Albert Norek) did not receive summer-hauled or grazing manure. The Lund rental fields did receive summer, indoor barn (milking/over night) manure spread onto the most grassy hayfields typically scheduled for corn the following year.

After the sale of all cattle in late spring, 2020, all fields and pastures were converted to permanent, perennial vegetation. Fields and most pastures were either planted or allowed to convert to permanent hayland for harvest, and one pasture was allowed to convert to permanent vegetation/conservation cover (NRCS Technical Standard Code 327). Three barnyard/dry lot exercise/feedlot areas were abandoned when the cattle were sold and converted to permanent, perennial vegetation.

SnapPlus was used to model the P loss reductions attributable to implementation of perennial vegetation, management practices on all fields and pastures. APLE-Lots was used to model P loss reductions on barnyard/dry lot exercise/feedlot areas on the Foytik property.

SnapPlus data gathering and file setup were performed by Dairyland Labs, NRCS-certified Technical Service Providers. Soil samples were collected as per U.W. Ext. publication A2100 by Dairyland Labs staff and Benzel Soil Services, LLC, and soils and manure were analyzed by a Wisconsin-certified lab. Neil Foytik was interviewed by Dairyland Labs staff and Benzel Soil Services, LLC to collect input data.

Additional SnapPlus data input and Nutrient Management Planning was performed by Central Wisconsin Ag Services, LLC, of Alma Center, WI, and Benzel Soil Services. Once a single SnapPlus database file (which included all properties) was finalized, the database file was copied numerous times and renamed to represent each Trade Agreement property owner to generate the owner-specific, SnapPlus reports. In addition, each of those owner-specific, SnapPlus data files

was copied and renamed (8-yr and 1-yr) to represent different crop rotation lengths used to generate pre-trade and post-trade SnapPlus reports, respectively (detailed below). Barnyard/dry lot exercise/feedlot areas evaluated using APLE-Lots were mapped and measured using the U.W.-Madison online version of APLE-Lots and confirmed during onsite evaluations by Benzel Soil Services, LLC, with bare soil area determinations from onsite inspections and photo documentation transferred to aerial photos in the APLE-Lots drawing tool. Lot-specific soil sampling and numerous Foytik interviews provided additional APLE-Lots input data. Soil samples were collected from each barnyard/dry lot exercise/feedlot as per U.W. Ext. publication A2100 by Dairyland Labs staff and analyzed by a Wisconsin certified lab.

A. Pre-trade Whole Field Management Practices SnapPlus Modeling

1. Crops & Tillage

Cropped fields were managed in an 8-yr rotation with one or two years of corn followed by alfalfa, both spring mold board plowed and spring disked. Alfalfa naturally transitioned to grass/hay. The target 8-yr rotation was often varied due to crop yield and weather variability. Field-specific, NRCS cropping history data from 2010-2019 was entered into SnapPlus. Rental properties were cropped with the same rotation; however, red clover replaced alfalfa in some years.

Five pastures were evenly rotation-grazed by the dairy herd for 6 months of the year. One pasture was grazed by the heifer herd for 6 months of the year.

2. Nutrient Management: Manure and Fertilizer

None of the fields were previously soil tested, and no nutrient management plan was in place prior to 2020. Corn received manure and fertilizer. First-year alfalfa received fertilizer. The types and quantities of fertilizer applied to fields were entered into SnapPlus as per Foytik interviews.

Winter manure was produced from the milk herd and heifer herd indoors 24 hr/d and was hauled daily to the fields planned for corn. SnapPlus manure quantities and applications were based on 42 head (35 milking & 7 dry) in the milking herd and 34 head (cows, calves & a bull) in the heifer herd. Summer manure included the heifer herd grazing 24 hr/d for six months in one pasture, the milking herd rotation-grazing (½ the day) in numerous pastures, and the milking herd manure from milking/over night (½ the day) which was spread every other day or three times per week to fertilize the most grassy hayfields (typically those scheduled for corn the next year). There were no manure quantity records maintained, so SnapPlus manure spreading quantities were based on each herd size and each seasonal, estimated quantity was

mathematically distributed evenly on the future corn acres to simulate late fall/winter/spring (all cattle indoors 24 hr/day) manure spreading and mathematically distributed evenly on the most grassy hay fields to simulate non-winter (milk herd ½ the day) manure spreading. Representative manure from the Foytik barn was analyzed by a Wisconsin-certified lab and entered into SnapPlus.

F-17 is a 1.6-acre rental field in the Foytik rotation but is not part of this water quality trade. The pre-trade data was included to accurately account for the evenly-distributed manure spreading because this field consumed part of the Foytik manure spread for corn fertilization.

Lund F-12 is not part of this water quality trade as it may be managed for small-plot vegetable production through the duration of the trade. The Phillips Plating/Lund Trade Agreement requires the entire Lund Farm to comply with the Nutrient Management Plan (NMP).

Foytik FP-14 and Foytik FP-11 are not part of this water quality trade, but will remain in permanent vegetation and comply with the NMP.

SnapPlus Narrative and Crops Reports (NM1), Application Restriction Compliance Check Reports (NM2), Field Data and 590 Assessment Plan Reports (NM3), Nutrient Management Checklists (NM8), and Soil Test Summary Reports (FM6) are presented in Attachment C2. An 8-yr rotation, SnapPlus file generated the baseline, pre-trade SnapPlus reports with rotation length set to eight years to represent years 2012 - 2019.

B. Post-trade Whole Field Management Practices SnapPlus Modeling

1. Crops and Tillage

Since the spring 2020 sale of the cattle, the Foytik, Lund, Albert Norek, and Richard Norek fields and most of the Foytik pastures have been managed in a 1-yr rotation of permanent hay for harvest with no fertilizer or manure. Previous corn fields were seeded to grass/hay mix in 2020. Alfalfa fields were allowed to convert to grass/hay. As per each NMP and each Trade Agreement, there will be no whole field tillage after 2022. The Foytik pastures have been converted to hay for harvest. One pasture (FP-12) has been allowed to convert to permanent vegetation/conservation cover (NRCS Technical Standard Code 327).

2. Nutrient Management: Manure and Fertilizer

All fields and pastures will be managed in an NRCS Technical Standard Code 590 Nutrient Management Plan which will be updated annually as per the Operations & Management section. All fields will be soil testes every four year as per the NMP. Manure spreading will be

prohibited as per the NMP and Trade Agreement. Permanent hayland may receive fertilizer up to the amounts prescribed in the NMP. The SnapPlus fertilizer inputs for years 2024 - 2028 include the maximum U.W.-recommended rates although none of the owners anticipate fertilizer inputs to be that high.

With the sale of all cattle on the Foytik Farm, there will be no transfer of manure P sources to other fields not included in this trade or any fields owned, farmed or otherwise controlled by Foytik.

SnapPlus Narrative and Crops Reports (NM1), Application Restriction Compliance Check Reports (NM2), Field Data and 590 Assessment Plan Reports (NM3), Nutrient Management Checklists (NM8), and Soil Test Summary Reports (FM6) are presented in Attachment C2. A 1-yr rotation, SnapPlus file generated the post-trade SnapPlus reports with rotation length set to one year to represent crop years 2024 - 2028. Another 5-yr rotation, SnapPlus file with the rotation length set to five years generated a single post-trade, Field Data and 590 Assessment Plan Report rather than generating five separate reports to represent each year of the 2024 - 2028, 1-yr rotation.

C. SnapPlus Whole Field Phosphorus Reduction

Potentially tradeable phosphorus (PTP) from all fields and pastures was quantified using SnapPlus. The spreadsheet version of the SnapPlus P Trade Report was used to calculate the rotation average PTP of each field for the pre-trade years 2012 through 2019 and the post-trade, WPDES permit span of 2023 through 2028 (crop years 2024 through 2028). SnapPlus P Trade Reports are presented in Attachment D. Subtracting the average of each field's post-trade PTP (2024 -2028) from the respective pre-trade, rotation average PTP (2012-2019) yielded each field's P loss reduction attributable to the post-trade, whole field management practice changes.

Tables 2a - d show SnapPlus, field-specific, pre- and post-implementation PTP report values, pre- and post-implementation PTP rotation averages, and the respective P loss reductions.

The 2012-2019 and the 2024-2028 PTP values are also present in the SnapPlus P trade reports (Attachment D) showing all years between 2012 and 2029. The 2012-2019 PTP report was generated with each field's rotation length set to 8 years. The 2024-2028 PTP report was generated with each field's rotation length set to 1 year during the 52-year permit period. Albert Norek F-22 has been in permanent, perennial vegetation with no tillage or manure since before 2012.

Table 2a. Foytik SnapPlus, field-specific, pre- and post-implementation PTP values, pre- and post-implementation PTP rotation averages, and the respective P loss reductions.

Field	Acres	PTP 2012	PTP 2013	PTP 2014	PTP 2015	PTP 2016	PTP 2017	PTP 2018	PTP 2019	PTP 2024	PTP 2025	PTP 2026	PTP 2027	PTP 2028	2012-2019 Average	2024-2028 Average	Reduction
F1	5.4	48.1	11.4	2.8	2.1	1.6	1.2	1.9	29.8	1.1	1.0	0.9	0.9	0.8	12.4	0.9	11.4
F2	6.9	18.0	4.2	2.7	1.8	1.3	1.0	1.1	40.3	0.9	0.8	0.7	0.7	0.6	8.8	0.8	8.0
F3	10.6	1.6	1.7	104.5	24.7	6.7	4.2	2.6	2.8	2.0	1.9	1.8	1.7	1.6	18.6	1.8	16.8
F4	11.3	0.8	0.4	0.2	0.4	167.1	65.8	10.2	4.1	0.6	0.6	0.7	0.7	0.8	31.1	0.7	30.5
F5	6.0	0.7	0.6	1.1	38.2	8.3	2.2	1.5	0.9	0.2	0.2	0.1	0.1	0.1	6.7	0.2	6.6
F6	7.2	3.5	73.4	15.0	4.6	3.5	2.8	2.3	1.9	1.4	1.3	1.2	1.1	1.1	13.4	1.2	12.2
FP7	4.5	2.6	1.7	1.2	0.9	0.7	0.9	1.8	1.8	0.5	0.4	0.4	0.3	0.3	1.4	0.4	1.0
FP8	3.2	1.4	1.4	1.5	1.5	1.5	1.5	1.3	1.3	0.5	0.6	0.6	0.6	0.6	1.4	0.6	0.8
FP9	3.4	1.6	1.6	1.7	1.7	1.7	1.8	1.5	1.6	0.8	0.8	0.7	0.7	0.7	1.7	0.7	0.9
FP10	2.3	2.7	2.8	2.8	2.8	2.8	2.7	2.5	2.5	1.5	1.5	1.4	1.4	1.4	2.7	1.4	1.3
FP12	34.0	13.0	12.9	12.8	12.7	12.6	12.5	12.4	12.4	4.5	4.3	4.3	4.2	4.2	12.7	4.3	8.4
Total	94.8	94.1	112.1	146.1	91.3	208.0	96.7	39.1	99.4	14.0	13.4	12.9	12.5	12.1	110.9	13.0	97.9

Table 2b. Lund SnapPlus, field-specific, pre- and post-implementation PTP values, pre- and post-implementation PTP rotation averages, and the respective P loss reductions.

Field	Acres	PTP 2012	PTP 2013	PTP 2014	PTP 2015	PTP 2016	PTP 2017	PTP 2018	PTP 2019	PTP 2024	PTP 2025	PTP 2026	PTP 2027	PTP 2028	2012-2019 Average	2024-2028 Average	Reduction
F13	2.1	32.2	41.8	12.8	2.2	1.4	0.9	0.6	0.5	0.4	0.4	0.4	0.4	0.4	11.6	0.4	11.1
F15	7.2	0.7	0.5	2.3	54.8	15.8	3.5	2.2	1.1	0.5	0.5	0.5	0.5	0.5	10.1	0.5	9.6
F16	4.8	2.0	1.2	0.8	0.6	2.6	4.8	38.5	42.0	1.0	0.9	0.8	0.7	0.7	11.6	0.8	10.7
Total	14.1	34.9	43.6	15.9	57.6	19.8	9.2	41.3	43.7	1.9	1.8	1.7	1.6	1.6	33.2	1.7	31.5

Table 2c. Albert Norek SnapPlus, field-specific, pre- and post-implementation PTP values, pre- and post-implementation PTP rotation averages, and the respective P loss reductions.

Field	Acres	PTP 2012	PTP 2013	PTP 2014	PTP 2015	PTP 2016	PTP 2017	PTP 2018	PTP 2019	PTP 2024	PTP 2025	PTP 2026	PTP 2027	PTP 2028	2012-2019 Average	2024-2028 Average	Reduction
F-18	4.6	0.3	0.2	0.1	0.1	0.0	25.6	4.7	0.8	0.1	0.1	0.1	0.1	0.1	4.0	0.1	3.9
F-19	3.3	0.2	0.1	0.1	0.0	23.2	5.0	0.9	0.4	0.1	0.1	0.2	0.2	0.2	3.7	0.2	3.6
F-20W	0.7	0.1	0.0	4.2	0.9	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.8
F-21	6.0	0.2	0.1	0.0	0.0	0.0	36.5	6.9	1.1	0.3	0.3	0.4	0.4	0.4	5.6	0.4	5.2
F-22	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0
F-23	3.9	7.1	46.0	10.3	3.9	2.9	2.0	1.0	0.6	0.5	0.5	0.5	0.5	0.6	9.2	0.5	8.7
F-24	6.2	4.5	3.0	2.2	1.6	1.3	42.9	71.6	22.5	1.6	1.4	1.4	1.3	1.2	18.7	1.4	17.3
Total	26	12.4	49.5	16.9	6.5	27.9	112.4	85.2	25.5	2.6	2.6	2.6	2.6	2.6	42.0	2.6	39.4

Table 2d. Richard Norek SnapPlus, field-specific, pre- and post-implementation PTP values, pre- and post-implementation PTP rotation averages, and the respective P loss reduction.

Field	Acres	PTP 2012	PTP 2013	PTP 2014	PTP 2015	PTP 2016	PTP 2017	PTP 2018	PTP 2019	PTP 2024	PTP 2025	PTP 2026	PTP 2027	PTP 2028	2012-2019 Average	2024-2028 Average	Reduction
F-20E	3.9	0.3	0.2	0.2	21.1	4.2	2.1	1.6	0.6	0.1	0.1	0.1	0.1	0.1	3.8	0.1	3.7

D. APLE-Lots Modeling of P Loss from Bare Soil Barnyard/Dry Lot Exercise/Feedlot Areas

1. Background

Part of the credits generated for the Phillips Plating Corporation on the Foytik Farm will be from management improvements in barnyard/dry lot exercise/feedlot areas of bare soil that provide no pasture feed value but are significant sources of runoff containing manure and P-rich soil. These barnyard/dry lot exercise/feedlot areas have been abandoned and converted to permanent vegetation, a management practice that will significantly decrease P losses. Heavily grazed pasture areas can be modeled in SnapPlus. SnapPlus is not well suited to properly model P loss from these bare soil barnyard/dry lot exercise/feedlot areas. Pre- and post-trade P losses were quantified using APLE-Lots with support documentation presented in Attachment F.

Summer is the only time the barnyards and feedlots were occupied by cattle on the Foytik Farm, but the soil remained exposed throughout the remainder of the year when cattle were indoors 24 hrs/day. Month-specific cattle occupancy hours with animal type and animal size data are used in this water quality trade to model pre-trade and post-trade total P losses, the difference equaling the P reduction.

2. APLE-Lots

Baseline and post-abandonment total P losses from bare soil barnyard/dry lot exercise/feedlot areas were estimated using APLE-Lots WI Beta, a web-based version of the USDA Annual Phosphorus Loss Estimator developed by Peter Vadas, USDA-ARS, Dairy Forage Research Center, Laura Good and Jim Beaudoin, UW-Madison, Department of Soil Science, and John Panuska, UW Extension, Biological Systems Engineering in May, 2019.

Compared to the USDA spreadsheet verison of APLE-Lots and the WDNR's BARNY phosphorus loss models, the web-based model allows more specific input parameters that more accurately represent the Foytik situation. APLE-Lots generates an edge-of-field P loss value but does not model P delivery to surface waters when a vegetated buffer strip retains some of the runoff nutrients and sediment. The WDNR's BARNY phosphorus loss model reduces the P output value if a filter strip is present but has no accounting for quality of the vegetative buffer strip.

a. Quality of data

APLE-Lots allows for the creation of a "lot" by linking high quality aerial photos (the same as Snap Maps) to the model and allows drawing tools to "click and drag" boundaries for which

square footage area is automatically calculated. The area of the lot is manually re-entered allowing entry of more-accurate, square footage values.

APLE-Lots allows the option to enter values for areas that contribute runoff onto the lot with categorization based on soil hydrologic grouping (Class A, B, C, or D) and land type (farmstead, roof, paved, cropland, grass, woodland or other). Again, the linkage to the aerial photos allows one to draw (and edit) the boundaries of the runoff contributing areas by clicking and dragging and the square footage area is automatically calculated but manually entered.

APLE-Lots allows greater flexibility to specify the lot's percent vegetation and animal hours which can be entered by season, month or year. APLE-Lots allows an entry variable for the percent vegetation which has a significant effect on the P loss when comparing pre-trade, bare soil with post-trade, 100% vegetation. APLE-Lots allows more-specific categorized cattle types and animal sizes to generate more-accurate manure production values, including the ability to generate a P loss value when cattle hours are reduced to zero. *(Note: When cattle hours = 0 for the entire year, the model yields a blank in the spreadsheet Total P loss cell.*).

APLE-Lots also allows input values for site-specific soil test results for soil test P (Bray) and soil organic matter (OM), rather than less accurate default values.

APLE-Lots has: 1) no option to attempt to estimate the additional impacts of the manure spillage, extreme soil disturbance from wheel traffic, and runoff from loading and daily hauling of manure, 2) no option to account for stream bank damage caused by cattle foot traffic when cattle are in the stream, and 3) no option to account for manure deposited directly into the waters (all of which occurred on the Foytik lands, thus resulting in a certain underestimation on P losses entering the river).

b. Input data

Baseline conditions were established with information from 1) lot-specific soil sampling and analysis by a certified lab, 2) bare soil area determinations from onsite inspections and photo documentation transferred to aerial photos in the APLE-Lots drawing tool, and 3) numerous Foytik interviews.

The only difference between pre- and post-trade input values was the percent vegetated and the number of cattle occupancy hours. A pre-trade value of 1% vegetated was entered for all bare soil areas simply to avoid debate and uncertainty from claiming 0% vegetation. Post-trade percent vegetated was set to 100%.

Pre-trade cattle occupancy hours in each bare soil barnyard/dry lot exercise/feedlot area are described below. For half of each year, when all animals were housed inside, the barnyards were not occupied by animals, yet the bare soil remained susceptible to erosion throughout the year. Post-trade cattle occupancy hours were set to a single 150 lbs calf 1 hr/day in June because setting the value to zero animals across the entire year yielded a blank in the APLE-Lots, total P loss, spreadsheet cell.

Table 3. Pre-trade baseline conditions of Foytik bare soil barnyard/dry lot exercise/feedlot areas.

Name	FP-10Runway	FP-12 Lot	FP-9 Lot
Precipitation (in/yr)	33	33	33
Soil Test P (ppm)	453	270	197
Soil OM (%)	6.2	5.9	4.6
Bare Soil Lot Area (sq. ft.)	11,700	15,800	2000
Days between cleanouts	365	365	365
Contributary Area (sq. ft.)	30,000	0	15,300
Roof Contributary Area	4,700	0	2,500
Percent vegetation	1	1	1
Soil Hydrologic Class	B/C	C	C

All barnyard/dry lot exercise/feedlot input data, P loss report spreadsheet results, maps and aerial photos, and photo documentation of the various areas are presented in Attachment F.

3. FP-10 Runway

FP-10 Runway is a barnyard lot (mapped as dry lot exercise area in SnapPlus) used by the milking herd in summer while walking to and from the barn twice a day and to access drinking water. From approximately November 15 until May 15th there are no cattle on FP-10 Runway, but APLE-Lots was used to model the P loss based on 1% vegetated bare soil with zero cattle hours. In addition, this barnyard bare soil is constantly disturbed by tire traffic of the manure loading and hauling with the associated manure spillage. Manure is hauled every two or three days in the summer (manure from the milking herd indoors for ½ the day) and hauled every day in the winter (manure from both the milking and heifer herds indoors 24 hr/d) from two staging locations. While the soil may be frozen for much of the winter, fresh manure is spilled every day in these areas, remaining frozen until the spring thaw.

Total occupancy time for the milk herd is estimated at 1 hr/d for six months (travel and water access time). The animal types and sizes are detailed in Appendix F. APLE-Lots does not allow half month entries, so the full months of June through November represent the last half of May through the first half of November. The irregular shape of the mapped bare soil is supported by

the photo documentation. The hoof and wheel trails provide channelized flow which bypasses any of the downslope vegetated areas resulting in direct delivery to the stream.

If the APLE-Lots P loss value is an accurate estimate of the P loss from 1 herd hr/d for half the year, it is very likely an underestimate of the P loss from this barnyard, given there is no accounting for the additional impacts of year-round manure staging, hauling, and spilling.

The contributing area upslope of FP-10 Runway was mapped (and underestimated) in APLE-Lots based on the onsite investigations and aerial photos. The area of the Billboy soil mapping unit hydrologic class was set to C with type set as farmstead (areas of lawn, driveways, grass, and cattle walkway areas) and the Glidden soil mapping unit hydrologic class was set to B with type set as grass for the contributing area adjacent to the west end of the walkway. Part of the contributing area just upslope from the boundary of FP-10Runway is heavily trafficked showing some gully erosion. The roof contributing area for FP-10 Runway was also underestimated by mapping the footprint shown on the aerial photos.

Without cattle, the area will convert to permanent vegetation (confirmed by semi-annual inspections in 2022 and 2023) and may or may not be mowed for aesthetic appeal.

4. FP-9 Lot

FP-9 Lot is a small patch and walkway of bare soil with direct conduit to the river via the culvert under Elk River Rd. From approximately November 15 until May 15 there are no cattle on FP-9 Lot, but APLE-Lots was used to model the P loss based on 1% vegetated bare soil with zero cattle hours. During 1/5 of the grazing season the dairy herd concentrates in this portion of a necked-down, walk-way area because of shade. The occupancy time for the herd was estimated at 2 hr/d, and the P loss value was then reduced by a factor of 2/5 to represent the two of five rotation-grazing pastures (FP-8 & FP-9) used by the dairy herd in the summer. The herd does not have access to this area when grazing the other three pastures (FP-7, FP-10, & FP-11) although the bare soil remained exposed throughout the year. The animal types and sizes are detailed in Appendix F.

The contributing area upslope of FP-9 Lot was mapped and underestimated in APLE-Lots based on the onsite investigations and aerial photos with the Billboy soil mapping unit hydrologic class set to C and the type set to farmstead. The roof contributing area for FP-9 Lot was underestimated by mapping the footprint shown on the aerial photos.

Without cattle, the area will become part of FP-9 with permanent hayland vegetation for hay harvest (confirmed by semi-annual inspections in 2022 and 2023).

5. FP-12 Lot

FP-12 Lot is part of the heifer herd summer pasture where bare soil is the result of animal traffic concentrated around early and late season supplemental feed and a full season mineral block. The north and south ends of the bare soil areas extend to within 20 ft. of the stream with the cattle having free access to the river, but a conservatively-sized area mapped in APLE-Lots (approx. 300 ft. X 50 ft.) represents the more consistently-bare soil area of the "mapped feedlot." Here the heifer herd is present 24 hr/d for six months, grazing in the surrounding partially-vegetated and fully-vegetated FP-12 pasture. Based on Foytik interviews, the feedlot is estimated to have each animal occupying the area for 8 hr/d during early and late season when supplemental feed is provided (May, Sep, Oct, Nov) and 6 hours/day in mid-summer when cattle are actively grazing more of the natural pasture grass. APLE-Lots does not allow half-month entries, so the full months of June through November represent the last half of May through the first half of November. The animal types and sizes are detailed in Appendix F.

From approximately November 15 until May 15th there are no cattle on FP-12 Lot, but APLE-Lots was used to model the P loss based on 1% vegetated bare soil with zero cattle hours. Photo documentation from early spring 2019 and 2020 shows how the bare soil reappears in spring indicating the bare soil area was fully exposed as the cattle were removed from the area in the previous fall. The cattle traffic and bare soil are the worst in spring and fall when erosion is the worst due to supplemental feeding and the mineral block concentrating the animals. Percent vegetation varies as summer growth advances, but late summer/fall cattle traffic again increases the size of the bare soil area that remains exposed in late fall, winter, and spring. In spring the seasonally high river water inundates some of the bare soil areas adjacent to the feedlot, and the surface water encroaches to within 15 ft. of the feedlot with only a partially-vegetated, steep slope between the feedlot and the surface water. During the summer there is a vegetated, partially-functional buffer strip between the feedlot and the river. Although the vegetation of the buffer strip expands during summer, that is the season when the cattle are grazing and traversing the steep slope to access the river and the adjoining pasture.

The APLE-Lots annual P output value of FP-12 Lot is presented in Attachment F. Half of the APLE-Lots annual P loss value (25.7 lbs) was reduced by 27% to represent the filter strip's impact on the edge-of-field P loss for ½ of the year. The 27% value is supported by the BARNY spreadsheet calculation that lowered the annual P loss value by 27% when a similarly-sized feedlot included a 300 ft. X 20 ft. buffer area with a 33% slope.

Although SnapPlus is used to model P loss from the pasture area (the adjoining, partially-vegetated, downslope filter strip beyond the feedlot edge), neither SnapPlus nor APLE-Lots can estimate the additional P loss attributed to this feedlot's cattle foot traffic damage to the stream bank or the quantity of P added to the stream by the deposition of manure directly into the stream by the cattle.

Under the post-trade conservation cover management practice (NRCS Technical Standard Code 327), without cattle, the lot will regenerate to natural grasses and wild vegetation as part of FP-12, the 34-acre pasture (confirmed by semi-annual inspections in 2022 and 2023).

E. APLE-Lots Phosphorus Reduction

Table 4 presents the pre- and post-trade annual P loss values generated by APLE-Lots and the P loss reduction resulting from the management practice implementation.

Table 4 APLE-Lots P losses from Foytik barnyards and feedlot.

Name	FP-10 Runway	FP-9 Lot	FP-12 Lot
Pre-trade APLE-Lots P loss	73.1	28.3*	22.2**
Post-trade APLE-Lots P loss	1.9	0.3	0.3
P Loss Reduction	71.2	28.0	21.9
* APLE-Lots results multiplied by 2/5			
** 27% reduction applied to half the annual APLE-Lots results			

F. Trade Ratios

Guidance-prescribed factors were applied to all P reductions.

1. Delivery: The SPARROW model delivery fractions of the Elk Lake catchment and the upstream catchments containing the Foytik Farm were used to calculate the delivery factor as per WDNR's Appendix G guidance. The Elk Lake catchment delivery fraction = 0.81, the most upstream Foytik & Lund catchment delivery fraction = 0.68, the Delivery Fraction = 0.84, and the Delivery Factor = 0.19.

2. Downstream: All P reduction generators are located upstream from the Phillips Plating Corporation outfall making the downstream factor = 0 for all reduction practices.

3. Equivalency: Phosphorus reductions are being applied only to phosphorus credits making the equivalency factor = 0.

4. Uncertainty: Whole field management practices changed from dairy production to permanent hayland allows the application of an uncertainty factor of 1. Because the barnyard/dry lot exercise/feed lot areas FP-10 Runway and FP- 9 Lot adjoin the river or have a direct conduit to the river and this proximity to the surface water threatens with direct, unfiltered delivery to the surface water (during most

of the year), an uncertainty factor of 1 was applied. Because the P loss modeled by APLE-Lots was reduced by 2/5 to account for rotational-grazing on FP-9 (addressed above), an uncertainty factor of 1 was applied to the FP-9 P loss reduction. Because ½ the P loss modeled by APLE-Lots was reduced by 27% to account for the partially-functional filter strip downslope of FP-12 Lot (addressed above), an uncertainty factor of 1 was applied to the FP-12 Lot P loss reduction.

G. Credits

The P loss reductions on acres of the Foytik Family Farm operation are attributable to changes in whole field management and barnyard/dry lot exercise/feedlot abandonment. The sum of the individual factors applied to these P reductions equals 1.19 (1 uncertainty + 0.19 delivery), however the minimum allowable trade ratio of 1.2:1 was used to calculate credits and ensure a water quality improvement. Credits generated by whole field management changes and barnyard/feedlot abandonment and conversion to permanent vegetation are based on this ratio of 1.2:1. SnapPlus P loss reduction summaries are presented in Table 5a - d and APLE-Lots P loss reduction summaries are presented in Table 6. Table 7 presents the credits summary.

Table 5a. Foytik SnapPlus P loss reductions and resulting credits generated.

Field	Acres	Reduction	Ratio	Credits
F1	5.4	11.4	1.2	9.5
F2	6.9	8.0	1.2	6.7
F3	10.6	16.8	1.2	14.0
F4	11.3	30.5	1.2	25.4
F5	6.0	6.6	1.2	5.5
F6	7.2	12.2	1.2	10.1
FP7	4.5	1.0	1.2	0.9
FP8	3.2	0.8	1.2	0.7
FP9	3.4	0.9	1.2	0.8
FP10	2.3	1.3	1.2	1.1
FP12	34.0	8.4	1.2	7.0
	94.8	97.9	1.2	81.6

Table 5b. Lund SnapPlus P loss reductions and resulting credits generated.

Field	Acres	Reduction	Ratio	Credits
F13	2.1	11.1	1.2	9.3
F15	7.2	9.6	1.2	8.0
F16	4.8	10.7	1.2	9.0
	14.1	31.5	1.2	26.3

Table 5c. Albert Norek SnapPlus P loss reductions and resulting credits generated.

Field	Acres	Reduction	Ratio	Credits
F-18	4.6	3.9	1.2	3.2
F-19	3.3	3.6	1.2	3.0
F-20W	0.7	0.8	1.2	0.6
F-21	6.0	5.2	1.2	4.4
F-22	1.3	0.0	1.2	0.0
F-23	3.9	8.7	1.2	7.2
F-24	6.2	17.3	1.2	14.4
	26	39.4	1.2	32.9

Table 5d. Richard Norek SnapPlus P loss reduction and resulting credits generated.

Field	Acres	Reduction	Ratio	Credits
F-20E	3.9	3.7	1.2	3.1

Table 6. APLE-Lots P loss reductions and resulting credits generated.

Name	FP-10 Runway	FP-9 Lot	FP-12 Lot
P Reduction	71.2	28.0	21.9
Trade Ratio	1.2	1.2	1.2
P Credits Generated	59.3	23.3	18.3

Table 7. Summary of credits by landowner and model.

	Name	
	Foytik	81.6
	Lund	26.3
	Albert Norek	32.9
	Richard Norek	3.1
SnapPlus Credits Sub-total		143.8
	Foytik FP-10 Runway	59.3
	Foytik FP-9 Lot	23.3
	Foytik FP-12 Lot	18.3
APLE-Lots Credits Sub-total		100.9
	Total Credits	244.8

IV. Operations & Maintenance Tracking

A. Implementation

The goal of this Operations & Maintenance Tracking plan is to ensure permanent perennial vegetation persists on fields involved in this water quality trade. Conversion to permanent perennial vegetation from a dairy production rotation is the management practice that reduced P losses to generate the credits of this trade. Neil Foytik, Anders Lund, Albert Norek, and Richard Norek were approached in 2019 to make changes in whole field management to generate credits and, in Jan, 2020, entered into a binding, written agreement. Four WQT Management Registration Forms 3400-207 (Attachment B) were submitted to WDNR in Feb, 2020, to establish baseline conditions prior to implementation of the management practices.

The Foytik Family Farm ceased dairy production in May, 2020. That spring all Foytik, Lund, Albert Norek, and Richard Norek fields of corn stubble were mold board plowed and disked to incorporate manure from the previous winter and prepare the appropriate seed bed for planting with a pasture/hay mixture of (grasses) to establish the permanent, hayland crop (NRCS Technical Standard Code 340) or cover crop/conservation cover (NRCS Technical Standard Code 327). No fertilizers were applied. Alfalfa fields are expected to convert to grass and were not tilled. All Foytik pastures were considered suitable for hay harvest and were not tilled. One pasture was allowed to convert to permanent vegetation but not for harvest. No grass hayfields were tilled but hay harvest was continued.

All fields will be entered into an NRCS Technical Standard Code 590, DATCP-compliant, nutrient management plan (NMP) and will be maintained in compliance with the guidelines as per NRCS Technical Standard Code 340 (cover crop 90% vegetation) or NRCS Technical Standard Code 327 (conservation cover). Each NMP and Trade Agreement (with its requirement to follow the NMP) explicitly limits cropping to permanent perennial vegetation. In this reduced tillage management rotation:

1. Whole-field tillage is not allowed.
2. Manure applications are not allowed.
3. Nutrient applications greater than prescribed in the NMP are not allowed.
4. Minimum tillage is only allowed to repair unanticipated vegetation failures when it is judged necessary to minimize the risk of erosion in order to accelerate the vegetation restoration process.

Each Trade Agreement between the Phillips Plating Corporation and the respective landowner mandates each future owner will be bound by the Trade Agreement for the life of the Trade

Agreement. Each renter or hay harvest "buyer" will be informed of this contractual agreement which mandates vegetative cover maintenance, and each will be required to sign an acknowledgment form to document the renter's awareness and understanding.

As the WPDES permit is scheduled to be re-issued on October 1, 2023 (after the 2023 growing season), the permanent hayland vegetation is expected to be fully established, the P losses will have decreased, and credits are expected to be generated starting when this water quality trading plan is approved by WDNR and incorporated into the reissued permit for the length of the permit.

B. Management Practices

Permanent vegetation and the reduction in tillage are the management practices installed to generate the credits and are key components of the SnapPlus modeling used to quantify the reduced, post-trade P losses.

Critical to the continued maintenance of installed management practices are inspections and the proper completion of the Phillips Plating Corporation WQT Tracking Inspection form to periodically document the permanent vegetation status of each field and confirm the management practices have been installed and are properly maintained.

Part of the inspection requires documentation showing:

-an updated NMP,
-there have been no nutrient applications greater than allowed in NMP,
-there has been no whole-field tillage,
-there have been no manure applications,
-any potential "threats to permanent vegetation" issues have been identified and each has been or will be addressed as described in the Response Procedures section below.

1. Management Practices Metrics

The NRCS Technical Standards Code 590 Nutrient Management, NRCS Code 340 Cover Crop, and NRCS Code 327 Conservation Cover are the applicable whole field management standards referenced in this water quality trade, but it is the 90% vegetative cover standard that will apply as the metric to all fields. The 90% vegetative cover standard will apply to all field units in the water quality trade regardless of other technical standards applied.

Bare soil, dead perennial vegetation, gully erosion, and 100-yr/24-hr storm events are potential "threats to permanent vegetation" issues requiring attention as per the Response Procedures section below.

Should any field's percent living vegetation drop below 90% coverage due to any cause, WDNR notification with a restoration plan is required and monthly inspections during non-frozen months will be required until vegetation is re-established as per the Response Procedures section below.

Bare soil (<10%) or crop dieback caused by drought, frost, chemical burn, deposition from upslope, wheel ruts, or off-road vehicle damage (vandalism, harvest crop transport) will be addressed as per the Response Procedures section below.

Gully erosion of any length with a cross section area greater than 144 in^2 will require WDNR notification with a plan to restore and inspect monthly during non-frozen months until restored as per the Response Procedures section below. Because the permanent hayland will promote infiltration and the slopes and sizes of micro-watersheds are relatively small on these properties, even areas susceptible to concentration flow are not expected to result in gully erosion (cross section area greater than 144 in^2) or the delivery of unacceptable quantities of sediment into waterways.

The occurrence of an extreme weather event (a 24-hr, 100-yr storm event or greater) requires a timely, single inspection with special notation to record the reason for such a non-scheduled inspection and needed restoration (if any). A 24-hr, 100-yr storm event would be 6.56 in. of rain as per :

https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=wi

2. Inspections

To verify implementation and proper maintenance of practices used to generate trading credits, Phillips Plating staff, a consultant, or a certified Technical Service Provider will perform inspections of all fields.

The inspector will inspect the fields generating the phosphorus reduction credits to confirm the permanent vegetative cover management practices on all fields, former pastures, and barnyard/dry lot exercise/feedlots and confirm the management practices are being appropriately maintained. The inspection will confirm compliance based on the guidance of the appropriate standards (the NMP and 90% vegetation).

The inspection will include photo documentation of each field's vegetative cover and photo-documentation of any potential "threats to permanent vegetation" issues.

The inspector will complete and certify a WQT Tracking Inspection form which includes:

a. Name of the inspector,
b. Inspection date,
c. Crop status,
d. Permanent vegetation confirmation,
e. Confirmation of no manure applications,
f. Confirmation of the updated NMP with a copy of the most recent updated 590 NMP checklist,
g. The appropriate standards set forth in this WQT plan and whether the enrolled fields have met those standards (*Note: Confirmation of the updated NMP will document compliance with 590 standard*),
h. Any identified potential "threats to permanent vegetation" issues,
i. When and how potential "threats to permanent vegetation" issues are to be addressed as per the Response Procedures section below,
j. Notes of any adjacent, upslope property, land use changes that could affect stormwater delivery to the enrolled lands,
k. Date of most recent 100-yr/24-hr storm event,
l. A determination whether or not monthly inspection of any field is needed,
m. Date of next required inspection,
n. Notes/instructions,
o. Inspector certification of both the inspection and transmission to the Phillips Plating Corporation of each completed WQT Tracking Inspection form, photo-documentation, any potential "threats to permanent vegetation" issues identified, any WDNR notification requirements, and any restoration needs.

Inspection documentation will be submitted to the WDNR in the final stages of the water quality trading plan approval process and WPDES reissuance and in each WPDES annual report no later than January 31st of each year following permit reissuance.

Annual inspections will be performed approximately two weeks before the USDA Price County Soil Survey first frost date using the Phillips Plating Corporation WQT Tracking Inspection form with photo documentation. Inspections of all fields will be performed by completing the WQT Tracking Inspection form as per the requirements and definitions in the Response Procedures section below. Results of annual inspections will be reported to the WDNR in the annual report.

Semi-annual inspections will start in the fall of 2022 to ensure all fields are properly vegetated prior to entering into the Oct 1, 2023, WPDES permit. Semi-annual (spring and fall) inspections of all fields will be performed by completing a WQT Tracking Inspection form as per the

requirements and definitions listed in the Response Procedures section below. Inspection results will be reported via a 2022 annual report and by mid-September, 2023.

Monthly inspections will be performed by completing a WQT Tracking Inspection form as per the requirements and definitions listed in the Response Procedures section below. Inspection results of monthly inspections which require WDNR notification will be reported via monthly discharge monitoring report (DMR) supplements. Other monthly inspection reports will be reported via the annual report.

The Trade Agreement between the Phillips Plating Corporation and each owner states WDNR Water Quality Trading staff have the right to enter involved fields at any time upon given reasonable notice to the Phillips Plating Corporation and the landowner to inspect the fields for management practice compliance.

3. Response Procedures

Any inspection documentation of potential "threats to permanent vegetation" issues must be categorized into one of the following:

a. **> 10% bare soil, whether a single, contiguous area or multiple areas summing to >10% of the whole field**:
   (1) Requires WDNR notification with a written plan (the completed form) to immediately restore vegetation as weather permits,
   (2) Requires monthly inspection during non-frozen seasons until vegetation is restored and re-established,
   (3) Requires monthly reporting via DMR until vegetation is restored andre-established.

b. **<10% of the whole field but >10% bare soil in any 5-acre area**:
   (1) If there **is** sediment deposition beyond the field edge or there **is** potential for sediment to be transported beyond the field edge,
      (a) documentation of restoration plan (the form) and implementation (photos and next month's form) is required,
      (b) monthly inspections during non-frozen seasons are required until restoration is complete,
      (c) all documentation included in annual report.
   (2) If there has been **no** sediment transport beyond the field edge and there is **no** potential for sediment transport beyond the field edge,
      (a) restore as needed,
      (b) monthly inspections are required until restored,
      (c) monthly inspection reports to be included in the annual report.

c. **Bare soil but no 5-acre area has >10% bare soil**:
   (1) Restore as needed,
   (2) Any erosion caused by concentrated flow (erosion < 144 in^2 cross section) that delivers sediment beyond the field edge must be re-vegetated as soon as possible.

d. **Dead perennial vegetation >10% of the field, whether a single contiguous area or multiple areas summing to >10% of the whole field**:
   (1) Requires WDNR notification with a written plan to immediately restore vegetation as weather permits,
   (2) Requires monthly inspection during non-frozen seasons until vegetation is restored and re-established,
   (3) Requires monthly reporting via DMR until vegetation is restored and re-established.

e. **Dead perennial vegetation <10% of the whole field**:
   (1) Restore as needed.

f. **Gully erosion:**
   (1) Any gully erosion (> 144 in^2 cross section) must be restored as soon as possible, reported to WDNR with a restoration plan, and be followed by monthly inspections during non-frozen seasons until restored and re-established.

g. **Any 24-hr, 100-yr storm event**:
   (1) Requires a single inspection to be reported via the annual report.

4. Maintenance/Restoration Tools

Any potential "threats to permanent vegetation" issues identified by the inspector must be addressed as described in the Response Procedures section.

Appropriate erosion control and revegetation measures will be employed as per the Response Procedures section, potentially including but not limited to:

a. Mechanical re-leveling,
b. Reseeding,
c. Erosion control water diversion, matting or mulching,
d. Diversion and/or dispersion of upslope, stormwater runoff water,
e. Adding small grain cover crop (oats, winter wheat, buckwheat, rye, etc.) to hayland seed mixes to temporarily reduce the danger of erosion,
f. Tillage with reseeding or tillage with reseeding and erosion control matting or mulching.

Because the reduced tillage (i.e.none) is the basis of the P reductions generating credits, minimum tillage is only allowed to repair unanticipated vegetation failures when it is judged necessary to minimize the risk of erosion in order to accelerate the vegetation restoration process.

C. Reporting & Certification

1. The Phillips Plating Corporation Notification of WDNR

Should the Phillips Plating Corporation become aware that phosphorus reduction credits used or intended for use are not being generated as set forth in this WQT plan, the Phillips Plating Corporation will verbally notify WDNR within 24 hours and notify WDNR in writing within five days of becoming aware of the non-compliance issues.

Both notifications will include the nature of the issue, a description of how the issues will be addressed, and a restoration plan to address the issues.

2. Monthly Certification and Monthly Reporting

Each month the Phillips Plating Corporation will certify that management practices installed are being maintained consistent with this water quality trading plan by making the following statement as a comment in the monthly DMR:

> "I certify that to the best of my knowledge the management practices approved as the source of phosphorus reduction credits are installed, established and properly maintained."

If the Phillips Plating Corporation cannot certify that statement, potential "threats to permanent vegetation" issues requiring WDNR notification and documentation of restoration plans and a record of restoration as per the Response Procedure section shall be included in monthly DMR reporting until the monthly statement can again be certified.

3. Annual Reporting

The Phillips Plating Corporation shall report to WDNR by January 31 of each year. The following will be included in the annual report:

a. The number of phosphorus reduction credits (lbs/month) used each month of the previous year to demonstrate WPDES permit compliance;
b. Summary text of all potential "threats to permanent vegetation" issues and how each was addressed;

c. All completed WQT Tracking Inspection forms;
d. Photographs of the inspected fields' permanent vegetative cover, photographs of any potential "threats to permanent vegetation" and photographs documenting restoration;
e. Identification of noncompliance or failure to implement any terms or conditions of WPDES permit WI-0054364 with respect to water quality trading that have not been reported in monthly DMRs or did not require WDNR notification.

V. Attachments

A. Notice of Intent to Trade

B. Registration Form

C. Supporting Maps & SnapPlus Field Reports

1. C1: Properties & Snap Maps
2. C2: SnapPlus Field Reports

D. SnapPlus P Trade Reports

E. Water Quality Trading Checklist

F. APLE-Lots WI Beta Support Documentation for Barnyard/DryLot Exercise/Feedlot Areas

Attachment A. Notice of Intent to Trade

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
Phillips Plating Corporation	WI- 0041149	

Facility Address	City	State	ZIP Code
P.O. Box 72	Phillips	WI	54555

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Darin Baratka	P.O. Box 72	Phillips	WI	54555

Project Name: Phillips Plating Corporation WWTP P Compliance

Receiving Water Name	Parameter(s) being traded	HUC 12(s)
Elk Lake	Phosphorus	070500030107

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
- ☒ Agricultural nonpoint source discharge
- ☐ Other - Specify:

Are any of the credit generators in a different HUC 12 than the applicant?
- ◉ Yes; HUC 12: 070500030106
- ○ 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:

Long term conversion of agricultural barnyards, feedlots, fields and pastures to perennial vegetation, milkhouse washwater elimination, and stream bank improvement starting in the spring of 2020.

Method for quantifying credits generated:
- ☐ Monitoring
- ☒ Modeling, Names: SnapPlus, Aple-lots
- ☒ Other: as needed and approved

Projected date credits will be available: 04/01/2020

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
	1-15-2020

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
	1-14-2020

Attachment B: Registration Forms

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
Phillips Plating Corporation	WI- 0041149	

Facility Address	City	State	ZIP Code
P.O. Box 72	Phillips	WI	54555

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Darin Baratka	P.O. Box 72	Phillips	WI	54555

Project Name WPDES
Phillips Plating Corporation WWTP P Compliance: Foytik

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	PP-001	Conversion of agricultural barnyards, feedlots, fields and pastures to perennial vegetation and stream bank improvement.	160	1.2:1	SnapPlus APLE lots other

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Price	Little Elk River	See attached map	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
	1-15-2020

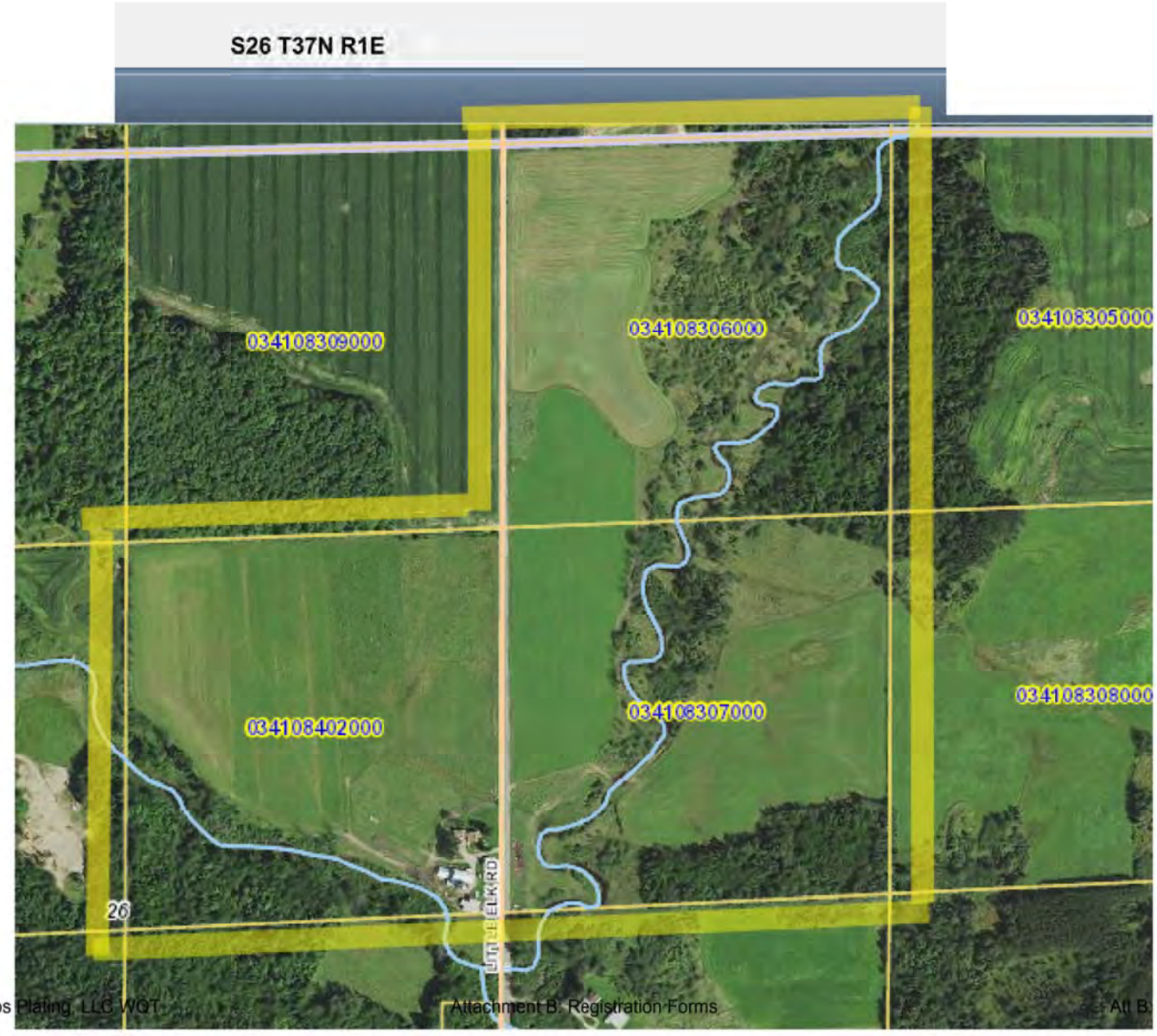
Authorized Representative Signature

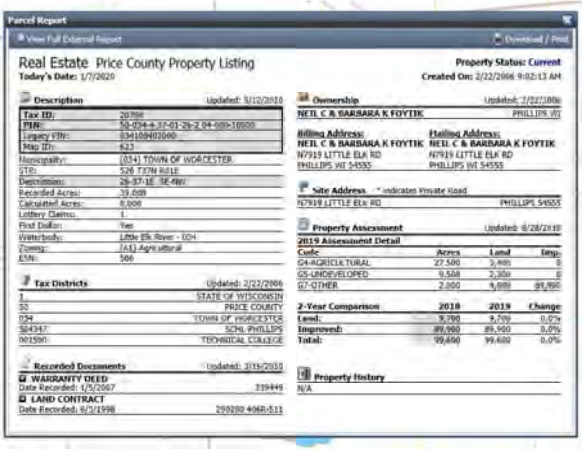
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. 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
	1-14-2020

Leave Blank – For Department Use Only

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


S26 T37N R1E
034108309000
034108306000
034108305000
034108402000
034108307000
034108308000
26
LITTLE ELK RD



Parcel Report

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:13 AM

Description Updated: 5/12/2010

Tax ID:	20769
PIN:	50-034-4-37-01-26-2 04-000-10000
Legacy PIN:	034108402000
Map ID:	623
Municipality:	(034) TOWN OF WORCESTER
STR:	526 T37N R01E
Description:	26-37-1E SE4W
Recorded Acres:	39.000
Calculated Acres:	0.000
Lottery Claims:	1
First Dollar:	Yes
Waterbody:	Little Elk River - 034
Zoning:	(A1) Agricultural
ESN:	506

Ownership Updated: 2/22/2006

NEIL C & BARBARA K FOYTIK — PHILLIPS WI

Billing Address:	Mailing Address:
NEIL C & BARBARA K FOYTIK	NEIL C & BARBARA K FOYTIK
N7919 LITTLE ELK RD	N7919 LITTLE ELK RD
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * Indicates Private Road

N7919 LITTLE ELK RD — PHILLIPS 54555

Property Assessment Updated: 6/28/2010

2019 Assessment Detail

Code	Acres	Land	Imp.
G4-AGRICULTURAL	27.500	3,300	0
G5-UNDEVELOPED	9.500	2,300	0
G7-OTHER	2.000	4,000	89,900

2-Year Comparison	2018	2019	Change
Land:	9,700	9,700	0.0%
Improved:	89,900	89,900	0.0%
Total:	99,600	99,600	0.0%

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

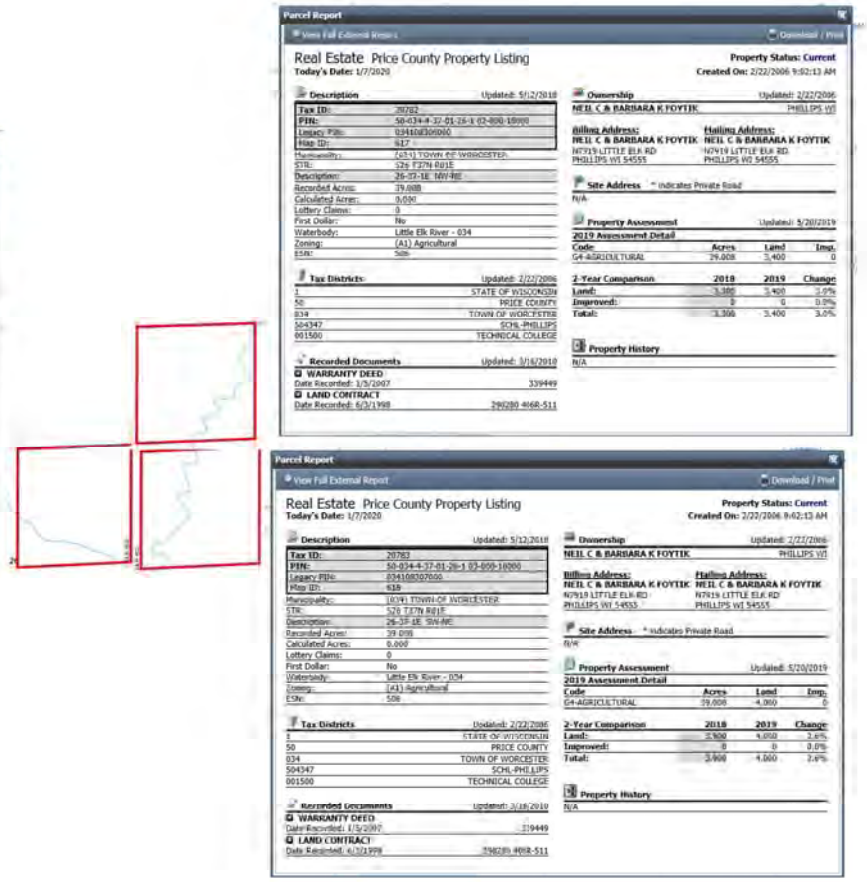
Property History

N/A

Recorded Documents Updated: 3/16/2010

WARRANTY DEED
Date Recorded: 1/5/2007 — 339449

LAND CONTRACT
Date Recorded: 6/3/1998 — 290280 406R-511



Parcel Report

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:13 AM

Description Updated: 5/12/2010

Tax ID:	20782
PIN:	50-034-4-37-01-26-1 02-000-10000
Legacy PIN:	034108307000
Map ID:	617
Municipality:	(034) TOWN OF WORCESTER
STR:	526 T37N R01E
Description:	26-37-1E NW4E
Recorded Acres:	39.000
Calculated Acres:	0.000
Lottery Claims:	0
First Dollar:	No
Waterbody:	Little Elk River - 034
Zoning:	(A1) Agricultural
ESN:	506

Ownership Updated: 2/22/2006

NEIL C & BARBARA K FOYTIK — PHILLIPS WI

Billing Address:	Mailing Address:
NEIL C & BARBARA K FOYTIK	NEIL C & BARBARA K FOYTIK
N7919 LITTLE ELK RD	N7919 LITTLE ELK RD
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * Indicates Private Road

N/A

Property Assessment Updated: 5/20/2019

2019 Assessment Detail

Code	Acres	Land	Imp.
G4-AGRICULTURAL	29.008	3,400	0

2-Year Comparison	2018	2019	Change
Land:	3,300	3,400	3.0%
Improved:	0	0	0.0%
Total:	3,300	3,400	3.0%

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Property History

N/A

Recorded Documents Updated: 3/16/2010

WARRANTY DEED
Date Recorded: 1/5/2007 — 339449

LAND CONTRACT
Date Recorded: 6/3/1998 — 290280 406R-511

Parcel Report

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:13 AM

Description Updated: 5/12/2010

Tax ID:	20783
PIN:	50-034-4-37-01-26-1 03-000-10000
Legacy PIN:	034108307000
Map ID:	618
Municipality:	(034) TOWN OF WORCESTER
STR:	526 T37N R01E
Description:	26-37-1E SW4E
Recorded Acres:	39.008
Calculated Acres:	0.000
Lottery Claims:	0
First Dollar:	No
Waterbody:	Little Elk River - 034
Zoning:	(A1) Agricultural
ESN:	506

Ownership Updated: 2/22/2006

NEIL C & BARBARA K FOYTIK — PHILLIPS WI

Billing Address:	Mailing Address:
NEIL C & BARBARA K FOYTIK	NEIL C & BARBARA K FOYTIK
N7919 LITTLE ELK RD	N7919 LITTLE ELK RD
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * Indicates Private Road

N/A

Property Assessment Updated: 5/20/2019

2019 Assessment Detail

Code	Acres	Land	Imp.
G4-AGRICULTURAL	29.008	4,000	0

2-Year Comparison	2018	2019	Change
Land:	3,900	4,000	2.6%
Improved:	0	0	0.0%
Total:	3,900	4,000	2.6%

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Property History

N/A

Recorded Documents Updated: 3/16/2010

WARRANTY DEED
Date Recorded: 1/5/2007 — 339449

LAND CONTRACT
Date Recorded: 6/3/1998 — 290280 406R-511


F1
F2
FP12
F3
FP8
F5
FP7
F6
FP9
F4
FP9LOT
FP12LOT
37N 1E
FP14
FP11
F16
FP10
FP9LOT
FP10RUNWAY
FP12LOT
37N 1E
s26
FP14
FP11
-90.32, 45.6

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
Phillips Plating Corporation	WI- 0041149	

Facility Address	City	State	ZIP Code
P.O. Box 72	Phillips	WI	54555

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Darin Baratka	P.O. Box 72	Phillips	WI	54555

Project Name
WWTP P Compliance: Lund

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	PP-002	Conversion of fields to perennial vegetation and stream bank improvement.	50	1.2:1	SnapPlus

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Price	Little Elk River	See attached map	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]	2/27/20

Authorized Representative Signature

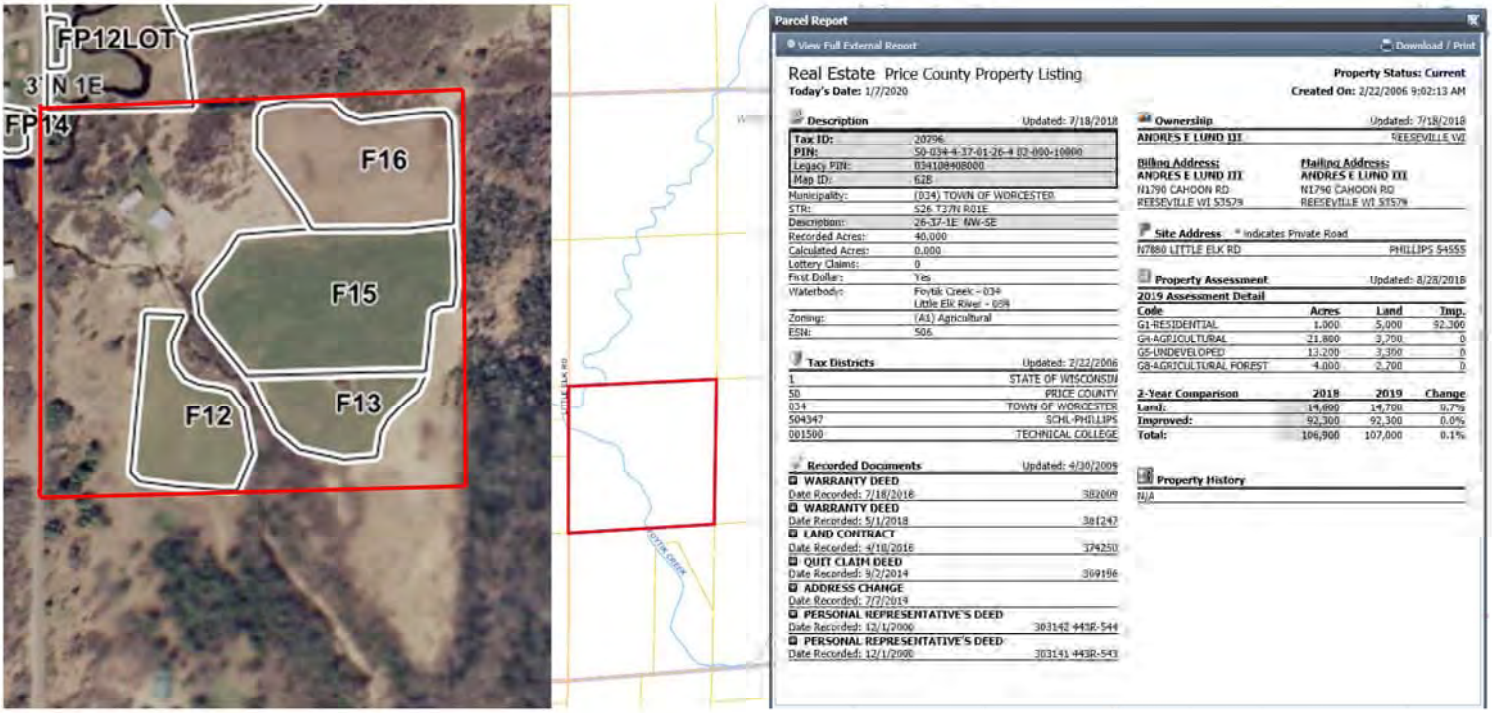
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. 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]	3-2-2020

Leave Blank – For Department Use Only

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


034107709000
034107708000
034108310000
034108309000
034108306000
034108305000
034108308000
034108307000
034108402000
034108401000
034108405000
034108403000
034108408000
034108501000
WORCESTER
MURPHY LAKE RD
LITTLE LAKE RD
26
NW1/4 SW1/4
S26
T37N R1E



Parcel Report

View Full External Report | Download / Print

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:13 AM

Description Updated: 7/18/2018

Tax ID:	20796
PIN:	50-034-4-37-01-26-4 02-000-10000
Legacy PIN:	034108408000
Map ID:	628
Municipality:	(034) TOWN OF WORCESTER
STR:	S26 T37N R01E
Description:	26-37-1E NW-SE
Recorded Acres:	40.000
Calculated Acres:	0.000
Lottery Claims:	0
First Dollar:	Yes
Waterbody:	Foytik Creek - 034 Little Elk River - 699
Zoning:	(A1) Agricultural
ESN:	506

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Recorded Documents Updated: 4/30/2009

WARRANTY DEED	
Date Recorded: 7/18/2018	382009
WARRANTY DEED	
Date Recorded: 5/1/2018	381247
LAND CONTRACT	
Date Recorded: 4/18/2018	374250
QUIT CLAIM DEED	
Date Recorded: 9/2/2014	369196
ADDRESS CHANGE	
Date Recorded: 7/2/2013	
PERSONAL REPRESENTATIVE'S DEED	
Date Recorded: 12/1/2000	303142 443R-544
PERSONAL REPRESENTATIVE'S DEED	
Date Recorded: 12/1/2000	303141 443R-543

Ownership Updated: 7/18/2018

ANDRES E LUND III — REESEVILLE WI

Billing Address:	Mailing Address:
ANDRES E LUND III	ANDRES E LUND III
N1790 CAHOON RD	N1790 CAHOON RD
REESEVILLE WI 53579	REESEVILLE WI 53579

Site Address * indicates Private Road

N7880 LITTLE ELK RD — PHILLIPS 54555

Property Assessment Updated: 8/28/2018

2019 Assessment Detail

Code	Acres	Land	Tmp.
G1-RESIDENTIAL	1.000	5,000	92,300
G4-AGRICULTURAL	21.800	3,700	0
G5-UNDEVELOPED	13.200	3,300	0
G8-AGRICULTURAL FOREST	4.000	2,700	0

2-Year Comparison	2018	2019	Change
Land:	14,600	14,700	0.7%
Improved:	92,300	92,300	0.0%
Total:	106,900	107,000	0.1%

Property History

N/A

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
Phillips Plating Corporation	WI- 0041149	

Facility Address	City	State	ZIP Code
P.O. Box 72	Phillips	WI	54555

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Darin Baratka	P.O. Box 72	Phillips	WI	54555

Project Name
WWTP P Compliance: Albert Norek

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	PP-003	Conversion of fields to perennial vegetation.	32	1.2:1	SnapPlus

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Price	Little Elk River	See attached map	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]	2/15/2020

Authorized Representative Signature

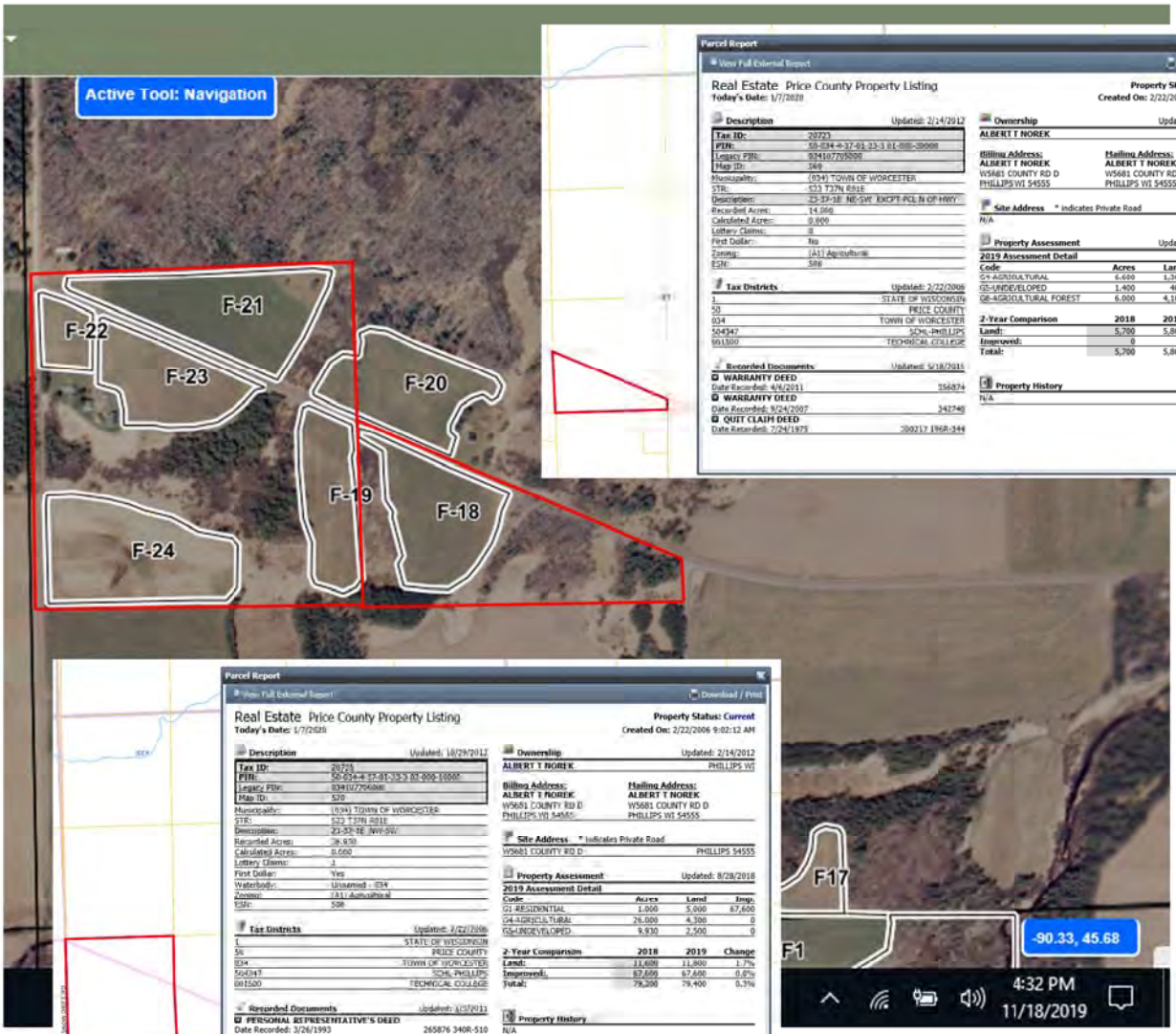
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. 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]	2-15-2020

Leave Blank – For Department Use Only

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


NE1/4 SW1/4 S23
T37N R1E
034107705010
034107706000
NW1/4 SW1/4 S23
T37N R1E
SNOW DRIFT RD
WORCESTER
034107705000
23
034107707000


Active Tool: Navigation
F-21
F-22
F-23
F-20
F-19
F-18
F-24
Parcel Report
Real Estate Price County Property Listing
Today's Date: 1/7/2020
Property Status: Current
Created On: 2/22/2006 9:02:12 AM
Description
Updated: 2/14/2012
Tax ID: 20723
PIN: 50-034-4-37-01-33-3 01-000-10000
Legacy PIN: 0341077050000
Map ID: 569
Municipality: (034) TOWN OF WORCESTER
STR: 033 T37N R01E
Description: 33-37-1E NE-SW EXCPT-PCL N OF HWY
Recorded Acres: 14.060
Calculated Acres: 0.000
Lottery Claims: 0
First Dollar: No
Zoning: (A1) Agricultural
ESN: 500
Ownership
Updated: 2/14/2012
ALBERT T NOREK
PHILLIPS WI
Billing Address:
ALBERT T NOREK
W5681 COUNTY RD D
PHILLIPS WI 54555
Mailing Address:
ALBERT T NOREK
W5681 COUNTY RD D
PHILLIPS WI 54555
Site Address * indicates Private Road
N/A
Tax Districts
Updated: 2/22/2006
1 STATE OF WISCONSIN
50 PRICE COUNTY
034 TOWN OF WORCESTER
504347 SCHL-PHILLIPS
001500 TECHNICAL COLLEGE
Property Assessment
Updated: 9/23/2013
2019 Assessment Detail
Code | Acres | Land | Imp.
G4-AGRICULTURAL 6.600 1,300 0
G5-UNDEVELOPED 1.400 400 0
G6-AGRICULTURAL FOREST 6.000 4,100 0
2-Year Comparison | 2018 | 2019 | Change
Land: 5,700 5,800 1.8%
Improved: 0 0 0.0%
Total: 5,700 5,800 1.8%
Recorded Documents
Updated: 5/18/2011
WARRANTY DEED
Date Recorded: 4/6/2011 556874
WARRANTY DEED
Date Recorded: 9/24/2007 342740
QUIT CLAIM DEED
Date Recorded: 7/24/1975 200717 196R-344
Property History
N/A
Parcel Report
Real Estate Price County Property Listing
Today's Date: 1/7/2020
Property Status: Current
Created On: 2/22/2006 9:02:12 AM
Description
Updated: 10/29/2012
Tax ID: 20723
PIN: 50-034-4-37-01-33-3 01-000-10000
Legacy PIN: 034[illegible]
Map ID: 570
Municipality: (034) TOWN OF WORCESTER
STR: 033 T37N R01E
Description: 33-37-1E NW1-SW
Recorded Acres: 38.870
Calculated Acres: 0.000
Lottery Claims: 1
First Dollar: Yes
Waterbody: Unnamed - 034
Zoning: (A1) Agricultural
ESN: 500
Ownership
Updated: 2/14/2012
ALBERT T NOREK
PHILLIPS WI
Billing Address:
ALBERT T NOREK
W5681 COUNTY RD D
PHILLIPS WI 54555
Mailing Address:
ALBERT T NOREK
W5681 COUNTY RD D
PHILLIPS WI 54555
Site Address * Indicates Private Road
W5681 COUNTY RD D PHILLIPS 54555
Property Assessment
Updated: 8/28/2018
2019 Assessment Detail
Code | Acres | Land | Imp.
G1-RESIDENTIAL 1.000 5,000 67,600
G4-AGRICULTURAL 26.000 4,300 0
G5-UNDEVELOPED 9.930 2,500 0
2-Year Comparison | 2018 | 2019 | Change
Land: 11,600 11,800 1.7%
Improved: 67,600 67,600 0.0%
Total: 79,200 79,400 0.3%
Tax Districts
Updated: 2/22/2006
1 STATE OF WISCONSIN
50 PRICE COUNTY
034 TOWN OF WORCESTER
504347 SCHL-PHILLIPS
001500 TECHNICAL COLLEGE
Recorded Documents
Updated: 1/27/2011
PERSONAL REPRESENTATIVE'S DEED
Date Recorded: 3/26/1993 265876 340R-510
Property History
N/A
F17
F1
-90.33, 45.68
4:32 PM
11/18/2019

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
Phillips Plating Corporation	WI- 0041149	

Facility Address	City	State	ZIP Code
P.O. Box 72	Phillips	WI	54555

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Darin Baratka	P.O. Box 72	Phillips	WI	54555

Project Name
WWTP P Compliance: Richard Norek

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	PP-004	Conversion of fields to perennial vegetation.	4.0	1.2:1	SnapPlus

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Price	Little Elk River	See attached map	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]	2/15/2020

Authorized Representative Signature

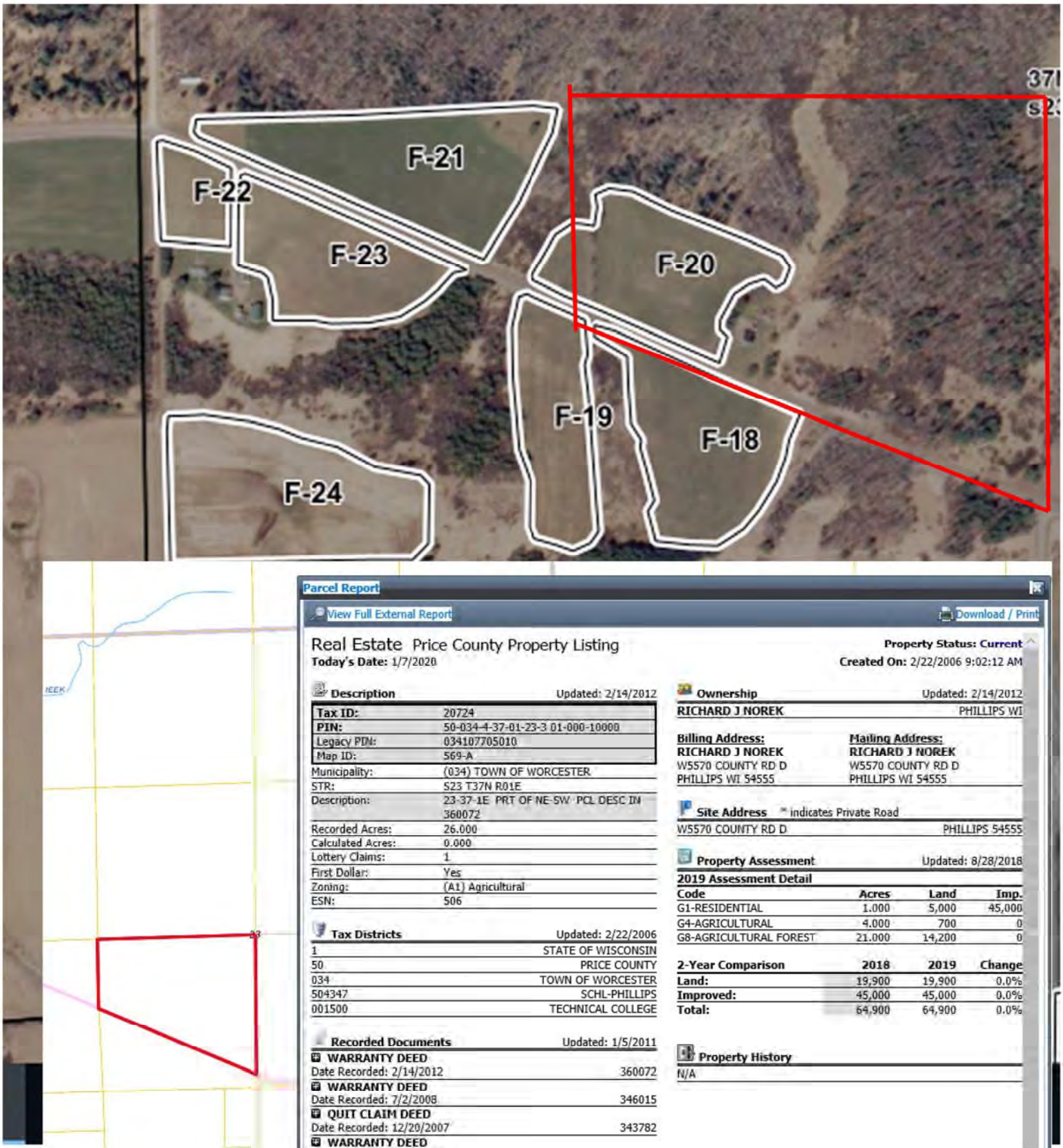
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. 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]	2-15-2020

Leave Blank – For Department Use Only

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


NE1/4 SW1/4 S23
T37N R1E
034107705010
034107706000
034107705000
034107707000
SNOW DRIFT RD
WORCESTER
23



Parcel Report

View Full External Report | Download / Print

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current
Created On: 2/22/2006 9:02:12 AM

Description — Updated: 2/14/2012

Tax ID:	20724
PIN:	50-034-4-37-01-23-3 01-000-10000
Legacy PIN:	034107705010
Map ID:	569-A
Municipality:	(034) TOWN OF WORCESTER
STR:	S23 T37N R01E
Description:	23-37-1E PRT OF NE-SW PCL DESC IN 360072
Recorded Acres:	26.000
Calculated Acres:	0.000
Lottery Claims:	1
First Dollar:	Yes
Zoning:	(A1) Agricultural
ESN:	506

Tax Districts — Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Recorded Documents — Updated: 1/5/2011

WARRANTY DEED	
Date Recorded: 2/14/2012	360072
WARRANTY DEED	
Date Recorded: 7/2/2008	346015
QUIT CLAIM DEED	
Date Recorded: 12/20/2007	343782
WARRANTY DEED	
Date Recorded: 6/10/1996	280939 380R-180
LAND CONTRACT	

Ownership — Updated: 2/14/2012

RICHARD J NOREK — PHILLIPS WI

Billing Address:	**Mailing Address:**
RICHARD J NOREK	**RICHARD J NOREK**
W5570 COUNTY RD D	W5570 COUNTY RD D
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address — * indicates Private Road

W5570 COUNTY RD D — PHILLIPS 54555

Property Assessment — Updated: 8/28/2018

2019 Assessment Detail

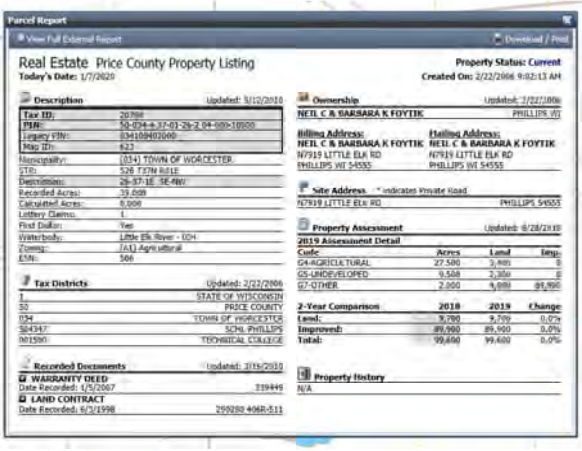
Code	Acres	Land	Imp.
G1-RESIDENTIAL	1.000	5,000	45,000
G4-AGRICULTURAL	4.000	700	0
G8-AGRICULTURAL FOREST	21.000	14,200	0

2-Year Comparison	2018	2019	Change
Land:	19,900	19,900	0.0%
Improved:	45,000	45,000	0.0%
Total:	64,900	64,900	0.0%

Property History

N/A

Attachment C1: Properties & Snap Maps



Parcel Report

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:13 AM

Description Updated: 5/12/2010

Tax ID:	20769
PIN:	50-034-4-37-01-26-2 04-000-10000
Legacy PIN:	034108402000
Map ID:	623
Municipality:	(034) TOWN OF WORCESTER
STR:	S26 T37N R01E
Description:	26-37-1E SE4W
Recorded Acres:	39.000
Calculated Acres:	0.000
Lottery Claims:	1
First Dollar:	Yes
Waterbody:	Little Elk River - 034
Zoning:	(A1) Agricultural
ESN:	566

Ownership Updated: 2/22/2006

NEIL C & BARBARA K FOYTIK — PHILLIPS WI

Billing Address:	Mailing Address:
NEIL C & BARBARA K FOYTIK	NEIL C & BARBARA K FOYTIK
N7919 LITTLE ELK RD	N7919 LITTLE ELK RD
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * indicates Private Road

N7919 LITTLE ELK RD — PHILLIPS 54555

Property Assessment Updated: 6/28/2010

2019 Assessment Detail

Code	Acres	Land	Imp.
G4-AGRICULTURAL	27.500	3,465	0
G5-UNDEVELOPED	9.500	2,300	0
G7-OTHER	2.000	4,000	89,900

2-Year Comparison	2018	2019	Change
Land:	9,700	9,709	0.0%
Improved:	89,900	89,900	0.0%
Total:	99,600	99,600	0.0%

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

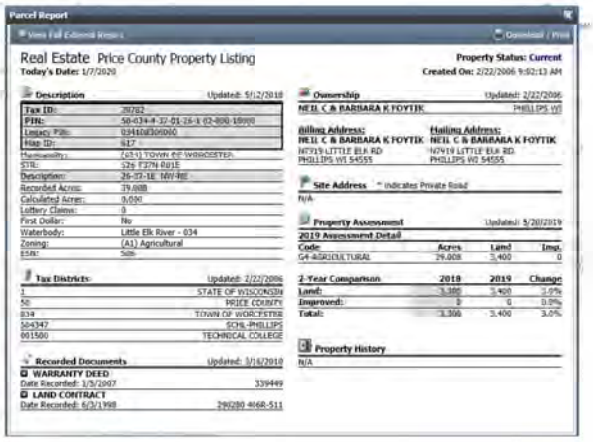
Property History

N/A

Recorded Documents Updated: 3/15/2010

WARRANTY DEED
Date Recorded: 1/5/2007 — 339449

LAND CONTRACT
Date Recorded: 6/3/1998 — 290280 406R-511



Parcel Report

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:13 AM

Description Updated: 5/12/2010

Tax ID:	20762
PIN:	50-034-4-37-01-26-1 02-000-10000
Legacy PIN:	034108307000
Map ID:	617
Municipality:	(034) TOWN OF WORCESTER
STR:	S26 T37N R01E
Description:	26-37-1E NW4E
Recorded Acres:	39.000
Calculated Acres:	0.000
Lottery Claims:	0
First Dollar:	No
Waterbody:	Little Elk River - 034
Zoning:	(A1) Agricultural
ESN:	566

Ownership Updated: 2/22/2006

NEIL C & BARBARA K FOYTIK — PHILLIPS WI

Billing Address:	Mailing Address:
NEIL C & BARBARA K FOYTIK	NEIL C & BARBARA K FOYTIK
N7919 LITTLE ELK RD	N7919 LITTLE ELK RD
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * indicates Private Road

N/A

Property Assessment Updated: 5/20/2019

2019 Assessment Detail

Code	Acres	Land	Imp.
G4-AGRICULTURAL	29.008	3,400	0

2-Year Comparison	2018	2019	Change
Land:	3,300	3,400	3.0%
Improved:	0	0	0.0%
Total:	3,300	3,400	3.0%

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

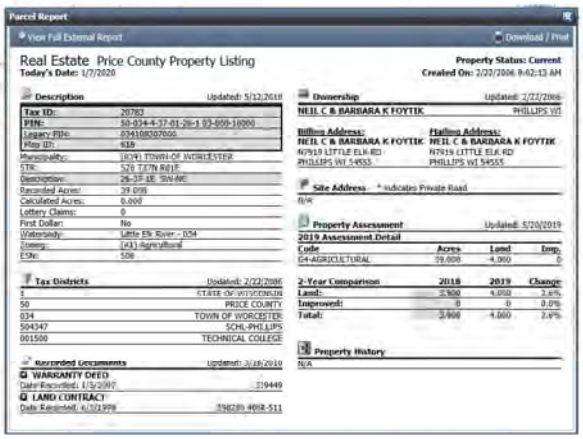
Property History

N/A

Recorded Documents Updated: 3/16/2010

WARRANTY DEED
Date Recorded: 1/5/2007 — 339449

LAND CONTRACT
Date Recorded: 6/3/1998 — 290280 406R-511



Parcel Report

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:13 AM

Description Updated: 5/12/2010

Tax ID:	20763
PIN:	50-034-4-37-01-26-1 03-000-10000
Legacy PIN:	034108307000
Map ID:	618
Municipality:	(034) TOWN OF WORCESTER
STR:	S26 T37N R01E
Description:	26-37-1E SW4E
Recorded Acres:	39.000
Calculated Acres:	0.000
Lottery Claims:	0
First Dollar:	No
Waterbody:	Little Elk River - 034
Zoning:	(A1) Agricultural
ESN:	566

Ownership Updated: 2/22/2006

NEIL C & BARBARA K FOYTIK — PHILLIPS WI

Billing Address:	Mailing Address:
NEIL C & BARBARA K FOYTIK	NEIL C & BARBARA K FOYTIK
N7919 LITTLE ELK RD	N7919 LITTLE ELK RD
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * indicates Private Road

N/A

Property Assessment Updated: 5/20/2019

2019 Assessment Detail

Code	Acres	Land	Imp.
G4-AGRICULTURAL	29.008	4,000	0

2-Year Comparison	2018	2019	Change
Land:	3,900	4,000	2.6%
Improved:	0	0	0.0%
Total:	3,900	4,000	2.6%

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Property History

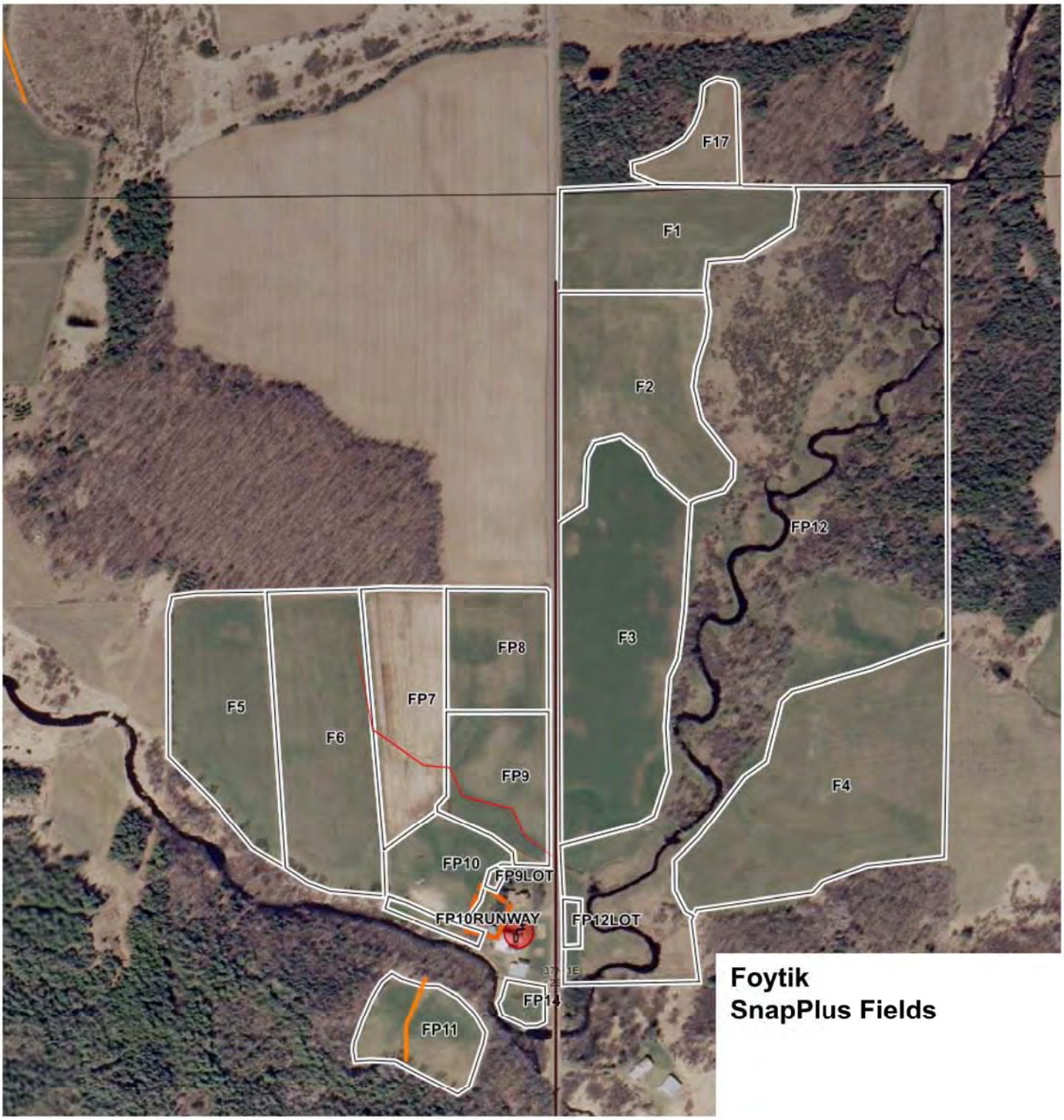
N/A

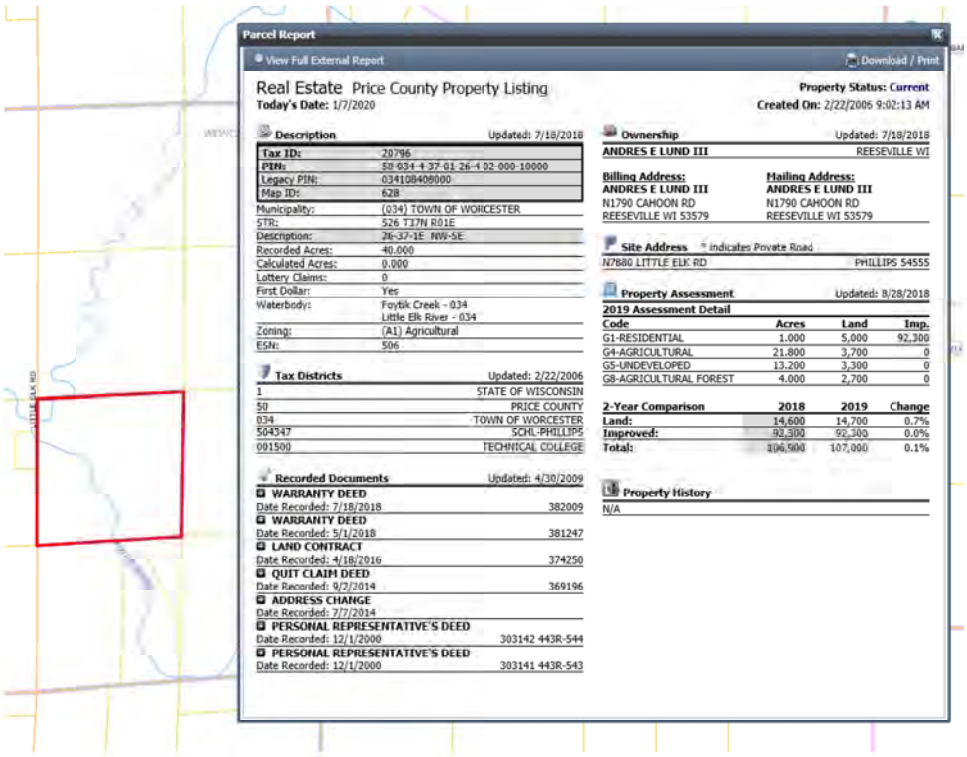
Recorded Documents Updated: 3/16/2010

WARRANTY DEED
Date Recorded: 1/5/2007 — 339449

LAND CONTRACT
Date Recorded: 6/3/1998 — 290280 406R-511


S26 T37N R1E
034108309000
034108306000
034108305000
034108402000
034108307000
034108308000
26
LITTLE ELK RD


F17
F1
F2
FP12
F3
FP8
F5
FP7
F6
FP9
F4
FP10
FP9LOT
FP10RUNWAY
FP12LOT
FP14
FP11
Foytik
SnapPlus Fields



Parcel Report

View Full External Report | Download / Print

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:13 AM

Description Updated: 7/18/2018

Tax ID:	20796
PIN:	58-034-4-37-01-26-4-32-000-10000
Legacy PIN:	034108408000
Map ID:	628
Municipality:	(034) TOWN OF WORCESTER
STR:	526 T37N R01E
Description:	26-37-1E NW-SE
Recorded Acres:	40.000
Calculated Acres:	0.000
Lottery Claims:	0
First Dollar:	Yes
Waterbody:	Foytik Creek - 034 Little Elk River - 034
Zoning:	(A1) Agricultural
ESN:	506

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Recorded Documents Updated: 4/30/2009

WARRANTY DEED	
Date Recorded: 7/18/2018	382009
WARRANTY DEED	
Date Recorded: 5/1/2018	381247
LAND CONTRACT	
Date Recorded: 4/18/2016	374250
QUIT CLAIM DEED	
Date Recorded: 9/3/2014	369196
ADDRESS CHANGE	
Date Recorded: 7/7/2014	
PERSONAL REPRESENTATIVE'S DEED	
Date Recorded: 12/1/2000	303142 443R-544
PERSONAL REPRESENTATIVE'S DEED	
Date Recorded: 12/1/2000	303141 443R-543

Ownership Updated: 7/18/2018

ANDRES E LUND III REESEVILLE WI

Billing Address:	**Mailing Address:**
ANDRES E LUND III	**ANDRES E LUND III**
N1790 CAHOON RD	N1790 CAHOON RD
REESEVILLE WI 53579	REESEVILLE WI 53579

Site Address * indicates Private Road

N7680 LITTLE ELK RD PHILLIPS 54555

Property Assessment Updated: 8/28/2018

2019 Assessment Detail

Code	Acres	Land	Imp.
G1-RESIDENTIAL	1.000	5,000	92,300
G4-AGRICULTURAL	21.800	3,700	0
G5-UNDEVELOPED	13.200	3,300	0
G8-AGRICULTURAL FOREST	4.000	2,700	0

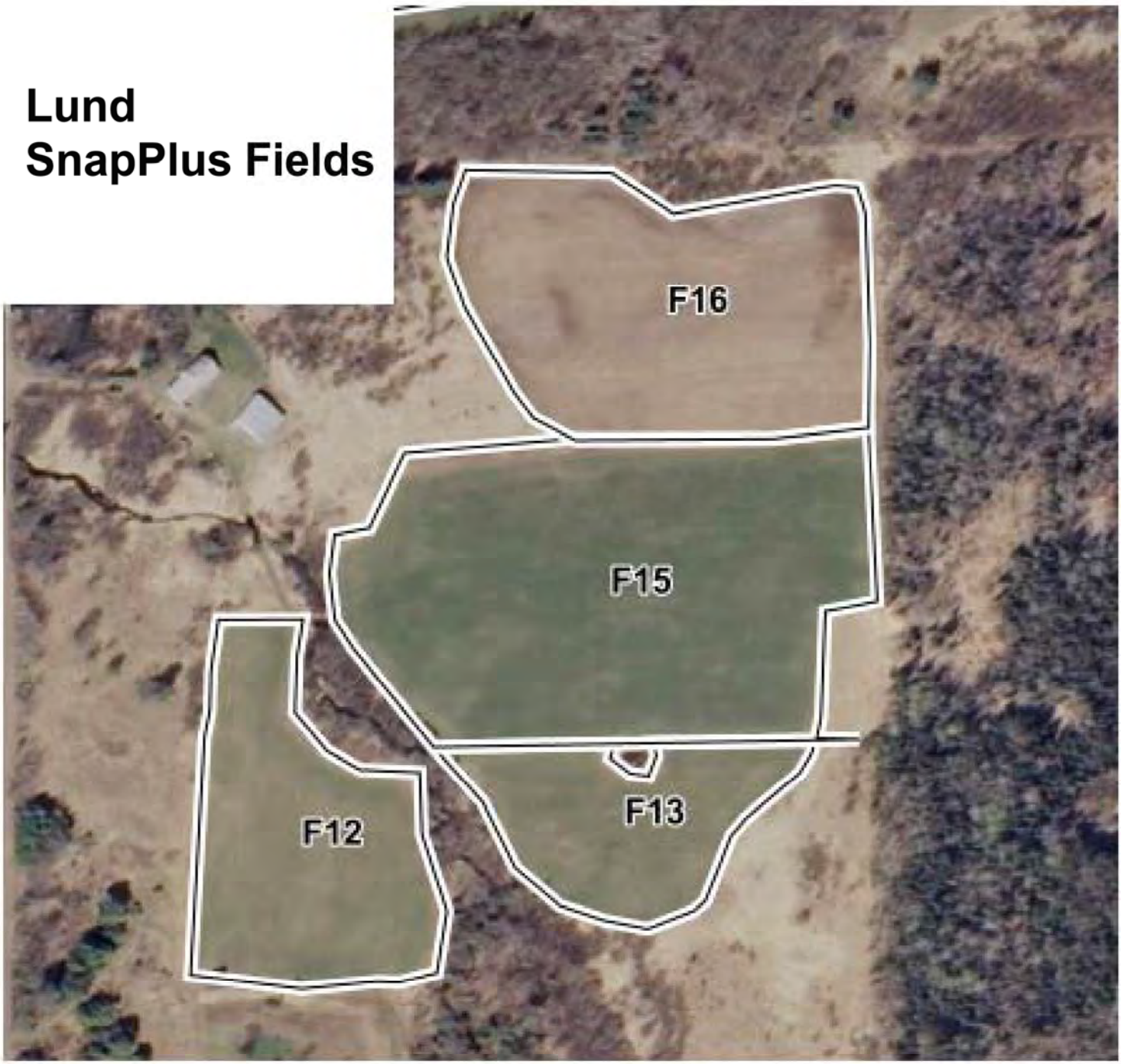
2-Year Comparison	2018	2019	Change
Land:	14,600	14,700	0.7%
Improved:	92,300	92,300	0.0%
Total:	106,900	107,000	0.1%

Property History

N/A


034107709000
034107708000
034108309000
034108306000
034108305000
034108310000
034108402000
034108307000
034108308000
034108401000
034108501000
034108408000
034108408000
034108405000
WORCESTER
MURPHYLAKE RD
NW1/4 SW1/4
S26
T37N R1E

Lund
SnapPlus Fields



Parcel Report

View Full External Report | Download / Print

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current
Created On: 2/22/2006 9:02:12 AM

Description Updated: 2/14/2012

Tax ID:	20723
PIN:	50-034-4-37-01-23-3 01-000-20000
Legacy PIN:	034107705000
Map ID:	569
Municipality:	(034) TOWN OF WORCESTER
STR:	S23 T37N R01E
Description:	23-37-1E NE-SW EXCPT PCL N OF HWY
Recorded Acres:	14.000
Calculated Acres:	0.000
Lottery Claims:	0
First Dollar:	No
Zoning:	(A1) Agricultural
ESN:	506

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Recorded Documents Updated: 5/18/2015

WARRANTY DEED	
Date Recorded: 4/6/2011	356874
WARRANTY DEED	
Date Recorded: 9/24/2007	342740
QUIT CLAIM DEED	
Date Recorded: 7/24/1975	200217 196R-344

Ownership Updated: 2/14/2012

ALBERT T NOREK — PHILLIPS WI

Billing Address:	Mailing Address:
ALBERT T NOREK	ALBERT T NOREK
W5681 COUNTY RD D	W5681 COUNTY RD D
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * indicates Private Road

N/A

Property Assessment Updated: 9/23/2013

2019 Assessment Detail

Code	Acres	Land	Imp.
G4-AGRICULTURAL	6.600	1,300	0
G5-UNDEVELOPED	1.400	400	0
G8-AGRICULTURAL FOREST	6.000	4,100	0

2-Year Comparison	2018	2019	Change
Land:	5,700	5,800	1.8%
Improved:	0	0	0.0%
Total:	5,700	5,800	1.8%

Property History

N/A

View Full External Report | Download / Print

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current
Created On: 2/22/2006 9:02:12 AM

Description Updated: 10/29/2012

Tax ID:	20725
PIN:	50-034-4-37-01-23-3 02-000-10000
Legacy PIN:	034107706000
Map ID:	570
Municipality:	(034) TOWN OF WORCESTER
STR:	S23 T37N R01E
Description:	23-37-1E NW-SW
Recorded Acres:	36.930
Calculated Acres:	0.000
Lottery Claims:	1
First Dollar:	Yes
Waterbody:	Unnamed - 034
Zoning:	(A1) Agricultural
ESN:	506

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Recorded Documents Updated: 1/5/2011

PERSONAL REPRESENTATIVE'S DEED	
Date Recorded: 3/26/1993	265876 340R-510

Ownership Updated: 2/14/2012

ALBERT T NOREK — PHILLIPS WI

Billing Address:	Mailing Address:
ALBERT T NOREK	ALBERT T NOREK
W5681 COUNTY RD D	W5681 COUNTY RD D
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * indicates Private Road

W5681 COUNTY RD D — PHILLIPS 54555

Property Assessment Updated: 8/28/2018

2019 Assessment Detail

Code	Acres	Land	Imp.
G1-RESIDENTIAL	1.000	5,000	67,600
G4-AGRICULTURAL	26.000	4,300	0
G5-UNDEVELOPED	9.930	2,500	0

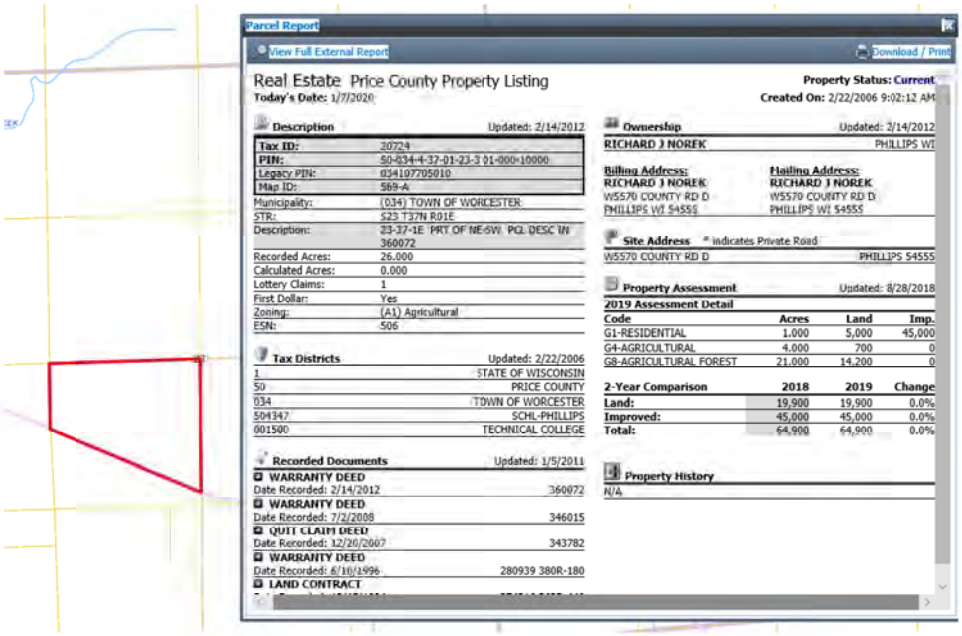
2-Year Comparison	2018	2019	Change
Land:	11,600	11,800	1.7%
Improved:	67,600	67,600	0.0%
Total:	79,200	79,400	0.3%

Property History

N/A


NE1/4 SW1/4 S23
T37N R1E
034107705010
034107706000
NW1/4 SW1/4 S23
T37N R1E
SNOW DRIFT RD
WORCESTER
034107705000
034107707000
23

Albert Norek
SnapPlus Fields



Parcel Report

View Full External Report | Download / Print

Real Estate Price County Property Listing

Today's Date: 1/7/2020

Property Status: Current

Created On: 2/22/2006 9:02:12 AM

Description Updated: 2/14/2012

Tax ID:	20724
PIN:	50-034-4-37-01-23-3 01-000-10000
Legacy PIN:	034107705010
Map ID:	569-A
Municipality:	(034) TOWN OF WORCESTER
STR:	S23 T37N R01E
Description:	23-37-1E PRT OF NE-SW PCL DESC IN 360072
Recorded Acres:	26.000
Calculated Acres:	0.000
Lottery Claims:	1
First Dollar:	Yes
Zoning:	(A1) Agricultural
ESN:	506

Tax Districts Updated: 2/22/2006

1	STATE OF WISCONSIN
50	PRICE COUNTY
034	TOWN OF WORCESTER
504347	SCHL-PHILLIPS
001500	TECHNICAL COLLEGE

Recorded Documents Updated: 1/5/2011

WARRANTY DEED	
Date Recorded: 2/14/2012	360972
WARRANTY DEED	
Date Recorded: 7/2/2008	346015
QUIT CLAIM DEED	
Date Recorded: 12/20/2007	343782
WARRANTY DEED	
Date Recorded: 6/10/1996	280939 380R-180
LAND CONTRACT	

Ownership Updated: 2/14/2012

RICHARD J NOREK PHILLIPS WI

Billing Address:	Mailing Address:
RICHARD J NOREK	RICHARD J NOREK
W5570 COUNTY RD D	W5570 COUNTY RD D
PHILLIPS WI 54555	PHILLIPS WI 54555

Site Address * indicates Private Road

W5570 COUNTY RD D PHILLIPS 54555

Property Assessment Updated: 8/28/2018

2019 Assessment Detail

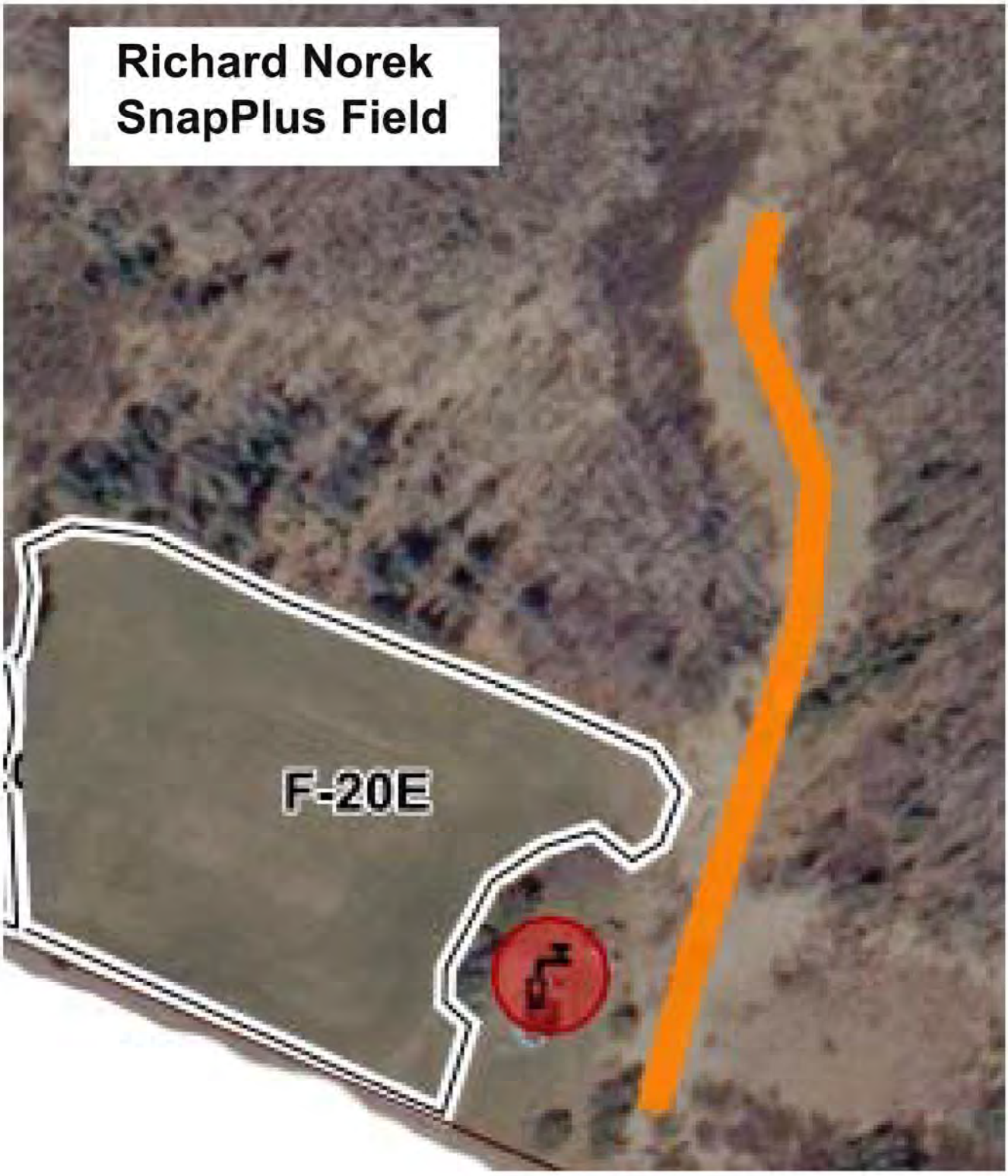
Code	Acres	Land	Imp.
G1-RESIDENTIAL	1.000	5,000	45,000
G4-AGRICULTURAL	4.000	700	0
G8-AGRICULTURAL FOREST	21.000	14,200	0

2-Year Comparison	2018	2019	Change
Land:	19,900	19,900	0.0%
Improved:	45,000	45,000	0.0%
Total:	64,900	64,900	0.0%

Property History

N/A


NE1/4 SW1/4 S23
T37N R1E
034107705010
034107706000
034107705000
034107707000
SNOW DRIFT RD
WORCESTER
23


Richard Norek
SnapPlus Field
F-20E

Attachment C2: SnapPlus Field Reports

NM1: Narrative and Crops Report

Starting Year	**2012**
Reported For	**Phillips Plating Foytik 8yr**
Printed	**2021-09-16**
Plan Completion/Update Date:	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 8y.snapDb	

Prepared for:
Phillips Plating Foytik 8yr
attn:Neil Foytik

Farm has 12 fields totalling 97.2 cropped acres.
Farm Narrative: Neil Foytik had a dairy operation with a milking herd of 35 lactating (20 X 1,400 lbs + 15 X 1,200 lbs) and seven dry cows (4X 1,400 lbs + 3 X 1,200 lbs) and a heifer herd of eight 750 lb heifers, nine 1,000 lb heifers, six 150 lbs calves, six 250 lb calves and one 1,400 lbs bull. There was no manure storage, so manure from both herds indoors 24 hrs/day in winter was hauled daily (from Nov 15 to May 15) to fields planned for corn planting in the following spring. Overnight (½ day milking to milking) manure from the milking herd was hauled every other day or three times per week to the oldest, grassiest hayfields (May 15 to Nov 15). Six months per year outdoor manure from the dairy herd was pasture-delivered to each of the five rotation-grazed pastures. Six months per year outdoor manure from the heifer herd was pasture-delivered to FP-12 and FP-12 lot.

An eight-year, target crop rotation started with one or two years of corn followed by alfalfa (red clover on Norek) that converted to grass for end the rotation. The corn and alfalfa planting was preceded by spring mold board plowing and spring disking. The target 8-yr rotation was often varied due to crop yield and weather variability. The average crop year included 15 acres of corn silage among the Foytik, Norek, and Lund properties. Winter manure was hauled to the to-be-corn fields regardless of ownership while indoor summer manure production was spread only on the Foytik and Lund grassy fields.

Corn fields received commercial fertilizer in addition to the manure. Alfalfa seedings received commercial fertilizer. No other fields or pastures received commercial fertilizer.

All the cattle were sold in the summer of 2020, the corn fields were planted to a hay pasture mixture, pastures, alfalfa fields, and the grassy hay fields were not tilled or replanted. Barnyards and feedlot/exercise areas were allowed to vegetate naturally.

NW1/4 SE1/4 S26 37N 1E
The Anders Lund Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed. F-12 is not part of this trade. Fields F-13, F-15, and F-16 have been converted to permanent hayland vegetation. There is no F-14. FP-14 is not part of the trade>

NE SW S23 37N 1W
The Richard Norek Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan.

NE SW S23 37N 1W & NW SW S23 37N 1W
Albert Norek Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2012	2013	2014	2015	2016	2017	2018	2019
F1	5.4	Corn silage Spring MB Plow 10-15 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre
F2	6.9	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre
F3	10.6	Grass hay None 2.0-3 ton/acre	Grass hay None 2-3 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre
F4	11.3	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Alfalfa/Grass None 4.6-5.5 ton/acre	Grass hay None 2-3 ton/acre
F5	6	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 3.1-4 ton/acre
F6	7.2	Alfalfa/Grass None 2.6-3.5 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 2.6-3.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre
FP10	2.3	Pasture, rotational stocking, grass None 2.0-3.0 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre
FP11	2.4	Pasture, rotational stocking, grass None 2.0-3.0 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre

Field Name	Field Acres	2012	2013	2014	2015	2016	2017	2018	2019
FP12	34	Pasture, continuous stocking, low density None 1-2 ton/acre	Pasture, continuous stocking, low density None 1-2 ton/acre	Pasture, continuous stocking, low density None 1-2 ton/acre	Pasture, continuous stocking, low density None 1-2 ton/acre	Pasture, continuous stocking, low density None 1-2 ton/acre	Pasture, continuous stocking, low density None 1-2 ton/acre	Pasture, continuous stocking, low density None 1-2 ton/acre	Pasture, continuous stocking, low density None 1-2 ton/acre
FP7	4.5	Alfalfa/Grass None 2.6-3.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre
FP8	3.2	Pasture, rotational stocking, grass None 2.0-3.0 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre
FP9	3.4	Pasture, rotational stocking, grass None 2.0-3.0 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre	Pasture, rotational stocking, grass None 2-3 ton/acre

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

Crops Grouped By Category		2012	2013	2014	2015	2016	2017	2018	2019
Alfalfa/Grass	Acres ton	23 93	11 34	17 52	20 61	23 70	13 53	17 86	
Alfalfa/Grass Seeding Spring	Acres ton	7 12	5 9	7 21	11 19	6 11	11 19		
Corn silage	Acres ton	5 63	7 123	11 193	6 105	11 193			12 211
Grass hay	Acres ton	17 43	28 70	17 43	16 40	11 39	23 58	30 75	35 124
Pasture, continuous stocking, low density	Acres ton	34 51	34 51	34 51	34 51	34 51	34 51	34 51	34 51
Pasture, rotational stocking, grass	Acres ton	11 28	11 28	11 28	11 28	11 28	16 40	16 40	16 40

NM1: Narrative and Crops Report

Starting Year	**2024**
Reported For	**Phillips Plating Foytik 1yr**
Printed	**2022-02-08**
Plan Completion/Update Date:	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 1y.snapDb	

Prepared for:
Phillips Plating Foytik 1yr
attn:Neil Foytik

Farm has 11 fields totalling 94.8 cropped acres.
Farm Narrative: Neil Foytik had a dairy operation with a milking herd of 35 lactating (20 X 1,400 lbs + 15 X 1,200 lbs) and seven dry cows (4X 1,400 lbs + 3 X 1,200 lbs) and a heifer herd of eight 750 lb heifers, nine 1,000 lb heifers, six 150 lbs calves, six 250 lb calves and one 1,400 lbs bull. There was no manure storage, so manure from both herds indoors 24 hrs/day in winter was hauled daily (from Nov 15 to May 15) to fields planned for corn planting in the following spring. Overnight (½ day milking to milking) manure from the milking herd was hauled every other day or three times per week to the oldest, grassiest hayfields (May 15 to Nov 15). Six months per year outdoor manure from the dairy herd was pasture-delivered to each of the five rotation-grazed pastures. Six months per year outdoor manure from the heifer herd was pasture-delivered to FP-12 and FP-12 lot.

An eight-year, target crop rotation started with one or two years of corn followed by alfalfa (red clover on Norek) that converted to grass for end the rotation. The corn and alfalfa planting was preceded by spring mold board plowing and spring disking. The target 8-yr rotation was often varied due to crop yield and weather variability. The average crop year included 15 acres of corn silage among the Foytik, Norek, and Lund properties. Winter manure was hauled to the to-be-corn fields regardless of ownership while indoor summer manure production was spread only on the Foytik and Lund grassy fields.

Corn fields received commercial fertilizer in addition to the manure. Alfalfa seedings received commercial fertilizer. No other fields or pastures received commercial fertilizer.

All the cattle were sold in the summer of 2020, the corn fields were planted to a hay pasture mixture, pastures, alfalfa fields, and the grassy hay fields were not tilled or replanted. Barnyards and feedlot/exercise areas were allowed to vegetate naturally.

NW1/4 SE1/4 S26 37N 1E
The Anders Lund Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed. F-12 is not part of this trade. Fields F-13, F-15, and F-16 have been converted to permanent hayland vegetation. There is no F-14.

NE SW S23 37N 1W
The Richard Norek Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed.

NE SW S23 37N 1W & NW SW S23 37N 1W
Albert Norek Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2024	2025	2026	2027	2028
F1	5.4	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F2	6.9	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F3	10.6	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F4	11.3	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F5	6	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F6	7.2	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
FP10	2.3	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
FP12	34	Grasslands, permanent, not harvested None 0-0 none/acre	Grasslands, permanent, not harvested None 0-0 none/acre	Grasslands, permanent, not harvested None 0-0 none/acre	Grasslands, permanent, not harvested None 0-0 none/acre	Grasslands, permanent, not harvested None 0-0 none/acre
FP7	4.5	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre

Field Name	Field Acres	2024	2025	2026	2027	2028
FP8	3.2	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
FP9	3.4	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre

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

Crops Grouped By Category		2024	2025	2026	2027	2028
Grass hay	Acres ton	61 153	61 153	61 153	61 153	61 153
Grasslands, permanent, not harvested	Acres none	34 0	34 0	34 0	34 0	34 0

NM2: Application Restriction Compliance Check Report

For Years	**2012 - 2019**
Plan Year	**2019**
Reported For	**Phillips Plating Foytik 8yr**
Printed	**2021-09-16**
Plan Completion/Update Date	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 8y.snapDb	

Prepared for:
Phillips Plating Foytik 8yr
attn:Neil Foytik

This farm uses both PI and Soil Test P for P2O5 590 Compliance

Rotational Restriction Problems

Field Name	Rotation Years	Problem
F1	2012-2019	Rotational soil loss of 3.8 exceeds T of 3
F1	2012-2019	Rotational average PI of 9 is greater than 6.
F6	2012-2019	Soil test P is greater than 50 ppm; P2O5 balance should be less than zero lb/acre.
FP10	2012-2019	Soil test P is greater than 100 ppm so P2O5 balance should be less than -80 lb / acre.
FP11	2012-2019	Soil test P is greater than 50 ppm; P2O5 balance should be less than zero lb/acre.

Soil Test Problems

No Soil Test Problems

Soil Test Problems Legend	
Too Few Soil Samples	Less than one sample per five acres.
Soil Test Data Too Old	Soil test is greater than 4 years old

Application Restriction Problems

Field Name	Year	Problem	Explanation
F1	2012	Winter manure P2O5 applications exceed this year's crop removal by 39 lbs.	
F1	2012	No winter spreading on slopes steeper than 12% or on uncontoured slopes between 9 and 12%.	
F1	2012	Nutrient applications should not be planned on this field because average soil loss exceeds T.	
F1	2013	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. Reduce or eliminate P2O5 fertilizer on this field.	
F1	2013	Nutrient applications should not be planned on this field because average soil loss exceeds T.	
F1	2018	Nutrient applications should not be planned on this field because average soil loss exceeds T.	
F1	2019	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. Reduce or eliminate P2O5 fertilizer on this field.	
F1	2019	Too few winter manure spreading practices selected; two must be implemented from the Winter Practices list.	
F1	2019	Nutrient applications should not be planned on this field because average soil loss exceeds T.	
F2	2019	Too few winter manure spreading practices selected; two must be implemented from the Winter Practices list.	
F3	2014	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is Excessively High for this field. Reduce or eliminate P2O5 fertilizer on this field.	
F3	2014	Winter manure P2O5 applications exceed 60 pounds per acre by 25 lbs.	
F3	2014	No winter spreading on slopes steeper than 12% or on uncontoured slopes between 9 and 12%.	
F3	2015	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is Excessively High for this field. Reduce or eliminate P2O5 fertilizer on this field.	
F4	2016	Winter manure P2O5 applications exceed 60 pounds per acre by 2 lbs.	
F4	2016	No winter spreading on slopes steeper than 12% or on uncontoured slopes between 9 and 12%.	

Field Name	Year	Problem	Explanation
F5	2015	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is High for this field. Reduce or eliminate P2O5 fertilizer on this field.	
F5	2015	No winter spreading on slopes steeper than 12% or on uncontoured slopes between 9 and 12%.	
F5	2016	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is High for this field. Reduce or eliminate P2O5 fertilizer on this field.	
F6	2013	Overapplication of N of 74 lbs N/acre.	
F6	2013	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is Excessively High for this field. Reduce or eliminate P2O5 fertilizer on this field.	
F6	2013	Winter manure P2O5 applications exceed 60 pounds per acre by 8 lbs.	
F6	2013	No winter spreading on slopes steeper than 12% or on uncontoured slopes between 9 and 12%.	
F6	2014	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is Excessively High for this field. Reduce or eliminate P2O5 fertilizer on this field.	

NM2: Application Restriction Compliance Check Report

For Years	**2024 - 2028**
Plan Year	**2024**
Reported For	**Phillips Plating Foytik 1yr**
Printed	**2022-02-08**
Plan Completion/Update Date	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 1y.snapDb	

Prepared for:
Phillips Plating Foytik 1yr
attn:Neil Foytik

This farm uses both PI and Soil Test P for P2O5 590 Compliance

Rotational Restriction Problems

Field Name	Rotation Years	Problem
F2	2024-2024	Rotational average PI calculation is invalid.

Soil Test Problems

Field Name	Soil Test Date	Too Few Soil Samples	Soil Test Too Old
F1	2019-09-23		X
F2	2019-09-23		X
F3	2019-09-23		X
F4	2019-09-23		X
F5	2019-09-23		X

Field Name	Soil Test Date	Too Few Soil Samples	Soil Test Too Old
F6	2019-09-23		X
FP10	2019-09-23		X
FP12	2019-09-23		X
FP7	2019-09-23		X
FP8	2019-09-23		X
FP9	2019-09-23		X

Soil Test Problems Legend	
Too Few Soil Samples	Less than one sample per five acres.
Soil Test Data Too Old	Soil test is greater than 4 years old

Application Restriction Problems

No Application Restriction Problems found

NM3: Field Data and 590 Assessment Plan

Reported For	Phillips Plating Foytik 8yr
Printed	2021-09-16
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 8y.snapDb	

Prepared for:
Phillips Plating Foytik 8yr
attn:Neil Foytik

Field Data: 97 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
F1	N. Foytik			5.4	Price	GLIDDEN 730C	11	150	0 - 2	301 - 1000	No / No	No	No	CsI-AGs-AG-AG-AG-GH-GH-CsI	SP-SP-None-None-None-None-None-None-SP	2012-2019	3	3.8	0.6	9	24	251	-
F2	N. Foytik			6.9	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	No	No	AGs-AG-AG-AG-GH-GH-GH-CsI	SP-None-None-None-None-None-None-None-SP	2012-2019	3	1.5	0.9	3	25	-97	-
F3	N. Foytik			10.6	Price	GLIDDEN 730C	11	150	2.1 - 6	0 - 300	No / No	No	No	GH-GH-CsI-AGs-AG-GH-GH-GH	None-None-SP-SP-None-None-None-None-None	2012-2019	3	1.4	1.1	4	36	131	-
F4	N. Foytik			11.3	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	No	No	AG-GH-GH-GH-CsI-AGs-AG-GH	None-None-None-None-None-SP-SP-None-None	2012-2019	3	1.4	1.0	3	11	-31	-

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
F5	N. Foytik			6	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	No	No	GH-GH-GH-Csl-AGs-AG-AG-GH	None-None-None-SP-SP-None-None-None	2012-2019	3	1.5	1.0	3	27	-123	-
F6	N. Foytik			7.2	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	No	No	AG-Csl-AGs-AG-AG-AG-GH-GH	None-SP-SP-None-None-None-None-None	2012-2019	3	2	0.9	4	51	12	0
FP7	N. Foytik			4.5	Price	GLIDDEN 730C	11	150	0 - 2	301 - 1000	No / No	No	No	AG-AG-AG-GH-GH-Prg-Prg-Prg	None-None-None-None-None-None-None-None	2012-2019	3	0	1.6	0	24	-163	-
FP8	N. Foytik			3.2	Price	GLIDDEN 730B	3	200	0 - 2	301 - 1000	No / No	No	No	Prg-Prg-Prg-Prg-Prg-Prg-Prg-Prg	None-None-None-None-None-None-None-None	2012-2019	3	0	2.1	0	14	176	-
FP9	N. Foytik			3.4	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	Yes	No	Prg-Prg-Prg-Prg-Prg-Prg-Prg-Prg	None-None-None-None-None-None-None-None	2012-2019	3	0	2.1	0	44	176	-

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
FP10	N. Foytik			2.3	Price	GLIDDEN 730C	11	150	2.1 - 6	0 - 300	No / No	No	No	Prg-Prg-Prg-Prg-Prg-Prg-Prg-Prg	None-None-None-None-None-None-None-None	2012-2019	3	0	2.1	0	103	176	-80
FP11	N. Foytik			2.4	Price	NEWOOD 3546C	11	150	2.1 - 6	0 - 300	No / No	No	No	Prg-Prg-Prg-Prg-Prg-Prg-Prg-Prg	None-None-None-None-None-None-None-None	2012-2019	4	0	2.1	0	53	176	0
FP12	N. Foytik			34	Price	FORDUM 755A	1	150	0 - 2	0 - 300	No / No	No	No	Pcl-Pcl-Pcl-Pcl-Pcl-Pcl-Pcl-Pcl	None-None-None-None-None-None-None-None	2012-2019	3	0	1.8	0	13	-75	-

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass
AGs	Alfalfa/Grass Seeding Spring
Csl	Corn silage
GH	Grass hay
Pcl	Pasture, continuous stocking, low density
Prg	Pasture, rotational stocking, grass

Tillage Abbreviations

Abbreviation	Tillage
None	None
SP	Spring MB Plow

NM3: Field Data and 590 Assessment Plan

Reported For	Phillips Plating Foytik 9-3 5yr
Printed	2022-02-08
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 5y.snapDb	

Prepared for:
Phillips Plating Foytik 9-3 5yr
attn:Neil Foytik

Field Data: 97 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
F1	N. Foytik			5.4	Price	GLIDDEN 730C	11	150	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	24	-200	-
F2	N. Foytik			6.9	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	25	-200	-
F3	N. Foytik			10.6	Price	GLIDDEN 730C	11	150	2.1 - 6	0 - 300	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	36	-200	-
F4	N. Foytik			11.3	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	11	140	-
F5	N. Foytik			6	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	27	-146	-

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
F6	N. Foytik			7.2	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	51	-200	0
FP7	N. Foytik			4.5	Price	GLIDDEN 730C	11	150	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	24	-200	-
FP8	N. Foytik			3.2	Price	GLIDDEN 730B	3	200	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	14	140	-
FP9	N. Foytik			3.4	Price	GLIDDEN 730C	11	150	2.1 - 6	301 - 1000	No / No	Yes	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	44	-200	-
FP10	N. Foytik			2.3	Price	GLIDDEN 730C	11	150	2.1 - 6	0 - 300	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	103	-200	-50
FP11	N. Foytik			2.4	Price	NEWOOD 3546C	11	150	2.1 - 6	0 - 300	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	4	0	1.5	0	53	-200	0
FP12	N. Foytik			34	Price	FORDUM 755A	1	150	0 - 2	0 - 300	No / No	No	No	Gnh-Gnh-Gnh-Gnh-Gnh	None-None-None-None-None	2024-2028	3	0	1.7	0	13	0	–

Crop Abbreviations

Abbreviation	Crop
GH	Grass hay
Gnh	Grasslands, permanent, not harvested

Tillage Abbreviations

Abbreviation	Tillage
None	None

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 **Price**	DATE PLAN SUBMITTED **10/14/2021**	GROWING SEASON YEAR PLAN IS WRITTEN FOR **2019** (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
Neil Foytik	**Phillips Plating Foytik 8yr**	**262 492 1840**

STREET ADDRESS	CITY	STATE	ZIP
		WI	

REASON THE PLAN WAS DEVELOPED:	CROPLAND ACRES (OWNED & RENTED)
	97

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed

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

STREET ADDRESS	CITY	STATE	ZIP

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.			
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			
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.			

	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.			
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.*			
b. Identify **manure storage capacity** for each type applied and stacking capacity for manure ≥ 16% DM if permanent storage does not exist.			
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**.			
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
Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan	Date
Signature if reviewed for quality assurance	Date

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 **Price** DATE PLAN SUBMITTED **2/8/2022** GROWING SEASON YEAR PLAN IS WRITTEN FOR **2024** (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
Neil Foytik	**Phillips Plating Foytik 1yr**	**262 492 1840**

STREET ADDRESS	CITY	STATE	ZIP
		WI	

REASON THE PLAN WAS DEVELOPED:	CROPLAND ACRES (OWNED & RENTED)
	95

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed

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

STREET ADDRESS	CITY	STATE	ZIP

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.			
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			
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.			

	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
Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan	Date
Signature if reviewed for quality assurance	Date

FM6: Soil Test Report

Reported For	Phillips Plating Foytik 8yr
Printed	2021-09-16
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 8y.snapDb	

Prepared for:
Phillips Plating Foytik 8yr
attn:Neil Foytik

			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
F1	N. Foytik	5.4	948A	BILLYBOY	2019-09-23	Dairyland Labs	8S3976	1	2	5.1	3.3	24	41	0	0
F2	N. Foytik	6.9	730B	GLIDDEN	2019-09-23	Dairyland Labs	8S3976	1	2	5.1	3.1	25	52	0	0
F3	N. Foytik	10.6	730B	GLIDDEN	2019-09-23	Dairyland Labs	8S3976	2	3	6.0	3.7	36	57	0	0
F4	N. Foytik	11.3	730C	GLIDDEN	2019-09-23	Dairyland Labs	8S3976	2	3	6.1	3.4	11	55	0	0
F5	N. Foytik	6	948A	BILLYBOY	2019-09-23	Dairyland Labs	8S3976	1	2	6.2	3.7	27	47	0	0
F6	N. Foytik	7.2	948A	BILLYBOY	2019-09-23	Dairyland Labs	8S3976	1	2	5.8	3.3	51	49	0	0
FP10	N. Foytik	2.3	701A	WHISKLAKE	2019-09-23	Dairyland Labs	8S3976	1	1	6.1	4.4	103	169	0	0
FP11	N. Foytik	2.4	3546C	NEWOOD	2019-09-23	Dairyland Labs	8S3976	1	1	6.4	4.3	53	50	0	0
FP12	N. Foytik	34	755A	FORDUM	2019-09-23	Dairyland Labs	8S3976	7	8	5.5	5.6	13	32	0	0
FP7	N. Foytik	4.5	948A	BILLYBOY	2019-09-23	Dairyland Labs	8S3976	1	1	5.9	3.7	24	63	0	0
FP8	N. Foytik	3.2	948A	BILLYBOY	2019-09-23	Dairyland Labs	8S3976	1	1	6.0	6.3	14	48	0	0
FP9	N. Foytik	3.4	730C	GLIDDEN	2019-09-23	Dairyland Labs	8S3976	1	1	6.4	5.0	44	192	0	0

Crop Year Soil Test Needed

Field Name	Soil Test Date	2019	2020	2021	2022	2023	2024	2025
F1	2019-09-23						X	
F2	2019-09-23						X	
F3	2019-09-23						X	
F4	2019-09-23						X	
F5	2019-09-23						X	
F6	2019-09-23						X	
FP10	2019-09-23						X	
FP11	2019-09-23						X	
FP12	2019-09-23						X	
FP7	2019-09-23						X	
FP8	2019-09-23						X	
FP9	2019-09-23						X	

NM1: Narrative and Crops Report

Starting Year	**2012**
Reported For	**Phillips Plating-Lund 9-3 3 fields 8yr**
Printed	**2021-09-20**
Plan Completion/Update Date:	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 8 yr No f-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 3 fields 8yr
attn:Anders Lund

Farm has 3 fields totalling 14.1 cropped acres.
Farm Narrative: Neil Foytik had a dairy operation with a milking herd of 35 lactating (20 X 1,400 lbs + 15 X 1,200 lbs) and seven dry cows (4X 1,400 lbs + 3 X 1,200 lbs) and a heifer herd of eight 750 lb heifers, nine 1,000 lb heifers, six 150 lbs calves, six 250 lb calves and one 1,400 lbs bull. There was no manure storage, so manure from both herds indoors 24 hrs/day in winter was hauled daily (from Nov 15 to May 15) to fields planned for corn planting in the following spring. Overnight (½ day milking to milking) manure from the milking herd was hauled every other day or three times per week to the oldest, grassiest hayfields (May 15 to Nov 15). Six months per year outdoor manure from the dairy herd was pasture-delivered to each of the five rotation-grazed pastures. Six months per year outdoor manure from the heifer herd was pasture-delivered to FP-12 and FP-12 lot.

An eight-year, target crop rotation started with one or two years of corn followed by alfalfa (red clover on Norek) that converted to grass for end the rotation. The corn and alfalfa planting was preceded by spring mold board plowing and spring disking. The target 8-yr rotation was often varied due to crop yield and weather variability. The average crop year included 15 acres of corn silage among the Foytik, Norek, and Lund properties. Winter manure was hauled to the to-be-corn fields regardless of ownership while indoor summer manure production was spread only on the Foytik and Lund grassy fields.

Corn fields received commercial fertilizer in addition to the manure. Alfalfa seedings received commercial fertilizer. No other fields or pastures received commercial fertilizer.

All the cattle were sold in the summer of 2020, the corn fields were planted to a hay pasture mixture, pastures, alfalfa fields, and the grassy hay fields were not tilled or replanted. Barnyards and feedlot/exercise areas were allowed to vegetate naturally.

NW1/4 SE1/4 S26 37N 1E
The Anders Lund Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed. F-12 is not part of this trade. Fields F-13, F-15, and F-16 have been converted to permanent hayland vegetation. There is no F-14.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2012	2013	2014	2015	2016	2017	2018	2019
F13	2.1	Corn silage Spring MB Plow 10-15 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 3.1-4 ton/acre
F15	7.2	Alfalfa/Grass None 2.6-3.5 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 3.1-4 ton/acre
F16	4.8	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre

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

Crops Grouped By Category		2012	2013	2014	2015	2016	2017	2018	2019
Alfalfa/Grass	Acres ton	12 37	5 20		2 8	2 8	7 21	7 28	
Alfalfa/Grass Seeding Spring	Acres ton			2 4		7 12			
Corn silage	Acres ton	2 25	2 35		7 123			5 88	5 88
Grass hay	Acres ton		7 25	12 43	5 13	5 13	7 18	2 5	9 32

NM1: Narrative and Crops Report

Starting Year	**2024**
Reported For	**Phillips Plating-Lund 9-3 1yr 3 fields**
Printed	**2021-09-20**
Plan Completion/Update Date:	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 1 yr No F-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 1yr 3 fields
attn:Anders Lund

Farm has 3 fields totalling 14.1 cropped acres.
Farm Narrative: Neil Foytik had a dairy operation with a milking herd of 35 lactating (20 X 1,400 lbs + 15 X 1,200 lbs) and seven dry cows (4X 1,400 lbs + 3 X 1,200 lbs) and a heifer herd of eight 750 lb heifers, nine 1,000 lb heifers, six 150 lbs calves, six 250 lb calves and one 1,400 lbs bull. There was no manure storage, so manure from both herds indoors 24 hrs/day in winter was hauled daily (from Nov 15 to May 15) to fields planned for corn planting in the following spring. Overnight (½ day milking to milking) manure from the milking herd was hauled every other day or three times per week to the oldest, grassiest hayfields (May 15 to Nov 15). Six months per year outdoor manure from the dairy herd was pasture-delivered to each of the five rotation-grazed pastures. Six months per year outdoor manure from the heifer herd was pasture-delivered to FP-12 and FP-12 lot.

An eight-year, target crop rotation started with one or two years of corn followed by alfalfa (red clover on Norek) that converted to grass for end the rotation. The corn and alfalfa planting was preceded by spring mold board plowing and spring disking. The target 8-yr rotation was often varied due to crop yield and weather variability. The average crop year included 15 acres of corn silage among the Foytik, Norek, and Lund properties. Winter manure was hauled to the to-be-corn fields regardless of ownership while indoor summer manure production was spread only on the Foytik and Lund grassy fields.

Corn fields received commercial fertilizer in addition to the manure. Alfalfa seedings received commercial fertilizer. No other fields or pastures received commercial fertilizer.

All the cattle were sold in the summer of 2020, the corn fields were planted to a hay pasture mixture, pastures, alfalfa fields, and the grassy hay fields were not tilled or replanted. Barnyards and feedlot/exercise areas were allowed to vegetate naturally.

NW1/4 SE1/4 S26 37N 1E
The Anders Lund Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed. F-12 is not part of this trade. Fields F-13, F-15, and F-16 have been converted to permanent hayland vegetation. There is no F-14.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2024	2025	2026	2027	2028
F13	2.1	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F15	7.2	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F16	4.8	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre

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

Crops Grouped By Category		2024	2025	2026	2027	2028
Grass hay	Acres ton	14 35	14 35	14 35	14 35	14 35

NM2: Application Restriction Compliance Check Report

For Years	**2012 - 2019**
Plan Year	**2019**
Reported For	**Phillips Plating-Lund 9-3 3 fields 8yr**
Printed	**2021-09-20**
Plan Completion/Update Date	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 8 yr No f-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 3 fields 8yr
attn:Anders Lund

This farm uses both PI and Soil Test P for P2O5 590 Compliance

Rotational Restriction Problems

Field Name	Rotation Years	Problem
F13	2012-2019	Rotational average PI of 9 is greater than 6.

Soil Test Problems

No Soil Test Problems

Soil Test Problems Legend	
Too Few Soil Samples	Less than one sample per five acres.
Soil Test Data Too Old	Soil test is greater than 4 years old

Application Restriction Problems

Field Name	Year	Problem	Explanation
F13	2012	Overapplication of N of 136 lbs N/acre.	
F13	2012	Winter manure P2O5 applications exceed this year's crop removal by 39 lbs.	
F13	2013	Overapplication of N of 23 lbs N/acre.	
F13	2013	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. Reduce or eliminate P2O5 fertilizer on this field.	
F13	2013	Winter manure P2O5 applications exceed 60 pounds per acre by 8 lbs.	
F16	2018	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is High for this field. Reduce or eliminate P2O5 fertilizer on this field.	
F16	2019	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is High for this field. Reduce or eliminate P2O5 fertilizer on this field.	

NM2: Application Restriction Compliance Check Report

For Years	**2024 - 2024**
Plan Year	**2024**
Reported For	**Phillips Plating-Lund 9-3 1yr 3 fields**
Printed	**2021-10-18**
Plan Completion/Update Date	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 1 yr No F-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 1yr 3 fields
attn:Anders Lund

This farm uses both PI and Soil Test P for P2O5 590 Compliance

Rotational Restriction Problems

No Rotational Problems found

Soil Test Problems

Field Name	Soil Test Date	Too Few Soil Samples	Soil Test Too Old
F13	2019-09-23		X
F15	2019-09-23		X
F16	2019-09-23		X

Soil Test Problems Legend	
Too Few Soil Samples	Less than one sample per five acres.
Soil Test Data Too Old	Soil test is greater than 4 years old

Application Restriction Problems

No Application Restriction Problems found

NM3: Field Data and 590 Assessment Plan

Reported For	Phillips Plating-Lund 9-3 3 fields 8yr
Printed	2021-09-20
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 8 yr No f-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 3 fields 8yr
attn:Anders Lund

Field Data: 14 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
F13	Lund			2.1	Price	FREEON 457C	8	150	6.1 - 12	0 - 300	No / No	No	No	Csl-Csl-AGs-AG-AG-GH-GH-GH	SP-SP-SP-None-None-None-None-None	2012-2019	**4**	**2.4**	**0.8**	**NA**	16	384	-
F15	Lund			7.2	Price	FREEON 457C	8	150	2.1 - 6	301 - 1000	No / No	No	No	AG-GH-GH-Csl-AGs-AG-AG-GH	None-None-None-SP-SP-None-None-None	2012-2019	**4**	**1**	**1.0**	**NA**	18	-91	-
F16	Lund			4.8	Price	FREEON 457B	3	200	0 - 2	301 - 1000	No / No	No	No	AG-AG-GH-GH-GH-GH-Csl-Csl	None-None-None-None-None-None-SP-SP	2012-2019	**4**	**0.6**	**1.0**	**NA**	30	172	-

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass

Tillage Abbreviations

Abbreviation	Tillage
None	None

AGs	Alfalfa/Grass Seeding Spring
Csl	Corn silage
GH	Grass hay

SP	Spring MB Plow

NM3: Field Data and 590 Assessment Plan

Reported For	Phillips Plating-Lund 9-3 3 fields 5yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 5 yr No F-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 3 fields 5yr
attn:Anders Lund

Field Data: 14 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
F13	Lund			2.1	Price	FREEON 457C	8	150	6.1 - 12	0 - 300	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	**4**	**0**	**1.5**	**0**	16	-5	-
F15	Lund			7.2	Price	FREEON 457C	8	150	2.1 - 6	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	**4**	**0**	**1.5**	**0**	18	-5	-
F16	Lund			4.8	Price	FREEON 457B	3	200	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	**4**	**0**	**1.5**	**0**	30	-200	-

Crop Abbreviations

Abbreviation	Crop
GH	Grass hay

Tillage Abbreviations

Abbreviation	Tillage
None	None

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 **Price**	DATE PLAN SUBMITTED **10/14/2021**	GROWING SEASON YEAR PLAN IS WRITTEN FOR **2019** (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
Anders Lund	**Phillips Plating-Lund 9-3 3 fields 8yr**	

STREET ADDRESS	CITY	STATE	ZIP
		WI	

REASON THE PLAN WAS DEVELOPED:	CROPLAND ACRES (OWNED & RENTED)
	14

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed

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

STREET ADDRESS	CITY	STATE	ZIP

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.			
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			
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.			

	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.			
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.*			
b. Identify **manure storage capacity** for each type applied and stacking capacity for manure ≥ 16% DM if permanent storage does not exist.			
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**.			
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

Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan — Date

Signature if reviewed for quality assurance — Date

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 **Price**	DATE PLAN SUBMITTED **10/14/2021**	GROWING SEASON YEAR PLAN IS WRITTEN FOR **2024** (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 **Anders Lund**	FARM NAME (OPTIONAL) **Phillips Plating-Lund 9-3 1yr 3 fields**		BUSINESS PHONE
STREET ADDRESS	CITY	STATE **WI**	ZIP
REASON THE PLAN WAS DEVELOPED:		CROPLAND ACRES (OWNED & RENTED) **14**	
RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed			
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
STREET ADDRESS	CITY	STATE	ZIP

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.			
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			
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.			

	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

Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan — Date

Signature if reviewed for quality assurance — Date

FM6: Soil Test Report

Reported For	Phillips Plating-Lund 9-3 3 fields 8yr
Printed	2021-09-20
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 8 yr No f-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 3 fields 8yr
attn:Anders Lund

			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
F13	Lund	2.1	457B	FREEON	2019-09-23	Dairyland Labs	8S3976	1	1	5.9	4.1	16	78	0	0
F15	Lund	7.2	457B	FREEON	2019-09-23	Dairyland Labs	8S3976	1	2	5.9	3.9	18	34	0	0
F16	Lund	4.8	3456A	MAGNOR	2019-09-23	Dairyland Labs	8S3976	1	1	5.7	3.9	30	81	0	0

Crop Year Soil Test Needed

Field Name	Soil Test Date	2019	2020	2021	2022	2023	2024	2025
F13	2019-09-23						X	
F15	2019-09-23						X	
F16	2019-09-23						X	

NM1: Narrative and Crops Report

Starting Year	**2012**
Reported For	**Phillips Plating- Albert Norek 8yr**
Printed	**2021-09-20**
Plan Completion/Update Date:	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 8yr
attn:Albert Norek

Farm has 7 fields totalling 26 cropped acres.
Farm Narrative: Neil Foytik had a dairy operation with a milking herd of 35 lactating (20 X 1,400 lbs + 15 X 1,200 lbs) and seven dry cows (4X 1,400 lbs + 3 X 1,200 lbs) and a heifer herd of eight 750 lb heifers, nine 1,000 lb heifers, six 150 lbs calves, six 250 lb calves and one 1,400 lbs bull. There was no manure storage, so manure from both herds indoors 24 hrs/day in winter was hauled daily (from Nov 15 to May 15) to fields planned for corn planting in the following spring. Overnight (½ day milking to milking) manure from the milking herd was hauled every other day or three times per week to the oldest, grassiest hayfields (May 15 to Nov 15). Six months per year outdoor manure from the dairy herd was pasture-delivered to each of the five rotation-grazed pastures. Six months per year outdoor manure from the heifer herd was pasture-delivered to FP-12 and FP-12 lot.

An eight-year, target crop rotation started with one or two years of corn followed by alfalfa (red clover on Norek) that converted to grass for end the rotation. The corn and alfalfa planting was preceded by spring mold board plowing and spring disking. The target 8-yr rotation was often varied due to crop yield and weather variability. The average crop year included 15 acres of corn silage among the Foytik, Norek, and Lund properties. Winter manure was hauled to the to-be-corn fields regardless of ownership while indoor summer manure production was spread only on the Foytik and Lund grassy fields.

Corn fields received commercial fertilizer in addition to the manure. Alfalfa seedings received commercial fertilizer. No other fields or pastures received commercial fertilizer.

All the cattle were sold in the summer of 2020, the corn fields were planted to a hay pasture mixture, pastures, alfalfa fields, and the grassy hay fields were not tilled or replanted. Barnyards and feedlot/exercise areas were allowed to vegetate naturally.

NE SW S23 37N 1W & NW SW S23 37N 1W
Albert Norek Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2012	2013	2014	2015	2016	2017	2018	2019
F-18	4.6	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 2.6-3.5 ton/acre	Grass hay None 2-3 ton/acre
F-19	3.3	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 2.6-3.5 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 2.6-3.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 3.1-4 ton/acre
F-20W	0.7	Grass hay None 2.0-3 ton/acre	Grass hay None 2-3 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Red Clover seeding Spring Spring MB Plow 2.6-3.5 ton/acre	Red Clover None 2.6-3.5 ton/acre	Red Clover None 2.6-3.5 ton/acre	Grass hay None 3.1-4 ton/acre	Grass hay None 3.1-4 ton/acre
F-21	6	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Grass hay None 2-3 ton/acre
F-22	1.3	Alfalfa/Grass None 2.6-3.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 3.1-4 ton/acre
F-23	3.9	Alfalfa/Grass Seeding Spring Spring MB Plow 1.0-2.5 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Red Clover seeding Spring Spring MB Plow 1-2.5 ton/acre	Red Clover None 2.6-3.5 ton/acre	Red Clover None 2.6-3.5 ton/acre	Red Clover None 2.6-3.5 ton/acre	Red Clover (grassy, yr 3+) None 2.6-3.5 ton/acre	Grass hay None 2-3 ton/acre
F-24	6.2	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Alfalfa/Grass None 3.6-4.5 ton/acre	Grass hay None 0.5-1.9 ton/acre	Grass hay None 0.5-1.9 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Red Clover seeding Spring Spring MB Plow 1-2.5 ton/acre

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

Crops Grouped By Category		2012	2013	2014	2015	2016	2017	2018	2019
Alfalfa/Grass	Acres	21	21	8	1	1		3	
	ton	85	85	32	4	4		12	

Crops Grouped By Category		2012	2013	2014	2015	2016	2017	2018	2019
Alfalfa/Grass Seeding Spring	Acres ton	4 7					3 9	11 34	
Corn silage	Acres ton		4 70	1 18		3 53	17 298	6 105	
Grass hay	Acres ton	1 3	1 3	14 50	20 71	17 60	1 3	2 7	20 50
Red Clover	Acres ton				4 12	5 15	5 15		
Red Clover seeding Spring	Acres ton			4 7	1 3				6 11
Red Clover (grassy, yr 3+)	Acres ton							4 12	

NM1: Narrative and Crops Report

Starting Year	**2024**
Reported For	**Phillips Plating- Albert Norek 1yr**
Printed	**2021-09-20**
Plan Completion/Update Date:	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 1 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 1yr
attn:Albert Norek

Farm has 7 fields totalling 26 cropped acres.
Farm Narrative: Neil Foytik had a dairy operation with a milking herd of 35 lactating (20 X 1,400 lbs + 15 X 1,200 lbs) and seven dry cows (4X 1,400 lbs + 3 X 1,200 lbs) and a heifer herd of eight 750 lb heifers, nine 1,000 lb heifers, six 150 lbs calves, six 250 lb calves and one 1,400 lbs bull. There was no manure storage, so manure from both herds indoors 24 hrs/day in winter was hauled daily (from Nov 15 to May 15) to fields planned for corn planting in the following spring. Overnight (½ day milking to milking) manure from the milking herd was hauled every other day or three times per week to the oldest, grassiest hayfields (May 15 to Nov 15). Six months per year outdoor manure from the dairy herd was pasture-delivered to each of the five rotation-grazed pastures. Six months per year outdoor manure from the heifer herd was pasture-delivered to FP-12 and FP-12 lot.

An eight-year, target crop rotation started with one or two years of corn followed by alfalfa (red clover on Norek) that converted to grass for end the rotation. The corn and alfalfa planting was preceded by spring mold board plowing and spring disking. The target 8-yr rotation was often varied due to crop yield and weather variability. The average crop year included 15 acres of corn silage among the Foytik, Norek, and Lund properties. Winter manure was hauled to the to-be-corn fields regardless of ownership while indoor summer manure production was spread only on the Foytik and Lund grassy fields.

Corn fields received commercial fertilizer in addition to the manure. Alfalfa seedings received commercial fertilizer. No other fields or pastures received commercial fertilizer.

All the cattle were sold in the summer of 2020, the corn fields were planted to a hay pasture mixture, pastures, alfalfa fields, and the grassy hay fields were not tilled or replanted. Barnyards and feedlot/exercise areas were allowed to vegetate naturally.

NE SW S23 37N 1W & NW SW S23 37N 1W
Albert Norek Farm was rented by Neil Foytik for dairy production. Now all fields have been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2024	2025	2026	2027	2028
F-18	4.6	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F-19	3.3	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F-20W	0.7	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F-21	6	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F-22	1.3	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F-23	3.9	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre
F-24	6.2	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre

Summary by Crop:

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

Crops Grouped By Category		2024	2025	2026	2027	2028
Grass hay	Acres	26	26	26	26	26
	ton	65	65	65	65	65

NM2: Application Restriction Compliance Check Report

For Years	**2012 - 2019**
Plan Year	**2019**
Reported For	**Phillips Plating- Albert Norek 8yr**
Printed	**2021-10-14**
Plan Completion/Update Date	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 8yr
attn:Albert Norek

This farm uses both PI and Soil Test P for P2O5 590 Compliance

Rotational Restriction Problems

No Rotational Problems found

Soil Test Problems

No Soil Test Problems

Soil Test Problems Legend	
Too Few Soil Samples	Less than one sample per five acres.
Soil Test Data Too Old	Soil test is greater than 4 years old

Application Restriction Problems

Field Name	Year	Problem	Explanation
F-18	2017	Winter direct conduit to groundwater 200 ft - No manure (except grazing)..This field is within 200 ft of a: well.	
F-18	2017	No winter spreading on slopes steeper than 12% or on uncontoured slopes between 9 and 12%.	
F-19	2016	Winter manure P2O5 applications exceed 60 pounds per acre by 2 lbs.	
F-23	2013	Winter manure P2O5 applications exceed 60 pounds per acre by 8 lbs.	
F-24	2017	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is High for this field. Reduce or eliminate P2O5 fertilizer on this field.	
F-24	2018	This plan uses purchased fertilizer to apply more P2O5 than is recommended for the crop rotation on this field. The P2O5 soil test interpretation is High for this field. Reduce or eliminate P2O5 fertilizer on this field.	

NM2: Application Restriction Compliance Check Report

For Years	**2024 - 2028**
Plan Year	**2024**
Reported For	**Phillips Plating- Albert Norek 1yr**
Printed	**2021-10-14**
Plan Completion/Update Date	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 1 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 1yr
attn:Albert Norek

This farm uses both PI and Soil Test P for P2O5 590 Compliance

Rotational Restriction Problems

No Rotational Problems found

Soil Test Problems

Field Name	Soil Test Date	Too Few Soil Samples	Soil Test Too Old
F-18	2019-09-26		X
F-19	2019-09-26		X
F-20W	2019-09-26		X
F-21	2019-09-26		X
F-22	2019-09-26		X

Field Name	Soil Test Date	Too Few Soil Samples	Soil Test Too Old
F-23	2019-09-26		X
F-24	2019-09-26		X

Soil Test Problems Legend	
Too Few Soil Samples	Less than one sample per five acres.
Soil Test Data Too Old	Soil test is greater than 4 years old

Application Restriction Problems

No Application Restriction Problems found

NM3: Field Data and 590 Assessment Plan

Reported For	Phillips Plating- Albert Norek 8yr
Printed	2021-09-20
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 8yr
attn:Albert Norek

Field Data: 26 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
F-18	A. Norek			4.6	Price	BILLYBOY 948A	2	250	0 - 2	1001 - 5000	No / No	No	No	AG-AG-GH-GH-GH-Csl-AGs-GH	None-None-None-None-None-SP-SP-None	2012-2019	**3**	**0.2**	**1.1**	**1**	17	-190	-
F-19	A. Norek			3.3	Price	WHISKLAKE 701A	2	200	0 - 2	301 - 1000	No / No	No	No	AG-AG-GH-GH-Csl-AGs-AG-GH	None-None-None-None-SP-SP-None-None	2012-2019	**3**	**0.3**	**1.0**	**1**	13	-166	-
F-20W	A. Norek			0.7	Price	BILLYBOY 948A	2	250	0 - 2	301 - 1000	No / No	No	No	GH-GH-Csl-RCss-RC-RC-GH-GH	None-None-SP-SP-None-None-None-None	2012-2019	**3**	**0.3**	**1.0**	**1**	20	-193	-
F-21	A. Norek			6	Price	BILLYBOY 948A	2	250	0 - 2	301 - 1000	No / No	No	No	AG-AG-GH-GH-GH-Csl-AGs-GH	None-None-None-None-None-SP-SP-None	2012-2019	**3**	**0.2**	**1.1**	**1**	12	-130	-

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
F-22	A. Norek			1.3	Price	BILLYBOY 948A	2	250	0 - 2	301 - 1000	No / No	No	No	AG-AG-AG-AG-AG-GH-GH-GH	None-None-None-None-None-None-None-None	2012-2019	**3**	**0**	**1.3**	**0**	13	-375	-
F-23	A. Norek			3.9	Price	BILLYBOY 948A	2	250	0 - 2	301 - 1000	No / No	No	No	AGs-Csl-RCss-RC-RC-RC-RCg-GH	SP-SP-SP-None-None-None-None-None	2012-2019	**3**	**0.6**	**0.7**	**2**	15	-61	-
F-24	A. Norek			6.2	Price	BILLYBOY 948A	2	250	0 - 2	0 - 300	No / No	No	No	AG-AG-AG-GH-GH-Csl-Csl-RCss	None-None-None-None-None-None-SP-SP-SP	2012-2019	**3**	**0.6**	**0.8**	**3**	34	62	-

Crop Abbreviations

Abbreviation	Crop
AG	Alfalfa/Grass
AGs	Alfalfa/Grass Seeding Spring
Csl	Corn silage
GH	Grass hay
RC	Red Clover
RCg	Red Clover (grassy, yr 3+)
RCss	Red Clover seeding Spring

Tillage Abbreviations

Abbreviation	Tillage
None	None
SP	Spring MB Plow

NM3: Field Data and 590 Assessment Plan

Reported For	Phillips Plating- Albert Norek 5yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 5 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 5yr
attn:Albert Norek

Field Data: 26 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
F-18	A. Norek			4.6	Price	BILLYBOY 948A	2	250	0 - 2	1001 - 5000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	17	-5	-
F-19	A. Norek			3.3	Price	WHISKLAKE 701A	2	200	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	13	140	-
F-20W	A. Norek			0.7	Price	BILLYBOY 948A	2	250	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	20	-5	-
F-21	A. Norek			6	Price	BILLYBOY 948A	2	250	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	12	140	-
F-22	A. Norek			1.3	Price	BILLYBOY 948A	2	250	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	3	0	1.5	0	13	140	-

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
F-23	A. Norek			3.9	Price	BILLYBOY 948A	2	250	0 - 2	301 - 1000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	**3**	**0**	**1.5**	**0**	15	140	-
F-24	A. Norek			6.2	Price	BILLYBOY 948A	2	250	0 - 2	0 - 300	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	**3**	**0**	**1.5**	**NA**	34	-200	-

Crop Abbreviations

Abbreviation	Crop
GH	Grass hay

Tillage Abbreviations

Abbreviation	Tillage
None	None

ARM-LWR-480.docx (REV, 06/22/17)

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 **Price**	DATE PLAN SUBMITTED **10/14/2021**	GROWING SEASON YEAR PLAN IS WRITTEN FOR **2019** (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
Albert Norek	**Phillips Plating- Albert Norek 8yr**	

STREET ADDRESS	CITY	STATE	ZIP
		WI	

REASON THE PLAN WAS DEVELOPED:	CROPLAND ACRES (OWNED & RENTED)
	26

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed

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

STREET ADDRESS	CITY	STATE	ZIP

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.			
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			
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.			

	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

Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan	Date	Signature if reviewed for quality assurance	Date

ARM-LWR-480.docx (REV, 06/22/17)

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 **Price**	DATE PLAN SUBMITTED **10/14/2021**	GROWING SEASON YEAR PLAN IS WRITTEN FOR **2024** (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
Albert Norek	**Phillips Plating- Albert Norek 1yr**	

STREET ADDRESS	CITY	STATE	ZIP
		WI	

REASON THE PLAN WAS DEVELOPED:	CROPLAND ACRES (OWNED & RENTED)
	26

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed

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

STREET ADDRESS	CITY	STATE	ZIP

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.			
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			
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.			

	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

Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan — Date

Signature if reviewed for quality assurance — Date

FM6: Soil Test Report

Reported For	Phillips Plating- Albert Norek 8yr
Printed	2021-09-20
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 8yr
attn:Albert Norek

			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
F-18	A. Norek	4.6	948A	BILLYBOY	2019-09-26	Dairyland Labs	8S4092	1	1	6.0	3.2	17	73	0	0
F-19	A. Norek	3.3	948A	BILLYBOY	2019-09-26	Dairyland Labs	8S4092	1	1	6.0	4.0	13	66	0	0
F-20W	A. Norek	0.7	948A	BILLYBOY	2019-09-26	DAIRYLAND LABS	8S4092	1	1	5.8	3.8	20	37	0	0
F-21	A. Norek	6	948A	BILLYBOY	2019-09-26	Dairyland Labs	8S4092	1	2	5.9	3.3	12	47	0	0
F-22	A. Norek	1.3	948A	BILLYBOY	2019-09-26	Dairyland Labs	8S4092	1	1	6.2	3.3	13	40	0	0
F-23	A. Norek	3.9	948A	BILLYBOY	2019-09-26	Dairyland Labs	8S4092	1	1	6.0	3.6	15	21	0	0
F-24	A. Norek	6.2	948A	BILLYBOY	2019-09-26	Dairyland Labs	8S4092	1	2	6.0	4.2	34	104	0	0

Crop Year Soil Test Needed

Field Name	Soil Test Date	2019	2020	2021	2022	2023	2024	2025
F-18	2019-09-26						X	
F-19	2019-09-26						X	
F-20W	2019-09-26						X	
F-21	2019-09-26						X	
F-22	2019-09-26						X	
F-23	2019-09-26						X	

Field Name	Soil Test Date	2019	2020	2021	2022	2023	2024	2025
F-24	2019-09-26						X	

NM1: Narrative and Crops Report

Starting Year	**2012**
Reported For	**Phillips Plating- Richard Norek 8yr**
Printed	**2021-09-16**
Plan Completion/Update Date:	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 8yr
attn:Richard Norek

Farm has 1 fields totalling 3.9 cropped acres.
Farm Narrative: Neil Foytik had a dairy operation with a milking herd of 35 lactating (20 X 1,400 lbs + 15 X 1,200 lbs) and seven dry cows (4X 1,400 lbs + 3 X 1,200 lbs) and a heifer herd of eight 750 lb heifers, nine 1,000 lb heifers, six 150 lbs calves, six 250 lb calves and one 1,400 lbs bull. There was no manure storage, so manure from both herds indoors 24 hrs/day in winter was hauled daily (from Nov 15 to May 15) to fields planned for corn planting in the following spring. Overnight (½ day milking to milking) manure from the milking herd was hauled every other day or three times per week to the oldest, grassiest hayfields (May 15 to Nov 15). Six months per year outdoor manure from the dairy herd was pasture-delivered to each of the five rotation-grazed pastures. Six months per year outdoor manure from the heifer herd was pasture-delivered to FP-12 and FP-12 lot.

An eight-year, target crop rotation started with one or two years of corn followed by alfalfa (red clover on Norek) that converted to grass for end the rotation. The corn and alfalfa planting was preceded by spring mold board plowing and spring disking. The target 8-yr rotation was often varied due to crop yield and weather variability. The average crop year included 15 acres of corn silage among the Foytik, Norek, and Lund properties. Winter manure was hauled to the to-be-corn fields regardless of ownership while indoor summer manure production was spread only on the Foytik and Lund grassy fields.

Corn fields received commercial fertilizer in addition to the manure. Alfalfa seedings received commercial fertilizer. No other fields or pastures received commercial fertilizer.

All the cattle were sold in the summer of 2020, the corn fields were planted to a hay pasture mixture, pastures, alfalfa fields, and the grassy hay fields were not tilled or replanted. Barnyards and feedlot/exercise areas were allowed to vegetate naturally.

NE SW S23 37N 1W
The Richard Norek Farm was rented by Neil Foytik for dairy production. The field has been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2012	2013	2014	2015	2016	2017	2018	2019
F-20E	3.9	Grass hay None 0.5-1.9 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Corn silage Spring MB Plow 15.1-20 ton/acre	Red Clover seeding Spring Spring MB Plow 1-2.5 ton/acre	Red Clover None 2.6-3.5 ton/acre	Red Clover None 2.6-3.5 ton/acre	Grass hay None 3.1-4 ton/acre

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

Crops Grouped By Category		2012	2013	2014	2015	2016	2017	2018	2019
Corn silage	Acres ton				4 70				
Grass hay	Acres ton	4 5	4 10	4 10					4 14
Red Clover	Acres ton						4 12	4 12	
Red Clover seeding Spring	Acres ton					4 7			

NM1: Narrative and Crops Report

Starting Year	**2024**
Reported For	**Phillips Plating- Richard Norek 1yr**
Printed	**2021-09-16**
Plan Completion/Update Date:	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 1 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 1yr
attn:Richard Norek

Farm has 1 fields totalling 3.9 cropped acres.
Farm Narrative: Neil Foytik had a dairy operation with a milking herd of 35 lactating (20 X 1,400 lbs + 15 X 1,200 lbs) and seven dry cows (4X 1,400 lbs + 3 X 1,200 lbs) and a heifer herd of eight 750 lb heifers, nine 1,000 lb heifers, six 150 lbs calves, six 250 lb calves and one 1,400 lbs bull. There was no manure storage, so manure from both herds indoors 24 hrs/day in winter was hauled daily (from Nov 15 to May 15) to fields planned for corn planting in the following spring. Overnight (½ day milking to milking) manure from the milking herd was hauled every other day or three times per week to the oldest, grassiest hayfields (May 15 to Nov 15). Six months per year outdoor manure from the dairy herd was pasture-delivered to each of the five rotation-grazed pastures. Six months per year outdoor manure from the heifer herd was pasture-delivered to FP-12 and FP-12 lot.

An eight-year, target crop rotation started with one or two years of corn followed by alfalfa (red clover on Norek) that converted to grass for end the rotation. The corn and alfalfa planting was preceded by spring mold board plowing and spring disking. The target 8-yr rotation was often varied due to crop yield and weather variability. The average crop year included 15 acres of corn silage among the Foytik, Norek, and Lund properties. Winter manure was hauled to the to-be-corn fields regardless of ownership while indoor summer manure production was spread only on the Foytik and Lund grassy fields.

Corn fields received commercial fertilizer in addition to the manure. Alfalfa seedings received commercial fertilizer. No other fields or pastures received commercial fertilizer.

All the cattle were sold in the summer of 2020, the corn fields were planted to a hay pasture mixture, pastures, alfalfa fields, and the grassy hay fields were not tilled or replanted. Barnyards and feedlot/exercise areas were allowed to vegetate naturally.

NE SW S23 37N 1W
The Richard Norek Farm was rented by Neil Foytik for dairy production. The field has been seeded to permanent hayland with nutrient additions limited by this Nutrient Management Plan. No manure or whole field tillage is allowed.

Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Amount applied / Acres

Narrative and Crops:

Field Name	Field Acres	2024	2025	2026	2027	2028
F-20E	3.9	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre	Grass hay None 2-3 ton/acre

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

Crops Grouped By Category		2024	2025	2026	2027	2028
Grass hay	Acres ton	4 10	4 10	4 10	4 10	4 10

NM2: Application Restriction Compliance Check Report

For Years	**2012 - 2019**
Plan Year	**2019**
Reported For	**Phillips Plating- Richard Norek 8yr**
Printed	**2021-09-29**
Plan Completion/Update Date	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 8yr
attn:Richard Norek

This farm uses both PI and Soil Test P for P2O5 590 Compliance

Rotational Restriction Problems

No Rotational Problems found

Soil Test Problems

No Soil Test Problems

Soil Test Problems Legend	
Too Few Soil Samples	Less than one sample per five acres.
Soil Test Data Too Old	Soil test is greater than 4 years old

Application Restriction Problems

No Application Restriction Problems found

NM2: Application Restriction Compliance Check Report

For Years	**2024 - 2028**
Plan Year	**2024**
Reported For	**Phillips Plating- Richard Norek 1yr**
Printed	**2021-09-16**
Plan Completion/Update Date	**2020-09-29**
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 1 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 1yr
attn:Richard Norek

This farm uses both PI and Soil Test P for P2O5 590 Compliance

Rotational Restriction Problems

No Rotational Problems found

Soil Test Problems

Field Name	Soil Test Date	Too Few Soil Samples	Soil Test Too Old
F-20E	2019-09-26		X

Soil Test Problems Legend	
Too Few Soil Samples	Less than one sample per five acres.
Soil Test Data Too Old	Soil test is greater than 4 years old

Application Restriction Problems

No Application Restriction Problems found

NM3: Field Data and 590 Assessment Plan

Reported For	Phillips Plating- Richard Norek 8yr
Printed	2021-09-16
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 8yr
attn:Richard Norek

Field Data: 4 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
F-20E	R. Norek			3.9	Price	BILLYBOY 948A	2	250	0 - 2	1001 - 5000	No / No	No	No	GH-GH-GH-Csl-RCss-RC-RC-GH	None-None-None-SP-SP-None-None-None	2012-2019	**3**	**0.3**	**1.0**	**1**	17	-143	-

Crop Abbreviations	
Abbreviation	**Crop**
Csl	Corn silage
GH	Grass hay
RC	Red Clover
RCss	Red Clover seeding Spring

Tillage Abbreviations	
Abbreviation	**Tillage**
None	None
SP	Spring MB Plow

NM3: Field Data and 590 Assessment Plan

Reported For	Phillips Plating- Richard Norek 5yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 5 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 5yr
attn:Richard Norek

Field Data: 4 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
F-20E	R. Norek			3.9	Price	BILLYBOY 948A	2	250	0 - 2	1001 - 5000	No / No	No	No	GH-GH-GH-GH-GH	None-None-None-None-None	2024-2028	**3**	**0**	**1.5**	**0**	17	-5	-

Crop Abbreviations	
Abbreviation	Crop
GH	Grass hay

Tillage Abbreviations	
Abbreviation	Tillage
None	None

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 **Price**	DATE PLAN SUBMITTED **10/14/2021**	GROWING SEASON YEAR PLAN IS WRITTEN FOR **2019** (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
Richard Norek	**Phillips Plating- Richard Norek 8yr**	

STREET ADDRESS	CITY	STATE	ZIP
		WI	

REASON THE PLAN WAS DEVELOPED:	CROPLAND ACRES (OWNED & RENTED)
	4

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed

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

STREET ADDRESS	CITY	STATE	ZIP

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.			
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			
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.			

	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

Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan	Date	Signature if reviewed for quality assurance	Date

ARM-LWR-480.docx (REV, 06/22/17)

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 **Price**	DATE PLAN SUBMITTED **10/14/2021**	GROWING SEASON YEAR PLAN IS WRITTEN FOR **2024** (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
Richard Norek	**Phillips Plating- Richard Norek 1yr**	

STREET ADDRESS	CITY	STATE	ZIP
		WI	

REASON THE PLAN WAS DEVELOPED:	CROPLAND ACRES (OWNED & RENTED)
	4

RENTED FARM(S) LANDOWNER NAME(S) AND ACREAGE: add sheet(s) if needed

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

STREET ADDRESS	CITY	STATE	ZIP

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.			
l. Make no nutrient applications within 8' of **irrigation** wells or where **vegetation is not removed**.			
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.			

	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

Qualified NM farmer-planner or Authorized farm operator signature receiving and understanding the plan	Date	Signature if reviewed for quality assurance	Date

FM6: Soil Test Report

Reported For	Phillips Plating- Richard Norek 8yr
Printed	2021-09-16
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 8yr
attn:Richard Norek

			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
F-20E	R. Norek	3.9	948A	BILLYBOY	2019-09-26	Dairyland Labs	8S4092	1	2	6.2	3.6	17	35	0	0

Crop Year Soil Test Needed

Field Name	Soil Test Date	2019	2020	2021	2022	2023	2024	2025
F-20E	2019-09-26						X	

Attachment D: SnapPlus P Trade Reports

WQ1: P Trade Report

Reported For	Phillips Plating Foytik 8yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 8y.snapDb	

Prepared for:
Phillips Plating Foytik 8yr
attn:Neil Foytik

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	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
F1	BILLYBOY	948A	5	48	11	3	2	2	1	2	30	6	2	2
F2	GLIDDEN	730B	7	18	4	3	2	1	1	1	40	9	2	1
F3	GLIDDEN	730B	11	2	2	104	25	7	4	3	3	7	2	2
F4	GLIDDEN	730C	11	1	0	0	0	167	66	10	4	1	1	1
F5	BILLYBOY	948A	6	1	1	1	38	8	2	2	1	1	0	0
F6	BILLYBOY	948A	7	4	73	15	5	4	3	2	2	2	2	2
FP10	WHISKLAKE	701A	2	3	3	3	3	3	3	3	3	2	2	2
FP11	NEWOOD	3546C	2	2	2	2	2	2	2	1	1	1	1	1

PTP						
2023	2024	2025	2026	2027	2028	2029
1	1	1	1	1	1	1
1	1	1	1	1	1	1
2	2	2	2	2	2	1
1	1	1	1	1	1	1
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	1	1	1	1	1	1
1	1	1	1	1	1	1

P Trade Report				PTP										
Field Name	Soil Series	Soil Symbol	Acres	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
FP12	FORDUM	755A	34	13	13	13	13	13	13	12	12	8	6	5
FP7	BILLYBOY	948A	5	3	2	1	1	1	1	2	2	2	1	1
FP8	BILLYBOY	948A	3	1	1	1	2	2	1	1	1	1	0	1
FP9	GLIDDEN	730C	3	2	2	2	2	2	2	2	2	2	1	1
Total			**97**	**96**	**114**	**148**	**93**	**210**	**98**	**41**	**101**	**42**	**19**	**17**

PTP						
2023	2024	2025	2026	2027	2028	2029
5	4	4	4	4	4	4
1	0	0	0	0	0	0
1	1	1	1	1	1	1
1	1	1	1	1	1	1
16	**15**	**14**	**14**	**13**	**13**	**12**

WQ1: P Trade Report

Reported For	Phillips Plating Foytik 1yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Foytik\PP Foytik 9-3 1y.snapDb	

Prepared for:
Phillips Plating Foytik 1yr
attn:Neil Foytik

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	2024	2025	2026	2027	2028	2029
F1	BILLYBOY	948A	5	1	1	1	1	1	1
F2	GLIDDEN	730B	7	1	1	1	1	1	1
F3	GLIDDEN	730B	11	2	2	2	2	2	1
F4	GLIDDEN	730C	11	1	1	1	1	1	1
F5	BILLYBOY	948A	6	0	0	0	0	0	0
F6	BILLYBOY	948A	7	1	1	1	1	1	1
FP10	WHISKLAKE	701A	2	1	1	1	1	1	1
FP11	NEWOOD	3546C	2	1	1	1	1	1	1

P Trade Report				PTP					
Field Name	Soil Series	Soil Symbol	Acres	2024	2025	2026	2027	2028	2029
FP12	FORDUM	755A	34	4	4	4	4	4	4
FP7	BILLYBOY	948A	5	0	0	0	0	0	0
FP8	BILLYBOY	948A	3	1	1	1	1	1	1
FP9	GLIDDEN	730C	3	1	1	1	1	1	1
Total			**97**	**15**	**14**	**14**	**13**	**13**	**12**

WQ1: P Trade Report

Reported For	Phillips Plating-Lund 9-3 3 fields 8yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 8 yr No f-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 3 fields 8yr
attn:Anders Lund

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	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
F13	FREEON	457B	2	32	42	13	2	1	1	1	1	0	0	0
F15	FREEON	457B	7	1	1	2	55	16	3	2	1	1	0	1
F16	MAGNOR	3456A	5	2	1	1	1	3	5	39	42	5	2	1
Total			**14**	**35**	**44**	**16**	**58**	**20**	**9**	**41**	**44**	**6**	**3**	**2**

PTP						
2023	2024	2025	2026	2027	2028	2029
0	0	0	0	0	0	0
1	1	1	0	0	0	0
1	1	1	1	1	1	1
2	**2**	**2**	**2**	**2**	**2**	**2**

WQ1: P Trade Report

Reported For	Phillips Plating-Lund 9-3 1yr 3 fields
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Lund\Lund NO F-12\PP Lund 9-3 1 yr No F-12.snapDb	

Prepared for:
Phillips Plating-Lund 9-3 1yr 3 fields
attn:Anders Lund

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	2024	2025	2026	2027	2028	2029
F13	FREEON	457B	2	0	0	0	0	0	0
F15	FREEON	457B	7	1	1	0	0	0	0
F16	MAGNOR	3456A	5	1	1	1	1	1	1
Total			**14**	**2**	**2**	**2**	**2**	**2**	**2**

WQ1: P Trade Report

Reported For	Phillips Plating- Albert Norek 8yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 8yr
attn:Albert Norek

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	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
F-18	BILLYBOY	948A	5	0	0	0	0	0	26	5	1	0	0	0
F-19	BILLYBOY	948A	3	0	0	0	0	23	5	1	0	0	0	0
F-20W	BILLYBOY	948A	1	0	0	4	1	0	0	0	0	0	0	0
F-21	BILLYBOY	948A	6	0	0	0	0	0	37	7	1	0	0	0
F-22	BILLYBOY	948A	1	0	0	0	0	0	0	0	0	0	0	0
F-23	BILLYBOY	948A	4	7	46	10	4	3	2	1	1	0	0	0

PTP						
2023	2024	2025	2026	2027	2028	2029
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	1	1	1	1

P Trade Report				PTP										
Field Name	Soil Series	Soil Symbol	Acres	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
F-24	BILLYBOY	948A	6	4	3	2	2	1	43	72	23	9	4	2
Total			**26**	**12**	**50**	**17**	**6**	**28**	**112**	**85**	**26**	**10**	**5**	**4**

PTP						
2023	2024	2025	2026	2027	2028	2029
2	2	1	1	1	1	1
3	**3**	**3**	**3**	**3**	**3**	**3**

WQ1: P Trade Report

Reported For	Phillips Plating- Albert Norek 1yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Albert Norek\PP Norek Albert 9-3 1 yr.snapDb	

Prepared for:
Phillips Plating- Albert Norek 1yr
attn:Albert Norek

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	2024	2025	2026	2027	2028	2029
F-18	BILLYBOY	948A	5	0	0	0	0	0	0
F-19	BILLYBOY	948A	3	0	0	0	0	0	0
F-20W	BILLYBOY	948A	1	0	0	0	0	0	0
F-21	BILLYBOY	948A	6	0	0	0	0	0	0
F-22	BILLYBOY	948A	1	0	0	0	0	0	0
F-23	BILLYBOY	948A	4	0	0	1	1	1	1

P Trade Report				PTP					
Field Name	Soil Series	Soil Symbol	Acres	2024	2025	2026	2027	2028	2029
F-24	BILLYBOY	948A	6	2	1	1	1	1	1
Total			**26**	**3**	**3**	**3**	**3**	**3**	**3**

WQ1: P Trade Report

Reported For	Phillips Plating- Richard Norek 8yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 8 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 8yr
attn:Richard Norek

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	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
F-20E	BILLYBOY	948A	4	0	0	0	21	4	2	2	1	0	0	0
Total			**4**	**0**	**0**	**0**	**21**	**4**	**2**	**2**	**1**	**0**	**0**	**0**

PTP						
2023	2024	2025	2026	2027	2028	2029
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**

WQ1: P Trade Report

Reported For	Phillips Plating- Richard Norek 1yr
Printed	2021-10-14
Plan Completion/Update Date	2020-09-29
SnapPlus Version 20.4 built on 2021-06-03	
C:\SnapPlus2\MySnapPlusData\Richard Norek\PP Norek Richard 9-3 1 yr.snapDb	

Prepared for:
Phillips Plating- Richard Norek 1yr
attn:Richard Norek

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	2024	2025	2026	2027	2028	2029
F-20E	BILLYBOY	948A	4	0	0	0	0	0	0
Total			**4**	**0**	**0**	**0**	**0**	**0**	**0**

Attachment E: Water Quality Trading Checklist

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
Phillips Plating Corporation	WI- 0041149	

Facility Address		City	State	ZIP Code
P.O. Box 72	715 339 3031	Phillips	WI	54555

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Darin Baratka	P.O. Box 72	Phillips	WI	54555

Project Name
WWTP P Compliance: Non-point Ag Trade

Receiving Water Name	Parameter(s) being traded	HUC 12(s)
Elk Lake	Phosphorus	070500030107

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: 070500030106
- ○ 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	Conversion to perennial vegetation	SnapPlus & APLE-Lots	PP-001,PP-002, PP-003, & PP-004	◉ 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
◯ 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	III
b. Management practices used to generate credits	◉ Yes	◯ No	III A-E
c. Amount of credit being generated	◉ Yes	◯ No	III G
d. Description of applicable trade ratio per agreement/management practice	◉ Yes	◯ No	III F
e. Location where credits will be generated	◉ Yes	◯ No	III
f. Timeline for credits and agreements	◉ Yes	◯ No	I & IV-A
g. Method for quantifying credits	◉ Yes	◯ No	I

Does plan have a narrative that describes:			Plan Section
h. Tracking procedures	◉ Yes	○ No	IV
i. Conditions under which the management practices may be inspected	◉ Yes	○ No	IV-B
j. Reporting requirements should the management practice fail	◉ Yes	○ No	IV-B & C
k. Operation and maintenance plan for each management practice	○ Yes	○ No	IV-B
l. Location of credit generator in proximity to receiving water and credit user	◉ Yes	○ No	II-D
m. Practice registration documents, if available	◉ Yes	○ No	Attachment B
n. History of project site(s)	◉ Yes	○ No	II-B
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	Benzel Soil Services, LLC tcbenzel@centurytel.net 715 476 3845	Date Signed 11/29/21

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

Water Quality Trading Checklist

Form 3400-208 (1/14)

Does plan have a narrative that describes:			Plan Section
h. Tracking procedures	◉ Yes	○ No	IV
i. Conditions under which the management practices may be inspected	◉ Yes	○ No	IV-B
j. Reporting requirements should the management practice fail	◉ Yes	○ No	IV-B & C
k. Operation and maintenance plan for each management practice	○ Yes	○ No	IV-B
l. Location of credit generator in proximity to receiving water and credit user	◉ Yes	○ No	II-D
m. Practice registration documents, if available	◉ Yes	○ No	Attachment B
n. History of project site(s)	◉ Yes	○ No	II-B
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	Benzel Soil Services, LLC tcbenzel@centurytel.net 715 476 3845	Date Signed 11/29/21

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.

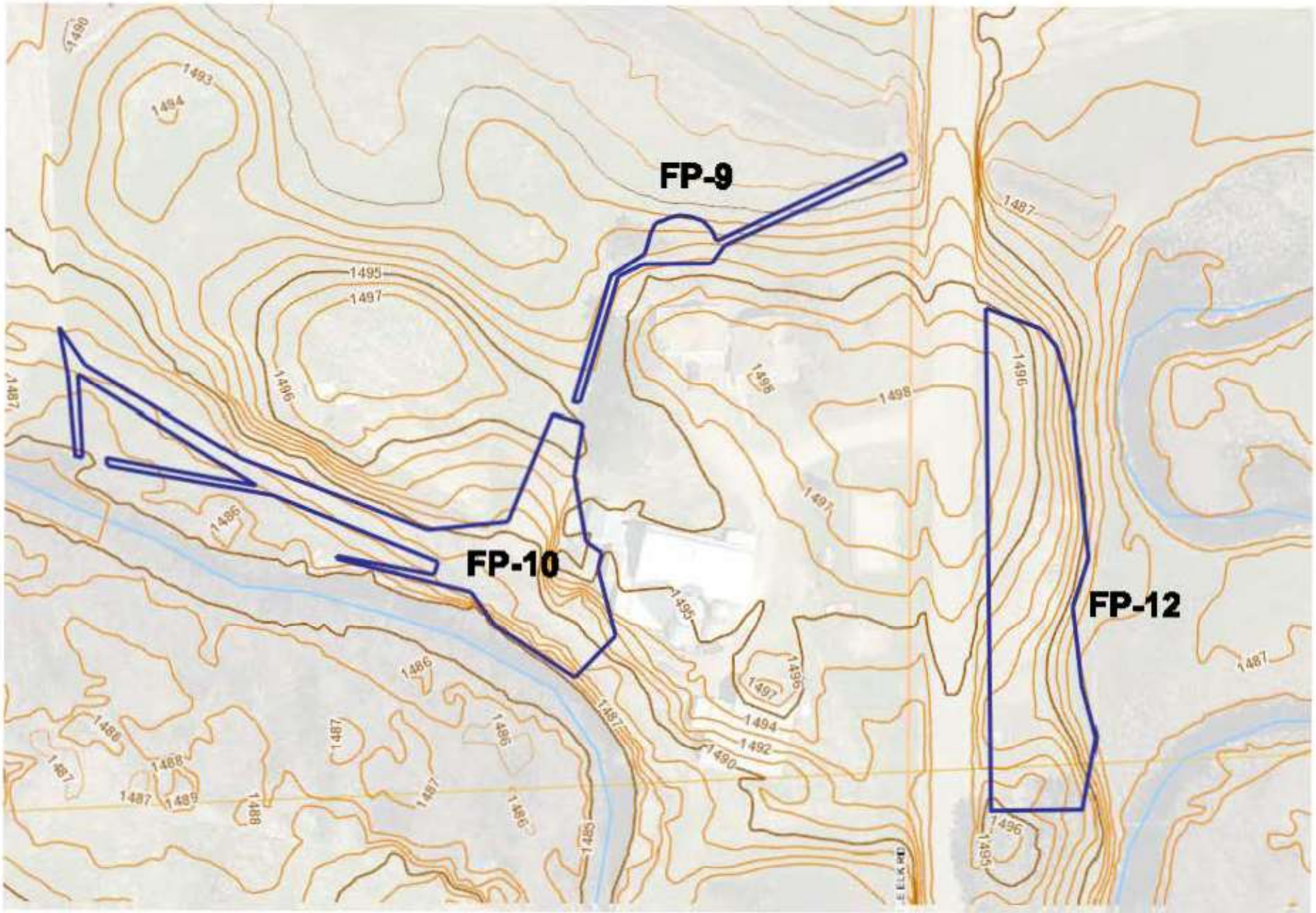
Signature of Authorized Representative	Date Signed 2/23/22

Attachment F: APLE-Lots WI Beta
Support Documentation for Barnyard/DryLot Exercise/Feedlot Areas

Foytik APLE-Lots Barnyard/Dry Lot Exercise/Feedlot Areas: Lots only.

Foytik APLE-Lots Barnyard/Dry Lot Exercise/Feedlot Areas: Lots and contributing areas.

Foytik APLE-Lots Barnyard/Dry Lot Exercise/Feedlot Areas: Lots with topo overlay.



Foytik APLE-Lots Barnyard/Dry Lot Exercise/Feedlot Areas: Lots with topo and aerial overlays.

Foytik FP-10 Runway: Input data and P loss.

APLE-Lots Average Annual Runoff Report

9/25/2020 5:56:51 AM

Project Name	Foytik	
Version Name	Sep 10	
Lot Name	FP-10 Runway	
County	Price	
Location	37N 1E s26	
Cover Type	dirt	
Area(sq.ft.)		11700
Date	9/25/2020	
% Vegetated		1
Average Days Between Cleaning		365

Contributing Area Name	Area	Type(CN) Type	Mitigation
Grass	17900	Grass(69)	FALSE
Land	12100	Farmstead(82)	FALSE
roof	4700	Roof(98)	FALSE

Animals

Month	Animal type/hours a day	Number	Manure dry matter produced in month(ton)
May	Dairy Lactating Cows 1200 lb/1 hrs	15	0.17
May	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
May	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
May	Dairy Lactating Cows 1400 lb/1 hrs	20	0.26
June	Dairy Lactating Cows 1200 lb/1 hrs	15	0.16
June	Dairy Lactating Cows 1400 lb/1 hrs	20	0.25
June	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
June	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
July	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
July	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
July	Dairy Lactating Cows 1200 lb/1 hrs	15	0.17
July	Dairy Lactating Cows 1400 lb/1 hrs	20	0.26
August	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
August	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
August	Dairy Lactating Cows 1200 lb/1 hrs	15	0.17
August	Dairy Lactating Cows 1400 lb/1 hrs	20	0.26
September	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
September	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
September	Dairy Lactating Cows 1200 lb/1 hrs	15	0.16
September	Dairy Lactating Cows 1400 lb/1 hrs	20	0.25
October	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
October	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
October	Dairy Lactating Cows 1200 lb/1 hrs	15	0.17
October	Dairy Lactating Cows 1400 lb/1 hrs	20	0.26
		Manure dry matter produced in year(ton):	2.8

Model results for FP-10Runway annual output

Runoff (in)	25.3
Sediment loss (ton)	13.9
Total P loss (lb)	73.1

APLE-Lots Average Annual Runoff Report
9/28/2020 7:41:51 PM

Project Name	8-19 BYWest FP-10Runway
Version Name	post 9-29
Lot Name	FP-10Runway
County	Price
Location	37N 1E s26
Cover Type	dirt
Area(sq.ft.)	11700
Date	9/28/2020
% Vegetated	100
Average Days Between Cleaning	365

Contributing Area Name	Area	Type(CN) Type	Mitigation
Grass	17900	Grass(69)	FALSE
Land	12100	Farmstead(82)	FALSE
roof	4700	Roof(98)	FALSE

Animals

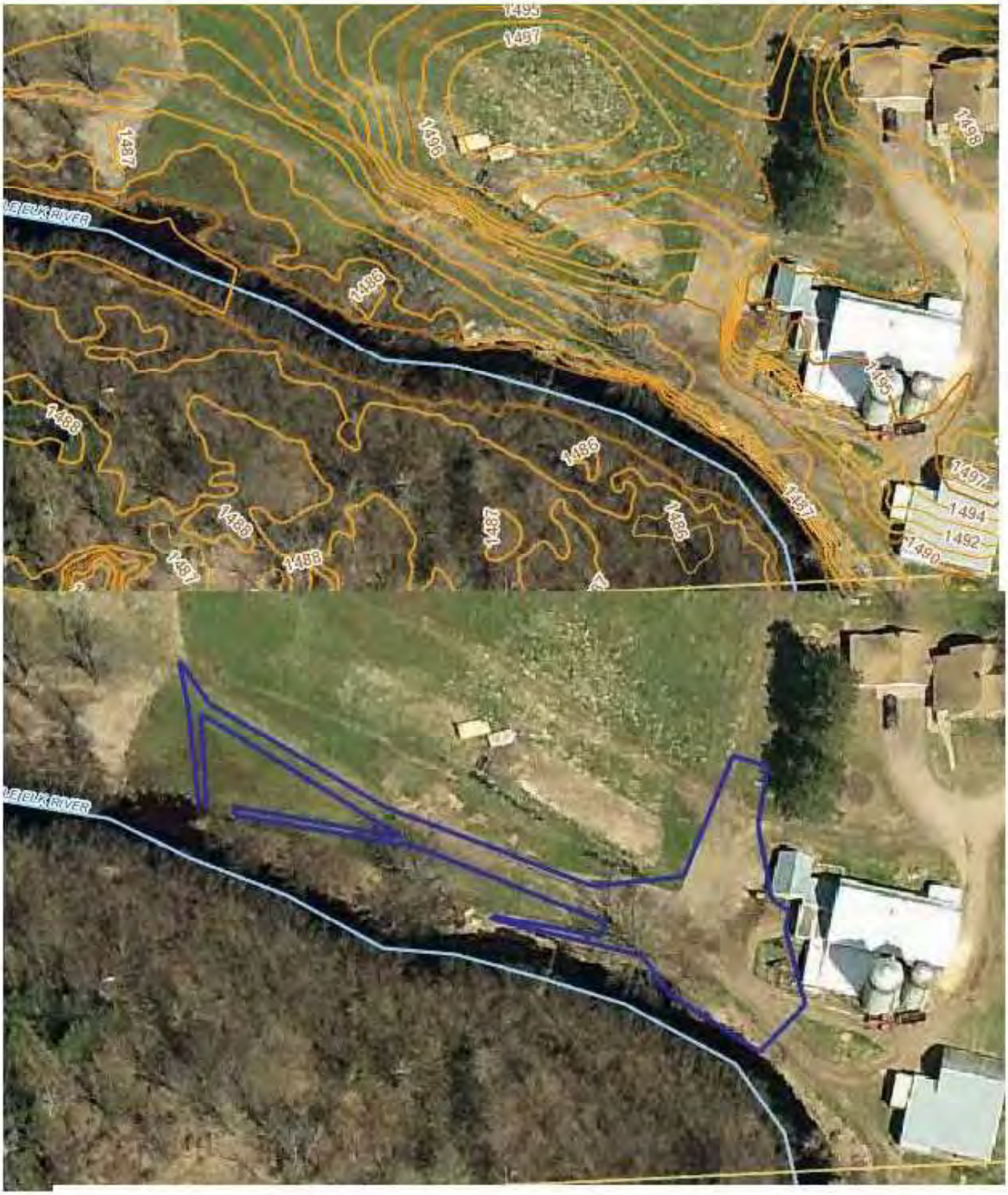
Month	Animal type/hours a day	Number	Manure dry matter produced in month(ton)
June	Dairy Calf 150 lb/1 hrs	1	0
		Manure dry matter produced in year(ton):	0

Model results for FP-10Runway annual output

Runoff (in)	9.1
Sediment loss (ton)	0.1
Total P loss (lb)	1.9

Foytik FP-10 Runway and contributing areas.

Foytik FP-10 Runway: 1 ft. contour lines



Foytik FP-10 Runway: Direct conduit flow channels, May

Foytik FP-10 Runway: Direct conduit flow channels, November

Foytik FP-10 Runway: Unvegetated conduits leading directly to water

Foytik FP-10 Runway: Unvegetated channelized barnyard conduits leading directly to water.

Foytik FP-10 Runway: Milk herd manure loading & spillage during season of no cattle occupancy time.

Foytik FP-10 Runway: Heifer herd manure loading & spillage during season of no cattle occupancy time.

Foytik FP-10 Runway: Direct conduit

Foytik FP-10 Runway: Eroded, washed gravel direct conduit


A


A
B
Little Elk River


B

FP-10 Runway: Contributing area delivering runoff to lot.

FP-10 Runway contributing area lane and drive.

Foytik FP-9 Lot: Input data and P loss.

APLE-Lots Average Annual Runoff Report

9/25/2020 5:58:08 AM

Project Name	Foytik	
Version Name	Sep 10	
Lot Name	FP-9 Lot	
County	Price	
Location	37N 1E s26	
Cover Type	dirt	
Area(sq.ft.)		2000
Date	9/25/2020	
% Vegetated		1
Average Days Between Cleaning		365

Contributing Area Name	Area	Type(CN) Type	Mitigation
F9lot yard	15300	Grass(79)	FALSE
F9 Roof	2500	Roof(98)	FALSE

Animals

Month	Animal type/hours a day	Number	Manure dry matter produced in month(ton)
May	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
May	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
May	Dairy Lactating Cows 1400 lb/1 hrs	20	0.26
May	Dairy Lactating Cows 1200 lb/1 hrs	15	0.17
June	Dairy Lactating Cows 1200 lb/1 hrs	15	0.16
June	Dairy Lactating Cows 1400 lb/1 hrs	20	0.25
June	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
June	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
July	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
July	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
July	Dairy Lactating Cows 1200 lb/1 hrs	15	0.17
July	Dairy Lactating Cows 1400 lb/1 hrs	20	0.26
August	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
August	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
August	Dairy Lactating Cows 1200 lb/1 hrs	15	0.17
August	Dairy Lactating Cows 1400 lb/1 hrs	20	0.26
September	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
September	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
September	Dairy Lactating Cows 1200 lb/1 hrs	15	0.16
September	Dairy Lactating Cows 1400 lb/1 hrs	20	0.25
October	Dairy Dry Cows 1400 lb/1 hrs	4	0.03
October	Dairy Dry Cows 1200 lb/1 hrs	3	0.02
October	Dairy Lactating Cows 1200 lb/1 hrs	15	0.17
October	Dairy Lactating Cows 1400 lb/1 hrs	20	0.26
		Manure dry matter produced in year(ton):	2.8

Model results for FP-9 Lot annual output

Runoff (in)	60.7
Sediment loss (ton)	9.9
Total P loss (lb)	70.7

APLE-Lots Average Annual Runoff Report
9/28/2020 7:43:30 PM

Project Name	8-19 BYWest FP-10Runway				
Version Name	post 9-29				
Lot Name	FP-9 Lot				
County	Price				
Location	37N 1E s26				
Cover Type	dirt				
Area(sq.ft.)		2000			
Date	9/28/2020				
% Vegetated		100			
Average Days Between Cleaning		365			
Contributing Area			Type(CN)		
Name	Area		Type	Mitigation	
F9lot yard		15300	Grass(79)	FALSE	
F9 Roof		2500	Roof(98)	FALSE	
Animals					
				Manure dry matter	
Month	Animal type/hours a day		Number	produced in month(ton)	
June	Dairy Calf 150 lb/1 hrs		1		0
			Manure dry matter		
			produced in year(ton):		0

Model results for FP-9 Lot annual output

Runoff (in)	33.6
Sediment loss (ton)	0.1
Total P loss (lb)	0.7

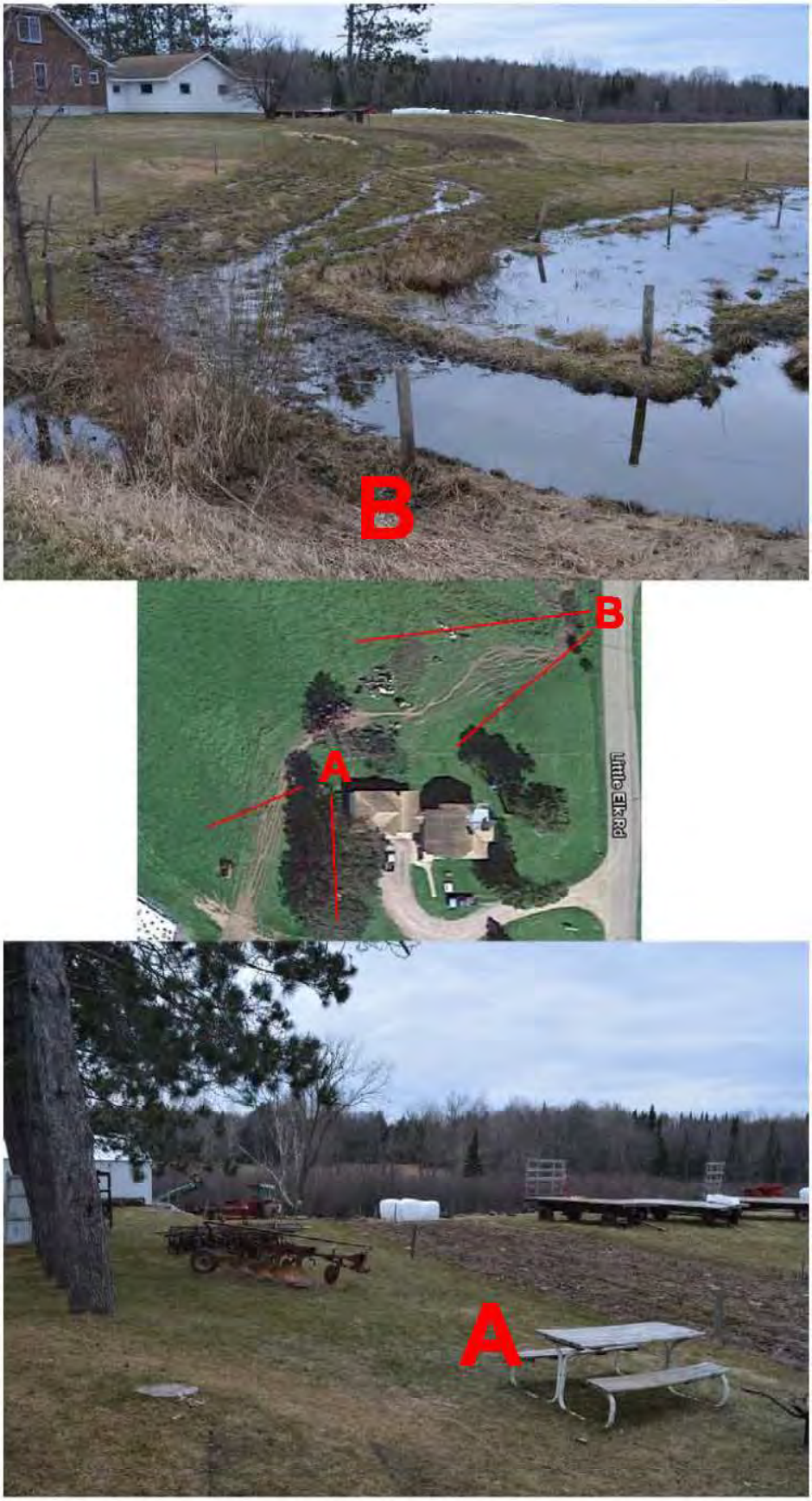
Foytik FP-9 Lot and contributing areas.

Foytik FP-9 Lot and contributing areas.

Foytik FP-9 Lot and contributing areas.

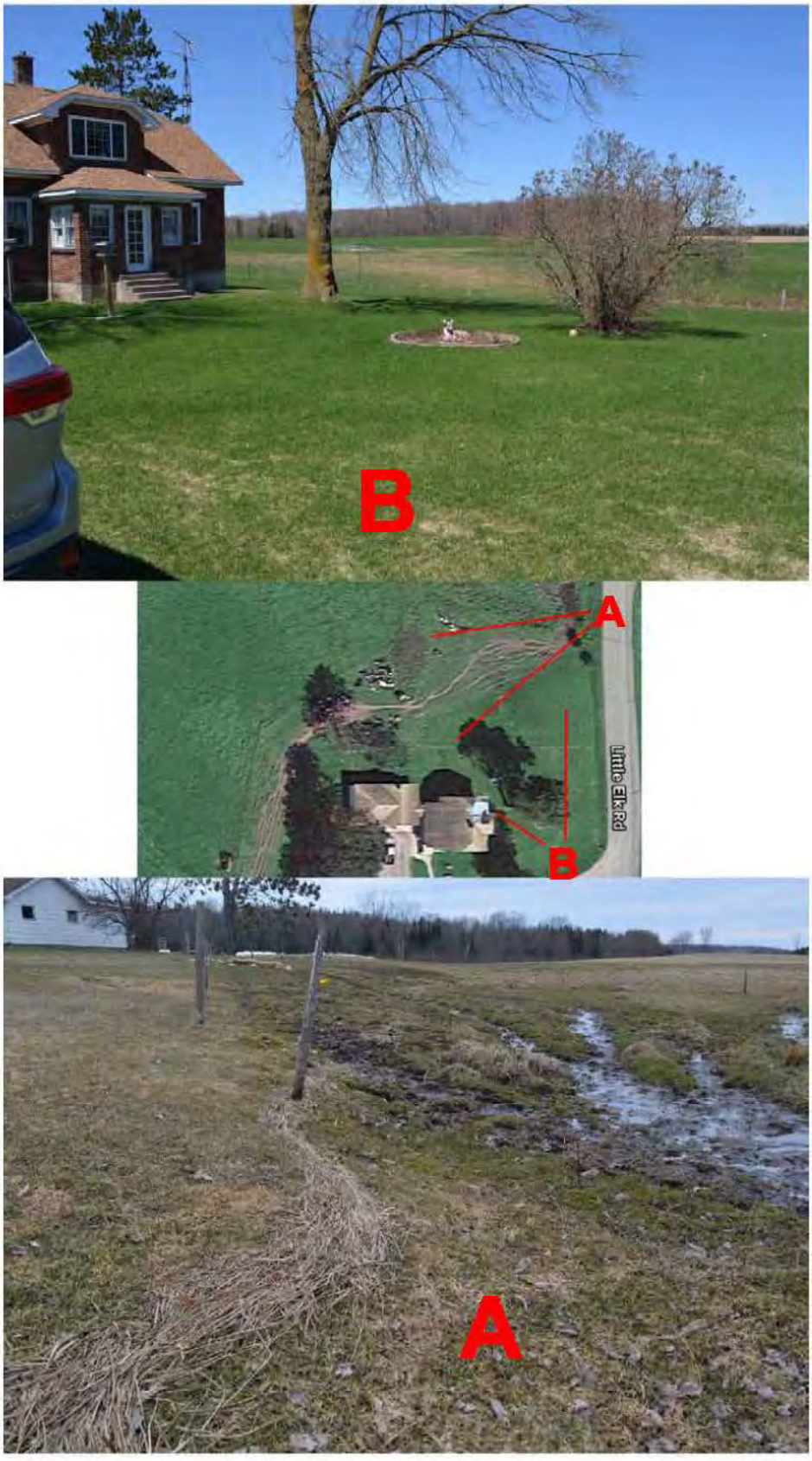
Foytik FP-9 Lot and contributing areas.

Foytik FP-9 Lot: Lower runway direct conduit.



Foytik FP-9 Lot: Upper runway bare soil to crest of contributing area.

Foytik FP-9 Lot: Contributing area.



Foytik F9-Lot: Lower runway, direct conduit, contributing are and inundation berm line.

Foytik FP-12 Lot Input data and P loss.

APLE-Lots Average Annual Runoff Report
9/25/2020 5:59:06 AM

Project Name	Fotik	
Version Name	Sep 10	
Lot Name	FP-12 Lot	
County	Price	
Location	37N 1E s26	
Cover Type	dirt	
Area(sq.ft.)		15800
Date	9/25/2020	
% Vegetated		1
Average Days Between Cleaning		365

Animals

Month	Animal type/hours a day	Number	Manure dry matter produced in month(ton)
May	Dairy Dry Cows 1400 lb/8 hrs	1	0.05
May	Dairy Heifer 1000 lb/8 hrs	11	0.48
May	Dairy Heifer 750 lb/8 hrs	10	0.33
May	Dairy Calf 150 lb/8 hrs	6	0.04
May	Dairy Calf 250 lb/8 hrs	6	0.08
June	Dairy Dry Cows 1400 lb/6 hrs	1	0.04
June	Dairy Heifer 1000 lb/6 hrs	11	0.35
June	Dairy Heifer 750 lb/6 hrs	10	0.24
June	Dairy Calf 150 lb/6 hrs	6	0.03
June	Dairy Calf 250 lb/6 hrs	6	0.05
July	Dairy Dry Cows 1400 lb/6 hrs	1	0.04
July	Dairy Heifer 1000 lb/6 hrs	11	0.36
July	Dairy Heifer 750 lb/6 hrs	10	0.25
July	Dairy Calf 150 lb/6 hrs	6	0.03
July	Dairy Calf 250 lb/6 hrs	6	0.06
August	Dairy Dry Cows 1400 lb/6 hrs	1	0.04
August	Dairy Heifer 1000 lb/6 hrs	11	0.36
August	Dairy Heifer 750 lb/6 hrs	10	0.25
August	Dairy Calf 150 lb/6 hrs	6	0.03
August	Dairy Calf 250 lb/6 hrs	6	0.06
September	Dairy Dry Cows 1400 lb/8 hrs	1	0.05
September	Dairy Heifer 1000 lb/8 hrs	11	0.46
September	Dairy Heifer 750 lb/8 hrs	10	0.32
September	Dairy Calf 150 lb/8 hrs	6	0.04
September	Dairy Calf 250 lb/8 hrs	6	0.07
October	Dairy Dry Cows 1400 lb/8 hrs	1	0.05
October	Dairy Heifer 1000 lb/8 hrs	11	0.48
October	Dairy Heifer 750 lb/8 hrs	10	0.33
October	Dairy Calf 150 lb/8 hrs	6	0.04
October	Dairy Calf 250 lb/6 hrs	6	0.06
	Manure dry matter produced in year(ton):		5.1

Model results for FP-12 Lot annual output

Runoff (in)	11.7
Sediment loss (ton)	5.4
Total P loss (lb)	25.7

APLE-Lots Average Annual Runoff Report
9/28/2020 7:44:46 PM

Project Name	8-19 BYWest FP-10Runway	
Version Name	post 9-29	
Lot Name	FP-12 Lot	
County	Price	
Location	37N 1E s26	
Cover Type	dirt	
Area(sq.ft.)		15800
Date	9/28/2020	
% Vegetated		100
Average Days Between Cleaning		365

Animals

Month	Animal type/hours a day	Number	Manure dry matter produced in month(ton)
June	Dairy Calf 150 lb/1 hrs	1	0
		Manure dry matter produced in year(ton):	0

Model results for FP-12 Lot annual output

Runoff (in)	2.1
Sediment loss (ton)	0
Total P loss (lb)	0.3

Foytik FP-12 Lot.

Foytik FP-12Lot: 1 ft. contour lines

Foytik FP-12 Lot: Over winter bare soil & spring inundation.

Foytik FP-12 Lot: Over winter bare soil & spring inundation.

Foytik FP-12 Lot: Over winter bare soil May 7, no cattle yet.

Foytik FP-12 Lot: Spring inundation, no cattle hours, over winter exposure vegetion on steep slope.

Foytik FP-12 Lot: Bare soil below inundation line, bares soil slopes in feeding area.

Foytik FP-9 Lot: Bare soil and inundation berm line.