# WATER QUALITY TRADING PLAN

August 31, 2021 Revised December 17, 2021



# Kieler Sanitary District No. 1 Wastewater Treatment Facility

WPDES Permit No. WI-0029289-08-0 3854 Kilian Lane Kieler, Wisconsin 53812

Prepared by:

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Project Number: D18-028-1

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# I. Executive Summary -

This Water Quality Trading Plan summarizes the Kieler Sanitary District No. 1's (District) plan to utilize Water Quality Trading (WQT) for compliance with the final total phosphorus limit as provided in the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit #WI 0029289-08-0. The Wastewater Treatment Facility (WWTF) treated 0.083 MGD in 2019 and 0.080 MGD in 2020. The WWTF had an average effluent Total Phosphorus (TP) concentration of 3.33 mg/L in 2020. The WWTF plans to provide chemical Phosphorus treatment and offset 128 lbs. of TP with WQT Credits in order to meet the final annual six-month average limit of 0.075 mg/L and a monthly average limit of 0.225 mg/L, which will become effective July 1, 2025.

NRCS Streambank Erosion modeling methods were used to calculate the total phosphorus credits that would be generated based on the installation of best management practices (BMPs). These credits will be used to demonstrate compliance with the final total phosphorus limit as proposed in the WPDES Permit.

As demonstrated in modeling results from Table 1.1, the WWTF has the ability to register approximately 241 credits. The implementation of this WQT Plan will result in compliance with the final TP limits. The WWTF intends to monitor TP credit usage and intends to perform construction of additional BMPs as needed for future effluent TP to comply with WPDES Permits Limits. A new Water Quality Trading Plan will be submitted at that time for new BMP practices and credit production.

**Table 1.1 – Modeling Results** 

Reach	Lateral Recession Rate (ft/yr.)	Current Phosphorus Loading (lbs./yr.)	Proposed Phosphorus Loading (lbs./yr.)	Proposed Phosphorus Reductions (lbs./yr.)	Trade Ratio	Proposed Phosphorus Credits
1 (Right)	0.50	190	0	190	3.8:1	50
1 (Left)	0.50	221	0	221	3.8:1	58
2 (Right)	0.50	227	0	227	3.8:1	60
2 (Left)	0.50	277	0	277	3.8:1	73
					Total	241

#### NOTE:

**Trade Ratio** = (Delivery + Downstream + Equivalency + Uncertainty – Habitat Adjustment):1

**Delivery** = 0 (Trading within same HUC-12 Watershed)

**Downstream** = 0 (For trades upstream of Outfall 001)

**Downstream** = 0.8 (For trades downstream of Outfall 001)

**Equivalency** = 0 (Not necessary of Total Phosphorus)

**Uncertainty**: *Streambank Stabilization without Habitat Restoration* = 3

# II. Background -

The purpose of this Water Quality Trading Plan (Plan) is to describe the District's use of Water Quality Trading to comply with the total phosphorus limits as provided in the District's WPDES Permit #WI-0029289-08-0. The Plan was developed following the Notice of Intent to Conduct Water Quality Trading, provided in Attachment #1, dated December 10, 2020. The Water Quality Trading Checklist Form 3400-208 is provided in Attachment #2.

The Kieler Sanitary District No. 1 (District) is located along United States Highway (U.S.H.) '61'/'151' in southern Grant County in southwest Wisconsin. The District owns and operates a Wastewater Treatment Facility (WWTF) which serves a population of approximately 261 residents.

The District is comprised primarily of commercial and residential development with one (1) industrial user. The district is situated on rolling hills with the grade typically sloping between 5% and 15%. The topography of the area is shown in Attachment #3.

The existing sanitary sewer collection consists of approximately 160 sanitary manholes, 24,700' of eight-inch (8") gravity sanitary sewer and 9,845' of sanitary force main. The original six-inch (6") cast iron sanitary force main (4,340') was installed in 1966. The six-inch (6") DR 18 PVC was installed in 1993 (3,340') and 2008 (2,175'). Two (2) sanitary sewer lift stations are utilized throughout the collection system to assist with the transport of wastewater to the WWTF. Please refer to Attachment #4 – Sanitary Sewer Map for location of sanitary sewer collection system components.

The Kieler Sanitary District No. 1 owns and operates a WWTF that utilizes an extended-aeration activated sludge system. Wastewater enters the WWTF by first passing through the headworks, which consists of a slope screen, bypass bar screen, and Parshall flume. Wastewater then proceeds to the extended-aeration activated sludge system. Activated sludge is settled out in the central final clarifier. Effluent is chlorinated/dechlorinated seasonally prior to discharge to the Sinnipee Creek. Activated sludge is either returned to the head of the process for further treatment or wasted to anaerobic sludge holding tanks, where it is digested and stored prior to land application on DNR approved sites. Currently, no processes or chemicals are used at the WWTF for the removal of Phosphorus. The current WWTF treats 0.080 MGD on an annual average with a design flow of 0.0914 MGD. Please see Attachment #5 for the WWTF flow schematic. The Kieler Sanitary District No. 1's WWTF has one (1) receiving water and effluent discharge location, Outfall 001: Sinnipee Creek (Platte River Watershed, GP02 – Grant-Platte River Basin).

The monthly average influent and effluent flows and loadings at the WWTF for 2019/2020 are provided in Table 2.1 and Table 2.2.

**Table 2.1 – 2019 Monthly Averages** 

Month	Flow	ВО	<b>D</b> D <sub>5</sub>	Suspended Solids		Total Phosphorus		Total Phosphorus
	(MGD)	(mg	g/L)	(mg/L)		(mg/L)		(lbs./day)
	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Effluent
Jan. ('19)	0.065	95	18	108	12	-	3.45	1.87
Feb. ('19)	0.075	64	13	87	8	-	2.54	1.59
Mar. ('19)	0.083	68	10	95	6	-	2.40	1.66
Apr. ('19)	0.071	235	22	237	9	-	3.63	2.15
May ('19)	0.081	111	6	149	8	-	6.49	4.38
June ('19)	0.076	168	12	198	11	-	6.96	4.41
July ('19)	0.078	111	16	143	8	-	3.24	2.11
Aug. ('19)	0.065	121	13	152	12	-	5.11	2.77
Sept. ('19)	0.116	127	9	161	10	-	2.19	2.12
Oct. ('19)	0.130	66	11	29	10	-	2.55	2.76
Nov. ('19)	0.083	97	9	146	11	-	2.71	1.88
Dec. ('19)	0.073	125	11	143	11	-	2.54	1.55
Annual Average =	0.083	116	13	137	10	-	3.65	2.44

**Table 2.2 – 2020 Monthly Averages** 

	Flow	BOD <sub>5</sub>		Suspende	Suspended Solids		tal horus	Total Phosphorus
	(MGD)	(mg	g/L)	(mg/L)		(mg/L)		(lbs./day)
	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Effluent
Jan. ('20)	0.061	131	16	114	12	-	4.47	2.27
Feb. ('20)	0.063	135	19	148	11	-	3.05	1.60
Mar. ('20)	0.096	90	14	122	11	-	2.06	1.65
Apr. ('20)	0.078	121	16	100	6	-	3.60	2.34
May ('20)	0.072	169	12	130	11	-	3.71	2.23
June ('20)	0.114	162	13	123	10	-	2.37	2.25
July ('20)	0.099	124	16	129	13	-	3.83	3.16
Aug. ('20)	0.078	112	16	148	8	-	3.51	2.28
Sept. ('20)	0.080	95	13	130	7	-	2.45	1.63
Oct. ('20)	0.066	105	19	152	11	-	1.47	0.81
Nov. ('20)	0.063	132	19	156	15	-	4.17	2.19
Dec. ('20)	0.056	203	47	173	26	-	5.26	2.46
Annual Average =	0.080	132	18	135	12	-	3.33	2.07

To reduce effluent TP, the District has made efforts to optimize TP reduction at the WWTF. The District has also implemented source reduction measures such as investigating potential TP

contributors. The District has checked with the following businesses for Phosphorus contribution and will continue its investigation of Phosphorus contributors:

- 1. Len's Paint'n Place
- 2. Gooch's Green House Tavern
- 3. PJ's Pub & Hall
- 4. Kieler Mall
- 5. Clare Bank

- 6. Grant County Truck Bodies
- 7. Casey's Gas Station
- 8. Kieler Service Center
- 9. Midwest Motor Sports
- 10. PSSI Chemical

During the initial evaluation of sanitary dischargers, it was determined that the businesses were not major contributors of Phosphorus. Currently, the District has been able to maintain an average Total Phosphorus effluent of 3.33 mg/L which is well within the WPDES interim limit of 6.7 mg/L. The District will continue to investigate options for TP removal at the WWTF.

Additionally, the District has investigated watershed compliance alternatives such as Water Quality Trading (WQT) and Adaptive Management (AM). Stream monitoring in 2001 confirmed that the Sinnipee Creek was an impaired water due to TP. The background TP concentration is monitored from Station #223340 Kieler Creek in Grant County. As calculated in the Water Quality Based Effluent Limit (WQBEL) on February 17, 2016, the rolling median TP concentration was 0.101 mg/L. The median average was almost double the applicable Water Quality Standard (WQS) of 0.075 mg/L. In 2016, the Sinnipee Creek was determined to have a degraded biological community. Following discussion with the County and initial investigation, the District elected to move forward with WQT. Utilizing the results from PRESTO, the watershed of the WWTF has a nonpoint source ratio of 97:3 at the point of discharge and is considered to be point-source dominated. Therefore, the District intends to perform WQT projects downstream of the outfall but within the District's Hydrological Unit Code – 12 (HUC-12) watershed #070600030708 as provided in Attachment #6.

Flow and loading data from 2020 was utilized to determine credits needed. Annual effluent TP was estimated at 810 lbs. The final limit would allow annual discharge of 18 lbs. The District would be required to offset at least 792 lbs. of effluent TP. Calculations for required WQT reductions are provided below.

1) The current annual Phosphorus loading discharged at the WWTF is calculated as follows:

Seasonal Average Daily Flow (Q) = 0.080 MGDAverage Phosphorus concentration = 3.33 mg/L

 $3.33 \text{ mg/L} \times 0.080 \text{ MGD} \times 8.34 \times 365 \text{ days/yr.} = 810 \text{ lbs./yr.}$ 

2) The proposed allowable annual Phosphorus mass limit at the WWTF is calculated as follows:

Seasonal Average Daily Flow (Q) = 0.080 MGD Proposed Seasonal Phosphorus Concentration Limit = 0.075 mg/L

 $0.075 \text{ mg/L} \times 0.080 \text{ MGD} \times 8.34 \times 365 \text{ days/yr.} = 18 \text{ lbs./yr.}$ 

3) Reduction of Total Phosphorus required at WWTF -  $810 \, lbs./yr. - 18 \, lbs./yr. = 792 \, lbs./yr.$ 

However, the District intends to add chemical to treat effluent TP to  $0.6\ mg/L$ . The expected required offset is as follows:

$$(0.6 - 0.075) \text{ mg/L } \times 0.080 \text{ MGD } \times 8.34 \times 365 \text{ days/yr} = 128 \text{ lbs/yr}$$

To generate the required 128 TP credits, the District intends to perform streambank stabilization.

# III. Location and Description of Credit Generation Sites -

The District discharges to the Sinnipee Creek (Platte River Watershed, GP02 – Grant-Platte River Basin) at Outfall 001. As mentioned previously, the District intends to perform WQT projects within the Village's HUC-12 #070600030708. The District plans to perform streambank stabilization which will utilize grading and/or riprap to prevent the erosion of sediment from the streambanks. Projects will occur on private property. Streambank stabilization will not only prevent sediment from entering the stream, but will also prevent phosphorus, nitrogen, and other pollutants from discharging to the Sinnipee Creek. See Figure 3.1 for additional project location information.



Figure 3.1 – Project location in relation to Outfall 001

# IV. Methods for Nonpoint Source Load Reduction –

The District would like to acquire 241 WQT trading credits for a safety factor in the event that effluent credits are lost or the WWTF discharges additional mass of TP. The Plan identifies trading practices that will reduce TP runoff by more than 915 lbs. and will utilize a 3.1:1 trade ratio for downstream trades. Downstream trade ratios were determined by Table 4.1 as provided by the Wisconsin DNR.

**Table 4.1 – Downstream Trading Factor** 

Credit User's Load as a Percentage of Total In-Stream Load	Downstream Trading Factor
<25%	0.1
<50%	0.2
<75%	0.4
<u>&gt;</u> 75%	0.8

Load Percentage = 
$$((Qe \times Ce) / (Qe \times Ce + Qs \times Cs)) \times 100 = 100\%$$
  
 $100\% > 75\%$   
Downstream Trading Factor = 0.8

Qs = Receiving water flow (7Q2) = 0 cfs

Qe = Design Flow = 0.091 MGD = 0.14 cfs

Cs = Background concentration of TP = 0.101 mg/L

Ce = Effluent concentration of TP = 3.33 mg/L

The WQT practices identified for this Water Quality Trading Plan has the ability to generate approximately 241 TP credits/year indefinitely as long as trading practices are maintained.

#### A. Methods Used to Generate Load Reductions

For streambank stabilization, the District has the ability to generate TP load reductions through streambank grading and/or riprapping of approximately 2,457 lineal feet of streambank.

Streambank Stabilization will be performed as per NR 328 Shore Erosion Control Structures in Navigable Waterways and NRCS 580 Streambank and Shoreline Protection. Streambank shaping and riprapping will eliminate the discharge of sediment to the stream. The streambank stabilization project will occur within HUC-12 #070600030708 in order to generate TP credits. Standard Plans and Specifications for the Project Site will be provided by a Professional Engineer. The District will also acquire all required permits and authorizations for the Projects.

To register credits, the District has entered into trade agreements with Property Owners pursuant to s. 283.84(1)(b), Wis. Stats.

### **B.** History of Project Site

The Project Site is planned within the Platte River Watershed along the Sinnipee Creek. No mapped wetlands will be impacted by the WQT Project as indicated in Attachment #7 – Wetland Maps.

The project location is planned on private property along Sinnipee Creek. Land use consists of cattle pasture and the vegetative cover is primarily grass with a few scattered trees.

The streambanks have experienced significant erosion as the Sinnipee Creek has been cleared for agricultural use. The banks are bare with slumps, rills and sever vegetative overhang throughout. Severe erosion indicators such as undercuts, slumps, tree roots, and fallen trees are readily visible throughout the site. The erosion indicators demonstrate the lateral recession rate is Severe (0.3-0.5 ft/yr) based on the NRCS Recession Rate Table.

#### C. Model Used to Derive Load Reductions

NRCS Streambank Erosion modeling methods were used to calculate the total phosphorus credits that would be generated based on the installation of BMPs. These credits will be used to demonstrate compliance with the final total phosphorus limit as proposed in the WPDES Permit. Modeling results are provided in Table 4.2. If the Plan or model inputs change during construction, the District will submit to the DNR the revised models and calculations to more accurately reflect and number of credits generated.

**Table 4.2 – Modeling Results** 

Reach	Lateral Recession Rate (ft/yr.)	Current Phosphorus Loading (lbs./yr.)	Proposed Phosphorus Loading (lbs./yr.)	Proposed Phosphorus Reductions (lbs./yr.)	Trade Ratio	Proposed Phosphorus Credits
1 (Right)	0.50	190	0	190	3.8:1	50
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2 (Right)	0.50	227	0	227	3.8:1	60
2 (Left)	0.50	277	0	277	3.8:1	73
					Total	241

### **NOTE:**

**Trade Ratio** = (Delivery + Downstream + Equivalency + Uncertainty – Habitat Adjustment):1

**Delivery** = 0 (Trading within same HUC-12 Watershed)

**Downstream** = 0 (For trades upstream of Outfall 001)

**Downstream** = 0.8 (For trades downstream of Outfall 001)

**Equivalency** = 0 (Not necessary of Total Phosphorus)

**Uncertainty**: *Streambank Stabilization without Habitat Restoration* = 3

Soil testing has been completed to determine TP concentrations within the soil. Soil sampling was performed approximately every 100 feet and included the use of a soil sampler which pulled ¾" cores at 8" depth. Approximately six (6) cores were taken at each sampling location to provide a representative sample. Soils maps and soil testing data is provided in Attachment #8. An onsite evaluation has been conducted to estimate stream bank recession rate. The data, narrative, and photos documenting the current state of eroding stream banks are provided in Attachment #9.

With the collected data, the NRCS Streambank Erosion Estimator was used to calculate TP loss from each reach of the eroding streambank. The modeling data for the NRCS Streambank Erosion Estimator is available in Attachment #10. The streambank grading and riprap design will eliminate streambank recession thus eliminating TP inputs within the Project areas.

Sinnipee Creek has experienced agricultural development within the watershed and has issues caused by sedimentation which was included in Wisconsin DNR evaluation for *Platte River Region*. The watershed has also experienced reduction of large woody debris along the streambanks due to agricultural development which reduces available habitat and bank roughness. Streambank improvements will reduce sediment which was identified as the #1 reason for habitat degradation in the Sinnipee Creek.

### D. Operation and Maintenance

An Operation and Maintenance (O&M) Plan is provided in Attachment #11. The O&M plan describes how the Stream Stabilization Practices will be operated and maintained. The O&M Plan also addresses response procedures for Practice Registration, Noncompliance Notification, and Notification of Trade Agreement Termination.

As previously mentioned, the District is planning to perform streambank stabilization by implementing BMPs along the Sinnipee Creek streambanks. The stabilization practices will be installed and maintained per the Plans and Specifications as provided in Attachment #12. BMPs are to follow NR 328 Shore Erosion Control Structures in Navigable Waterways and NRCS 580 Streambank and Shoreline Protection. Restoration landscaping and seeding will be installed following construction and will be closely monitored for a minimum of two (2) growing seasons to ensure the new seeding grows and erosion is not prevalent. Weeds and invasive vegetation growth will be addressed if present. The riprap will be inspected following heavy rain events at a minimum. Inspection will be used to determine appropriate actions in order to maintain the riprap for continuous and ongoing streambank stabilization and TP credit generation.

The BMPs will be inspected annually by a licensed Professional Engineer to ensure that the BMPs are functioning as intended in order to meet the requirements of this WQT Plan.

# V. <u>Trade Timeline</u> –

Schedule for Installation of the above mentioned trading practices for Total Phosphorus Credit Generation for TP compliance is provided in Table 5.1 below.

**Table 5.1 – Trade Timeline** 

Item	<b>Completion Timeline</b>
Site Investigation	Spring 2021
Conceptual Design	Summer 2021
Final Design	Fall 2021
Construction Permits	Spring 2022
DNR Review of Final Design	Spring 2022
Construction of BMPs	Fall 2022 – Spring 2023
Phosphorus Credit Registration	Spring 2023
Use of Phosphorus Credits	June 1, 2022
(Ongoing for Permit Compliance)	June 1, 2023

Credits will be used by the District beginning June 1, 2023. Credits will continue as long as the trading practices are maintained as outlined in this WQT Plan.

# VI. <u>Inspection Reporting –</u>

# **A.** Tracking Procedures

The District will track credits used monthly. The District will report credit usage to the DNR on a monthly basis in the Discharge Monitoring Reports (DMRs). The annual report will summarize the 12 months of credit usage and credit generation. The District will report to DNR any concern that they have that may result in a need to modify the trade agreement and/or this trade plan. For example, a need to generate additional credits based on discharge.

## **B.** Inspection

Inspection of the BMPs shall occur during construction phase to ensure they are installed per the design and meet all applicable codes and permits. Once completed, inspections of the established BMPs shall occur each month at a minimum or following heavy rain events. A licensed professional engineer will perform an annual certification to ensure the practice is performing as designed and the District remains in compliance.

The inspection reports will include:

- i. Name and contact information of the inspector
- ii. Inspection Date
- iii. Relevant standards set forth in the Design Plan or Operation and Maintenance Plan
- iv. Issues identified
- v. When and how any issues identified were addressed
- vi. When and how any issues identified will be addressed in the future

Inspection reports generated during each routine or after rain event inspection will be included with the Annual Water Quality Trading Report submitted by the District to DNR. Annual inspections by a professional engineer will typically occur in April or May. This time of year is ideal for evaluating the condition of BMPs as it follows the freeze/thaw which poses the greatest potential for changes to the BMPs. Minimal vegetation cover will allow for adequate visual inspection.

#### C. Management Practice Registration Form

The District will file a completed registration form 3400-207 for Water Quality Trading Management Practice Registration separately from this Plan.

#### D. Annual Water Quality Trading Report Submittal

The following shall be submitted to the DNR by January 31 of each year:

- i. The number of pollutant reduction credits (lbs./month) used each month of the previous year to demonstrate compliance;
- ii. A summary of the annual inspection of the practice that generated any of the pollutant reduction credits used during the previous year, this inspection shall be completed by a licensed Professional Engineer;
- iii. All monthly inspection reports;

- iv. 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;
- v. A list of all noncompliance and the correction measures and timing to address the issues throughout the year; and
- vi. An updated WQT plan if management practices have or will change.

# **E.** Monthly Certification of Management Practices

Each month, the District will certify that the BMPs are maintained and operating in a manner consistent with this Water Quality Trading Plan or provide a statement noting noncompliance with this Plan. The monthly Discharge Monitoring Report (DMR) will include the following statement as a certification of compliance when the Credit Generating Practice is operating in a manner consistent with the Plan:

"I certify that to the best of my knowledge that the management practices identified in the approved water quality trading plan as the source of phosphorus credits is installed, established and properly maintained."

#### F. Notification of Failure to Generate Credits

The District will notify DNR by telephone call to DNR's regional wastewater compliance engineer within 24 hours or next business day of becoming aware that phosphorus credits used or intended for use by District are not being generated as outlined in this Water Quality Trading Plan.

The District will submit a written notification within five days after the District recognizes that the phosphorus credits are not being generated as outlined in the Trading Plan. DNR may waive the requirement for submittal for a written notice within five days and instruct the District to submit the written notice with the next regularly scheduled monitoring report required by District's WPDES Permit.

The written notice will contain a description of how and why the TP credits are not being generated as outlined in the Water Quality Trading Plan, the steps taken or planned to prevent reoccurrence of the identified problems and the length of time anticipated it will take to address the issue.

The District will work to rectify the problem as laid out in the Operation and Maintenance Plans.

# G. Conditions under which Management Practices May Be Inspected

Any DNR authorized officer, employee, or representative has the right to access and inspect the credit generating practice so long as the District's trade agreement with the property owner(s) and this Water Quality Trading Plan remain in effect.

# VII. Certification -

The undersigned hereby certifies that this Water Quality Trading Plan is accurate and correct to the best of his knowledge.

Kieler Sanitary District No. 1 Wastewater Treatment Facility

Faber Runde

District President

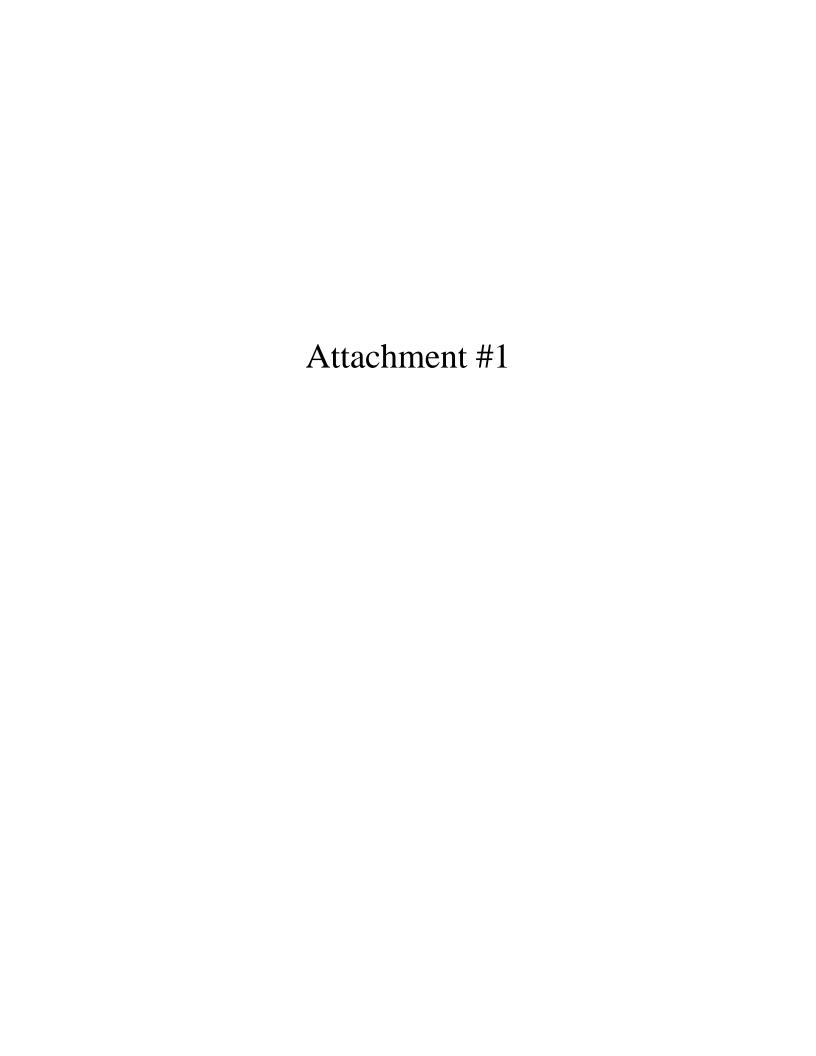
Kieler Sanitary District No. 1

2135 Elm Street

P.O. Box 12

Kieler, WI 53812

Telephone: (608) 568-3232 Email: kielersd1@tds.net



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

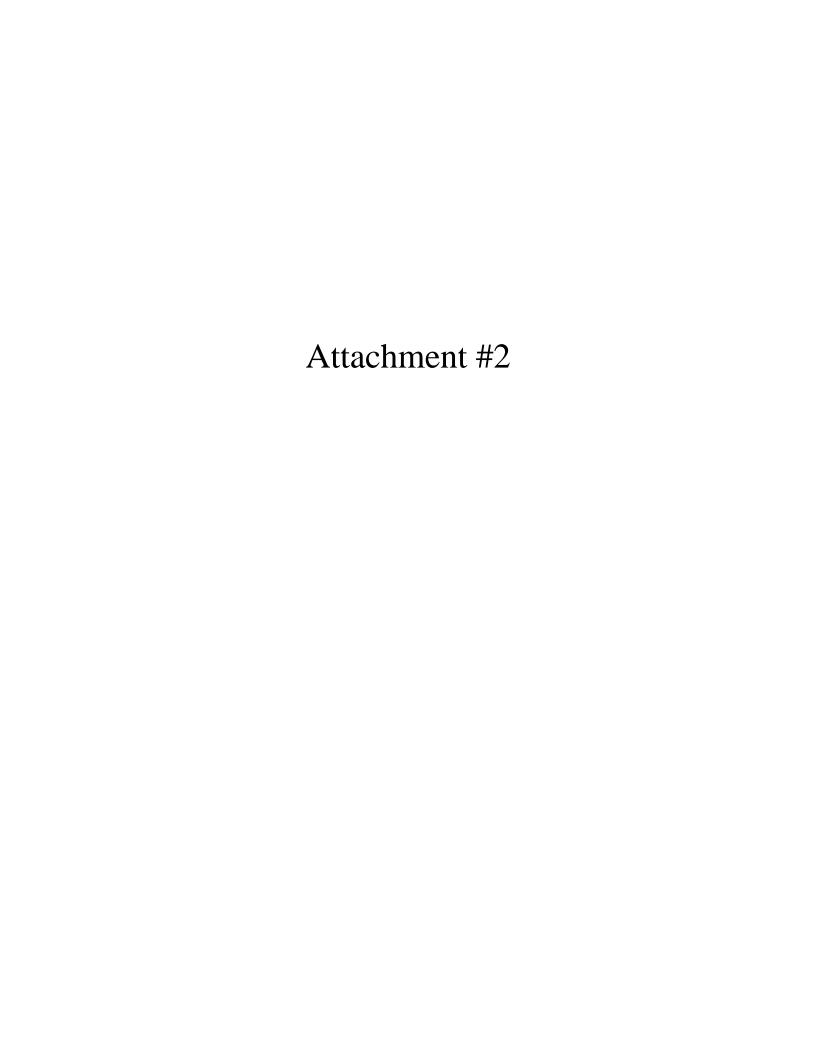
# Notice of Intent to Conduct Water Quality Trading Form 3400-206 (1/14) Page 1 of 2

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 Info	rmation							
Permittee Name	9	Permit Number	Fa	acility Site Number				
Kieler Sanitar	y District No. 1	WI- 0029289						
Facility Address			City		State ZIP Code			
3854 Kilian L	ane		Kieler					
Project Contact	Name (if applicable)	Address	City					
Jordan Fure (I	Delta 3 Eng.)	875 South Chestnut Street	Platteville	a	WI 53818			
Project Name	57	373 South Chothlat Shoot	II Iditoviii		W1 33010			
	1 - Water Quality T	radino						
Receiving Wate		Parameter(s) being traded	Tutic	12(s)	-			
Sinnipee Creel		Cotal Phosphorus		500030708				
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Credit Generat								
apply):	type (select all that	Permitted Discharge (non-N	/IS4/CAFO) Urban r	nonpoint source disch	arge			
арріу).		Permitted MS4		ural nonpoint source	discharge			
	Γ	Permitted CAFO		Specify:				
Are any of the ci	redit generators in a di	 fferent HUC 12 than the applic						
	•							
			No     No					
			() Unsure	○ Unsure				
Are any of the ci	edit generators downs	tream of the applicant?	<ul><li>Yes</li></ul>	Yes				
			○ No	○ No				
			O Unsure					
Will a broker/exc	change be used to facil	itate trade?	O Yes; Name:					
			( No	● No				
			○ Unsure					
Point to Point	Trades (Traditional M	lunicipal / Industrial Discha	rge, MS4, CAFO)					
Discharge Type	Permit Number	Nama	Cantant Address		rce credit generator			
Discharge Type	Permit Number	Name	Contact Address	permit requiren	mpliance with their			
			<del>                                     </del>	permit requirem	lens r			
Traditional		en e	-8	O Yes				
O MS4		A STATE OF THE STA		O No				
○ CAFO				O Unsure				
( ) Traditional				O Va-				
O MS4				O Yes				
CAFO	Average			O No				
OCALO				O Unsure				
○ Traditional				O Yes				
O MS4	BANG PARTIES AND P			O No				
O CAFO				O Unsure				
O Traditional				O Yes				
O MS4	B 8			O No				
○ CAFO				O Unsure				
○ Traditional				○ Yes				
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CAFO			*	O Unsure				
V V				0 5,100,10				

# Notice of Intent to Conduct Water Quality Trading Form 3400-206 (1/14) Page 2 of 2

Point to Nonpoint Trades (Non-permitted Agricultural, Non-Per	mitted Urban, etc.)
List the practices that will be used to generate credits:  The District intends to perform streambank stabilization. The control is a stabilization of the Control is a stabilization.	construction will occur downstream of the Outfall 001 since
the Outfall is at the Headwaters of Sinnipee Creek.	
Mathed for growtif the good to	
Method for quantifying credits generated: Monitoring	30.0. 1.1.7
Other:	CS Streambank Erosion Estimator
Projected date credits will be available: 07/01/2023	
The preparer certifies all of the following:	
<ul> <li>I am familiar with the specifications submitted for this application, addressed.</li> </ul>	and I believe all applicable items in this checklist have been
I have completed this document to the best of my knowledge and	have not excluded pertinent information.
Signature of Preparer	Date Signed
Jordan Jema	12/10/2020
Authorized Representative Signature	
I certify under penalty of law that this document and all attachments we inquiry of those persons directly responsible for gathering and entering	are prepared under my direction or supervision. Based on my the information, the information is, to the best of my knowledge
and belief, accurate and complete. I am aware that there are significan	it penalties for submitting false information, including the
possibility of fine and imprisonment for knowing violations.  Signature of Authorized Representative	Date Signed
L bile & Own	11-10-20
	11121020



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

# **Water Quality Trading Checklist**

Form 3400-208 (1/14)

Page 1 of 3

**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.).

<b>Applicant Inf</b>	ormation							
Permittee Nan	ne	Permit Number	Fac	cility Site Number				
Kieler Sanita	ry District No. 1	WI- 0029289						
Facility Address		•	City	State ZIP Code				
3854 Kilian I	Lane		Kieler	WI   53812				
Project Contac	ct Name (if applicable	) Address	City	State ZIP Code				
Jordan Fure	(Delta 3 Eng.)	875 South Chestnut Street	Platteville	WI   53818				
Project Name								
Proposed 202	22 Stream Improve	ments - Sinnipee Creek						
Receiving Wa	ter Name	Parameter(s) being traded	HUC <sup>,</sup>	12(s)				
Sinnipee Cre	ek	Total Phosphorus	07060	00030708				
	Credit Generator Information							
apply):	tor type (select all tha	t Permitted Discharge (non- Permitted MS4 Permitted CAFO a different HUC 12 than the applic	☐ Agricultu ☐ Other - 9	onpoint source discharge ural nonpoint source discharge Specify:				
Are any of the	credit generators do	wnstream of the applicant?	<ul><li>Yes</li><li>No</li></ul>					
Will a broker/e	exchange be used to	facilitate trade?	Yes (include des No	cription and contact information in WQT plan)				
Point to Poin	t Trades (Tradition	al Municipal / Industrial, MS4, (	CAFO)					
		generators identified in this section	on in compliance with their	r WDPES permit O Yes				
requirements?	}			○ No				
Discharge Type	Permit Number	Name	Contact Information	Trade Agreement Number				
<ul><li>○ Traditional</li><li>○ MS4</li><li>○ CAFO</li></ul>								
<ul><li>○ Traditional</li><li>○ MS4</li><li>○ CAFO</li></ul>	i i							
<ul><li>○ Traditional</li><li>○ MS4</li><li>○ CAFO</li></ul>								
<ul><li>○ Traditional</li><li>○ MS4</li><li>○ CAFO</li></ul>								
<ul><li>○ Traditional</li><li>○ MS4</li><li>○ CAFO</li></ul>								

# Water Quality Trading Checklist Form 3400-208 (1/14) Page 2 of 3

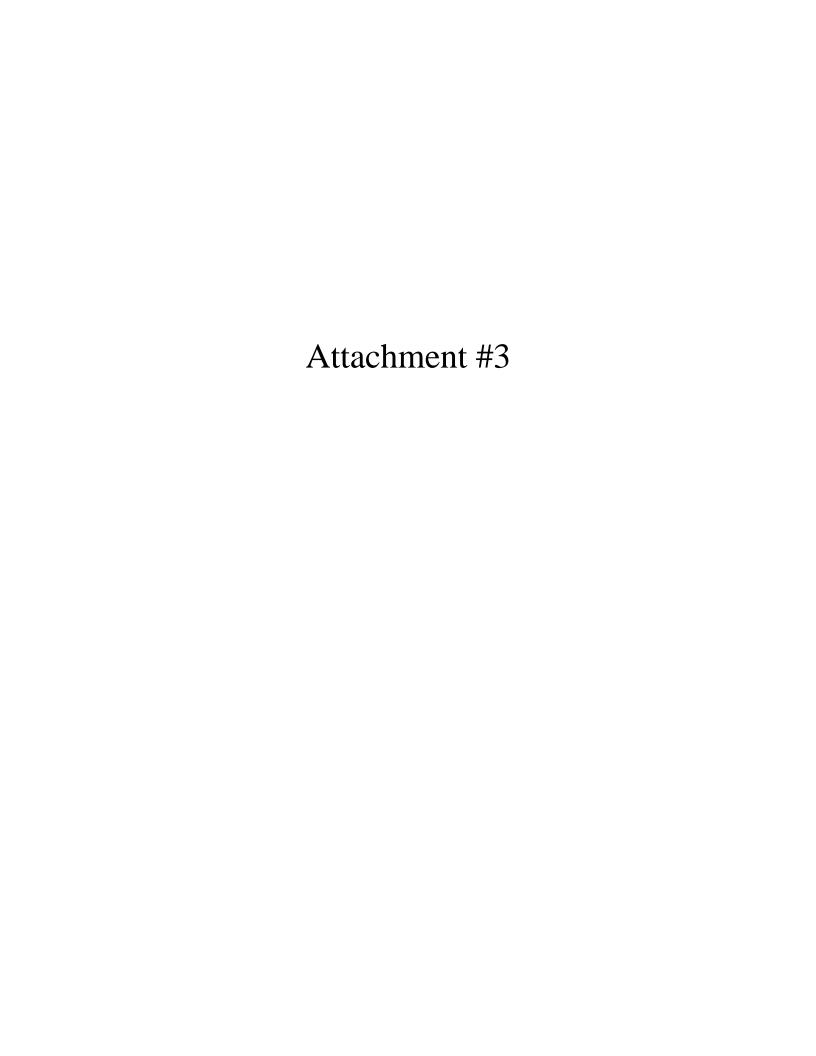
Point to Point Trades	(Traditional Municipal / Ir	ıdustrial, MS4, CAFO) <i>col</i>	nt.		
Does plan have a narrat	ive that describes:				Plan Section
a. Summary of discharge	e and existing treatment inc	cluding optimization	○ Yes	O No	
b. Amount of credit being	g generated		O Yes	O No	
c. Timeline for credits an	nd agreements		O Yes	O No	
d. Method for quantifying	g credits			○ No	
e. Tracking and verificati	ion procedures		○ No		
f. Location of credit gene	erator in proximity to receivi	ng water and credit user	Yes	O No	
g. Other:			Yes	○ No	
<b>Point to Nonpoint Trac</b>	des (Non-Permitted Urba	n, Agricultural, Other)			
Discharge Type	Practices Used to Generate Credits	Method of Quantification	Trade Agree Number	ement	Have the practice(s) been formally registered?
<ul><li>○ Urban NPS</li><li>● Agricultural NPS</li><li>○ Other</li></ul>	Streambank Stabilization	NRCS Streambank Erosion Estimator			<ul><li>Yes</li><li>No</li><li>Only in part</li></ul>
<ul><li>○ Urban NPS</li><li>○ Agricultural NPS</li><li>○ Other</li></ul>					<ul><li>Yes</li><li>No</li><li>Only in part</li></ul>
<ul><li>○ Urban NPS</li><li>○ Agricultural NPS</li><li>○ Other</li></ul>					<ul><li>○ Yes</li><li>○ No</li><li>○ Only in part</li></ul>
<ul><li>○ Urban NPS</li><li>○ Agricultural NPS</li><li>○ Other</li></ul>					<ul><li>○ Yes</li><li>○ No</li><li>○ Only in part</li></ul>
<ul><li>○ Urban NPS</li><li>○ Agricultural NPS</li><li>○ Other</li></ul>					<ul><li>○ Yes</li><li>○ No</li><li>○ Only in part</li></ul>
<ul><li>○ Urban NPS</li><li>○ Agricultural NPS</li><li>○ Other</li></ul>					<ul><li>○ Yes</li><li>○ No</li><li>○ Only in part</li></ul>
<ul><li>○ Urban NPS</li><li>○ Agricultural NPS</li><li>○ Other</li></ul>					<ul><li>Yes</li><li>No</li><li>Only in part</li></ul>
<ul><li>○ Urban NPS</li><li>○ Agricultural NPS</li><li>○ Other</li></ul>					<ul><li>○ Yes</li><li>○ No</li><li>○ Only in part</li></ul>
Does plan have a narrat				Plan Section	
a. Description of existing		<ul><li>Yes</li></ul>	O No	Section IV	
b. Management practice		<ul><li>Yes</li></ul>	○ No	Section IV	
c. Amount of credit being	Yes	○ No	Section IV		
d. Description of applica	ent/management practice	<ul><li>Yes</li></ul>	○ No	Section IV	
e. Location where credit	s will be generated		<ul><li>Yes</li></ul>	O No	Section III
f. Timeline for credits an	d agreements		Yes	O No	Section V
g. Method for quantifying	g credits	Yes	O No	Section IV	

Water Quality Trading Checklist Form 3400-208 (1/14) Page 3 of 3 Does plan have a narrative that describes; Plan Section h. Tracking procedures Yes O No Section IV i. Conditions under which the management practices may be inspected Yes O No Section VI j. Reporting requirements should the management practice fall Yes () No Section VI k. Operation and maintenance plan for each management practice Yes O No Section 1V I. Location of credit generator in proximity to receiving water and credit user Yes ( No Section III m. Practice registration documents, if available Yes No n. History of project site(s) Yes Section IV O No o. Other: ( ) Yes O No The preparer certifies all of the following: I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed. I have completed this document to the best of my knowledge and have not excluded pertinent information. I certify that the information in this document is true to the best of my knowledge. Signature of Preparer Date Signed **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



# **Location Map**



# Legend

Municipality

State Boundaries

**County Boundaries** Major Roads

Interstate Highway

State Highway

**US Highway** 

County and Local Roads

County HWY

Local Road

Railroads

Tribal Lands

Rivers and Streams

Intermittent Streams

Lakes and Open water

Index to

EN\_Image\_Basemap\_Leaf\_

0.25 0.5 Miles 0.5

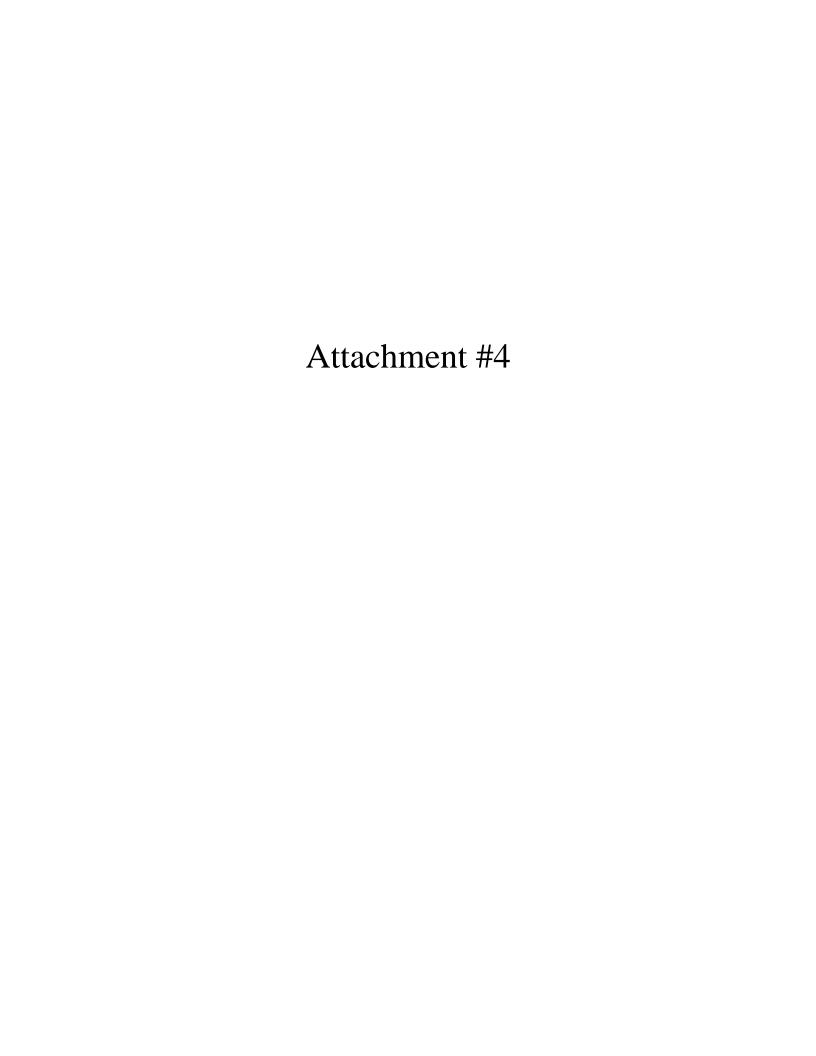
NAD\_1983\_HARN\_Wisconsin\_TM

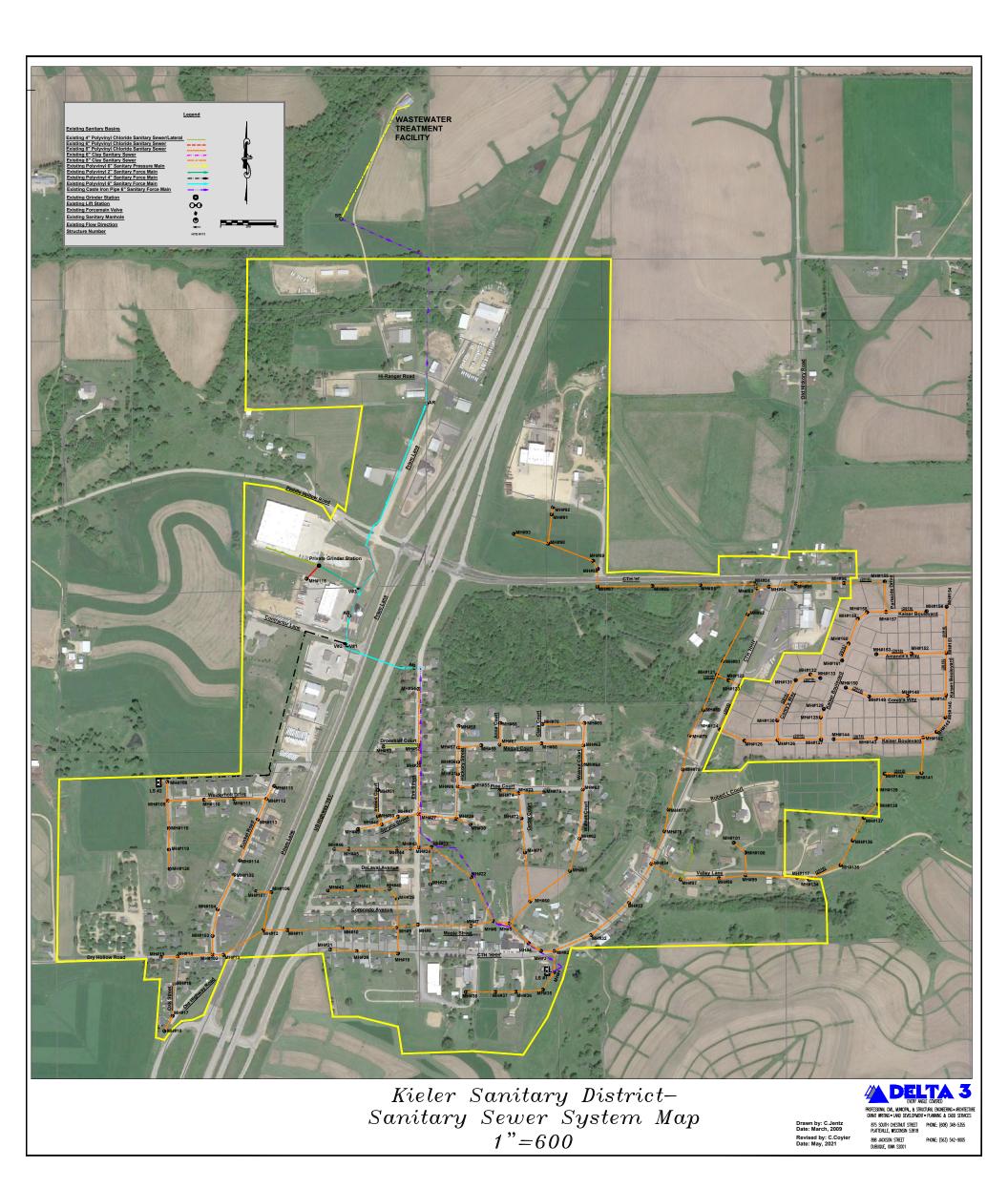
1: 15,840

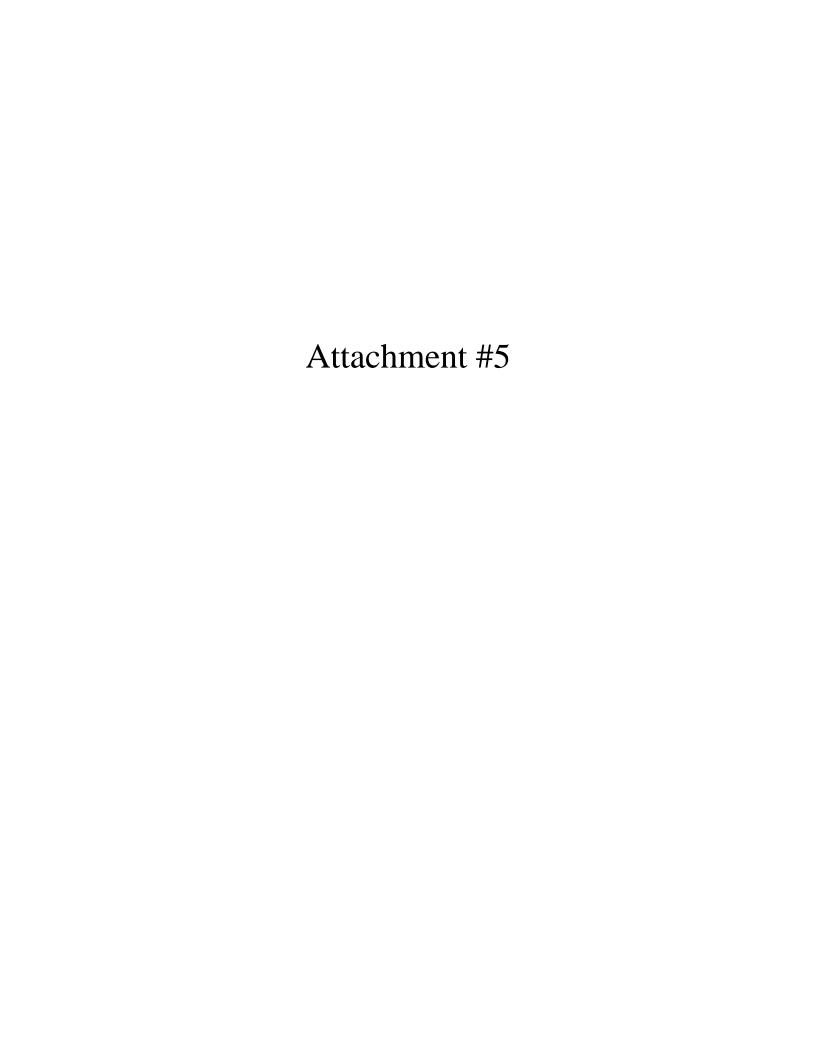
DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/legal/

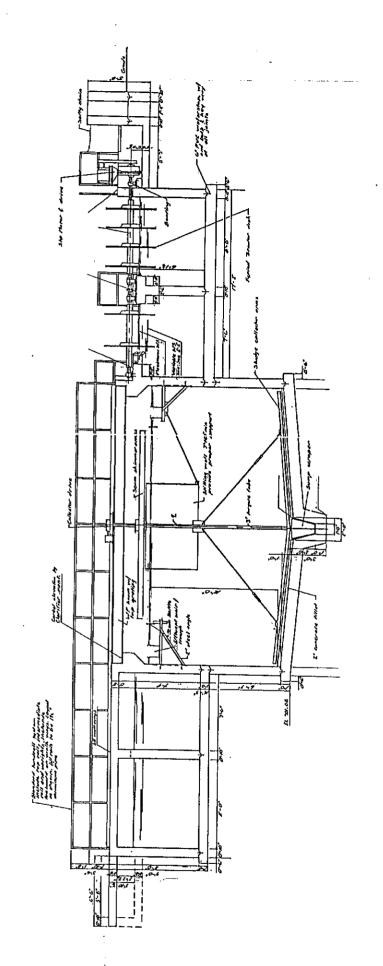
#### Notes

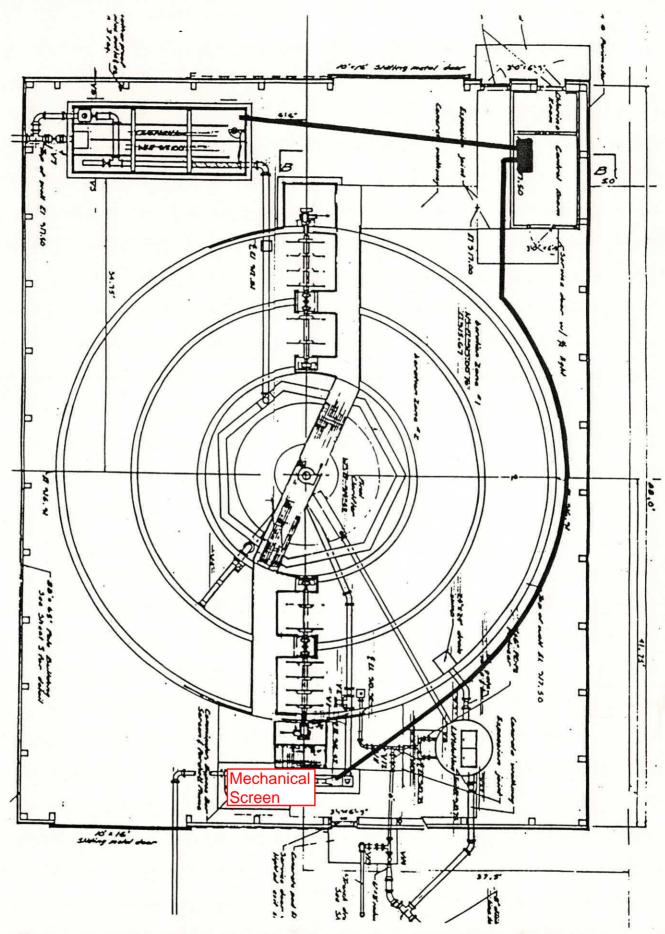
Exhibit #1





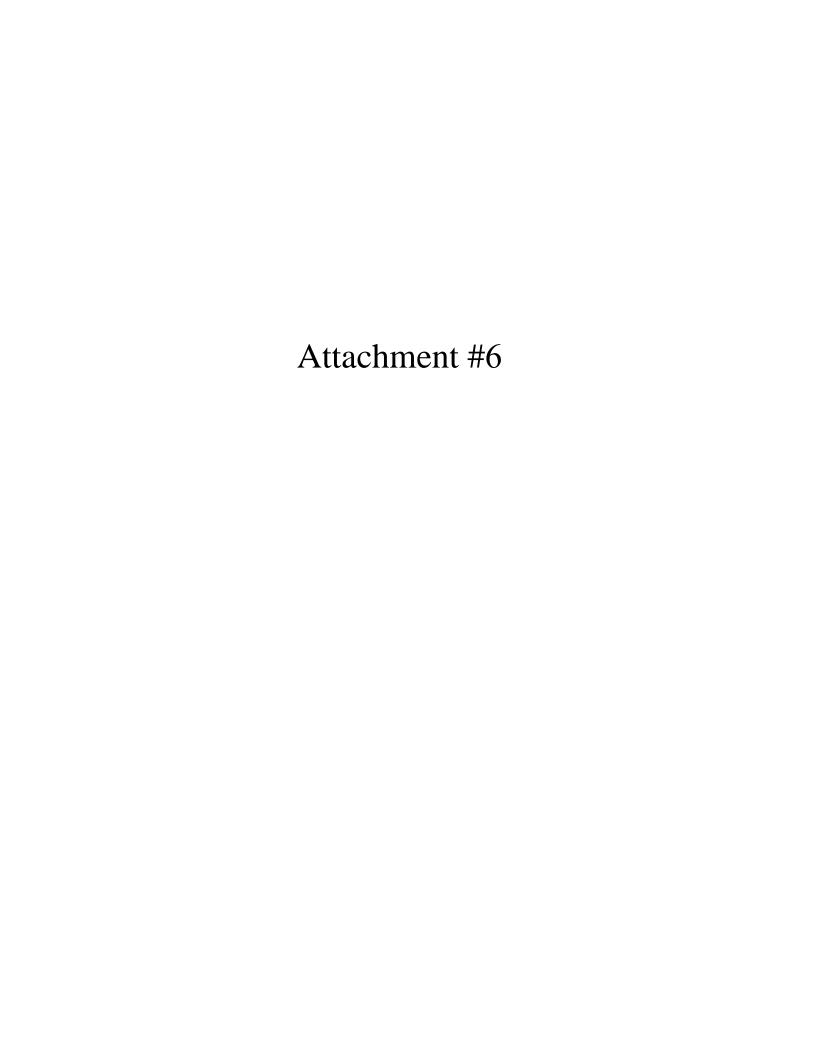


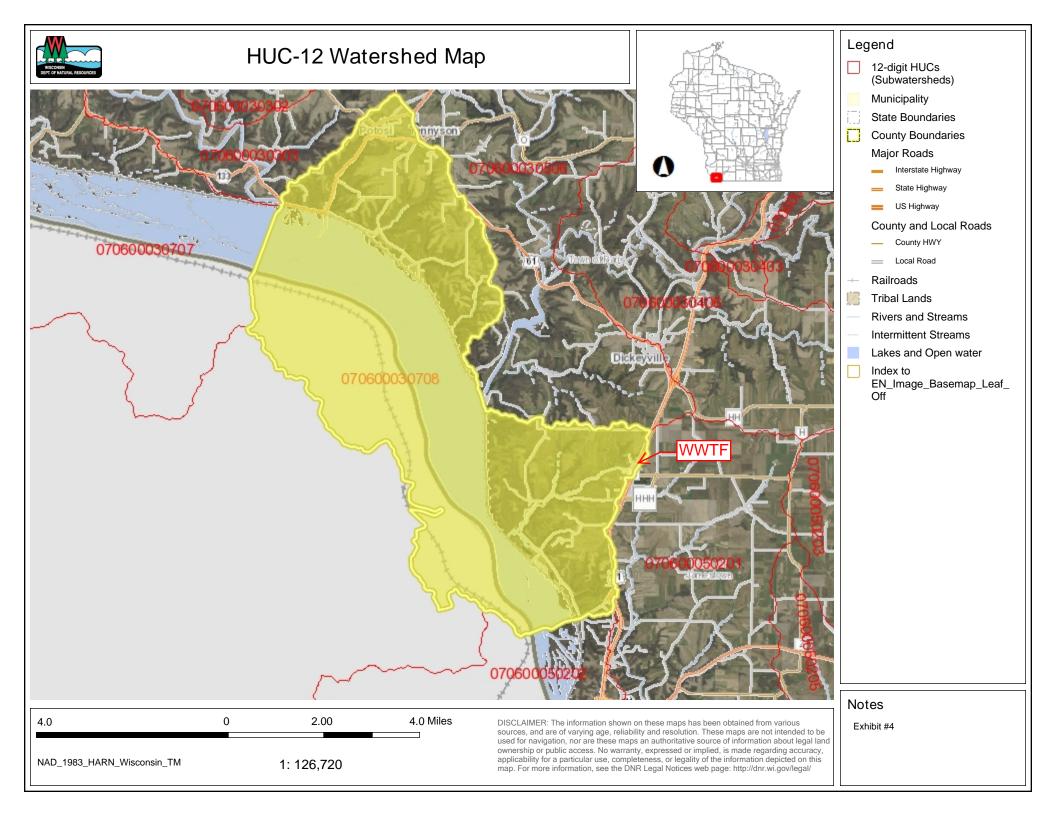


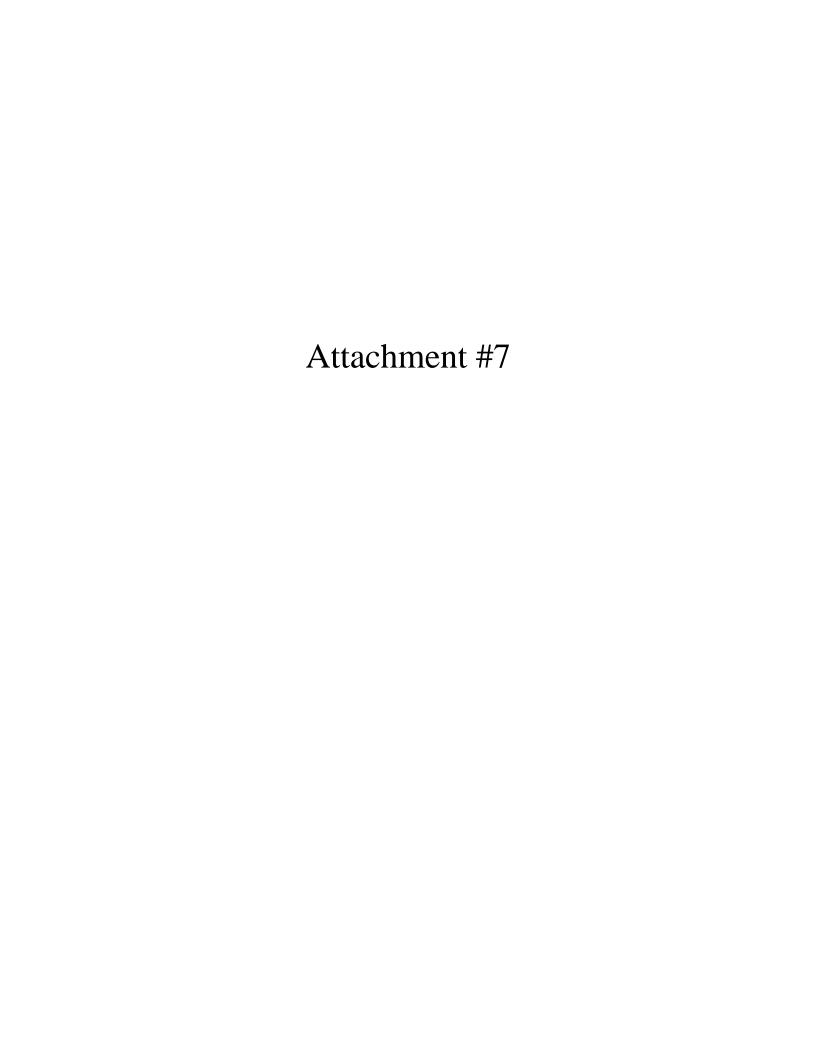


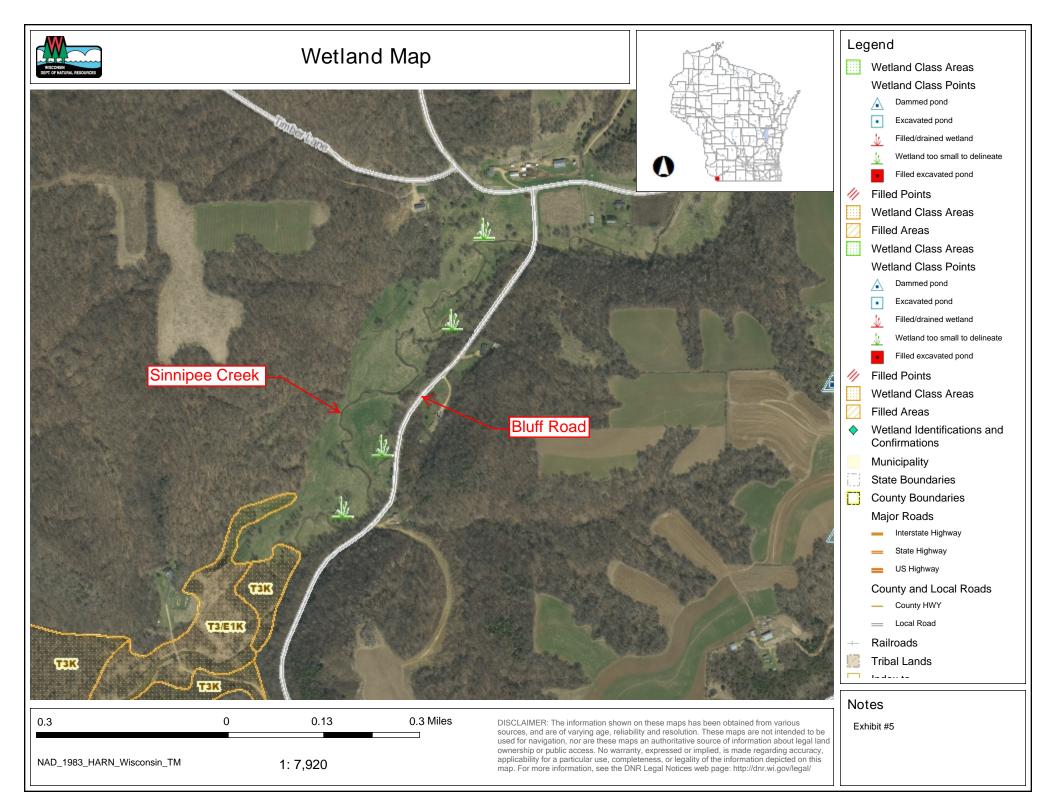
SAMPLERS, 1/2" P.V.C. CARRIER PIPES AND 3/8" SAMPLER TUBING LOCATION

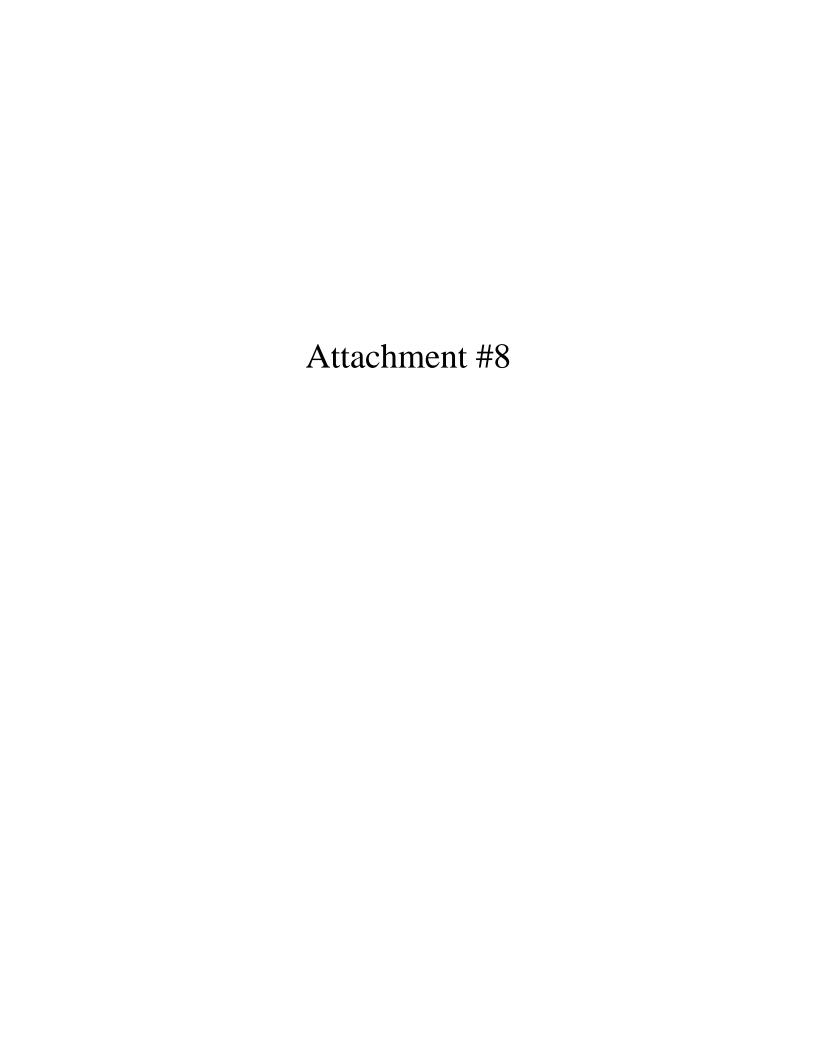
FIGURE 3-

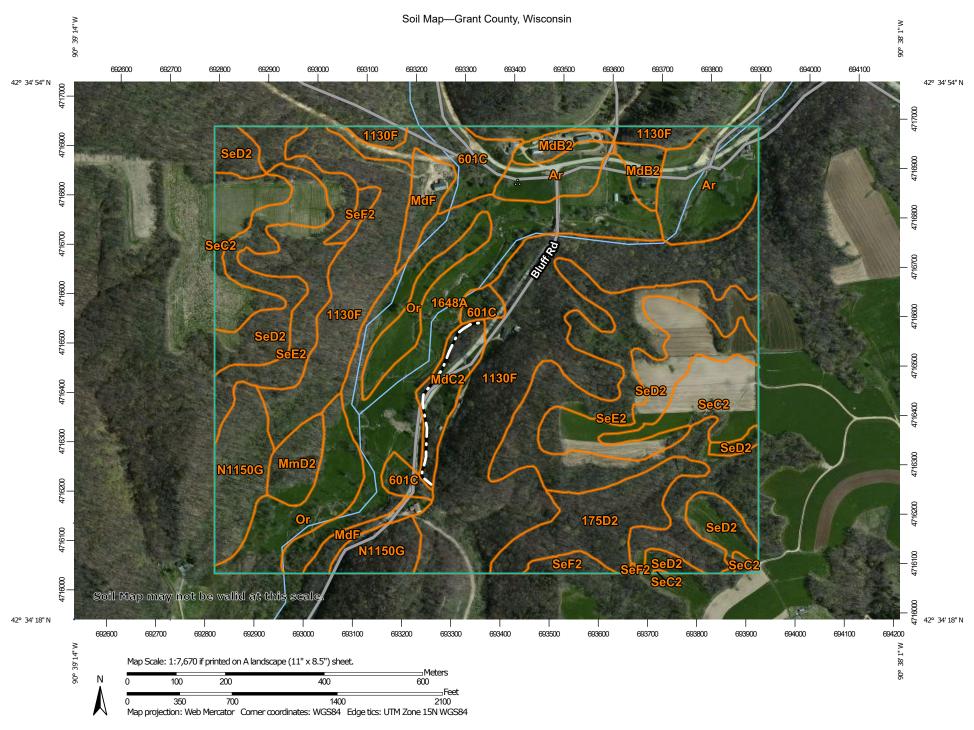












#### MAP LEGEND

#### Area of Interest (AOI)

Area of Interest (AOI)

#### Soils

Soil Map Unit Polygons



Soil Map Unit Points

#### Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

▲ Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

#### LGLIND

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

#### Water Features

Δ

Streams and Canals

#### Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

#### Background

Aerial Photography

#### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20.000.

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

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

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

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Grant County, Wisconsin Survey Area Data: Version 15, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: May 2, 2011—Aug 21, 2011

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

## **Map Unit Legend**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
175D2	Palsgrove silt loam, 12 to 20 percent slopes, moderately eroded	10.5	4.2%
601C	Beavercreek cobbly fine sandy loam, 3 to 12 percent slopes, occasionally flooded	9.0	3.6%
1130F	Lacrescent-Dunbarton complex, very stony, 30 to 60 percent slopes	60.2	24.2%
1648A	Northbend-Ettrick silt loams, 0 to 3 percent slopes, frequently flooded	28.7	11.5%
Ar	Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded	14.5	5.8%
MdB2	Medary silt loam, 0 to 6 percent slopes, moderately eroded	4.0	1.6%
MdC2	Medary silty clay loam, 6 to 12 percent slopes, moderately eroded	4.7	1.9%
MdF	Medary silt loam, 15 to 45 percent slopes	5.1	2.1%
MmD2	Meridian loam, 10 to 15 percent slopes, moderately eroded	3.6	1.4%
N1150G	Brodale, deep-Lacrescent, very stony-Rock outcrop complex, 60 to 90 percent slopes	11.3	4.5%
Or	Orion silt loam, 0 to 3 percent slopes, occasionally flooded	13.2	5.3%
SeC2	Seaton silt loam, driftless ridge, 6 to 12 percent slopes, moderately eroded	13.6	5.5%
SeD2	Seaton silt loam, river bluff, 10 to 18 percent slopes, moderately eroded	27.6	11.1%
SeE2	Seaton silt loam, river bluff, 15 to 25 percent slopes, moderately eroded	40.0	16.1%
SeF2	Seaton silt loam, river bluff, 18 to 35 percent slopes, moderately eroded	2.4	1.0%
Totals for Area of Interest		248.5	100.0%

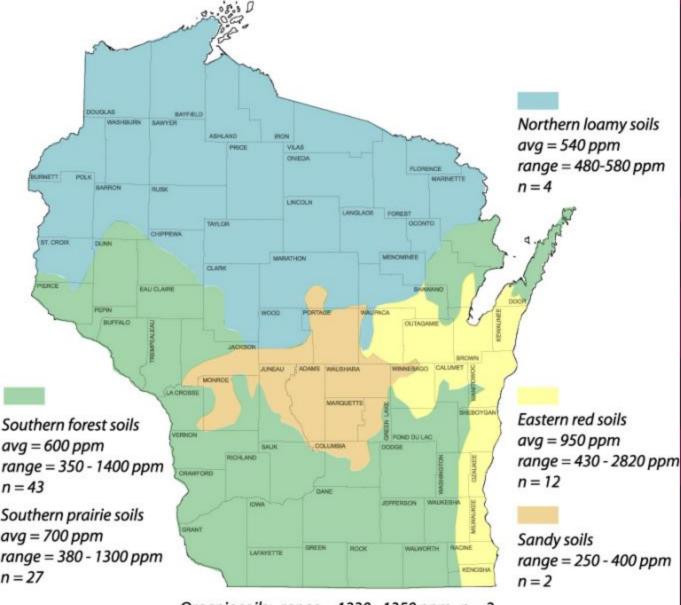
#### 710 Commerce Drive PO Box 169 Watertown, WI 53094

920-261-0446phone 920-261-1365 fax www.rockriverlab.com

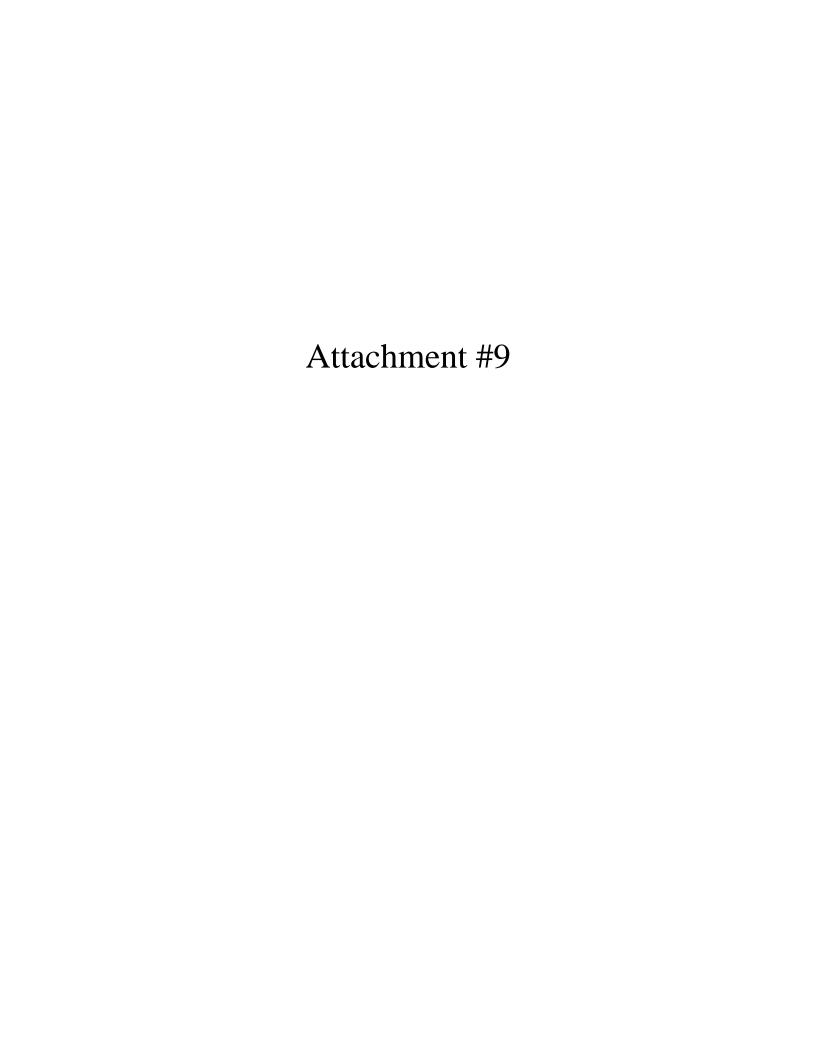
#### Kieler Sanitary District- Total Phosphorus Analysis 06/04/2021

Field ID	Sample ID	Total P (ppm)
Kieler	2E	436.6
Kieler	3W	580.8
Kieler	4E	473
Kieler	5W	470.1
Kieler	6E	447.4
Kieler	7W	497.8
Kieler	8E	463.5
Kieler	9W	505.4
Kieler	10E	481.2
Kieler	11W	348.2
Kieler	12E	520.6
Kieler	13W	465.6
Kieler	14E	510.9
Kieler	15W	548
Kieler	16E	607.2
Kieler	17W	458.5
Kieler	18E	352.5
Kieler	19W	559.8
Kieler	20E	524.1
Kieler	21W	425.7
Kieler	22E	459.7
Kieler	23W	473.4
Kieler	24E	484.8
Kieler	25W	570
Kieler	Unkown	507.8

## Soil Total P



Organic soils: range = 1330 - 1350 ppm, n = 2



# ATTACHEMENT #9 TABLE OF CONTENTS

I.	Introduction	_ ]
**	D 1.1	
II.	Reach 1	_ ]
III.	Reach 2	8

#### I. <u>Introduction</u>

The lateral recession rate of the eroding bank is a critical component for the NRCS Streambank Erosion Estimator. The following documentation provides the justification for the lateral recession rates used in the NRCS Streambank Erosin Estimator. Lateral recession rate was estimated based on the photos provided, description, and on site evaluation. The following includes representative photos of the Project Extents to be stabilized through installation of Best Management Practices (BMPs).

#### II. Reach 1



Image 1 – Severe undercut with slump and vegetative overhang



Image 2 – Severe undercut with slump and vegetative overhang



Image 3A – Undercut with vegetative overhang and fallen trees



Image 3B – Undercut with vegetative overhang and fallen trees



Image 4 – Severe undercut with slump, exposed tree roots, and vegetative overhang



Image 5 – Severe undercut with slump and vegetative overhang



Image 6 – Sever undercut with **extreme active slump!** 



Image 7 – Severe undercut with slump, vegetative overhang, and exposed tree roots



Image 8 – Severe undercut with slump, vegetative overhang, and exposed tree roots



Image 9 – Severe undercut with slump and vegetative overhang



Image 10A – Severe undercut with slump and vegetative overhang



Image 10B – Severe undercut with slump and vegetative overhang



Image 11 – Severe undercut with slump, vegetative overhang, and exposed tree roots

#### III. Reach 2



Image 12 – Severe undercut with slump and vegetative overhang



Image 13 – Undercut with exposed roots



Image 14A – Severe undercut with fallen trees



Image 14B – Severe undercut with exposed roots. Stream visibly flows approximately 1.5' under the hollowed out bank with grass and roots draping into the water.



Image 15 – Severe undercut with vegetative overhang



Image 16 – Severe undercut with vegetative overhang



Image 17 – Severe undercut with slump and vegetative overhang



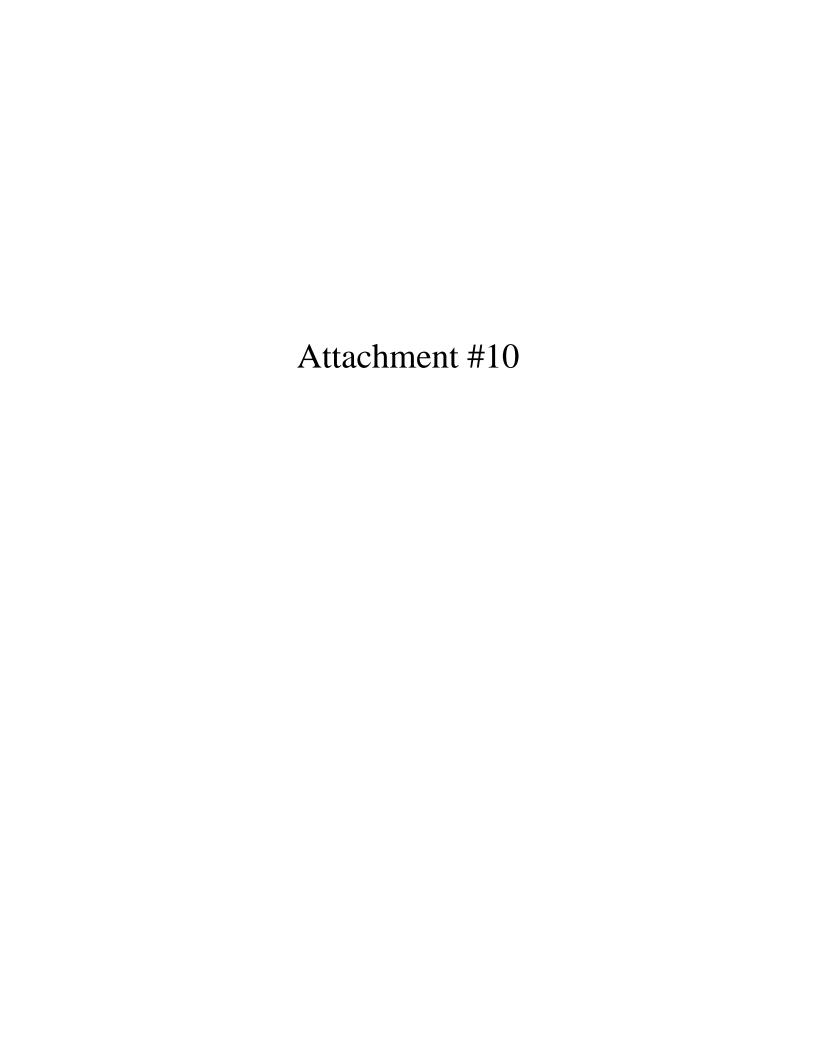
Image 18 – Severe undercut with slump and vegetative overhang



Image 19 – Severe undercut with slump and vegetative overhang



Image 20 – Severe undercut with slump and vegetative overhang



#### NRCS Excel Workbook Estimating 'Other' Erosion Types June 2006

Annual soil loss predictions for conservation planning purposes are made with current soil loss prediction technology (RUSLE2). RUSLE2 estimates sheet, rill and interrill erosion. Erosion that is seasonal in nature and caused by concentrated flow, however, is not predicted by RUSLE2.

This workbook provides conservation planners with simple tools and processes to help estimate the amount of erosion occurring in ephemeral gullies, classic gullies and on streambank erosion sites.

#### **Definitions:**

<u>Rill Erosion:</u> consists of the removal of soil by concentrated water running through little streamlets, or headcuts. Detachment in a rill occurs if the sediment in the flow is below the amount the load can transport and if the flow exceeds the soil's resistance to detachment. As detachment continues or flow increases, rills will become wider and deeper. Rills may be of any size but are usually less than four inches deep. Rills are:

- generally parallel on the slope, but may converge,
- <> generally of uniform spacing and dimension,
- generally appear at different locations on the landscape from year to year,
- generally shorter than ephemeral cropland gullies,
- usually end at a concentrated flow channel, or an area where the slope flattens and deposition occurs.
- are on the same portion of the slope that is used to determine the length of slope (L) for RUSLE2,
- many small, but conspicuous channels running in the direction of slope gradient

Rill erosion is considered in the RUSLE2 calculations.

<u>Ephemeral Gully Erosion:</u> Small erosion channels formed on crop fields as a result of concentrated flow of runoff water. These channels are routinely eliminated by tillage of the field but return following subsequent runoff events. Ephemeral Gullies are small enough to be eliminated (temporarily) with the use of typical farm tillage equipment and they:

- recur in the same area of concentrated flow each time they form,
- frequently form in well-defined depressions in natural drainage ways.
- are generally wider, deeper, and longer than the rills in the field,

Ephemeral Gullies are **not** calculated by the RUSLE2 program.

<u>Gully Erosion:</u> Permanent gullies are formed when channel development has progressed to the point where the gully is too wide and too deep to be tilled across. These channels carry large amounts of water after rains and deposit eroded material at the foot of the gully. They disfigure landscape and make the land unfit for growing crops. Gullies:

- > may grow or enlarge from year to year by head cutting and lateral enlarging,
- often occur in depressions or natural drainage ways,
- may begin as ephemeral gullies that were left in the field untreated,
- may, over time, become partially stabilized by grass, weeds or woody vegetation,

Gully erosion is not calculated by the RUSLE2 program.

<u>Streambank Erosion:</u> The wearing away of streambanks by flowing water. The removal of soil from streambanks is typically caused by the direct action of stream flow and/or wind/wave action, typically occurring during periods of high flow. Streambank erosion:

- is a natural process that generally increases when unprotected streambanks (e.g. no woody vegetation) are subject to the actions of flowing water and ice damage.
- is a common occurrence on many Vermont river channels that are experiencing geomorphic adjustments

The soil loss from ephemeral gullies, gullies and streambank erosion areas can be estimated by calculating the volume of soil removed by erosion processes. The volume of soil loss can be multiplied by the typical unit weight of the soil (based on soil texture) which is eroded. Approximate soil unit weights are expressed below<sup>1</sup>:

	Estimated Dry
Soil Texture	Density lb/ft <sup>3</sup>
Gravel	110
Sand	105
Loamy Sand	100
Sandy Loam	100
Fine Sandy Loam	100
Sandy Clay Loam	90
Silt Loam	85
Silty Clay Loam	85
Silty Clay	85
Clay Loam	85
Organic	22

#### **Procedure for estimating Ephemeral Soil Erosion:**

The following formula will be used to calculate annual estimated ephemeral gully erosion:

<sup>\*</sup> Ephemeral gully erosion may reform multiple times per year, and under certain conditions it may not form in a given year. The voided volume which would be calculated after a runoff event is not necessarily representative of an annual rate, but is representative of only the specific event. This erosion can be calculated for individual storms and can be summed for a yearly estimate.

<sup>1</sup> Data from published soil surveys, laboratory data, and soil interpretation record are to be used where available. Parent materials, soil consistency, soil structure, pore space, soil texture, and coarse fragments all influence unit weight.

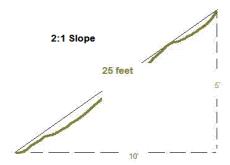
#### **Procedure for estimating Gully Soil Erosion:**

The following formula will be used to calculate annual estimated classic gully erosion:

#### Procedure for estimating Streambank Soil Erosion (Direct Volume Method):

The following formula will be used to calculate annual estimated streambank erosion unless a field measurement procedure<sup>2</sup> is used:

<sup>\*\*</sup> Eroding bank height is measured along the bank, not the vertical height of bank. Example: if vertical height of an eroding streambank is 5 feet, and the bank is on a 2:1 slope, the total eroding bank distance is 25 feet -- 1/2 (Base X Height).



<sup>\*\*\*</sup>The average annual recession rate is the thickness of soil eroded from a bank surface (perpendicular to the face) in an average year.

Stream bank erosion sometimes presents itself as a major occurance in a given year, whereas the same bank may not erode significantly for a period of years if no major runoff events occur. Recession rates need to be calculated as an average of years when erosion does and does not occur. Recession rate is not calculated as the erosion occurring after a single event.

Use available resources to assist in the estimation of recession rate: use past and present aerial photography, old survey records, and any other information that helps to determine the bank condition at known times in the past. When such information is lacking or insufficient, field observations and professional judgement are needed to estimate recession rates.

It is often not possible to directly measure recession rates in the field. Therefore, the following table has been included which relates recession rates to narrative descriptions of banks eroding at different rates (Table from NRCS Wisconsin guidance).

Lateral Recession Rate (ft/yr)	Category	Description
0.01-0.05	Slight	Some bare bank but active erosion not readily apparent. Some rills but no vegetative overhang. No exposed tree roots.
0.06-0.2	Moderate	Bank is predominantly bare with some rills and vegetative overhang. Some exposed tree roots but no slumps or slips.
0.3-0.5	Severe	Bank is bare with rills and severe vegetative overhang. Many exposed tree roots and some fallen trees and slumps or slips. Some changes in cultural features such as fence comers missing and realignment of roads or trails. Channel cross section becomes U-shaped as opposed to V-shaped.
0.5+	Very Severe	Bank is bare with gullies and severe vegetative overhang. Many fallen trees, drains and culverts eroding out and changes in cultural features as above. Massive slips or washouts common. Channel cross section is U-shaped and stream course may be meandering.

The best way to quantify streambank erosion is to measure it directly in the field. The basic procedure in measuring streambank erosion is to survey, flag, or in some way fix a "before" image of the channel you are evaluating in order to establish the baseline condition. Changes due to erosion can then be monitored over time by going back to the study area and re-measuring from the fixed reference points.

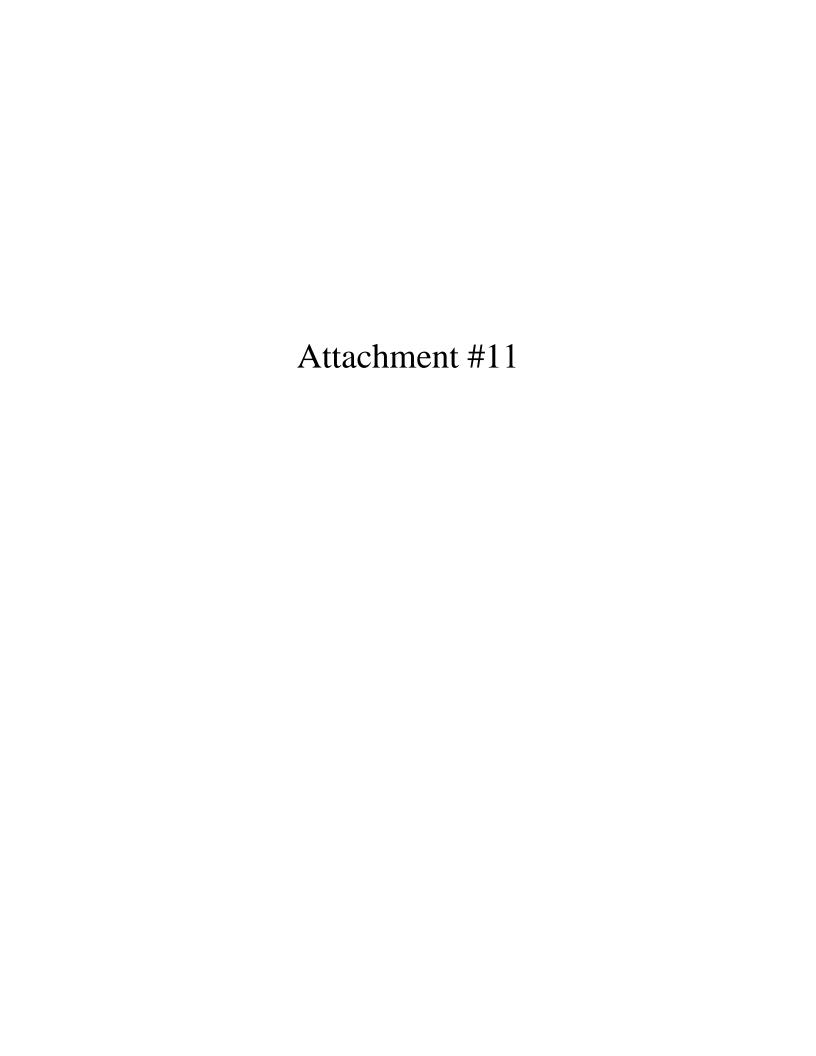
Channel cross-sections can be surveyed and plotted on a periodic basis to monitor change. Stakes or pins can be driven into channel banks flush with the surface. The amount of stake or pin exposed due to erosion is the amount of change at the streambank erosion site between your times of observation.

The time required to monitor a site often precludes this method of data collection. The Direct Volume Method can be used to estimate streambank erosion at your site.

Acknowledgements: This Excel workbook was created as a planning tool for use by conservation planners. The basic format and content of the tool is a compilation of various similar tools, processes and procedures employed by NRCS in several states including: Indiana, Iowa, Kansas, Maryland, Michigan, Missouri, Nebraska, Oklahoma, South Dakota and Wisconsin. Some of the terminology in the 'Definitions' section of this Readme document closely mirrors these sources.

NRCS Streambank and Irrigation Ditch Erosion Estimator (Direct Volume Method)							
Farmer / Cooperator Name:	Kieler Sanitary District No. 1	Evaluated By:	L. Hoppman				
Tract Number:	Varies	Evaluation Date:	July 1, 2021				

Field Number	Eroding Strmbnk Reach #; or Ditch Side/Bottom	Eroding Bank or Ditch Length (Feet)	Eroding Bank Height; or Ditch Bottom Width* (Feet)	Area of Eroding Strmbank or Ditch (FT <sup>2</sup> )	Lateral or Ditch Bottom Recession Rate (Estimated) (FT / Year)	Estimated Volume (FT³) Eroded Annually	Soil Texture	Approximate Pounds of Soil per FT <sup>3</sup>	Estimated Soil Loss (Tons/Year)	Soil Total Phosphorus (ppm)	Estimated Phosphorus Loss (Pounds/Year)
Vogt Property	1 (Right)	2,529	3.7	9,357	0.50	4,678.7	Silt Loam	85	198.8	477	190
vogerioperty	1 (Left)	2,537	4.3	10,909	0.50	5,454.6	Silt Loam	85	231.8	477	221
Kunkel Property	2 (Right)	2,191	4.9	10,736	0.50	5,368.0	Silt Loam	85	228.1	498	227
ranker rioperty	2 (Left)	2,377	5.5	13,074	0.50	6,536.8	Silt Loam	85	277.8	498	277
				TOT	AL	22037.9		•	936.6		915



# Water Quality Trading Operation and Maintenance Plan

#### **Introduction:**

The Water Quality Trading (WQT) Operation and Maintenance (O&M) Plan is meant to be a working document and should be updated as new trading practices are implemented. Currently, the Operation and Maintenance Plan revolves around the Best Management Practice (BMP) construction along the Sinnipee Creek. The attached *BMP Inspection Form* should be completed during annual inspections of BMPs and following major storm events. Inspection forms shall be retained for at least five (5) years to ensure compliance with the WQT Plan.

#### **Publicly Owned BMP:**

District representative to complete inspection form annually and following major storm events. The form will then be provided to the Maintenance Supervisor following inspection. The District will address maintenance issues identified during inspection within 30 days. Substantial maintenance issues may require an extended timeframe for generation of plans, specifications, and a public bid process to perform the work. Inspections and O&M activities shall be reported in the annual WQT Report sent to the DNR.

#### **Privately Owned BMP:**

District representative to complete inspection form annually and following major storm events. The form will then be provided to the Maintenance Supervisor following inspection. The District will address maintenance issues identified during inspection within 30 days. Substantial maintenance issues may require an extended timeframe for generation of plans, specifications, and a public bid process to perform the work. Maintenance expenses will be incurred by either by the District or Private Property Owner depending on agreement with the District. The Private Property Owner will be allowed to perform maintenance activities at the expense of the Private Property Owner. Inspections and O&M activities shall be reported in the annual WQT Report sent to the DNR.

#### **Quality Assurance:**

Riprap gradation and composition shall be provided for each source of material. Streambank shaping and riprap shall be installed per the Grant County Land Conservation Department and NRCS Standards. Contractors to supply rock that is approved by the NRCS and meets criteria in Wisconsin Construction Spec.9.

#### **Installation:**

- Staking provided by the Engineer.
- Do not place riprap over frozen or spongy subgrade surfaces.
- Place riprap as indicated on Construction Plans. Do not dump rip-rap over the bank.
- Blend riprap with existing bank.
- Spread soil out in a layer of less than 4" and seed down. Do not spread soil in wetlands.
- All disturbed areas and soil must be seeded and mulched.
- Install habitat structures per Plans and Specifications.

#### **Practice Registration:**

The purpose of the "Water Quality Trading Management Practice Registration" form is to report to DNR that a management practice identified in the trading plan has been properly installed and is established

and effective. This information will be used to track implementation progress, verify compliance and perform audits, as necessary. A registration form should be submitted for every management practice that has been identified in the trading plan. If practices are established prior to trading plan submittal, registration forms may be submitted with the trading plan. Otherwise, registration forms should be submitted during the permit term as practices become effective or with the annual report. A blank *Water Quality Trading Management Practice Registration Form 3400-207* is attached and should be submitted following implementation of the trading practice.

#### **Tracking Procedures:**

The District will track credits used monthly. The District will report credit usage to the DNR on a monthly basis in the Discharge Monitoring Reports (DMRs). The annual report will summarize the 12 months of credit usage and credit generation. The District will report to DNR any concern that they have that may result in a need to modify the trade agreement and/or this trade plan. For example, a need to generate additional credits based on discharge.

#### **Inspections/Maintenance Considerations:**

- A BMP Inspection Form is attached.
  - O Site: As noted on Construction Plans
  - o Condition of BMP: Excellent; Good; Fair; or Poor
  - Maintenance Estimate: Provide an estimate for how long the maintenance will take to complete or a dollar value for completion. This will help determine if the District will perform the work or if the District will hire another entity to perform the work.
  - Date Completed: Following completion of the required maintenance, input the date of completion.
  - Comments: Provide the required maintenance activity along with any other useful
    information. If the cell provided is not large enough for Comments, write "See Back of
    Sheet" and provide comments on the reverse side of the Form.
- Following installation, inspect the disturbed areas closely over the next few months to ensure that seeding grows.
- BMPs may settle or shift especially after flooding events or freeze/thaw.
- May need to control weed and brush growth.
- Inspect stabilized areas as needed.
- At a minimum, inspect after major storm events.
- If a BMP has been damaged, repair it promptly to prevent a progressive failure.
- If repairs are needed repeatedly at a location, evaluate the site to determine if the original design conditions have changed.

#### **Routine Maintenance Items that can be performed by District:**

- Evaluate BMP condition
  - o Reconstruct/replace BMPs that have settled, shifted, or washed out.
- Manage Vegetation
  - o Remove invasive/noxious plants.
- Manage Garbage
  - o Remove garbage and other debris that could otherwise impair the streambank stability.

#### **Monthly Certification:**

Each month, the District will certify that the BMPs are maintained and operating in a manner consistent with this Water Quality Trading Plan or provide a statement noting noncompliance with this Plan. The monthly Discharge Monitoring Report (DMR) will include the following statement as a certification of compliance when the Credit Generating Practice is operating in a manner consistent with the Plan:

"I certify that to the best of my knowledge that the management practices identified in the approved water quality trading plan as the source of phosphorus credits is installed, established and properly maintained."

#### **Annual Inspection:**

An annual inspection of the BMPs will be performed by a licensed Professional Engineer to ensure that the BMPs are functioning as intended in order to meet the requirements of the WQT Plan.

#### **Noncompliance:**

The District will notify DNR by telephone call to DNR's regional wastewater compliance engineer within 24 hours or next business day of becoming aware that phosphorus credits used or intended for use by District are not being generated as outlined in this Water Quality Trading Plan.

The District will submit a written notification within five days after the District recognizes that the phosphorus credits are not being generated as outlined in the Trading Plan. DNR may waive the requirement for submittal for a written notice within five days and instruct the District to submit the written notice with the next regularly scheduled monitoring report required by District's WPDES Permit.

The written notification should include:

- Description of noncompliance and cause.
- Period of noncompliance including dates and times.
- Schedule for attaining compliance including time and steps toward compliance.
- Plan to prevent reoccurrence of the noncompliance.

#### **Notification of Trade Agreement Termination:**

If a trade agreement or the trading plan needs to be terminated during the permit term, the permittee should submit a Notice of Termination to the wastewater engineer/specialist to inform DNR of the termination. DNR staff should use this information to determine if a permit modification is required due to the termination, the termination will result in non-compliance, or other permit actions are required due to the termination. When credits are reduced or eliminated for any reason, the permittee is still required to meet their WQBELs without any grace period. To prevent noncompliance with WQBELs, changes to trading plans must be addressed before credits are lost. Modifying the permit/trading plan will require at least 180 days. A blank *Notification of Water Trade Agreement Termination Form 3400-209* is attached and should be submitted to DNR prior to practice termination, no later than the submittal date of the annual report.

### BMP Inspection Form

Date_	
Inspector_	
Reason for Inspection	

Reach	Condition of BMP	Required Maintenance	Maintenance Estimate (Time or Cost)	Date Completed	Comments
1 (Right)					
1 (Left)					
2 (Right)					
2 (Left)					

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.).

Permittee Name Permit Number WI-				<u> </u>	Facility Site			Number		
Facility Address						City			State	ZIP Code
Project Contact Name	(if applicable	) Addi	ress			City			State	ZIP Code
Project Name										<u>.</u>
Broker/Exchange in Was a broker/exchange									10000000000000000000000000000000000000	
Broker/Exchange Orga	anization Nan	ne		Contac	ot Name					
Address				Phone	Number	E	Email			
Trade Registration I	Information (		separate form for ea			ment) ited Load				Paris Magazin
Туре	Number	. HOIL	Credits	31101G.C	Reduction		Trade Ratio	) N	Method of Quantification	
<ul><li>○ Urban NPS</li><li>○ Agricultural NPS</li><li>○ Other</li></ul>										
County		Closes	t Receiving Water Nar	me	Land Pa	arcel ID(s)	,	Param	meter(s) be	ing traded
I certify that the information Signature of Preparer  Authorized Represe I certify under penalty inquiry of those person	this document of formation in the entative Signation of law that this ons directly res	ature is docursponsible	e best of my knowledge cument is true to the be iment and all attachmented for gathering and en	ents were	y knowlede e preparec he informa	Date Date of under mation, the	te Signed my direction of information	or supe	ervision, Ba	my knowledge
and belief, accurate ar possibility of fine and i Signature of Authorize	imprisonment	t for kno		nificant p	penalties i		itting false in	formati	ion, Incluai	ing the
Signature of Authorizo	10 Kehleseme	llive				Dan	3 Signed			
Date Received			Leave Blank – Fo	or Depar	tment Us		Trade Docket	Numbe	ər	
Entered in Tracking System Yes						Name of Depa	artment	l Reviewer		

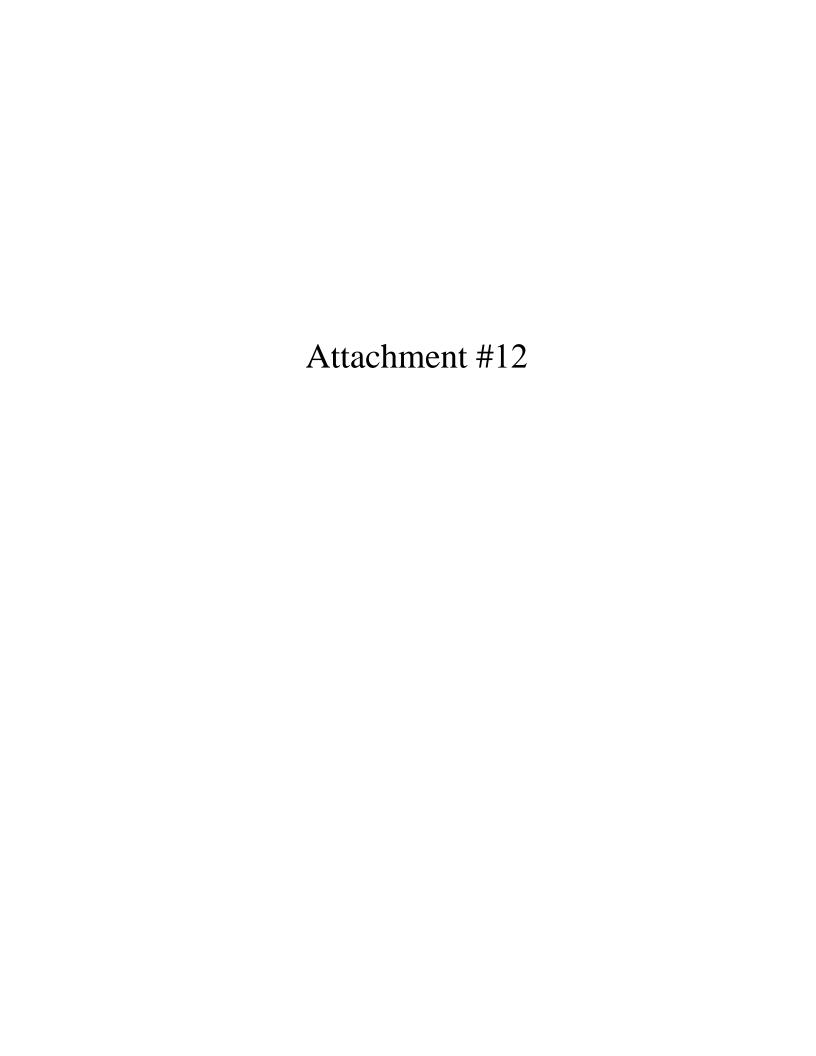
State of Wisconsin Department of Natural Resources 101 South Webster Street Madison WI 53707-7921 dnr.wi.gov

#### **Notification of Water Trade Agreement Termination**

Form 3400-209 (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			Professional Control			11 15 15	Arraine in	
Permittee Name		Permit Number			Facility Site Number			
		WI-				T-2		
Facility Address				City		State	ZIP Code	
	-1 ····· ·					01.1	7:D 0	
Project Contact Name (if applicable)	Address			City		State	ZIP Code	
				<u> </u>		<u> </u>		
Project Name								
	a santa a santa bas		acity make of this control	990y5a (1	e primarila realização	. Websel	ya wegana mga ini, inwê	
Credit Generator Information Credit generator type (select all that	Dorm	itted Discharge (nor	-MSA/CAEO)		ban nonpoint source disch	<u> </u>		
apply):		- '	FWO-FOATO)	_	gricultural nonpoint source		***	
	ш.	itted MS4		_ `	•	uistiia	ige	
	l	itted CAFO			ther - Specify:		***************************************	
Trade Agreement number(s) to be te	rminated	including affected la	nd parcel ID(s):	;				
Amount of trading credit being termin	ated		Effective date	of tern	nination			
Reason for termination								
(Cason for Communication								
Is this agreement being updated or re	eplaced?		○ Ye	s				
			○ No	+				
			() Un					
Will this termination result in non-con	nnliance v	vith the effective lim		s; Nan	20'			
or other permit requirements?	nphance v	VILLE CHECAVE IIII	_		le			
or other politic requirements			O No					
			O Un	sure				
The preparer certifies all of the fo	llowing:							
I am familiar with the specification	ns submit	ted for this applicati	on, and I believ	e all a	pplicable items in this ched	cklist h	ave been	
addressed.								
<ul> <li>I have completed this document</li> </ul>	to the bes	st of my knowledge	and have not ex	xclude	d pertinent information.			
Signature of Preparer					Date Signed			
Authorized Representative Signa	ture							
I certify under penalty of law that this	documer	nt and all attachmen	s were prepare	hau be	er my direction or supervis	ion. Ba	sed on mv	
inquiry of those persons directly resp	onsible fo	or gathering and ent	erina the inform	ation.	the information is, to the b	est of r	ny knowledge	
and belief, accurate and complete.	am aware	that there are signi	ficant penalties	for su	bmitting false information,	includi	ng the	
possibility of fine and imprisonment f	or knowin	g violations.	•		•			
Signature of Authorized Representat				]	Date Signed			
•								
				- 1				



# WISCONSIN KIELER SANITARY DISTRICT NO. 1 GRANT COUNTY, WI THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLAN HAVE BEEN OBTAINED BY FIELD CHECKS, A UTILITY LOCATE THROUGH DIGGER'S HOTLINE, AND SEARCHES OF LOCATE THROUGH DIGGERS HOTLINE, AND SEARCHES OF AVAILABLE REFOODRS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE SURVEYOR DOES NOT GUARANTEE THER ACCURACY OR COMPLETENESS. THE CONTRACTOR SHOULD VERIFY LOCATIONS WITHE UTILITY COMPANIES AND THE "KELET SANTIARY DISTRICT NO. 1" PRIOR TO STARTING ANY EXCAVATION. ° ° ° ° °

# PEDDLE HOLLOW ROAD SINNIPEE CREEK (WBIC 943200) STA 101+00 FENLEY STATE

#### PROJECT LOCATION MAP SCALE: N.T.S.

# PROPOSED 2022 STREAM IMPROVEMENTS -SINNIPEE CREEK

# **OWNER: KIELER SANITARY DISTRICT NO. 1** KIELER, WI

#### SHEET INDEX:

SHEET TITLE:	SHEET DESCRIPTION:	DATE OF ISSUE:	DATE OF REVISION:
G000	TITLE SHEET & PROJECT LOCATION MAP	DECEMBER 22, 2021	-
G001	LEGEND & GENERAL NOTES	DECEMBER 22, 2021	-
C101 - C102	PLAN VIEW - REACH 1	DECEMBER 22, 2021	-
C103	PLAN VIEW - REACHES 1 & 2	DECEMBER 22, 2021	-
C104 - C105	PLAN VIEW - REACH 2	DECEMBER 22, 2021	-
C201- C202	DETAILS - EROSION CONTROL & NOTES	DECEMBER 22, 2021	-
C202	DETAILS - SITE	DECEMBER 22, 2021	-
C203	CROSS-SECTIONS - STREAM	DECEMBER 22, 2021	-

#### **PROJECT INFORMATION:**

#### OWNER:

KIELER SANITARY DISTRICT NO. 1

MR. FABER RUNDE DISTRICT PRESIDENT P.O. BOX 12 KIELER. WI 53812

#### SANITARY SEWER AND WATER UTILITY:

KIELER SANITARY DISTRICT NO. 1 KIELER. WI 53812

MONROE, WI 53566 (902)-262-6862 (OFFICE) (608)-426-1715 (CELL) WE ENERGIES PAVING COORDINATOR 500 S. 116TH STREET

#### ELECTRICAL UTILITY:

ALLIANT ENERGY JON MUELLER PLATTEVILLE, WI 53818 SCENIC RIVERS ENERGY COOP. MR. RICK KOLB 231 N SHERIDAN STREET

#### TELEPHONE & CABLE TELEVISION UTILITY:

DICKEYVILLE TELEPHONE CORP.

NATURAL GAS UTILITY:

WE ENERGIES

MR. ADAM MARING N3025 14TH AVENUE

WEST ALLIS WI 53214

200 W. MAIN ST. DICKEYVILLE, WI 53808

DELTA 3 875 SOUTH CHESTNUT STREET PHONE: (608) 348-535 PLATTEVILLE, WISCONSIN 53818

FOR QUESTIONS REGARDING THIS PROJECT, PLEASE CONTACT:

MR. JORDAN FURE, E.I.T. DELTA 3 ENGINEERING INC. TELEPHONE: (608) 348-5355

PROPOSED 2022 STREAM IMPROVEMENTS SINNIPEE CREEK

AS-B	VILT:	BY:	
	-//	-,	
			_

FOR AGENCY REVIEW		
PROJECT NUMBER	D18-028-1	
SHEET SCALE	NOT TO SCALE	
DRAWN BY	C.COYIER	
DATE ISSUED	DECEMBER 22, 2021	
SHEET	TITLE SHEET & PROJECT	

G000

SHEET NUMBER # 1 of 10

ESTIMATED DISTURBANCE LIMITS PROP. EROSION CONTROL SEDIMENT LOG PROP. PAVEMENT MARKING

PARKING STALL COUNT

RADIUS POINT/SIZE

STA. ON CENTERLINE

SOIL BORING LOCATION

PROP. HANDICAP RAMP WITH

DETECTABLE WARNING FIELD

ADA PARKING DESIGNATION

10

PAINTED TRAFFIC ARROW

FX. 12" STORM SEWER EX. 15" STORM SEWER

EX. 18" STORM SEWER FX 24" STORM SEWER EX. 27" STORM SEWER

EX. <12" STORM SEWER

12" St. Sewer

\_\_\_\_15"\_St.\_Sewer\_\_\_\_

\_\_\_ 18" St. Sewer \_\_\_

24" St. Sewer

27 St. Sewer

30" St. Sewer

36" St. Sewer

EX. 30" STORM SEWER FX 36" STORM SEWER FX. 48" STORM SEWER

EX. 42" STORM SEWER EX. CURB AND GUTTER EX. U.GRD N. GAS UTILITY

EX. U.GRD ELECTRIC UTILITY EX. U.GRD CABLE TV UTILITY

EX. U.GRD TELEPHONE UTILITY - RIVER FLOW DIRECTION EX. U.GRD FIBER OPTIC UTILITY

EX. OVERHEAD ELECTRIC

EX. FENCE EX. RAILROAD TRACKS

--- 99 --- FX CONTOUR EX. DRAINAGE SWALE PROP. MANHOLE CHIMNEY REHABILITATION / TOP ADJUSTMENT

PROP. 4' DIA. SANITARY MANHOLE

PROP. 5' DIA. SANITARY MANHOLE

PROP. SANITARY LIFT STATION

PROP. REVERSE-PITCH CURB & GUTTER PROP. HOT MIX ASPHALT PAVEMENT (DRIVEWAY)

PROP. 4" CONCRETE SIDEWALK

PROP. 6" CONCRETE PAVEMENT PROP. 8" CONCRETE PAVEMENT

PROP. GRAVEL SHOULDER / DRIVEWAY

EROSION MATTING (MILD SLOPES) EROSION MATTING (STEEP SLOPES) PROP. REGRADING AND LANDSCAPING

PROP. RIP-RAP

PROP. STORM STRUCTURES - PROFILE PROP. STORM PIPE(RCP) - PROFILE

PROP. STORM PIPE(CMP OR HDPE) - PROFILE

PROP. SANITARY STRUCTURE - PROFILE PROP. WATER MAIN PIPE - PROFILE

PROP. CLAY LINER - PROFILE PROP. SANITARY SEWER FORCE MAIN - PROFILE

PROP. SPOT REPAIR - PROFILE / PLAN VIEW

PROP. CASING PIPE - PROFILE

PROP. CLEARING AND GRUBBING

PROP. BUILDING REMOVAL PROP. SIDEWALK REMOVAL

PROP. PRESSURE-REDUCING VALVE STATION

PROP. FIRE HYDRANT PROP. WATER SERVICE

PROP. WATER SERVICE WITH VALVE BOX SLEEVE PROP. WATER VALVE

PROP. WATER BEND - HORIZONTAL PROP. WATER BEND - VERTICAL

PROP. WATER BEND <5° 图 PROP. WATER TEE

PROP. WATER CROSS PROP. WATER REDUCER PROP. MJ PLUG

PROP. 4' DIA. STORM MANHOLE

PROP. 5' DIA. STORM MANHOLE

PROP. INLET

⑧

PROP. 4' DIA. INLET

PROP. 6' DIA. INLET

PROP. 4' DIA. CATCH BASIN- W/ 2'X3' CASTING

PROP. 5' DIA. CATCH BASIN- W/ 2'X3' CASTING

PROP. 6' DIA. CATCH BASIN- W/ 2'X3' CASTING

PROP. 4'X6' CATCH BASIN W/2'X3' CASTING PROP. CURB OPENING CASTING

PROP. 2'X3' CATCH BASIN PROP. ADJUSTED CATCH BASIN TOP

PROP. WISDOT TYPE 8 INLET PROP. WISDOT TYPE 9 INLET

PROP. CMP ENDWALL PROP. RCP ENDWALL KEY NOTES 100

100 PROPOSED SILT FENCE FOR EROSION CONTROL

101 PROPOSED SEDIMENT LOG FOR EROSION CONTROL

102 PROPOSED TRACKING PAD FOR EROSION CONTROL.

103 RE-GRADE YARD/DITCH LINE (MIN. SLOPE 1.0%). 104 PROPOSED EROSION MAT CLASS I. TYPE 'B'. 105 INSTALL TYPE 'D' INLET PROTECTION.

106 PROPOSED MAIL BOX RELOCATION.

107 ITEM TO REMAIN. 108 CONTRACTOR TO REMOVE ITEM.

109 PROPOSED TURBIDITY BARRIER (TYP.) (SEE DETAIL - SHEET C203).

110 PROPOSED EROSION CONTROL REVEGETATIVE MAT (ECRM). 111 REMOVE AND SALVAGE TO OWNER IN PRE-CONSTRUCTION CONDITION.

112 REINSTALL STREET SIGN AS PER OWNER/WISDOT REQUIREMENTS. 113 PROPOSED STREAM BANK GRADING (2:1 SLOPE) WITH RIP-RAP TO

TOP OF BANK (SEE DETAIL - SHEET C202). 114 PROPOSED STREAM BANK GRADING (6:1 SLOPE)(SEE DETAIL -SHEET C202)

200 PROPOSED SANITARY SEWER [SIZE].

201 NEW SANITARY SEWER LATERAL [SIZE].

202 REPLACE EXISTING SANITARY SEWER LATERAL 203 RECONNECT EXISTING SANITARY SEWER LATERAL

204 CONNECTION TO EXISTING SANITARY SEWER PIPE/STRUCTURE.

205 REMOVE EXISTING SANITARY SEWER PIPE /STRUCTURE. 206 REHABILITATE SANITARY MANHOLE; SEE TABLE 'B'.

207 SANITARY SEWER SPOT REPAIR

208 ABANDON AND CAP EXISTING SANITARY SEWER.

209 ABANDON EXISTING SANITARY SEWER LATERAL 210 CONTRACTOR TO FIELD VERIFY SANITARY SEWER LATERAL

LOCATION/ACTIVITY AND REPLACE ACCORDING TO ENGINEER. 300 PROPOSED WATER MAIN [SIZE].

301 NEW WATER SERVICE [SIZE].

302 REPLACE EXISTING WATER SERVICE WITH 1" WATER SERVICE.

303 RECONNECT EXISTING WATER SERVICE. 304 DIRECTIONAL DRILL PROPOSED WATER SERVICE.

305 CONNECTION TO EXISTING WATER MAIN.

306 EXISTING HYDRANT TO BE REMOVED AND SALVAGED TO OWNER.

307 REMOVE EXISTING WATER MAIN VALVE BOX/STRUCTURE.

308 ADJUST EXISTING WATER MAIN VALVE BOX.

309 ABANDON, DRAIN, & CAP EXISTING WATER MAIN 310 ABANDON EXISTING WATER SERVICE.

311 CONTRACTOR TO FIELD VERIFY WATER SERVICE LOCATION/ACTIVITY AND REPLACE ACCORDING TO ENGINEER.

400 PROPOSED STORM SEWER [SIZE].

401 CONNECT EXISTING ROOF DRAIN TO CURB OPENING 402 CONNECTION TO EXISTING STORM SEWER PIPE/STRUCTURE.

403 REMOVE EXISTING STORM SEWER PIPE/STRUCTURE. 404 ARANDON & CAP FXISTING STORM SEWER

405 ADJUST EXISTING STORM STRUCTURE. 500 TREE & STUMP TO BE REMOVED (LESS THEN 12")

501 TREE & STUMP TO BE REMOVED (12" & GREATER)

502 SHRUB TO BE REMOVED 503 CLEAR AND GRUB BRUSH LINE AS NECESSARY TO COMPLETE CONSTRUCTION. ALL CLEARING TO BE VERIFIED BY PROJECT

ENGINEER. 504 REMOVE AND REINSTALL/REPLACE EXISTING LANDSCAPING, FENCE, RETAINING WALL, ETC. (IF NECESSARY).

505 REMOVE EXISTING LANDSCAPING, FENCE, RETAINING WALL, ETC. 506 POLE/PEDESTAL TO BE SECURED BY UTILITY COMPANY DURING CONSTRUCTION.

507 POLE TO BE RELOCATED BY UTILITY COMPANY.

508 GUY WIRE TO BE RELOCATED BY UTILITY COMPANY 509 PEDESTAL TO BE RELOCATED BY UTILITY COMPANY.

510 UTILITY CONFLICT - TO BE RELOCATED/ADJUSTED BY UTILITY

511 POTENTIAL UTILITY CONFLICT - VERIFY WITH UTILITY COMPANY.

512 CAUTION! - UTILITY CROSSING. 600 REMOVE EXISTING CURB & GUTTER.

601 PROPOSED 24" CONCRETE CURB & GUTTER.

602 PROPOSED 30" CONCRETE CURB & GUTTER. 603 PROPOSED 36" CONCRETE CURB & GUTTER.

604 MATCH TO EXISTING CURB & GUTTER. 605 PROVIDE TYPE 'X' CURB.

606 PROVIDE REVERSE-PITCH CURB & GUTTER. 607 PROVIDE CURB TAPER.

608 REMOVE ASPHALT/CONCRETE/WALL/STEPS. 609 PROPOSED 4" CONCRETE SIDEWALK.

610 PROPOSED 6" CONCRETE SIDEWALK/DRIVEWAY.

611 PROPOSED 6" CONCRETE PAVEMENT. 612 PROPOSED 8" CONCRETE PAVEMENT.

613 PROPOSED CONCRETE STEPS. STEP RISE HEIGHT AND STEP TREAD DEPTH SHALL MEET APPLICABLE BUILDING CODES. CONTRACTOR SHALL CONFIRM REQUIRED NUMBER OF STEPS WITH PROJECT ENGINEER PRIOR TO INSTALL.

614 PROPOSED 2' GRAVEL SHOULDER. 615 REGRADE EXISTING GRAVEL.

616 PROPOSED GRAVEL DRIVEWAY 617 REMOVE & REPLACE GRAVEL DRIVEWAY

618 REMOVE GRAVEL DRIVEWAY & REPLACE WITH BITUMINOUS

TRAFFIC CONTROL NOTE: ALL CONTRACTORS MUST CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE REQUIREMENTS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION. ONE LANE OF TRAFFIC MUST REMAIN OPEN DURING AND AFTER ALL CONSTRUCTION ACTIVITIES FOR EMERGENCY VEHICLE ACCESS.

STREET SIGN NOTE

CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING, STORING, AND RESETTING ALL PERMANENT SIGNS. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING SIGNS UNTIL REMOVED. CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL TEMPORARY SIGNS THAT MAY BE REQUIRED.

TRAFFIC SIGN NOTE.

CONTRACTOR TO PROVIDE TEMPORARY TRAFFIC SIGNS FOR ANY TRAFFIC SIGNS DISTURBED DURING CONSTRUCTION. ALL DISTURBED TRAFFIC SIGNS MUST BE REPLACED AND INSTALLED AS PER LOCAL REGULATIONS AT THE COMPLETION OF THE PROJECT

EROSION CONTROL NOTE: CONTRACTOR TO INSTALL BACKFILL MATERIAL INTO THE EXCAVATED TRENCH AS SOON AS POSSIBLE TO IMPLEMENT EROSION CONTROL.

PROPERTY LINE AND RIGHT-OF-WAY NOTE. ALL RIGHT-OF-WAYS AND PROPERTY LINES SHOWN ARE APPROXIMATE AND FOR ILLUSTRATIVE PURPOSES ONLY. A PROPERTY SURVEY PERFORMED BY A PROFESSIONAL LAND SURVEYOR SHOULD BE COMPLETED TO DETERMINE THE ACTUAL PROPERTY LINE AND RIGHT-OF-WAY LOCATIONS.

MAILBOX RELOCATION NOTE: CONTRACTOR TO RELOCATE EXISTING MAILBOXES DURING CONSTRUCTION (COORDINATE AND VERIFY WITH LOCAL POSTAL SERVICE ON LOCATION). RESET BEHIND CURB AND GUTTER OR SHOULDER ACCORDING TO THE REQUIREMENTS OF THE LOCAL POSTMASTER UPON COMPLETION OF STREET CONSTRUCTION.

TREE TRIMMING NOTE: CONTRACTOR TO PROPERLY TRIM ALL TREE BRANCHES, ROOTS, AND BUSHES DISTURBED DUE TO STREAM BANK IMPROVEMENTS.

TREE REMOVAL NOTE:
CONTRACTOR TO CONTACT ENGINEER OR KIELER SANITARY DISTRICT NO. 1 FOR VERIFICATION PRIOR TO ANY TREE REMOVAL

SAW CUT NOTE:

CONTRACTOR TO PROVIDE FULL DEPTH SAW CUTS AND REPLACE PAVEMENT.

UTILITIES' NOTE:

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLAN HAVE BEEN OBTAINED BY FIELD CHECKS, A UTILITY LOCATE THROUGH DIGGER'S HOTLINE, AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE SURVEYOR DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR SHOULD VERIFY LOCATIONS W/ THE UTILITY COMPANIES AND KIELER SANITARY DISTRICT NO. 1 PRIOR TO STARTING ANY EXCAVATION.

619 REMOVE & REPLACE HMA PAVEMENT.

620 REMOVE & REPLACE HMA PAVEMENT DRIVEWAY.

621 PROPOSED HMA PAVEMENT. 622 MATCH TO EXISTING EDGE PAVEMENT

623 PROPOSED RESIDENTIAL HMA PAVEMENT DRIVEWAY. 624 PROPOSED COMMERCIAL HMA PAVEMENT DRIVEWAY.

625 REMOVE & REPLACE 4" CONCRETE SIDEWALK. 626 REMOVE & REPLACE 6" CONCRETE SIDEWALK/DRIVEWAY

627 PROPOSED HANDICAP RAMP WITH - D. WARN. FIELD [S.F]. 628 SAW CUT PCC PAVEMENT.

629 SAW CUT HMA PAVEMENT. 630 PROPOSED BITUMINOUS WEDGE CURB. **NOTES:** 

SITE RESTORATION NOTE CONTRACTOR WILL BE RESPONSIBLE FOR REPLACEMENT OF ALL DISTURBED PROJECT AREA COMPONENTS INCLUDING, BUT NOT LIMITED TO, EXISTING CONCRETE, BITUMINOUS PAVEMENT, GRAVEL, CULVERTS, WATER AND SANITARY SEWER SYSTEM COMPONENTS, STORM SEWER SYSTEM COMPONENTS, TREES, LAWN ORNAMENTS, FENCING, YARD LANDSCAPING, RETAINING WALLS, MAILBOXES, AND LANDSCAPE AREAS.

PROPERTY DAMAGES:

THE CONTRACTOR IS RESPONSIBLE FOR THE PRESERVATION OF ADJACENT PROPERTY AND FOR ANY DAMAGE TO THE SITE OR TO ADJACENT PROPERTY INCIDENTAL TO THE CONSTRUCTION ACTIVITIES. AFTER THE COMPLETION OF CONSTRUCTION, ANY AREAS ADJACENT TO THE CONSTRUCTION SITE DAMAGED BY THE CONTRACTOR DURING EXECUTION OF THE CONTRACT SHALL BE RESTORED TO MATCH THE PRECONSTRUCTION CONDITIONS.

GENERAL NOTES:

1. CONTRACTOR SHALL REPAIR ALL DRIVEWAYS, FENCES, AND FIELD ROADS DAMAGED DUE TO CONSTRUCTION **ACTIVITIES** 

2. CONTRACTOR MUST PROVIDE THE CITY WITH A MINIMUM 24-HR NOTICE OF PROPOSED CONSTRUCTION ACTIVITIES. THE CITY IS REQUIRED TO PERFORM REMOVAL OF ENDANGERED RESOURCES EACH DAY PRIOR TO CONSTRUCTION.

CONTRACTOR TO INSTALL EROSION CONTROL AND TURBIDITY BARRIER PRIOR TO COMMENCING CONSTRUCTION.

4. ALL PROPOSED GRADING LOCATIONS TO BE CLEARED AND GRUBBED BY THE CONTRACTOR.

5. SOIL SPREAD WITHIN THE FLOOD PLAIN AREA SHALL NOT EXCEED FOUR INCHES (4") OF DEPTH AND SHALL NOT BE DEPOSITED INTO WETLANDS.

6. CONTRACTOR SHALL NOT REMOVE TREES, SOIL, ROCK. AND THE LIKE FROM THE SITE WITHOUT CONSENT OF THE

CONTRACTOR TO INSTALL EXISTING DRAIN TILES THROUGH PROPOSED GRADING AND RIP-RAP.

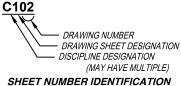
8. CONTRACTOR TO RESTORE/LANDSCAPE ALL DISTURBED

DISCIPLINE **DESIGNATION** REMOVAL **GENERAL** CIVIL **LANDSCAPE AQUATIC** AQ ARCHITECTURAL STRUCTURAL **ELECTRICA** INSTRUMENTATION/CONTROLS PROCESS PLUMBING HVAC /MECHANICAL

**DISCIPLINE DESIGNATORS** 

DESIGNATION NOTES & SCHEDULES PLANS **ELEVATIONS & DETAILS CROSS-SECTIONS** 

DRAWING SHEET DESIGNATION



A DELTA 3

875 SOUTH CHESTNUT STREET PHONE: (608) 348-5355 PLATTEVILLE, WISCONSIN 53818 898 Jackson Street Dubuque, Iona 52001 PHONE: (563) 542-9005

FOR QUESTIONS
REGARDING THIS PROJECT,
PLEASE CONTACT:

MR .IORDAN FURE, E.I.T. DELTA 3 ENGINEERING INC

TELEPHONE: (608) 348-5355

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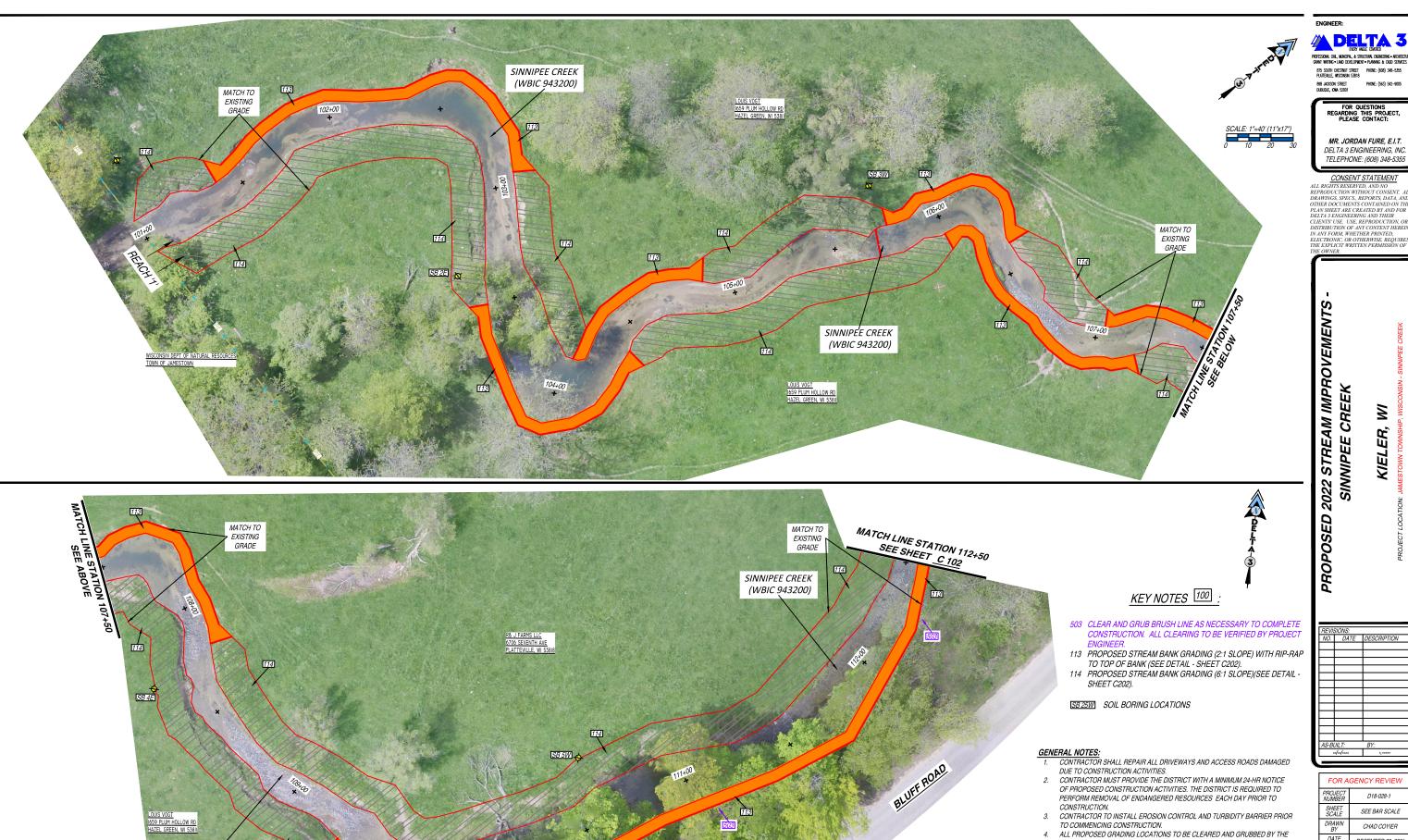
ER, 9

FOR AGENCY REVIEW D18-028-1 SHEET NOT TO SCALE DRAWN DATE ISSUED DECEMBER 22, 20 LEGEND & SHEET DESC. GENERAL NOTES

SHEET TITLE

G001

NUMBER # 2 of 10



SINNIPÉE CREEK

(WBIC 943200)

875 SOUTH CHESTNUT STREET PHONE: (608) 348-5355 PLATTEVILLE, WISCONSN 53818 898 JACKSON STREET DUBUQUE, KWA 52001

FOR QUESTIONS REGARDING THIS PROJECT, PLEASE CONTACT:

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2022 STREAM IMPROVEMENT SINNIPEE CREEK

D18-028-1 SEE BAR SCALE DRAWN BY CHAD COYIER DECEMBER 22, 202 PLAN VIEW -SHEET DESC. REACH 1

SHEET TITLE:

CONTRACTOR.

GRADING AND RIP-RAP.

CONTRACTOR.

SOIL SPREAD WITHIN THE FLOOD PLAIN AREA SHALL NOT EXCEED FOUR INCHES (4") OF DEPTH AND SHALL NOT BE DEPOSITED INTO WETLANDS.

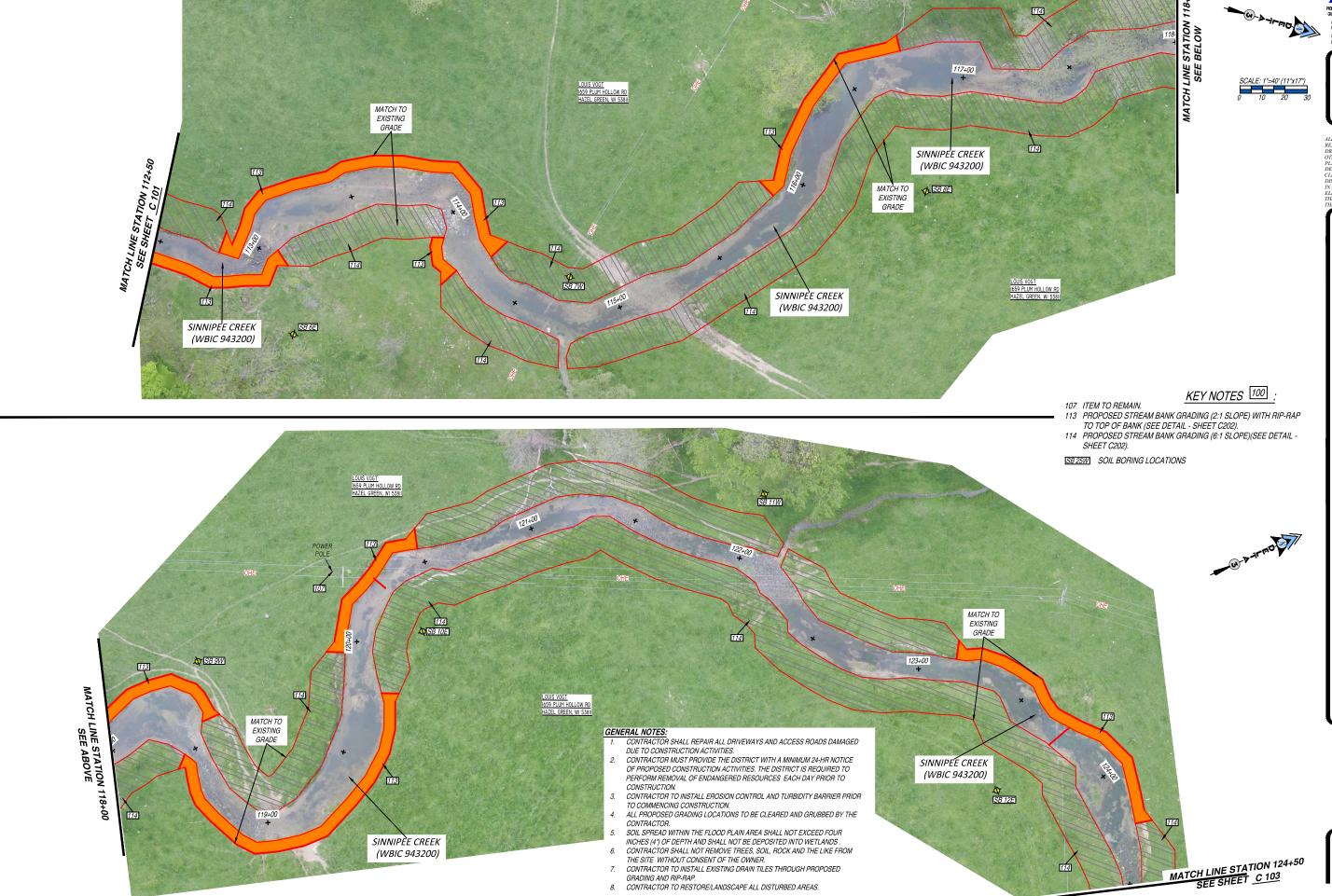
CONTRACTOR SHALL NOT REMOVE TREES, SOIL, ROCK AND THE LIKE FROM THE SITE WITHOUT CONSENT OF THE OWNER.

CONTRACTOR TO INSTALL EXISTING DRAIN TILES THROUGH PROPOSED

8. CONTRACTOR TO RESTORE/LANDSCAPE ALL DISTURBED AREAS.

C101

SHEET NUMBER # 3 of 10



ENGINEER:

DELTA 3

898 JACKSON STREET DUBUQUE, IOWA 52001

FOR QUESTIONS REGARDING THIS PROJECT, PLEASE CONTACT:

MR. JORDAN FURE, E.I.T. DELTA 3 ENGINEERING, INC. TELEPHONE: (608) 348-5355

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2022 STREAM IMPROVEMENTS SINNIPEE CREEK

KIELER, WI

FOR AGENCY REVIEW		
PROJECT NUMBER	D18-028-1	
SHEET SCALE	SEE BAR SCALE	
DRAWN BY	CHAD COYIER	
DATE ISSUED	DECEMBER 22, 2021	
SHEET DESC.	PLAN VIEW - REACH 1	

SHEET TITLE:

C102

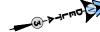
SHEET NUMBER # 4 of 10

107 ITEM TO REMAIN. 113 PROPOSED STREAM BANK GRADING (2:1 SLOPE) WITH RIP-RAP TO TOP OF BANK (SEE DETAIL - SHEET C202). 114 PROPOSED STREAM BANK GRADING (6:1 SLOPE)(SEE DETAIL -SHEET C202).

THE SITE WITHOUT CONSENT OF THE OWNER.
CONTRACTOR TO INSTALL EXISTING DRAIN TILES THROUGH PROPOSED

8. CONTRACTOR TO RESTORE/LANDSCAPE ALL DISTURBED AREAS.

SB 25W SOIL BORING LOCATIONS





FOR QUESTIONS REGARDING THIS PROJECT, PLEASE CONTACT:

DELTA 3

875 SOUTH CHESTNUT STREET PHONE: (608) 348-5355 PLATTEVILLE, WISCONSIN 53818 898 JACKSON STREET PHONE: (563) 542-9006 DUBUQUE, IONA 52001

> MR. JORDAN FURE, E.I.T. DELTA 3 ENGINEERING, INC. TELEPHONE: (608) 348-5355

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2022 STREAM IMPROVEMENT SINNIPEE CREEK

KIELER, WI

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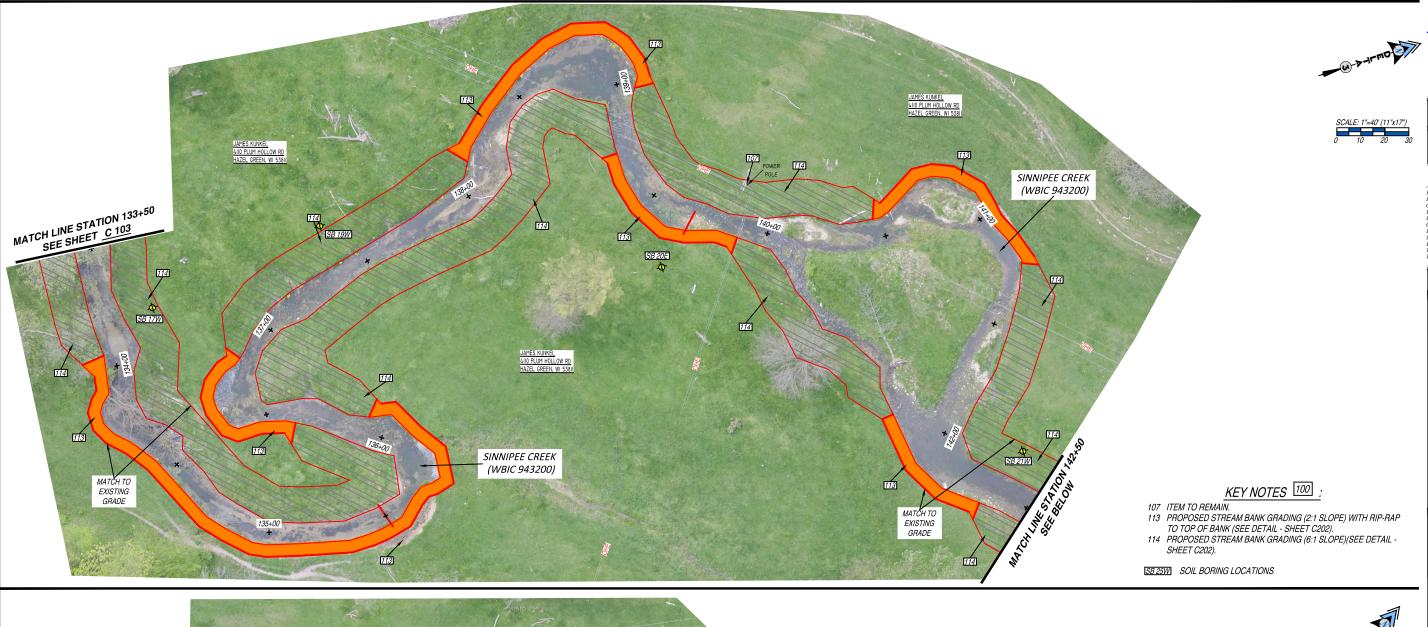
FOR AGENCY REVIEW		
PROJECT NUMBER	D18-028-1	
SHEET SCALE	SEE BAR SCALE	
DRAWN BY	CHAD COYIER	
DATE ISSUED	DECEMBER 22, 2021	
SHEET DESC.	PLAN VIEW - REACH 1 & 2	

SHEET TITLE:

C103

SHEET NUMBER # 5 of 10





# MATCH LINE STATION 146+00 SEE SHEET C 105 MATCH TO **EXISTING** GRĄDE MATCH LINE STATION 142+50 SEE ABOVE SINNIPEE CREEK (WBIC 943200) 144+00 MATCH TO EXISTING GRADE

⊠ SB 22E

- GENERAL NOTES:
  1. CONTRACTOR SHALL REPAIR ALL DRIVEWAYS AND ACCESS ROADS DAMAGED
- DUE TO CONSTRUCTION ACTIVITIES.

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- 3. CONTRACTOR TO INSTALL EROSION CONTROL AND TURBIDITY BARRIER PRIOR TO COMMENCING CONSTRUCTION.

  4. ALL PROPOSED GRADING LOCATIONS TO BE CLEARED AND GRUBBED BY THE

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- THE SITE WITHOUT CONSENT OF THE OWNER.
- 7. CONTRACTOR TO INSTALL EXISTING DRAIN TILES THROUGH PROPOSED GRADING AND RIP-RAP.

  8. CONTRACTOR TO RESTORE/LANDSCAPE ALL DISTURBED AREAS.

#### DELTA 3

875 SOUTH CHESTNUT STREET PHONE: (608) 348-5355 PLATTEVILLE, WISCONSN 53818 898 JACKSON STREET PHONE: (563) 542-9006 DUBUQUE, IONA 52001

FOR QUESTIONS
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2022 STREAM IMPROVEMENT SINNIPEE CREEK

KIELER, WI

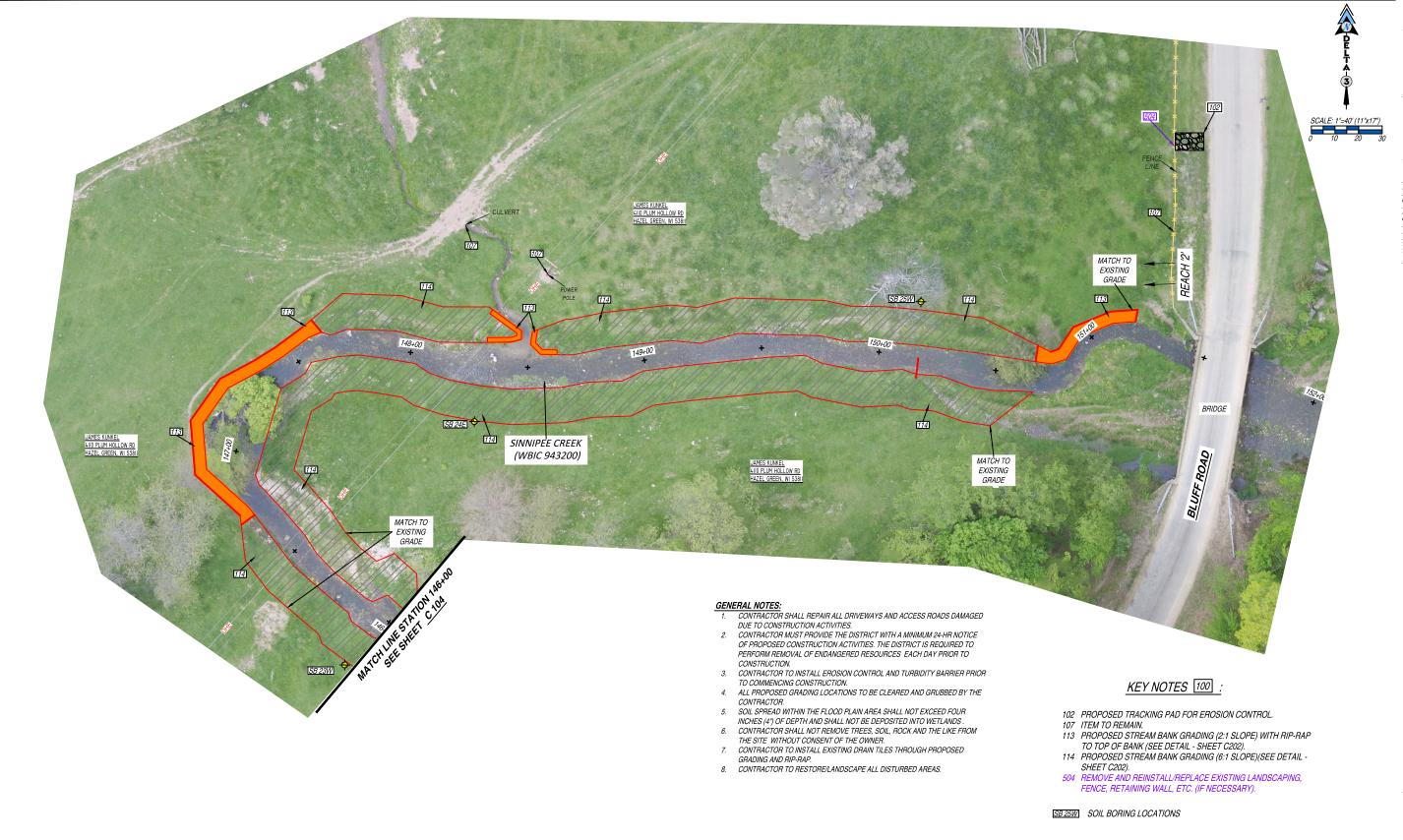
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FOR AGENCY REVIEW		
PROJECT D18-028-1		
SHEET SCALE	SEE BAR SCALE	
DRAWN BY	CHAD COYIER	
DATE ISSUED	DECEMBER 22, 2021	
SHEET DESC	PLAN VIEW - REACH 2	

SHEET TITLE:

C104

SHEET NUMBER # 6 of 10



ENGINEER:

DEL NACE COERDE

PROTESSON, ONI, MINORI, & SIRCINE, BONGERIG- MORIECTO

ROSS SURI CRESMIT SIRCE I PRIJE: (60) 340-3556

PATIFIZILE, BISCORO, 9338

898 JACKSON STREET PHONE: (563) 542-9005
DUBUGUE, YOM, 50001

FOR OUESTIONS

FOR QUESTIONS REGARDING THIS PROJECT, PLEASE CONTACT:

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THE OWNER.

TRIBUTION OF ANY CONTENT HEL

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OWNER.

2022 STREAM IMPROVEMENT SINNIPEE CREEK

KIELER, I

NIELEN, ROJECT LOCATION: JAMESTOWN TOWNSHIR

REVISIONS:
NO. DATE DESCRIPTION

AS-BUILT: BY:

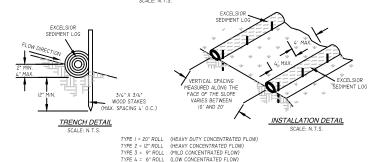
F	FOR AGENCY REVIEW	
PRO	OJECT MBER	D18-028-1
	HEET CALE	SEE BAR SCALE
	AWN BY	CHAD COYIER
D. ISS	ATE SUED	DECEMBER 22, 2021
	IEET ESC.	PLAN VIEW - REACH 2

SHEET TITLE:

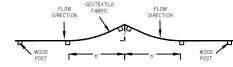
C105

SHEET NUMBER # 7 of 10

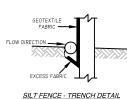
#### TRACKING PAD DETAIL



**EROSION CONTROL SEDIMENT LOG** 

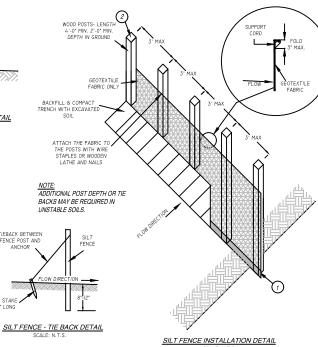


SILT FENCE - JOINING TWO LENGTHS DETAIL

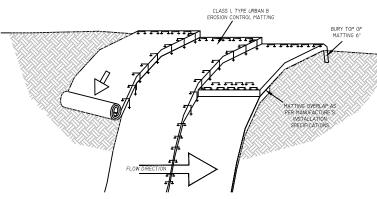


GENERAL NOTES- SILT FENCE:
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL
CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION (MOST CURRENT EDITION) AND THE APPLICABLE SPECIAL PROVISIONS.

- 1 TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ② WOOD POST SHALL BE A MINIMUM SIZE OF 1-1/8" X 1-1/8" OF OAK OR



SILT FENCE DETAILS



#### **EROSION MATTING NOTES:**

- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND MULCH AND SEED.
  BEGIN AT THE TOP OF THE SHOULDER (OR CHANNEL) BY ANCHORING THE BLANKET IN A 6° DEEP X 6° WIDE
  TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 3. ROLL THE BLANKETS DOWN (STARTING AT DOWNSTREAM PROCEEDING UPSTREAM) HORIZONTALLY ACROSS
- THE GEOF E.

  THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MANUFACTURE'S RECOMENDED OVERLAP.
- WHEN BLAINKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE)
   WITH AN OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
   IN HIGH CHANNEL APPLICATIONS, A STAPLE SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A
- ROW OF STAPLES 4" APART OVER THE ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGERED PATTERN.
  7. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6° DEEP X 6° WIDE TRENCH. BACKFILL AND
- COMPACT THE TRENCH AFTER STAPLING.

**EROSION MATTING - SLOPE INSTALLATION DETAIL** 

**EROSION CONTROL NOTES:** 

GENERAL EROSION NOTES AND MAINTENANCE MEASURES ARE ILLUSTRATED ON THE PLAN SHEETS. AFTER AWARD OF THE CONTRACT, THE GENERAL CONTRACTOR SHALL INSTALL ALL BEST MANAGEMENT PRACTICES AS SHOWN ON THE PLAN SHEETS. ONCE INSTALLED, THE GENERAL CONTRACTOR SHALL CONTACT DELTA 3 ENGINEERING, INC. (608-348-5355). ONCE NOTIFIED DELTA 3 ENGINEERING INC. WILL VISIT THE SITE WITHIN 5 DAYS TO REVIEW THE SITE WITH CONTACT DELTA 3 ENGINEERING, INC. (608-346-5355). ONCE NOTIFIED DELTA 3 ENGINEERING INC. WILL USIT THE SITE WITHIN 5 DAYS TO REVIEW THE SITE WITH THE GENERAL CONTRACTORS SUPERINTENDOED THAT. THE GENERAL CONTRACTORS SUPERINTENDOENT WILL REVIEW THE SITE FOR COMPLIANCE WITH THE EROSION CONTROL MEASURES. IF AND WHEN ALL BEST MANAGEMENT PRACTICES REQUIRED TO COMMENCE SITE CONSTRUCTION ARE IN PLACE, THE CONSULTING ENGINEER AND PROJECT SUPERINTENDENT WILL SIGN AND CERTIFY THIS REVIEW AND CERTIFICATION SHALL TAKE PLACE PRIOR TO THE REQUIRED PRE-CONSTRUCTION MEETING. THE SITE SUPERINTENDOENT SHALL MAINTAIN AN AS BUILT COPY OF THE FROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN AS BUILT COPY OF THE FROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE FROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE FROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE FROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AN ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AND ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN AND ASSURE OF THE PROSION CONTROL MEASURE. THE SITE SUPERINTENDENT SHALL MAINTAIN SOME SHALL BE INDICATED ON THE ASSURE OF THE PROSION CONTROL MEASURE. THE SITE OF THE S PLAN WITH AN INSTALLED TIME AND DATE. RECORDED INFORMATION SHALL BE PERMANENTLY PLACED ON THE SITE MAP INCLUDING ANY CHANGES MADE TO THE BEST MANAGEMENT PRACTICES. IF THE SITE MAP BECOMES HARD TO READ, THE INITIAL DRAWING SHALL BE SAVED AND A CLEAN COPY SHALL BE ISSUED IN

- A COMPLETE COPY OF ALL INSPECTION REPORTS, PLAN REVISIONS, ETC., MUST BE RETAINED AT THE PROJECT SITE AT ALL TIMES DURING DURATION OF THE PROJECT AND KEPT IN THE PERMANENT PROJECT RECORDS FOR AT LEAST FIVE YEARS FOLLOWING SUBMISSION OF THE NOTICE OF TERMINATION (NOT
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING THAT ALL SUB-CONTRACTORS INVOLVED IN GROUND DISTURBING ACTIVITY COMPLY WITH THE
- DAILY INSPECTIONS BY THE PROJECT SUPERINTENDENT AND MONTHLY INSPECTIONS BY THE OWNER'S CONSTRUCTION MANAGER MUST BE MADE TO DETERMINI THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES. THE GENERAL CONTRACTOR IS TO INSPECT EROSION AND SEDIMENT CONTROLS WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES AS NECESSARY WITHIN 24 HOURS OF INSPECTION.
- ONCE THE SITE REACHES FINAL STABILIZATION, ALL PERMANENT EROSION AND SEDIMENTATION CONTROLS ARE INSTALLED AND ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE REMOVED, THE GENERAL CONTRACTOR AND OWNER MUST COMPLETE A FINAL SITE INSPECTION. UPON APPROVAL BY OWNER, THE OWNER AND GENERAL CONTRACTOR, AS APPLICABLE, MUST COMPLETE AND SUBMIT A NOTICE OF TERMINATION (NOT) FORM TO BE SUBMITTED TO THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES.
- A RECORD OF THE DATES WHEN MAJOR GROUND-DISTURBING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED MUST BE MAINTAINED UNTIL THE NOT IS FILED. CONTROLS MUST BE IN PLACE DOWN GRADIENT OF GROUND-DISTURBING ACTIVITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- A LOG OF ALL INSPECTIONS BY FEDERAL, STATE, OR LOCAL STORM WATER OR OTHER ENVIRONMENTAL AGENCIES SHALL BE KEPT BY THE GENERAL CONTRACTOR. THE LOG SHALL INCLUDE THE DATE AND TIME OF VISIT AND WHETHER A REPORT WAS ISSUED OR WILL BE ISSUED AS A RESULT OF THE INSPECTION. ANY REPORTS ISSUED SHALL BE FAXED TO THE DELTA 3 ENGINEERING INC. 608-348-5455 (FAX).
- SOIL STABILIZATION THE PURPOSE OF SOIL STABILIZATION IS TO PREVENT SOIL FROM LEAVING THE SITE. IN THE NATURAL CONDITION, SOIL IS STABILIZED BY NATIVE VEGETATION. THE PRIMARY TECHNIQUE TO BE USED AT THIS PROJECT FOR STABILIZING SITE SOIL WILL BE TO PROVIDE A PROTECTIVE COVER OF TUR GRASS OR PAVEMENT.
- (A) TEMPORARY SEEDING OR STABILIZATION AREAS MAY BE STABILIZED TEMPORARILY WITH THE USE OF FAST-GERMINATING ANNUAL SEED, STRAW MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING OR BLANKET. WHERE CONDITIONS ARE FAVORABLE, AREAS SHALL BE TEMPORARILY STABILIZED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY CEASES. ALL DISTURBED GROUND WHERE THERE WILL NOT BE CONSTRUCTION FOR LONGER THAN 14 DAYS MUST BE
- (B) PERMANENT SEEDING OR SOD ALL AREAS AT FINAL GRADE MUST BE SEEDED OR SODDED WITHIN 3 DAYS AFTER COMPLETION OF THE MAJOR CONSTRUCTION ACTIVITY. EXCEPT FOR SMALL LEVEL SPOTS, SEEDED AREAS SHOULD GENERALLY BE PROTECTED WITH MULCH. ALL AREAS TO BE SEEDED WILL ALSO HAVE TOPSOIL AND OTHER AMENDMENTS AS STATED IN WISDOT SPECIFICATION SECTION 02900-PLANTING.
- (C) MULCHING ALL AREAS THAT ARE TEMPORARY OR PERMANENT SEEDED SHALL BE MULCHED ACCORDING TO SECTION 627 MULCHING OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. ALL MULCH IS TO BE ANCHORED UTILIZING METHOD A, B, OR C.
- (D) EROSION CONTROL MATTING FOR ANY SLOPES GREATER THAN 3:1. EROSION MATTING IS REQUIRED.
- STRUCTURAL CONTROLS BEFORE ANY MAJOR GRADING ACTIVITIES, THE FOLLOWING BEST MANAGEMENT PRACTICES SHALL BE INSTALLED ON THE PROPOSED SITE
- (A) SILT FENCE SILT FENCE IS A SYNTHETIC PERMEABLE WOVEN OR NON-WOVEN FABRIC TYPICALLY INCORPORATING WOODEN OR METAL SUPPORT STAKES AT THERMALS SUFFICIENT TO SUPPORT THE FENCE, WATER, AND SEDIMENT RETAINED BY THE FENCE. SLIT FENCE CAN ALSO BE INSTALLED WITH A WINE FENCE BACKING. THE FENCE IS DEPORT THE FENCE, WATER, AND SEDIMENT RETAINED BY THE FENCE. SLIT FENCE CAN ALSO BE INSTALLED WITH A WINE FENCE BACKING. THE FENCE IS DEPORTED SOILS BEFORE THE STORM WATER AND ALLOW SETTLEMENT OF SUSPENDED SOILS BEFORE THE STORM WATER AND SETTLEMENT
- (B) TEMPORARY TRACKING PAD ALL ACCESS POINTS FROM THE PUBLIC STREET INTO THE CONSTRUCTION SITE SHALL INCLUDE A TRACKING PAD COMPOSED OF COURSE STONE TO THE DIMENSIONS SHOWN ON DETAIL SHEET (CQUI). ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING (NOT FLUSHING) BEFORE THE END OF EACH WORKDAY.
- (C) STORM SEWER INLET PROTECTION CURB AND GRATED INLETS ARE PROTECTED FROM THE INTRUSION OF SILT AND SEDIMENT THROUGH A VARIETY OF SEDIMENT CONTROL PRACTICES TO ALLOW SETTLEMENT OF SUSPENDED SOILS BEFORE DISCHARGING INTO THE STORM SEWER. GRATED INLETS TYPICALLY INCLUDE A STURDY FRAME WRAPPED IN GEOTEXTILE FABRIC OR SEDIMENT LOG PERIMETER TO SLOW THE FLOW OF WATER AND ALLOW PONDING WHERE SEDIMENT MAY SETTLE OUT. CURB INLETS TYPICALLY INCLUDE SEDIMENT LOG BARRIERS HELD IN PLACE WITH GEOTEXTILE FABRIC. OTHER MANUFACTURED PRODUCTS ARE ALSO AVAILABLE. ALL STORM DRAINS SHALL BE PROTECTED BY USING STRAW BALES, SEDIMENT LOGS, FABRIC, OR EQUIVALENT BARRIER.

FINAL SITE STABILIZATION IS ACHIEVED WHEN TURF GRASS COVER PROVIDES PERMANENT STABILIZATION FOR AT LEAST 70 PERCENT OF THE DISTURBED SOIL SURFACE, EXCLUSIVE OF AREAS THAT HAVE BEEN PAVED.

10. OTHER POLLUTANT CONTROLS

(A) DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION EXIT. THE PURPOSE IS TO TRAP DUST AND IT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION EQUIPMENT

WATER TRUCKS OR OTHER DUST CONTROL AGENTS WILL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE GENERAL CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE OWNER'S CONSTRUCTION MANAGER, AND IN COMPLIANCE WITH APPLICABLE LOCAL AND STATE DUST CONTROL REGULATIONS. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED (AS DESCRIBED ELSEWHERE), WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.

SOLID WASTE DISPOSAL - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORM WATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. THE CONTAINERS WILL BE EMPTIED AS NECESSARY BY A CONTRACT TRASH DISPOSAL SERVICE AND HAULED AWAY FROM THE SITE. THE LOCATION OF SOLID WASTE RECEPTACLES SHALL BE SHOWN AND APPROVED BY THE OWNER.

SUBSTANCES THAT HAVE THE POTENTIAL FOR POLLUTING SURFACE AND/OR GROUNDWATER MUST BE CONTROLLED BY WHATEVER MEANS NECESSARY IN ORDER TO ENSURE THAT THEY DO NOT DISCHARGE FROM THE SITE. FOR EXAMPLE, SPECIAL CARE MUST BE EXERCISED DURING EQUIPMENT FUELING AND SERVICING OPERATIONS. IF A SPILL OCCURS, IT MUST BE CONTAINED AND DISPOSED SO THAT IT WILL NOT FLOW FROM THE SITE OR ENTER GROUNDWATER, EVEN IF THIS REQUIRES REMOVAL, TREATMENT, AND DISPOSAL OF SOIL. IN THIS REGARD, POTENTIALLY POLLUTING SUBSTANCES SHOULD BE HANDLED IN A MANNER CONSISTENT WITH THE IMPACT THEY REPRESENT

- SANITARY FACILITIES ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES MUST BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND MUST BE SERVICED BY A COMMERCIAL OPERATOR.
- (D) WATER SOURCE NON-STORM WATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER USED FOR CONSTRUCTION WHICH DISCHARGES
- (E) CONCRETE WASTE FROM CONCRETE READY-MIX TRUCKS DISCHARGE OF EXCESS OR WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS OWNCHE E MADIE THIN CONTINE IS HEAD THIN. I MODE TO BE ASSOCIATED DIVED A MADIE CONTINE IS HIDDOWN WHAT HAT HAVE AND WHILE IS HID WILL BE ALLOWED ON THE CONSTRUCTION SITE, BUT ONLY IN SPECIFICALLY DESIGNATED DIVED AREAS PREPARABED TO PREVENT CONTACT BETWEEN THE CONCRETE AND STORM WATER THAT WILL BE DISCHARGED FROM THE SITE. ALTERNATIVELY, WASTE CONCRETE CAN BE PLACED INTO FORMS TO MAKE RIP-RAP OR OTHER USEFUL CONCRETE FROM DOUTS. THE CURBO RESIDUE FROM THE CONCRET WASHOUT DIVED AREAS SHALL BE DISPOSED IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS. THE JOB SITE SUPERINTENDENT IS RESPONSIBLE FOR ASSURING THAT
- (F) FUEL TANKS TEMPORARY ON-SITE FUEL TANKS FOR CONSTRUCTION VEHICLES SHALL MEET ALL STATE AND FEDERAL REGULATIONS. TANKS SHALL HAVE FIGURE 1 VANISE - I EMPOYANT ON-OTHER LAWARD FOUL HAVING FOUL ONNO HAD FIRST VEHICLES FAIRLY MEET HELD FILE AND FEDERAL REQUESTIONS. AND STAFFLE HAVE PROPERLY BY A PROPERLY BY THE APPLICABLE REGULATIONS. THE TANK SHALL BE IN SOUND CONDITION FACE OF BUST ON OTHER DAMAGE WHICH MIGHT COMPROMISE CONTAINMENT. HOSES, VALVES, FITTINGS, CAPS, FILLER NOZZLES, AND ASSOCIATED HARDWARE SHALL BE MAINTAINED IN PROPER WORKING CONDITION AT ALL TIMES.
- 11. MINIMIZING EROSION AND RUNOFF DURING TRENCH OPERATIONS
  - (A) EXCAVATED TRENCH MATERIALS SHALL BE PLACED ON THE UPPER SIDE OF THE TRENCH WHILE THE TRENCH IS OPEN.
  - EXCAVATED TRENCH MATERIAL, UPON COMPLETING WORK IN TRENCH, SHALL BE PLACED BACK IN THE TRENCH OR HAULED AWAY TO A PROPER SPOIL SITE. THE TRENCH SHALL BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY.

ENGINEER:

898 JACKSON STREET DUBUQUE, IOWA 52001

A DELTA 3

875 SOUTH CHESTNUT STREET PHONE: (608) 348-5355 PLATTEVILLE, WISCONSIN 53818

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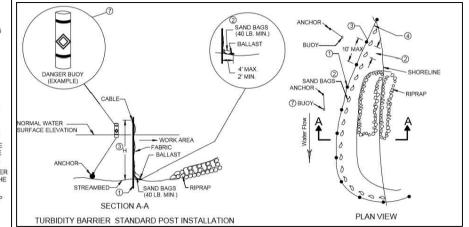
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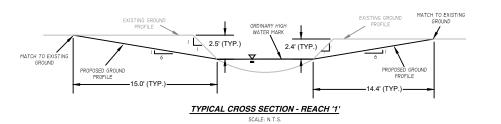
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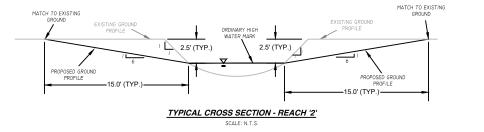
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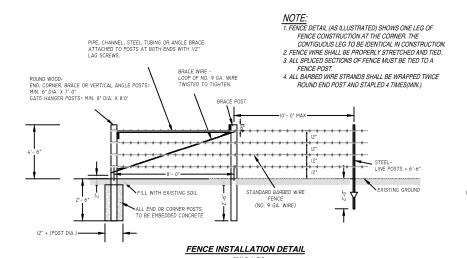
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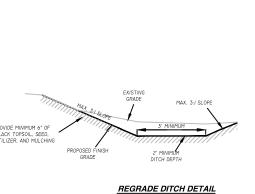
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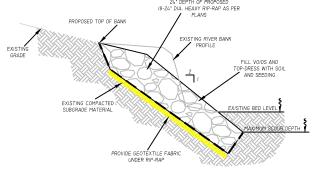








SCALE: N.T.S.



STREAM BANK GRADING (2:1 SLOPES) WITH RIP-RAP TO TOP OF BANK DETAIL

STREAM BANK GRADING (6:1 SLOPES) DETAIL

DELTA 3





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PROPOSED 2022 STREAM IMPROVEMENTS SINNIPEE CREEK

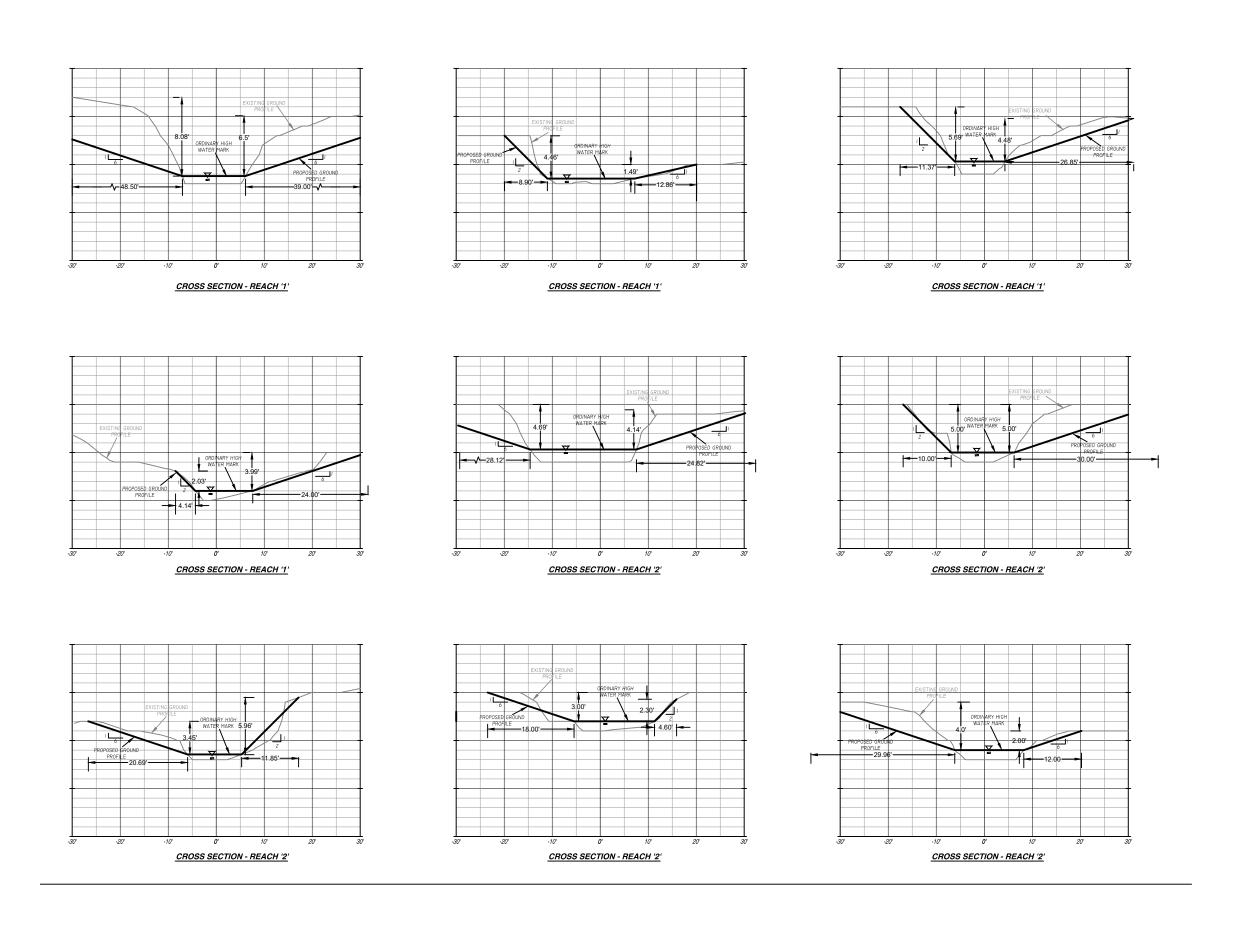
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FOR AGENCY REVIEW D18-028-1 SHEET SCALE NOT TO SCALE DRAWN BY C.COYIER DECEMBER 22, 202 SHEET DESC. DETAILS - SITE

SHEET TITLE:

C202

SHEET NUMBER # 9 of 10



ENGINEER:

DELTA 3

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GRAFI INSTITUC—I AND DELICIPATION P. PANNIG & OLDO SERVICES

875 SOUTH DESIDAUT SINEET PHONE: (6/8) 348-5055
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# PROPOSED 2022 STREAM IMPROVEMENTS SINNIPEE CREEK

KIELER, WI
PROJECT LOCATION: JAMESTOWN TOWNSHIP, WISCONSIN - SINNIPEE CREEK
OWNER: KIELER SANITARY DISTRICT NO. 1; P.O. BOX 12, KIELER, WI 53812

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FOR AGENCY REVIEW			
PROJECT D18-028-1			
SHEET SCALE	NOT TO SCALE		
DRAWN BY	C.COYIER		
DATE ISSUED	DECEMBER 22, 2021		
SHEET DESC.	CROSS-SECTIONS - STREAM		
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SHEET TITLE:

C301

SHEET NUMBER# 10 of 10