



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO ATTENTION OF
ECW-15J

VIA ELECTRONIC MAIL

Paul Nicholson
Village President
102 Passive Sun Drive
Soldiers Grove, WI 54655
email: nicholson1949@gmail.com

Re: NPDES Inspection Report – Village of Soldiers Grove WWTF (NPDES #WI0022241)

Dear Mr. Nicholson:

On March 23, 2023, the U.S. Environmental Protection Agency conducted an NPDES Inspection at the Village of Soldiers Grove Wastewater Treatment Facility, in Soldiers Grove, Wisconsin. Pages 8-10 of the enclosed report summarize the preliminary areas of concern identified during the inspection.

If you have questions or concerns regarding the report or believe any part of the report is not accurate, please contact Dean Maraldo of my staff at (312) 353-2098 or maraldo.dean@epa.gov.

Sincerely,

**MOLLY
SMITH**

Digitally signed by
MOLLY SMITH
Date: 2023.03.28
16:28:21 -05'00'

Molly Smith
Supervisor, Section 1, Water Enforcement and Compliance Assurance Branch

Enclosure

cc: Brian Copus, Soldiers Grove [sgrove@mwt.net]
Kaitlynn Ott, Soldiers Grove [sgrove@mwt.net]
Amy Garbe, WDNR [Amy.Garbe@wisconsin.gov]
Julia A. Stephenson, WDNR [Julia.Stephenson@wisconsin.gov]

INSPECTION REPORT

Inspection Entry Date/Time	03/23/2023 09:00 AM (CT)	Announced: Yes	
Inspection Exit Date/Time	03/23/2023 01:45 PM (CT)	Access: Granted	
Weather	Sunny, cool		
Media	Water		
Statute(s)/Program(s)	Clean Water Act, NPDES, WWTP		
Type of Inspection	CEI - Compliance Evaluation Inspection		
Permittee Name	Village of Soldiers Grove		
Facility or Site Name	Soldiers Grove Wastewater Treatment Facility		
Facility/Site Physical Address	800 Cth C, Soldiers Grove, Wisconsin		
City, State, Zip Code	Soldiers Grove, WI 54655		
County/Borough/Parish	Crawford		
Facility GPS Coordinates	43.396306, -90.785806		
Mailing Address (If different)	P.O. Box 121		
City, State, Zip Code	Soldiers Grove WI 54655-0121		
FRS ID	WI0022241		
Permit Number(s) (If Applicable)	WI0022241-10		
SIC and/or NAICS	4952		
EPA Representatives Participating in Inspection:			
Title	Name	Organization	
Inspector	Valerie Dooling	EPA Region 5	
Lead Inspector:			
Dean Maraldo	[Signature] DINO MARALDO Digitally signed by DINO MARALDO Date: 2023.03.28 07:59:23 -05'00'		
	EPA Region 5	maraldo.dean@epa.gov	(312) 353-2098
Supervisor Review:			
Molly Smith	[Signature] MOLLY SMITH Digitally signed by MOLLY SMITH Date: 2023.03.28 16:28:42 -05'00'		
	EPA Region 5	smith.molly@epa.gov	

SECTION I – INTRODUCTION**Site Entry and Inspection Objectives**

I, EPA Region 5 Lead Inspector Dean Maraldo, arrived at the Village of Soldiers Grove Clerks' Office at 102 Passive Sun Dr., in Soldiers Grove, Wisconsin, at 09:00 AM (CT) on March 23, 2023, for an announced inspection of the Soldiers Grove Wastewater Treatment Facility ("WWTF" or "Facility"), located at 800 Cth C, Soldiers Grove, Wisconsin. I was joined by EPA inspector Valerie Dooling. We presented EPA inspector credentials to Kaitlyn Ott and informed the Village representatives that this was an EPA Region 5 inspection to determine compliance as authorized by Clean Water Act (CWA) Section 308 and implementing regulations. Wisconsin Department of Natural Resources ("WDNR") representatives Amy Garbe and Julia Stephenson also joined us for the inspection. This report is based on information supplied by Soldiers Grove Wastewater Treatment Facility representatives, direct observations made by the EPA Region 5 inspectors, records and reports maintained by the permittee and other information including: photographs taken by EPA Region 5 inspectors, physical evidence collected by the EPA Region 5 inspectors, verbal or written statements made by Soldiers Grove Wastewater Treatment Facility representatives during or subsequent to the on-site inspection, and materials, processes, data, photographs, or documents shown, demonstrated, or submitted to the EPA Region 5 inspectors by Soldiers Grove Wastewater Treatment Facility representatives during or subsequent to the on-site inspection. In addition, information gathered prior to or subsequent to the inspection from a review of EPA, State, and/or public records may be included in this report.

We began the opening conference with introductions and a review of the purpose of the inspection. The complete list of attendees for the opening (and closing) conferences is included in the table below.

Attendees

Organization	Attendee Name	Title	Present in Opening Conf.	Present in Closing Conf.
EPA Region 5	Dean Maraldo	Lead Inspector	Yes	Yes
EPA Region 5	Valerie Dooling	Inspector	Yes	Yes
WDNR	Julia A. Stephenson	Engineer	Yes	Yes
Village of Soldiers Grove	Paul Nicholson	Village President	Yes	Yes
Village of Soldiers Grove	Brian Copus	Operator	Yes	Yes
Village of Soldiers Grove	Kaitlynn Ott	Clerk/Treasurer	Yes	Yes
WDNR	Amy Garbe	Engineer	Yes	Yes

Facility/Site Description

I went over the facility description provided in the permit (excerpt below) and the Village representatives confirmed that information was accurate.

The annual average design flow is 0.114 million gallons per day (MGD) and the actual annual average in 2018 was 0.047 MGD. The treatment facility is an extended aeration package plant. The WWTF has a bar screen, a secondary clarifier and activated sludge. The effluent is disinfected seasonally via chlorination/dechlorination prior to discharge to the Kickapoo River.

Waste activated sludge was previously discharged to sludge drying beds and then land applied as cake sludge on WDNR-approved sites. However, it was determined that the sludge drying beds were not underlain by an impervious surface and did not meet current administrative code. Use of the sludge drying beds has been discontinued and during the new permit term aerobically digested liquid class B sludge will be hauled off site to another permitted facility for storage and/or treatment prior to being landspread on WDNR-approved agricultural fields.

Brian Copus ("Operator") added that they haul sludge twice a year and land apply on Village owned land.

Facility/Site Background Information

Next, I asked some background questions. Unless noted otherwise, the Operator provided the responses in the table below.

Background Question	Village Response
Any Confidential Business Information concerns?	No
Have any bypasses or overflows happened at the plant or in the collection system in the last year?	No
Are there any plans for renovation or additional equipment to allow for increased wastewater flow?	Yes (Paul Nicholson responded)
Is there currently any portion of the treatment train that is non-operational?	No
Do you accept waste from septage haulers?	No
Do you use contract out for laboratory analyses?	Yes, Davy Laboratories in LaCrosse
Are the Discharge Monitoring Reports (DMRs) submitted on time?	Yes (due 21st of every month)
Responsible official?	Operator and Kaitlynn Ott
WWTP Average Daily Flow?	40,000-50,000 gallons per day
WWTP Approx. # of residents served?	257 (Kaitlynn Ott responded)
Contributing (or shared) Jurisdictions?	No
Operation schedule?	6:30-3pm, M-F, plus on-call weekends; (Paul Nicholson responded)

Inspection Focus Areas and Locations

Inspection Area	Location
Interview	
Operations and Maintenance	Village of Soldiers Grove Clerks' Office
Effluent Limit Exceedance Review	
Permit Compliance Schedule Review	
Flow Monitoring	
Self Monitoring	
Sanitary Sewer Overflows ("SSOs")	
Pretreatment	
Physical Inspection	

Manhole receiving wastewater flow from Solar Meats LLC	Sanitary sewer manhole north of American Legion
Soldiers Grove Wastewater Treatment Facility	800 Cth C, Soldiers Grove, Wisconsin.

SECTION II – OBSERVATIONS

Location: Interview at Village Clerks' office and manhole north of the American Legion /Operations and Maintenance

Observation #: DM1-OB-001

Date: 03/23/2023

I began by asking how the Facility was working, and if all treatment units were operable? The Operator said the "clarifier still has grease on top, and its been that way the whole year." No FOG (fats, oils, and grease) removal other than bar screen. No issue prior to last year. He mentioned problems with Solar Meats LLC, an industrial user ("IU"), and that Solar Meats LLC switched to two kill days per week last July. He added that another IU - Driftless Brewing Company - worked with the Village to capture yeast in 2021. Paul Nicholson added that the bulk of the issues at the WWTF are due to Solar Meats LLC.

The Operator mentioned collecting wastewater samples from a sanitary sewer manhole just downstream of Solar Meats LLC. Some samples are red, indicating blood from Solar Meats LLC animal processing. He added that Solar Meats LLC tends to process meat in the morning. I asked if we could observe the manhole now and collect a sample for observation. The group drove a short distance to the manhole north of the American Legion and the Operator collected a sample of the wastewater. The wastewater was red in color (see photos SOLD0209.JPG and SOLD0211.JPG capturing wastewater sample, and photo SOLD0210 capturing the manhole in the Photo Log in Appendix 1).

We returned to the Village Clerks' office to continue the interview portion of the inspection.

I asked if the Village has an asset management program, like records of repairs, lists of extra parts, or written plans for operations and maintenance ("O&M"). The Operator said they don't record repairs or keep a list of extra parts and motors. Paul Nicholson added that they do not have written monthly plans for O&M, and they do not conduct scheduled routine and preventive maintenance pursuant to a written schedule.

The Operator is certified and properly graded for operation of the Facility. Operations staff Paul Kinserdahl has general wastewater and collection systems certification.

I asked about sludge management. The Operator said he keeps the air side 350-450 on 30-minute settling test weekly and tries to keep 2-3 feet of sludge in the clarifier (15' deep). They also conduct daily pH and weekly dissolved oxygen process monitoring.

I asked if the Facility has an alarm system for all essential equipment. The Operator confirmed they have no alarm system, but plan to upgrade SCADA by 2025 (referenced "2025 Plan" to upgrade the Facility). The lift stations have telephone alerts. I asked for a copy of the 2025 Plan [Kaitlynn Ott provided the 2025 Plan, also known as the Wastewater Facility Plan, dated December 6, 2022, via email during the inspection on March 23, 2023; see Appendix 2 – Inspection Documents]. According to Paul Nicholson, the Facility does not maintain written procedures for responding to emergencies such as power failures, floods, fires, and other natural disasters.

I asked if the Facility maintains a logbook which documents all plant activities on a daily basis. The Operator said they only maintain a logbook for pH measurements.

I followed up with a question about standby power for treatment units. The Operator said they have one backup generator on a trailer for lift stations and the Facility, and the water plant. They exercise the generator

every Monday, and under load every 3-4 weeks.

I brought up the annual Compliance Maintenance Annual Report ("CMAR") requirement in the Permit (Part 5.1.5). Amy Garbe confirmed the Village submitted the 2021 on time (by June 30, 2022). Kaitlynn Ott provided a copy of the 2021 CMAR (see Appendix 2 – Inspection Documents).

Finally, I asked how many sanitary sewer lift stations, manholes and miles of conveyance the Village maintains. The Operator said they maintain four lift stations and 74 manholes. He did not know the number of miles of conveyance in the sewer system. He said he would follow-up and provide the information [note the 2021 CMAR reported 4 miles of sanitary sewer].

Location: Interview at Village Clerks' office/Effluent Limit Exceedance Review

Observation #: DM1-OB-002

Date: 03/23/2023

We reviewed the list of permit effluent limit exceedances. (See ECHO Report Appendix 2 – Inspection Documents). The Biochemical Oxygen Demand ("BOD"), Total Suspended Solids ("TSS"), and Phosphorus permit effluent limit exceedances since 2021 were attributed by the Facility representatives to two industrial users, the Driftless Brewing Company and Solar Meats LLC. Paul Nicholson said the brewery was cooperative and is in control now after making adjustments including catching solids and controlling release of bad batches, adding that they "made adjustments immediately".

I asked if all noncompliance which may endanger health or the environment, including all violations of daily limits, were orally reported within 24 hours. The Operator said they do not consistently report violations. I asked if they provided written follow up to WDNR within 5 days. The Operator said they did not consistently submit 5-day reports to WDNR.

Paul Nicholson added that they developed the 2025 Plan and involved an engineering firm to help come up with solutions for ongoing issues at the Facility.

Location: Interview at Village Clerks' office/Permit Compliance Schedule Review

Observation #: DM1-OB-003

Date: 03/23/2023

We reviewed Phosphorus and *E.coli* permit compliance schedule requirements (pages 9-11 of Permit). WDNR representatives confirmed that the Village has complied with Phosphorus compliance schedule requirements to date, including submission of Annual Phosphorus Progress Report #3, due on January 31, 2023. They also confirmed the Village has complied with *E.coli* compliance schedule requirements to date, including submittal of the Operational Evaluation Report (due October, 31, 2021) and the Facility Plan (due date extended to December 2022). The WDNR representatives also confirmed that the deadline for submittal of Final Plans and Specifications was extended to September 30, 2023.

Location: Interview at Village Clerks' office/Flow Monitoring

Observation #: DM1-OB-004

Date: 03/23/2023

I asked the following questions regarding flow monitoring (the Operator provided responses unless indicated otherwise):

What type of influent meter is used? "None." Influent flow monitoring is not required.

What type of effluent meter is used? "V-notch ultrasonic."

Are flow measuring device(s) calibrated routinely? "Effluent flowmeter calibrated (by an outside consultant) once a year." The operator expressed concerns about the reliability of consultant's last two calibration efforts.

What is the average daily flow? "40,000-50,000 gallons per day."

Any seasonal variation? "No."

Location: Interview at Village Clerks' office/Self Monitoring

Observation #: DM1-OB-005

Date: 03/23/2023

I asked where influent and effluent samples are collected. "Influent samples are collected after the bar screen; effluent composite and grab samples collected after the V-notch."

I asked the Operator to describe the chlorine monitoring process. The Operator said chlorine is measured after 5 minutes of sampling. They use the Hach Pocket Colorimeter and the Total Chlorine calibration packet for wastewater. They test the Hach Pocket Colorimeter for accuracy with a four-standard check using Hach standards, monthly.

The Operator described the bacteria sampling procedure. The Operator did not realize there was an eight-hour holding time for *E.coli* samples (maximum transport time to the laboratory in 6 hours, and samples should be processed within 2 hours of receipt at the laboratory), and confirmed that not all samples are analyzed within holding time (see example copy of laboratory report for sample collected at 08:00 on May 18, 2022 and analyzed at 13:18 on May 19, 2022, in Appendix 2 – Inspection Documents).

The Operator said the pH meter is calibrated daily, using 7/10 buffers. Calibrations are recorded on log sheets.

We discussed the sample chain of custody process and learned from the Operator that the Facility does not retain copies of completed chain of custody forms after dropping off samples at the laboratory.

I asked the Operator if composite samples are cooled to <4°C to properly preserve them during the compositing period. He said the composite samplers are refrigerated to 2-3 °C. Thermometers are in the sampler coolers. He added that all grab samples are placed in coolers with ice.

Last, I asked about the status of Nitrogen Series Monitoring (required pursuant to Permit Part 2.2.1.4). Monitoring for Total Kjeldahl Nitrogen (TKN), Nitrite + Nitrate Nitrogen, and Total Nitrogen shall be conducted once each year in rotating quarters in order to collect seasonal information about the discharge. The Operator said they are up to date with the Nitrogen monitoring series.

Location: Interview at Village Clerks' office/SSOs

Observation #: DM1-OB-006

Date: 03/23/2023

I started the discussion by asking if there have been any backups or overflows in the sanitary sewer collection system, including pump stations, manholes and piping over the last year? The Operator said no. I followed up with a question about basement backup complaints. He said they get no basement backup complaints.

I asked of the Village has a CMOM? The Operator said Yes, and Kaitlynn Ott provided a copy (see Appendix 2 – Inspection Documents). The CMOM was dated July 27, 2016 and has not been updated since. [Note, Permit

Part 5.3.2, requires at least annually conduct a self-audit of activities conducted under the permittee's CMOM program to ensure CMOM components are being implemented as necessary to meet the general standards of NR 210.23(3), Wis. Adm. Code. The CMOM is not up to date with changes to the treatment system, including removal of drying beds from the treatment process.]

The Operator confirmed that no portion of the Facility's sewage collection system is combined with the storm water collection system.

Location: Interview at Village Clerks' office/Pretreatment

Observation #: DM1-OB-007

Date: 03/21/2023

I asked how many industrial users contribute wastewater to the Facility. Paul Nicholson provided an annotated December 7, 2022 letter to the WDNR identifying the 15 current IUs (see Appendix 2 – Inspection Documents). Two are designated by the Village as "majors" including Driftless Brewing Company and Solar Meats LLC.

I asked if any IUs are contributing to interference or pass through at the Facility. Paul Nicholson identified Solar Meats LLC as a contributor to interference and pass through and pointed to the bottle of red-colored wastewater the Operator collected earlier in the inspection as evidence (see photos SOLD0209.JPG and SOLD0211.JPG in the Photo Log in Appendix 1). The Operator said he thinks the Soldiers Grove WWTF would meet permit limits if Solar Meats LLC wasn't discharging wastewater to the sewer system.

Location: Physical Inspection of the Soldiers Grove WWTF

Observation #: DM1-OB-008

Date: 03/23/2023

The interview portion of the inspection concluded at 11:30 AM. We agreed to meet back at Village Clerks' office after lunch at 12:30 PM, then head to the Soldiers Grove WWTF to conduct the physical inspection of the Facility. Physical inspection observations are summarized in the Photo Log in Appendix 1.

Photo(s)

1. [SOLD0212.JPG](#)
2. [SOLD0213.JPG](#)
3. [SOLD0214.JPG](#)
4. [SOLD0215.JPG](#)
5. [SOLD0216.JPG](#)
6. [SOLD0217.JPG](#)
7. [SOLD0218.JPG](#)
8. [SOLD0219.JPG](#)
9. [SOLD0220.JPG](#)
10. [SOLD0221.JPG](#)
11. [SOLD0222.JPG](#)
12. [SOLD0223.JPG](#)

SECTION III – AREAS OF CONCERN

Area(s) of Concern may not be in sequential order.

The presentation of Area(s) of Concern does not constitute a formal compliance determination or violation.

AOC Reference #: DM1-OB-001	Location: Interview/Operations and Maintenance
Regulation and/or Permit Requirement 5.3.2 CMOM Program. CMOM Section 3.1 requires a management information system for operations and maintenance. Permit Part CMOM Section 3.7 requires condition assessments for wastewater assets, and CMOM Section 4.6 requires Village to maintain spare parts and equipment inventory.	
AOC: Facility does not have written monthly plans for O&M, and they do not conduct scheduled routine and preventive maintenance pursuant to a written schedule.	
Regulation and/or Permit Requirement Permit Part 5.3.2 CMOM Program. CMOM Section 6.0 requires Overflow Emergency Response Plan.	
AOC: The Facility does not maintain written procedures for responding to emergencies such as power failures, floods, fires, and other natural disasters.	
Regulation and/or Permit Requirement Permit Part 5.3.2 CMOM Program. CMOM Section 4.2 requires records of visual inspections of the wastewater treatment facility.	
AOC: The Facility does not maintain a logbook which documents all plant activities on a daily basis, with the exception of a pH measurement log.	

AOC Reference #: DM1-OB-002	Location: Interview/Effluent Limit Exceedance Review
Regulation and/or Permit Requirement Permit Part 2.2 Monitoring Requirements and Effluent Limitations.	
AOC: Chronic permit effluent limit exceedances and recent significant noncompliance for BOD, TSS, and Phosphorus. (See ECHO Report Appendix 2 – Inspection Documents).	
Regulation and/or Permit Requirement Permit Part 5.2.1 Noncompliance Reporting	
AOC: Facility does not consistently report violations within 24-hours and follow-up with 5-day reports to WDNR.	

AOC Reference #: DM1-OB-004	Location: Interview/Flow Monitoring
Regulation and/or Permit Requirement Permit Part 5.2.2 Flow Meters - Flow meters shall be calibrated annually, as per NR 218.06, Wis. Adm. Code.	
AOC: Effluent flowmeter is calibrated (by an outside consultant) once a year. The operator expressed concerns about the reliability of consultant's last two calibration efforts.	

AOC Reference #: DM1-OB-005	Location: Interview/Self Monitoring
Regulation and/or Permit Requirement Permit Part 2.1. Sampling Point(s), requires representative effluent samples shall be collected from the effluent channel before the V notch weir for composite samples.	
AOC: Effluent composite samples are collected after the V-notch weir (see photo SOLD0216.JPG in the Photo Log in Appendix 1).	
Regulation and/or Permit Requirement Permit Part 5.1.2 Sampling and Testing Procedures. 40 CFR Part 136 Guidelines Establishing Test Procedures for the Analysis of Pollutants.	
AOC: The Operator did not realize there was an eight-hour holding time for <i>E.coli</i> samples (maximum transport time to the laboratory in 6 hours, and samples should be processed within 2 hours of receipt at the laboratory), and confirmed that not all samples are analyzed within holding time (see example copy of laboratory report for sample collected at 08:00 on May 18, 2022 and analyzed at 13:18 on May 19, 2022, in Appendix 2 – Inspection Documents).	
Regulation and/or Permit Requirement Permit Part 5.1.3. Recording of Results; and Permit Part 5.2.10., Proper Operation and Maintenance includes adequate laboratory and process controls, including appropriate quality assurance procedures. 40 CFR § 122.41(j).	
AOC: Facility does not retain copies of completed chain of custody forms after dropping off samples at the laboratory.	

AOC Reference #: DM1-OB-006	Location: Interview/SSOs
Regulation and/or Permit Requirement Permit Part 5.3.2 CMOM Program requires permittee to at least annually conduct a self-audit of activities conducted under the permittee's CMOM program to ensure CMOM components are being implemented as necessary to meet the general standards of NR 210.23(3), Wis. Adm. Code.	
AOC: The CMOM was dated July 27, 2016, and has not been updated since. The CMOM is not up to date with changes to the treatment system, including removal of drying beds from the treatment process.	

AOC Reference #: DM1-OB-007	Location: Interview/Pretreatment
Regulation and/or Permit Requirement Permit Part 5.2.5. Prohibited Wastes, including prohibition against wastewaters at a flow rate or pollutant loading which are excessive over relatively short time periods so as to cause a loss of treatment efficiency; and changes in discharge volume or composition from contributing industries which overload the treatment works or cause a loss of treatment efficiency. 40 C.F.R. § 403.3(p), "Pass Through" means, in pertinent part, discharge of a pollutant which exits a POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with other sources, is a cause of a violation of any requirement of a POTW's NPDES permit. 40 C.F.R. § 403.3(k), "Interference" means, in pertinent part, a discharge of pollutants which alone or in conjunction with other sources, inhibits or disrupts the treatment process or operation of a POTW, and which therefore is a cause of a violation of any requirement of a POTW's NPDES permit.	
AOC: Facility representatives identified Solar Meats LLC as a contributor to interference and pass through and pointed to the bottle of red-colored wastewater the Operator collected earlier in the inspection from the sewer manhole just downstream of Solar Meats LLC as evidence (see photos SOLD0209.JPG and SOLD0211.JPG in the Photo Log in Appendix 1). The Operator said he thinks the Soldiers Grove WWTF would meet permit limits if Solar Meats LLC wasn't discharging wastewater to the sewer system.	
AOC Reference #: DM1-OB-008	Location: Physical Inspection of the Soldiers Grove WWTF
Regulation and/or Permit Requirement Permit Part 5.2.10 Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit.	
AOC: Observed heavy grease on surface of aeration basin, clarifier, and clarifier effluent trough (see photos SOLD0214.JPG, SOLD0218.JPG, and SOLD0219.JPG in the Photo Log in Appendix 1).	
Regulation and/or Permit Requirement Permit Part 5.2.2. Flow Meters - Calibration.	
AOC: Observed effluent flow sensor was located outside of the V-notch weir and over turbulent water (see photo SOLD0217.JPG in the Photo Log in Appendix 1). The effluent flow meter should be located at a specific point over the V-notch weir to allow for proper calibration under non-turbulent flow.	
Regulation and/or Permit Requirement Permit Part 5.1.3. Recording of Results, requires permittee to maintain records which provide the following information for each effluent measurement or sample taken: • the date, exact place, method and time of sampling or measurements; • the individual who performed the sampling or measurements; • the date the analysis was performed; • the individual who performed the analysis; • the analytical techniques or methods used and the results of the analysis.	
AOC: Laboratory logsheets lack columns for sample collection and analysis time, and name of person sampling and analyzing sample.	

SECTION IV – CLOSING CONFERENCE AND FOLLOW UP**Closing Conference**

I began the inspection closing conference with Facility personnel and WDNR representatives at 01:40 PM (CT) on March 23, 2023. I reviewed the observations and preliminary Areas of Concern identified during the inspection. Observations and Area(s) of Concern have not yet been evaluated for a formal compliance determination. I also reviewed the copies of documents received from the Facility representatives during the inspection and the follow up item listed below. I provided an estimated timeframe for preparing the inspection report and concluded the inspection and exited the Facility at 1:45 PM (CT) on March 23, 2023.

Follow Up

The following item was requested by the inspector at the time of the inspection.

Location: Interview	Area: Operations and Maintenance
DM1-OB-001	
Confirm miles of sewer conveyance	

Communication Log

Kaitlynn Ott provided the 2025 Plan, also known as the Wastewater Facility Plan, dated December 6, 2022, via email during the inspection on March 23, 2023 [see Appendix 2 – Inspection Documents]. No additional information received by EPA Region 5 after exiting the Facility on March 23, 2023.

SECTION V – LIST OF APPENDICES

1. Photo Log
2. Document Log

APPENDIX 1: PHOTO LOG



Sample bucket with red colored wastewater collected from manhole downstream of Solar Meats LLC		SOLD0209.JPG	
03/23/2023 09:44 AM		Photographer: Dean Maraldo	
Sanitary Sewer Manhole North of American Legion		No CBI	No PII



View into manhole north of American Legion and downstream of Solar Meats LLC	SOLD0210.JPG	
03/23/2023 09:44 AM	Photographer: Dean Maraldo	
Sanitary Sewer Manhole North of American Legion	No CBI	No PII



Clear glass sample bottle with red colored wastewater collected from manhole downstream of Solar Meats LLC	SOLD0211.JPG	
03/23/2023 09:49 AM	Photographer: Dean Maraldo	
Sanitary Sewer Manhole North of American Legion	No CBI	No PII



View of wastewater treatment building and drying beds (no longer in use)	SOLD0212.JPG	
03/23/2023 12:50 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
View of wastewater treatment building and drying beds (no longer in use)		



Influent bar screen	SOLD0213.JPG	
03/23/2023 12:51 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Influent bar screen. No influent flow was observed at the time of the photo.		



Aeration basin and clarifier	SOLD0214.JPG	
03/23/2023 12:53 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Aeration basin is the outer treatment ring, clarifier is the inner ring. Note heavy grease on surface of aeration basin.		



Composite samplers (ISCO)	SOLD0215.JPG	
03/23/2023 12:55 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Effluent (right) and influent (left) composite samplers. The operator stated that composite sampler tubing is replaced bi-monthly.		



V-neck weir and disinfection tank	SOLD0216.JPG	
03/23/2023 01:00 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Note that the effluent sample tube is located after the V-notch weir. Permit requires collection of effluent composite samples before the weir. The V-notch weir is the metal-walled structure beneath the ladder in the photo.		



V-neck weir and disinfection tank	SOLD0217.JPG	
03/23/2023 01:06 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Note that the effluent flow sensor is located outside of the V-notch weir (under ladder in the photo) and over turbulent water. The effluent flow meter should be located at a specific point over the V-notch weir to allow for proper calibration under non-turbulent flow.		



Clarifier	SOLD0218.JPG	
03/23/2023 01:08 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Note the heavy grease and scum on the surface of the clarifier. The operated said the clarifier has "looked like this for the last year."		



Clarifier	SOLD0219.JPG	
03/23/2023 01:09 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Note heavy grease and scum in clarifier effluent trough. The operator said they try to clean troughs daily but difficult to keep up with it.		



Influent flow channel after bar screen and before aeration tank.	SOLD0220.JPG	
03/23/2023 01:16 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Observed influent flow after bar screen.		



Disinfection Room	SOLD0221.JPG	
03/23/2023 01:18 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Note lack of secondary containment for chemical tanks.		



Lab Room	SOLD0222.JPG	
03/23/2023 01:19 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Process control logsheet (image blurry). Noted logsheet lacks columns for sample collection and analysis time, and name of person sampling and analyzing.		



Lift Station #1	SOLD0223.JPG	
03/23/2023 01:27 PM	Photographer: Dean Maraldo	
Physical Inspection	No CBI	No PII
Lat lift station before the wastewater treatment plant. All flow is forced to the plant. Lift station installed in 2021 and is 35' deep. The operator believes the lift station has 24-hour storage capacity.		

APPENDIX 2: DOCUMENT LOG

Document Name	Contains CBI or PII	Date Received	Pages	Attached to Report below?
Soldiers Grove Facility Plan	No	3/23/2023	94	No
2021 Compliance Maintenance Annual Report	No	3/23/2023	27	Yes
Correspondence from Soldiers Grove Consultant to WDNR (2/21/2023)	No	3/23/2023	2	Yes
Correspondence from Soldiers Grove Consultant to Solar Meats LLC (3/26/2023)	No	3/23/2023	2	Yes
Correspondence from Soldiers Grove Consultant to WDNR (5/24/2022)	No	3/23/2023	4	Yes
Correspondence from Soldiers Grove Consultant to WDNR (12/7/2022)	No	3/23/2023	1	Yes
Correspondence (annotated by Village President during inspection) from Soldiers Grove Consultant to WDNR (5/24/2022)	No	3/23/2023	5	Yes
Correspondence from Solar Meats LLC to Soldiers Grove Consultant (2/8/2023)	No	3/23/2023	1	Yes
Correspondence from Soldiers Grove Consultant to Solar Meats LLC (2/9/2023)	No	3/23/2023	3	Yes
Laboratory Analysis Reports from Davy Laboratories for Soldiers Grove WWTF (for samples collected May 18, 2022; November 1, 2022; November 8, 2022; November 10, 2022; November 15, 2022; and February 7, 2023)	No	3/23/2023	10	Yes
Soldiers Grove CMOM dated July 27, 2016	No	3/23/2023	12	Yes
U.S. EPA ECHO Facility Summary dated March 21, 2023 (provided by U.S. EPA)	No	3/21/2023	3	Yes

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Soldiers Grove Wastewater Treatment Facility

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Influent Flow and Loading

1. Monthly Average Flows and BOD Loadings

1.1 Verify the following monthly flows and BOD loadings to your facility.

Influent No. 701	Influent Monthly Average Flow, MGD	x	Influent Monthly Average BOD Concentration mg/L	x	8.34	=	Influent Monthly Average BOD Loading, lbs/day
January	0.0421	x	138	x	8.34	=	49
February	0.0363	x	116	x	8.34	=	35
March	0.0361	x	138	x	8.34	=	42
April	0.0173	x	225	x	8.34	=	32
May	0.0147	x	231	x	8.34	=	28
June	0.0267	x	221	x	8.34	=	49
July	0.0215	x	254	x	8.34	=	46
August	0.0251	x	239	x	8.34	=	50
September	0.0170	x	233	x	8.34	=	33
October	0.0115	x	262	x	8.34	=	25
November	0.0153	x	254	x	8.34	=	32
December	0.0103	x	274	x	8.34	=	24

2. Maximum Monthly Design Flow and Design BOD Loading

2.1 Verify the design flow and loading for your facility.

Design	Design Factor	x	%	=	% of Design
Max Month Design Flow, MGD	.114	x	90	=	0.1026
		x	100	=	.114
		x	100	=	.114
Design BOD, lbs/day	340	x	90	=	306
		x	100	=	340

2.2 Verify the number of times the flow and BOD exceeded 90% or 100% of design, points earned, and score:

	Months of Influent	Number of times flow was greater than 90% of	Number of times flow was greater than 100% of	Number of times BOD was greater than 90% of design	Number of times BOD was greater than 100% of design
January	1	0	0	0	0
February	1	0	0	0	0
March	1	0	0	0	0
April	1	0	0	0	0
May	1	0	0	0	0
June	1	0	0	0	0
July	1	0	0	0	0
August	1	0	0	0	0
September	1	0	0	0	0
October	1	0	0	0	0
November	1	0	0	0	0
December	1	0	0	0	0
Points per each		2	1	3	2
Exceedances		0	0	0	0
Points		0	0	0	0
Total Number of Points					0

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3. Flow Meter

3.1 Was the influent flow meter calibrated in the last year?

☐ Yes Enter last calibration date (MM/DD/YYYY)

☒ No

If No, please explain:

Effluent flow meter only.

4. Sewer Use Ordinance

4.1 Did your community have a sewer use ordinance that limited or prohibited the discharge of excessive conventional pollutants ((C)BOD, SS, or pH) or toxic substances to the sewer from industries, commercial users, hauled waste, or residences?

☒ Yes

☐ No

If No, please explain:

4.2 Was it necessary to enforce the ordinance?

☐ Yes

☒ No

If Yes, please explain:

5. Septage Receiving

5.1 Did you have requests to receive septage at your facility?

Septic Tanks

Holding Tanks

Grease Traps

☐ Yes

☐ Yes

☐ Yes

☒ No

☒ No

☒ No

5.2 Did you receive septage at your facility? If yes, indicate volume in gallons.

Septic Tanks

☐ Yes

gallons

☒ No

Holding Tanks

☐ Yes

gallons

☒ No

Grease Traps

☐ Yes

gallons

☒ No

5.2.1 If yes to any of the above, please explain if plant performance is affected when receiving any of these wastes.

6. Pretreatment

6.1 Did your facility experience operational problems, permit violations, biosolids quality concerns, or hazardous situations in the sewer system or treatment plant that were attributable to commercial or industrial discharges in the last year?

☐ Yes

☒ No

If yes, describe the situation and your community's response.

6.2 Did your facility accept hauled industrial wastes, landfill leachate, etc.?

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☐ Yes

☒ No

If yes, describe the types of wastes received and any procedures or other restrictions that were in place to protect the facility from the discharge of hauled industrial wastes.

--

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	A

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Effluent Quality and Plant Performance (BOD/CBOD)

1. Effluent (C)BOD Results

1.1 Verify the following monthly average effluent values, exceedances, and points for BOD or CBOD

Outfall No. 001	Monthly Average Limit (mg/L)	90% of Permit Limit > 10 (mg/L)	Effluent Monthly Average (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance	90% Permit Limit Exceedance
January	30	27	77	1	1	1
February	30	27	13	1	0	0
March	30	27	22	1	0	0
April	30	27	30	1	0	1
May	30	27	17	1	0	0
June	30	27	18	1	0	0
July	30	27	42	1	1	1
August	30	27	274	1	1	1
September	30	27	64	1	1	1
October	30	27	8	1	0	0
November	30	27	17	1	0	0
December	30	27	16	1	0	0

* Equals limit if limit is <= 10

Months of discharge/yr	12		
Points per each exceedance with 12 months of discharge		7	3
Exceedances		4	5
Points		28	15
Total number of points			43

NOTE: For systems that discharge intermittently to state waters, the points per monthly exceedance for this section shall be based upon a multiplication factor of 12 months divided by the number of months of discharge. Example: For a wastewater facility discharging only 6 months of the year, the multiplication factor is $12/6 = 2.0$

1.2 If any violations occurred, what action was taken to regain compliance?

Working with Solar Meats, catching blood at the locker before it goes into the drain, and the restaurants in town with grease traps.

2. Flow Meter Calibration

2.1 Was the effluent flow meter calibrated in the last year?

● Yes Enter last calibration date (MM/DD/YYYY)

2021-07-02

○ No

If No, please explain:

3. Treatment Problems

3.1 What problems, if any, were experienced over the last year that threatened treatment?

High BOD-suspended solids.

4. Other Monitoring and Limits

4.1 At any time in the past year was there an exceedance of a permit limit for any other pollutants such as chlorides, pH, residual chlorine, fecal coliform, or metals?

○ Yes

43

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- No

If Yes, please explain:

4.2 At any time in the past year was there a failure of an effluent acute or chronic whole effluent toxicity (WET) test?

- Yes

- No

If Yes, please explain:

4.3 If the biomonitoring (WET) test did not pass, were steps taken to identify and/or reduce source(s) of toxicity?

- Yes

- No

- N/A

Please explain unless not applicable:

Total Points Generated	43
Score (100 - Total Points Generated)	57
Section Grade	F

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2021

Effluent Quality and Plant Performance (Total Suspended Solids)

1. Effluent Total Suspended Solids Results

1.1 Verify the following monthly average effluent values, exceedances, and points for TSS:

Outfall No. 001	Monthly Average Limit (mg/L)	90% of Permit Limit >10 (mg/L)	Effluent Monthly Average (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance	90% Permit Limit Exceedance
January	30	27	32	1	1	1
February	30	27	5	1	0	0
March	30	27	10	1	0	0
April	30	27	4	1	0	0
May	30	27	8	1	0	0
June	30	27	8	1	0	0
July	30	27	11	1	0	0
August	30	27	57	1	1	1
September	30	27	129	1	1	1
October	30	27	18	1	0	0
November	30	27	24	1	0	0
December	30	27	6	1	0	0
* Equals limit if limit is <= 10						
Months of Discharge/yr				12		
Points per each exceedance with 12 months of discharge:					7	3
Exceedances					3	3
Points					21	9
Total Number of Points						30

30

NOTE: For systems that discharge intermittently to state waters, the points per monthly exceedance for this section shall be based upon a multiplication factor of 12 months divided by the number of months of discharge.

Example: For a wastewater facility discharging only 6 months of the year, the multiplication factor is $12/6 = 2.0$

1.2 If any violations occurred, what action was taken to regain compliance?

Engineering sewer plant update in the works for 2025-wasted sludge.

Total Points Generated	30
Score (100 - Total Points Generated)	70
Section Grade	D

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2021

Effluent Quality and Plant Performance (Phosphorus)

1. Effluent Phosphorus Results

1.1 Verify the following monthly average effluent values, exceedances, and points for Phosphorus

Outfall No. 001	Monthly Average phosphorus Limit (mg/L)	Effluent Monthly Average phosphorus (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance
January	5.2	6.155	1	1
February	5.2	4.033	1	0
March	5.2	2.232	1	0
April	5.2	5.138	1	0
May	5.2	4.593	1	0
June	5.2	1.046	1	0
July	5.2	3.043	1	0
August	5.2	4.470	1	0
September	5.2	2.689	1	0
October	5.2	6.043	1	1
November	5.2	4.559	1	0
December	5.2	0.461	1	0
Months of Discharge/yr			12	
Points per each exceedance with 12 months of discharge:				10
Exceedances				2
Total Number of Points				20

20

NOTE: For systems that discharge intermittently to waters of the state, the points per monthly exceedance for this section shall be based upon a multiplication factor of 12 months divided by the number of months of discharge.

Example: For a wastewater facility discharging only 6 months of the year, the multiplication factor is $12/6 = 2.0$

1.2 If any violations occurred, what action was taken to regain compliance?

Plans are in the works with Delta 3 Engineering to reengineer the sewer plant to be done by 2025.

Total Points Generated	20
Score (100 - Total Points Generated)	80
Section Grade	C

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Biosolids Quality and Management

1. Biosolids Use/Disposal

1.1 How did you use or dispose of your biosolids? (Check all that apply)

- ☒ Land applied under your permit
- ☐ Publicly Distributed Exceptional Quality Biosolids
- ☐ Hauled to another permitted facility
- ☐ Landfilled
- ☐ Incinerated
- ☐ Other

NOTE: If you did not remove biosolids from your system, please describe your system type such as lagoons, reed beds, recirculating sand filters, etc.

1.1.1 If you checked Other, please describe:

2. Land Application Site

2.1 Last Year's Approved and Active Land Application Sites

2.1.1 How many acres did you have?

8.20 acres

2.1.2 How many acres did you use?

5 acres

2.2 If you did not have enough acres for your land application needs, what action was taken?

2.3 Did you overapply nitrogen on any of your approved land application sites you used last year?

☐ Yes (30 points)

☒ No

2.4 Have all the sites you used last year for land application been soil tested in the previous 4 years?

☒ Yes

☐ No (10 points)

☐ N/A

0

3. Biosolids Metals

Number of biosolids outfalls in your WPDES permit:

3.1 For each outfall tested, verify the biosolids metal quality values for your facility during the last calendar year.

3.1.1 Number of times any of the metals exceeded the high quality limits OR 80% of the limit for molybdenum, nickel, or selenium = 0

Exceedence Points

☒ 0 (0 Points)

☐ 1-2 (10 Points)

☐ > 2 (15 Points)

3.1.2 If you exceeded the high quality limits, did you cumulatively track the metals loading at each land application site? (check applicable box)

☐ Yes

☒ No (10 points)

☐ N/A - Did not exceed limits or no HQ limit applies (0 points)

☐ N/A - Did not land apply biosolids until limit was met (0 points)

3.1.3 Number of times any of the metals exceeded the ceiling limits = 0

Exceedence Points

☒ 0 (0 Points)

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☐ 1 (10 Points) ☐ > 1 (15 Points) 3.1.4 Were biosolids land applied which exceeded the ceiling limit? ☐ Yes (20 Points) ☒ No (0 Points) 3.1.5 If any metal limit (high quality or ceiling) was exceeded at any time, what action was taken? Has the source of the metals been identified? 	10
4. Pathogen Control (per outfall): 4.1 Verify the following information. If any information is incorrect, use the Report Issue button under the Options header in the left-side menu. 4.2 If exceeded Class B limit or did not meet the process criteria at the time of land application. 4.2.1 Was the limit exceeded or the process criteria not met at the time of land application? ☐ Yes (40 Points) ☒ No If yes, what action was taken? 	0
5. Vector Attraction Reduction (per outfall): 5.1 Verify the following information. If any of the information is incorrect, use the Report Issue button under the Options header in the left-side menu. 5.2 Was the limit exceeded or the process criteria not met at the time of land application? ☐ Yes (40 Points) ☒ No If yes, what action was taken? 	0
6. Biosolids Storage 6.1 How many days of actual, current biosolids storage capacity did your wastewater treatment facility have either on-site or off-site? ☒ >= 180 days (0 Points) ☐ 150 - 179 days (10 Points) ☐ 120 - 149 days (20 Points) ☐ 90 - 119 days (30 Points) ☐ < 90 days (40 Points) ☐ N/A (0 Points) 6.2 If you checked N/A above, explain why. 	0
7. Issues 7.1 Describe any outstanding biosolids issues with treatment, use or overall management: 	

Total Points Generated	10
Score (100 - Total Points Generated)	90
Section Grade	B

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2021

Staffing and Preventative Maintenance (All Treatment Plants)

1. Plant Staffing

1.1 Was your wastewater treatment plant adequately staffed last year?

☒ Yes

☐ No

If No, please explain:

Could use more help/staff for:

1.2 Did your wastewater staff have adequate time to properly operate and maintain the plant and fulfill all wastewater management tasks including recordkeeping?

☒ Yes

☐ No

If No, please explain:

2. Preventative Maintenance

2.1 Did your plant have a documented AND implemented plan for preventative maintenance on major equipment items?

☒ Yes (Continue with question 2) ☐

☐ No (40 points) ☐

If No, please explain, then go to question 3:

2.2 Did this preventative maintenance program depict frequency of intervals, types of lubrication, and other tasks necessary for each piece of equipment?

☒ Yes

☐ No (10 points)

2.3 Were these preventative maintenance tasks, as well as major equipment repairs, recorded and filed so future maintenance problems can be assessed properly?

☒ Yes

☐ Paper file system

☐ Computer system

☒ Both paper and computer system

☐ No (10 points)

0

3. O&M Manual

3.1 Does your plant have a detailed O&M and Manufacturer Equipment Manuals that can be used as a reference when needed?

☒ Yes

☐ No

4. Overall Maintenance /Repairs

4.1 Rate the overall maintenance of your wastewater plant.

☐ Excellent

☐ Very good

☒ Good

☐ Fair

☐ Poor

Describe your rating:

We spend as much time as possible at the wastewater plant.

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Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	A

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Operator Certification and Education

1. Operator-In-Charge

1.1 Did you have a designated operator-in-charge during the report year?

- ☒ Yes (0 points)
- ☐ No (20 points)

Name:

BRIAN L COPUS

Certification No:

32675

0

2. Certification Requirements

2.1 In accordance with Chapter NR 114.56 and 114.57, Wisconsin Administrative Code, what level and subclass(es) were required for the operator-in-charge (OIC) to operate the wastewater treatment plant and what level and subclass(es) were held by the operator-in-charge?

Sub Class	SubClass Description	WWTP	OIC		
		Basic	OIT	Basic	Advanced
A1	Suspended Growth Processes	X		X	
A2	Attached Growth Processes				
A3	Recirculating Media Filters				
A4	Ponds, Lagoons and Natural				
A5	Anaerobic Treatment Of Liquid				
B	Solids Separation	X		X	
C	Biological Solids/Sludges	X		X	
P	Total Phosphorus				
N	Total Nitrogen				
D	Disinfection	X		X	
L	Laboratory				
U	Unique Treatment Systems				
SS	Sanitary Sewage Collection	X	NA	NA	NA

0

2.2 Was the operator-in-charge certified at the appropriate level and subclass(es) to operate this plant? (Note: Certification in subclass SS is required 5 years after permit reissuance.)

- ☒ Yes (0 points)
- ☐ No (20 points)

3. Succession Planning

3.1 In the event of the loss of your designated operator-in-charge, did you have a contingency plan to ensure the continued proper operation and maintenance of the plant that includes one or more of the following options (check all that apply)?

- ☐ One or more additional certified operators on staff
- ☐ An arrangement with another certified operator
- ☒ An arrangement with another community with a certified operator
- ☐ An operator on staff who has an operator-in-training certificate for your plant and is expected to be certified within one year
- ☐ A consultant to serve as your certified operator
- ☐ None of the above (20 points)

If "None of the above" is selected, please explain:

0

4. Continuing Education Credits

4.1 If you had a designated operator-in-charge, was the operator-in-charge earning Continuing Education Credits at the following rates?

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- OIT and Basic Certification:
- Averaging 6 or more CECs per year.
 - Averaging less than 6 CECs per year.
- Advanced Certification:
- Averaging 8 or more CECs per year.
 - Averaging less than 8 CECs per year.

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	A

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Financial Management

1. Provider of Financial Information

Name:

Kaitlynn Ott

Telephone:

(608) 624-3264

(XXX) XXX-XXXX

E-Mail Address
(optional):

sgrove@mwt.net

2. Treatment Works Operating Revenues

2.1 Are User Charges or other revenues sufficient to cover O&M expenses for your wastewater treatment plant AND/OR collection system ?

● Yes (0 points) ☐

○ No (40 points)

If No, please explain:

2.2 When was the User Charge System or other revenue source(s) last reviewed and/or revised?
Year:

2021

● 0-2 years ago (0 points) ☐

○ 3 or more years ago (20 points) ☐

○ N/A (private facility)

2.3 Did you have a special account (e.g., CWP required segregated Replacement Fund, etc.) or financial resources available for repairing or replacing equipment for your wastewater treatment plant and/or collection system?

● Yes (0 points)

○ No (40 points)

REPLACEMENT FUNDS [PUBLIC MUNICIPAL FACILITIES SHALL COMPLETE QUESTION 3]

3. Equipment Replacement Funds

3.1 When was the Equipment Replacement Fund last reviewed and/or revised?

Year:

2021

● 1-2 years ago (0 points) ☐

○ 3 or more years ago (20 points) ☐

○ N/A

If N/A, please explain:

3.2 Equipment Replacement Fund Activity

3.2.1 Ending Balance Reported on Last Year's CMAR

\$ 12,118.02

3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)

+ \$ 0.00

3.2.3 Adjusted January 1st Beginning Balance

\$ 12,118.02

3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)

+ \$ 31,610.08

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3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*)

- \$ 0.00

3.2.6 Ending Balance as of December 31st for CMAR Reporting Year

\$ 43,728.10

All Sources: This ending balance should include all Equipment Replacement Funds whether held in a bank account(s), certificate(s) of deposit, etc.

3.2.6.1 Indicate adjustments, equipment purchases, and/or major repairs from 3.2.5 above.

3.3 What amount should be in your Replacement Fund? \$ 15,000.00

0

Please note: If you had a CWFP loan, this amount was originally based on the Financial Assistance Agreement (FAA) and should be regularly updated as needed. Further calculation instructions and an example can be found by clicking the SectionInstructions link under Info header in the left-side menu.

3.3.1 Is the December 31 Ending Balance in your Replacement Fund above, (#3.2.6) equal to, or greater than the amount that should be in it (#3.3)?

- ☒ Yes
- ☐ No

If No, please explain.

4. Future Planning

4.1 During the next ten years, will you be involved in formal planning for upgrading, rehabilitating, or new construction of your treatment facility or collection system?

- ☒ Yes - If Yes, please provide major project information, if not already listed below. ☐ ☐
- ☐ No

Project #	Project Description	Estimated Cost	Approximate Construction Year
1	Sanitary Sewer Improvements, Upgraded lift stations.	1094074.5	2021
2	Wastewater Treatment Facility upgrade	3000000.00	2023
3	Sewer Extension-STH 131	200000.00	2025

5. Financial Management General Comments

We are in the process of approving plans for the wastewater treatment facility upgrades and working on plans for extending the sewer lines up the hill to the subdivision in town.

ENERGY EFFICIENCY AND USE

6. Collection System

6.1 Energy Usage

6.1.1 Enter the monthly energy usage from the different energy sources:

COLLECTION SYSTEM PUMPAGE: Total Power Consumed

Number of Municipally Owned Pump/Lift Stations: 4

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	Electricity Consumed (kWh)	Natural Gas Consumed (therms)
January	15,337	
February	14,474	
March	14,521	
April	12,809	
May	11,934	
June	13,666	
July	12,804	
August	12,602	
September	12,208	
October	15,452	
November	15,769	
December	15,409	
Total	166,985	0
Average	13,915	0

6.1.2 Comments:

6.2 Energy Related Processes and Equipment

6.2.1 Indicate equipment and practices utilized at your pump/lift stations (Check all that apply):

- ☐ Comminution or Screening
- ☒ Extended Shaft Pumps
- ☐ Flow Metering and Recording
- ☐ Pneumatic Pumping
- ☐ SCADA System
- ☐ Self-Priming Pumps
- ☒ Submersible Pumps
- ☐ Variable Speed Drives
- ☐ Other:

6.2.2 Comments:

All lift stations have new motor pumps, are more efficient.

6.3 Has an Energy Study been performed for your pump/lift stations?

- ☒ No
- ☐ Yes

Year:

By Whom:

Describe and Comment:

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6.4 Future Energy Related Equipment

6.4.1 What energy efficient equipment or practices do you have planned for the future for your pump/lift stations?

All pumps at the lift stations have been replaced so they are more efficient now, also have new communication so when a lift station goes down, alerts get sent to operators phone so they are aware and can fix the issue as soon as possible.

7. Treatment Facility

7.1 Energy Usage

7.1.1 Enter the monthly energy usage from the different energy sources:

TREATMENT PLANT: Total Power Consumed/Month

	Electricity Consumed (kWh)	Total Influent Flow (MG)	Electricity Consumed/ Flow (kWh/MG)	Total Influent BOD (1000 lbs)	Electricity Consumed/ Total Influent BOD (kWh/1000lbs)	Natural Gas Consumed (therms)
January	15,377	1.31	11,738	1.52	10,116	
February	14,474	1.02	14,190	0.98	14,769	
March	14,521	1.12	12,965	1.30	11,170	
April	12,809	0.52	24,633	0.96	13,343	
May	11,934	0.46	25,943	0.87	13,717	
June	13,666	0.80	17,083	1.47	9,297	
July	12,804	0.67	19,110	1.43	8,954	
August	12,602	0.78	16,156	1.55	8,130	
September	12,208	0.51	23,937	0.99	12,331	
October	15,452	0.36	42,922	0.78	19,810	
November	15,769	0.46	34,280	0.96	16,426	
December	15,409	0.32	48,153	0.74	20,823	
Total	167,025	8.33		13.55		0
Average	13,919	0.69	24,259	1.13	13,241	0

7.1.2 Comments:

7.2 Energy Related Processes and Equipment

7.2.1 Indicate equipment and practices utilized at your treatment facility (Check all that apply):

- ☒ Aerobic Digestion
- ☐ Anaerobic Digestion
- ☒ Biological Phosphorus Removal
- ☐ Coarse Bubble Diffusers
- ☐ Dissolved O2 Monitoring and Aeration Control
- ☐ Effluent Pumping
- ☒ Fine Bubble Diffusers
- ☐ Influent Pumping
- ☐ Mechanical Sludge Processing
- ☐ Nitrification
- ☐ SCADA System
- ☐ UV Disinfection

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6/16/2022

2021

☐ Variable Speed Drives

☐ Other:

7.2.2 Comments:

7.3 Future Energy Related Equipment

7.3.1 What energy efficient equipment or practices do you have planned for the future for your treatment facility?

8. Biogas Generation

8.1 Do you generate/produce biogas at your facility?

☒ No

☐ Yes

If Yes, how is the biogas used (Check all that apply):

☐ Flared Off

☐ Building Heat

☐ Process Heat

☐ Generate Electricity

☐ Other:

9. Energy Efficiency Study

9.1 Has an Energy Study been performed for your treatment facility?

☒ No

☐ Yes

☐ Entire facility

Year:

By Whom:

Describe and Comment:

☐ Part of the facility

Year:

By Whom:

Describe and Comment:

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Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	A

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Last Updated: Reporting For:
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Sanitary Sewer Collection Systems

1. Capacity, Management, Operation, and Maintenance (CMOM) Program

1.1 Do you have a CMOM program that is being implemented?

- ☒ Yes
- ☐ No

If No, explain:

1.2 Do you have a CMOM program that contains all the applicable components and items according to Wisc. Adm Code NR 210.23 (4)?

- ☒ Yes
- ☐ No (30 points)
- ☐ N/A

If No or N/A, explain:

1.3 Does your CMOM program contain the following components and items? (check the components and items that apply)

☐ Goals [NR 210.23 (4)(a)]

Describe the major goals you had for your collection system last year:

Did you accomplish them?

- ☐ Yes
- ☐ No

If No, explain:

☒ Organization [NR 210.23 (4) (b)] ☐ ☐

Does this chapter of your CMOM include:

- ☒ Organizational structure and positions (eg. organizational chart and position descriptions)
- ☒ Internal and external lines of communication responsibilities
- ☒ Person(s) responsible for reporting overflow events to the department and the public

☒ Legal Authority [NR 210.23 (4) (c)]

What is the legally binding document that regulates the use of your sewer system?

CMOM & Ordinance

If you have a Sewer Use Ordinance or other similar document, when was it last reviewed and revised? (MM/DD/YYYY) 2021-06-10

Does your sewer use ordinance or other legally binding document address the following:

- ☒ Private property inflow and infiltration
- ☒ New sewer and building sewer design, construction, installation, testing and inspection
- ☒ Rehabilitated sewer and lift station installation, testing and inspection
- ☒ Sewage flows satellite system and large private users are monitored and controlled, as necessary
- ☒ Fat, oil and grease control
- ☒ Enforcement procedures for sewer use non-compliance

☒ Operation and Maintenance [NR 210.23 (4) (d)]

Does your operation and maintenance program and equipment include the following:

- ☐ Equipment and replacement part inventories
- ☒ Up-to-date sewer system map
- ☒ A management system (computer database and/or file system) for collection system information for O&M activities, investigation and rehabilitation

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☒ A description of routine operation and maintenance activities (see question 2 below) ☒ Capacity assessment program ☒ Basement back assessment and correction ☒ Regular O&M training ☒ Design and Performance Provisions [NR 210.23 (4) (e)] ☐ ☐ What standards and procedures are established for the design, construction, and inspection of the sewer collection system, including building sewers and interceptor sewers on private property? ☒ State Plumbing Code, DNR NR 110 Standards and/or local Municipal Code Requirements ☒ Construction, Inspection, and Testing ☐ Others: ☒ Overflow Emergency Response Plan [NR 210.23 (4) (f)] ☐ ☐ Does your emergency response capability include: ☒ Responsible personnel communication procedures ☒ Response order, timing and clean-up ☒ Public notification protocols ☒ Training ☒ Emergency operation protocols and implementation procedures ☒ Annual Self-Auditing of your CMOM Program [NR 210.23 (5)] ☐ ☐ ☒ Special Studies Last Year (check only those that apply): ☒ Infiltration/Inflow (I/I) Analysis ☒ Sewer System Evaluation Survey (SSES) ☒ Sewer Evaluation and Capacity Management Plan (SECAP) ☒ Lift Station Evaluation Report ☐ Others: 	0
--	---

2. Operation and Maintenance

2.1 Did your sanitary sewer collection system maintenance program include the following maintenance activities? Complete all that apply and indicate the amount maintained.

Cleaning	15	% of system/year
Root removal	0	% of system/year
Flow monitoring	0	% of system/year
Smoke testing	0	% of system/year
Sewer line televising	15	% of system/year
Manhole inspections	0	% of system/year
Lift station O&M	0	# per L.S./year
Manhole rehabilitation	10	% of manholes rehabbed
Mainline rehabilitation	5	% of sewer lines rehabbed
Private sewer inspections	0	% of system/year
Private sewer I/I removal	0	% of private services

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River or water crossings % of pipe crossings evaluated or maintained

Please include additional comments about your sanitary sewer collection system below:

3. Performance Indicators

3.1 Provide the following collection system and flow information for the past year.

56	Total actual amount of precipitation last year in inches
36	Annual average precipitation (for your location)
4	Miles of sanitary sewer
4	Number of lift stations
0	Number of lift station failures
0	Number of sewer pipe failures
0	Number of basement backup occurrences
0	Number of complaints
	Average daily flow in MGD (if available)
	Peak monthly flow in MGD (if available)
	Peak hourly flow in MGD (if available)

3.2 Performance ratios for the past year:

0.00	Lift station failures (failures/year)
0.00	Sewer pipe failures (pipe failures/sewer mile/yr)
0.00	Sanitary sewer overflows (number/sewer mile/yr)
0.00	Basement backups (number/sewer mile)
0.00	Complaints (number/sewer mile)
	Peaking factor ratio (Peak Monthly:Annual Daily Avg)
	Peaking factor ratio (Peak Hourly:Annual Daily Avg)

4. Overflows

LIST OF SANITARY SEWER (SSO) AND TREATMENT FACILITY (TFO) OVERFLOWS REPORTED **

Date	Location	Cause	Estimated Volume
None reported			

** If there were any SSOs or TFOs that are not listed above, please contact the DNR and stop work on this section until corrected.

5. Infiltration / Inflow (I/I)

5.1 Was infiltration/inflow (I/I) significant in your community last year?

☐ Yes

☒ No

If Yes, please describe:

5.2 Has infiltration/inflow and resultant high flows affected performance or created problems in your collection system, lift stations, or treatment plant at any time in the past year?

☐ Yes

☒ No

If Yes, please describe:

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5.3 Explain any infiltration/inflow (I/I) changes this year from previous years: Leaks 870 feet of sewer main lined, 2000 feet replaced. 5.4 What is being done to address infiltration/inflow in your collection system? New lift station, 870 sewer main lined, 2000 feet sewer main line replaced.	
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Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	A

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Grading Summary

WPDES No: 0022241

SECTIONS	LETTER GRADE	GRADE POINTS	WEIGHTING FACTORS	SECTION POINTS
Influent	A	4	3	12
BOD/CBOD	F	0	10	0
TSS	D	1	5	5
Phosphorus	C	2	3	6
Biosolids	B	3	5	15
Staffing/PM	A	4	1	4
OpCert	A	4	1	4
Financial	A	4	1	4
Collection	A	4	3	12
TOTALS			32	62
GRADE POINT AVERAGE (GPA) = 1.94				

Notes:

A = Voluntary Range (Response Optional)

B = Voluntary Range (Response Optional)

C = Recommendation Range (Response Required)

D = Action Range (Response Required)

F = Action Range (Response Required)

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6/16/2022 **2021**

Resolution or Owner's Statement

Name of Governing
Body or Owner:

Village of Soldiers Grove

Date of Resolution or
Action Taken:

2022-06-02

Resolution Number:

2022-01

Date of Submittal:

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO SPECIFIC CMAR SECTIONS (Optional for grade A or B. Required for grade C, D, or F):

Influent Flow and Loadings: Grade = A

Effluent Quality: BOD: Grade = F

Working with Delta 3 Engineering for upgrades for the wastewater treatment plant for 2025.

Effluent Quality: TSS: Grade = D

Working with Delta 3 Engineering for upgrades for the wastewater treatment plant for 2025.

Effluent Quality: Phosphorus: Grade = C

Working with Delta 3 Engineering for upgrades for the wastewater treatment plant for 2025.

Biosolids Quality and Management: Grade = B

Staffing: Grade = A

Operator Certification: Grade = A

Financial Management: Grade = A

Collection Systems: Grade = A

(Regardless of grade, response required for Collection Systems if SSOs were reported)

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO THE OVERALL GRADE POINT AVERAGE AND ANY GENERAL COMMENTS

(Optional for G.P.A. greater than or equal to 3.00, required for G.P.A. less than 3.00)

G.P.A. = 1.94

Working with Delta 3 Engineering for upgrades for the wastewater treatment plant for 2025.

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Last Updated: Reporting For:
6/16/2022 2021

DNR Response to Resolution or Owner's Statement

Name of Governing
Body or Owner:

Village of Soldiers Grove

Date of Resolution or
Action Taken:

2022-06-02

Resolution Number:

2022-01

Date of Submittal:

6/16/2022

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO SPECIFIC CMAR SECTIONS (Optional for grade A or B. Required for grade C, D, or F):

Influent Flow and Loadings: Grade = A

Permittee Response:

DNR Response:

Effluent Quality: BOD: Grade = F

Permittee Response:

Working with Delta 3 Engineering for upgrades for the wastewater treatment plant for 2025.

DNR Response:

BOD5 effluent quality was exceeded 4 out of 12 months. The 05/24/2022 NON response mentioned Solar Meats and other grease traps in town as possible causes. Solar Meats had expanded production and had subsequently increased loadings to the WWTF which has caused treatment issues at the Village's WWTF. Solar Meats has since altered blood collection and sanitary discharges.

Eliminating discharge of excessive fats, oil, and grease to the sanitary sewer by Country Gardens Motel & Lounge occurred. Driftless Brewing company eliminated discharge of yeast and brewing byproducts and now neutralize pH of their discharge. Please follow through with your resolution of continued follow up with the local industries.

Effluent Quality: TSS: Grade = D

Permittee Response:

Working with Delta 3 Engineering for upgrades for the wastewater treatment plant for 2025.

DNR Response:

TSS effluent quality was exceeded 3 out of 12 months. See response above.

Effluent Quality: Phosphorus: Grade = C

Permittee Response:

Working with Delta 3 Engineering for upgrades for the wastewater treatment plant for 2025.

DNR Response:

Phosphorus effluent quality was exceeded twice during the 12 months. See response above.

Biosolids Quality and Management: Grade = B

Permittee Response:

DNR Response:

At any time when high quality limits are exceeded then cumulative tracking of metals is required on fields that received land applied biosolids.

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6/16/2022 **2021**

Staffing: Grade = A
Permittee Response:

DNR Response:

Operator Certification: Grade = A

Permittee Response:

DNR Response:

Certification in subclass SS is required 5 years after your permit reissuance.

Financial Management: Grade = A

Permittee Response:

DNR Response:

Collection Systems: Grade = A

(Regardless of grade, response required for Collection Systems if SSOs were reported)

Permittee Response:

DNR Response:

Please remember to audit your CMOM annually to set specific goals and identify any problem areas. These goals should then be tracked via the CMAR.

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO THE OVERALL GRADE POINT AVERAGE AND ANY GENERAL COMMENTS

(Optional for G.P.A. greater than or equal to 3.00, required for G.P.A. less than 3.00)

G.P.A. = 1.94

Permittee Response:

Working with Delta 3 Engineering for upgrades for the wastewater treatment plant for 2025.

DNR G.P.A. Response:

The Village is working toward I&I reduction to improve treatment capacity and efficiency at the WWTF. The Village is currently completing construction of the Proposed 2021 Sanitary Sewer Improvements Project,

For CMAR grade point averages less than 2.00, the municipality shall provide the department with a plan that describes action the owner will take to address the problems that resulted in the low grade point average. Please note that with a GPA of 1.94 you have reached that level. At this time, the department is not requiring an Operation and Needs Review, as Delta 3 Engineering has been retained to design an upgrade for the WWTF by 2025.

Please submit the Village's Plan by September 30, 2022 that describes action the owner will take to address the problems that resulted in the low grade point average and how WPDES limits will be met consistently.

DNR CMAR Overall Response:

Please follow up with the Village's Plan by September 30, 2022 that describes action the owner will take to address the problems that resulted in the low grade point average and how WPDES limits will be met consistently.

Thank you for your effort to protect human health and the environment by properly managing wastewater generated by your community. Thank you for submitting your 2021 eCMAR.

DNR Reviewer: Stephenson, Julia

Phone: (608) 785-9981

Address: 3550 Mormon Coulee Rd, La Crosse, WI 54601-6793

Date: 8/31/2022

February 21, 2023

Ms. Julia Stephenson
Wisconsin Department of Natural Resources
3550 Mormon Coulee Road
La Crosse, WI 54601

Re: Interim Compliance Measures
Village of Soldiers Grove, WI

Dear Julia:

As requested by the **Department Response to Village Submittal** dated January 6, 2023. The Village of Soldiers Grove (Village) has provided the following letter to address interim compliance measures to address ongoing Permit exceedances.

I. Cause for Noncompliance

The Village has performed sampling of wastewater discharged from Solar Meats from November 1 – November 17, 2022. The operator noted the red color of the sample which indicated Solar Meats was not adequately capturing blood from the exsanguination area. Sample results are provided in Table 1 below.

Table 1 – Wastewater Sampling Results for Solar Meats

Pollutant	# of Samples	Max	Min	Avg	Sewer Ordinance
BOD (mg/L)	4	2,720	727	1,707	250
TSS (mg/L)	4	648	181	352	250

II. Interim Actions and Future Prevention

Treatment Modifications

The Village of Soldiers Grove operates a Wastewater Treatment Facility (WWTF) consisting of a bar screen, activated sludge aeration tank, final clarifier, chlorine disinfection, and sludge digester. Sludge is stored on site prior to land application on DNR approved sites. The Village has conducted its annual operations and maintenance at the WWTF in order maintain current performance levels of the facility and not regress treatment quality. The Village does not have great flexibility within the current treatment process to handle slug loads. For example, the aeration blowers operate as ON/OFF and do not allow for variable output. The operator has increased the RAS rate to provide a greater mixed liquor suspended solids (MLSS) concentration in order to reduce the food:microorganism ratio caused by the high strength waste from local businesses.

Alteration of Sanitary Sewer Discharges

The Village and Delta 3 met with the owners of Solar Meats regarding high pollutant concentrations within wastewater discharges on January 25, 2023. Solar Meats has since provided a letter of intent to perform improvements to the kill floor area to capture blood/wash water for disposal at another facility. Please see attached letter and schematic. The letter states that improvements will be completed by May 15, 2023. Until May 15, Solar Meats has been

instructed to evaluate additional compliance options including:

- Absorbent material/paper on kill floor to catch blood and disposal with garbage prior to washdown
- Developing Standard Operating Procedure for washdown. Don't wash clots of blood or fat down the drain. Instead, manually clean areas and dispose in trash prior to washdown.
- Routine cleaning of grease interceptors (if not already being done)
- Pretreatment systems

Monitoring

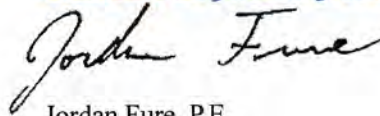
The Village will perform routine monitoring of the discharge at Solar Meats. Monitoring will continue after Solar Meats completes facility improvements in order to evaluate effectiveness.

The Village will continue to work with the DNR to develop alternatives to meet the requirements of its WPDES Permit. Please review for approval.

If you have any questions, please feel free to contact me at (608) 348-5355. Thank you.

Sincerely,

DELTA 3 Engineering, Inc.



Jordan Fure, P.E.
Project Engineer

JDF: jf

Cc: Kaitlynn Ott – Clerk-Treasurer

Brian Copus – Director of Public Works

EVERY ANGLE COVERED



From: Jordan Fure
Sent: Monday, March 6, 2023 12:51 PM
To: scott@solarmeats.com
Cc: Duane Johannes; Rich Sitarski; Bart Nies; Brian Copus; Kepler, Tamera - MUN; Logan Hoppman
Subject: RE: Soldiers Grove - Solar Meats, LLC

Scott,

Thank you for the update. Please see the following comments:

- Thank your efforts taken so far. Please provide what practices have been attempted and why they were unsuccessful.
- Per the Sewer Use Ordinance, the Village has the right to sample industrial or commercial users for BOD, TSS and other pertinent pollutants. The Ordinance currently has limits for BOD (250 mg/L) and TSS (250 mg/L). Phosphorus testing was performed as it was one of the pollutant exceedances at the Wastewater Treatment Facility.
- Acknowledged.
- As you suggested, the pump and controller will likely not arrive on site in a timely manner so please plan to install the storage tank when it arrives and provide temporary pumping.

If you have any questions or need further information, please feel free to contact me. Thank you.

Jordan Fure, P.E.

DELTA 3

furej@delta3eng.biz
608-732-2166 (Cell)

From: scott@solarmeats.com <scott@solarmeats.com>
Sent: Monday, March 6, 2023 11:21 AM
Cc: Jordan Fure <furej@delta3eng.biz>; Duane Johannes <duane@solarmeats.com>; Rich Sitarski <rich@solarmeats.com>; Bart Nies <NiesB@delta3eng.biz>; Brian Copus <sgrovepw@mwt.net>; Kepler, Tamera - MUN <sgrove@mwt.net>; Logan Hoppman <hoppmanl@delta3eng.biz>
Subject: RE: Soldiers Grove - Solar Meats, LLC

Jordan,

I wanted to provide you with a brief update so you are not operating in a vacuum.

- We've tried to implement some interim kill floor process changes but they have pretty much all been spectacular failures. Between the volume of water we use and the human variables we just haven't found a repeatable and reliable strategy.
- February 7th - We received the lab samples and the invoice for the February 7th grab sample. The lab testing included phosphorus levels too and we talked to the Village about eliminating that from future testing as I am not made of money. If that is something that you are also requiring for compliance please provide the P limit you are requiring. We haven't seen any more sample data since this date. As previously requested, please continue to forward any testing result from our plant for our records as well.

- February 15th - We had the grease interceptor serviced.
- With respect to the the kill floor modifications: we have ordered the pump, control panel, and large storage tank. The pump and controller supplier hasn't been able to provide a date which I am sure you have also seen in the post-covid supply chain. We found a tank local to the midwest and it may arrive this week. Once the storage tank arrives we will have options to start capturing material from the kill floor even if we have to get creative with a temporary pumping system.

Regards,

Scott Drabicki
c: 224.277.4691

Solar Meats, LLC
101 Sunbeam Blvd E
Soldiers Grove, WI 54655

May 24, 2022

Ms. Julia Stephenson
Wisconsin Department of Natural Resources
3550 Mormon Coulee Road
La Crosse, WI 54601

Re: Notice of Noncompliance, Effluent Limit Exceedances
Village of Soldiers Grove, WI

Dear Julia:

As requested by the Notice of Noncompliance dated April 25, 2022 and required by Schedule 5.2.1 of the WPDES Permit #WI 0022241-10-0, the Village of Soldiers Grove (Village) has provided the following report to address effluent limit exceedances for Biological Oxygen Demand (BOD5), Total Suspended Solids (TSS), and Total Phosphorus (TP). Please see violations outlined below:

March 2022 DMR

BOD5, Total violated the Monthly Average Limit of 30 mg/L with a result of 31.13 mg/L.
BOD5, Total violated the Weekly Average Limit (week 1) of 45 mg/L with a result of 54.33 mg/L.
BOD5, Total violated the Weekly Average Limit (week 2) of 45 mg/L with a result of 56.0 mg/L.
Suspended Solids, Total violated the Weekly Average Limit (week 2) of 45 mg/L with a result of 53.67 mg/L.

February 2022 DMR

BOD5, Total violated the Monthly Average Limit of 30 mg/L with a result of 84.58 mg/L.
BOD5, Total violated the Weekly Average Limit (week 1) of 45 mg/L with a result of 72.66 mg/L.
BOD5, Total violated the Weekly Average Limit (week 2) of 45 mg/L with a result of 79.0 mg/L.
BOD5, Total violated the Weekly Average Limit (week 3) of 45 mg/L with a result of 89.67 mg/L.
BOD5, Total violated the Weekly Average Limit (week 4) of 45 mg/L with a result of 97.0 mg/L.
Phosphorus, Total violated the Monthly Average Limit of 5.2 mg/L with a result of 5.48 mg/L.
Suspended Solids, Total violated the Monthly Average Limit of 30 mg/L with a result of 69.9 mg/L.
Suspended Solids, Total violated the Weekly Average Limit (week 1) of 45 mg/L with a result of 64.33 mg/L.
Suspended Solids, Total violated the Weekly Average Limit (week 2) of 45 mg/L with a result of 74.67 mg/L.
Suspended Solids, Total violated the Weekly Average Limit (week 3) of 45 mg/L with a result of 59.33 mg/L.
Suspended Solids, Total violated the Weekly Average Limit (week 4) of 45 mg/L with a result of 81.33 mg/L.

January 2022 DMR

BOD5, Total violated the Monthly Average Limit of 30 mg/L with a result of 49.0 mg/L.
BOD5, Total violated the Weekly Average Limit (week 3) of 45 mg/L with a result of 71.67 mg/L.
BOD5, Total violated the Weekly Average Limit (week 4) of 45 mg/L with a result of 75.33 mg/L.
Phosphorus, Total violated the Monthly Average Limit of 5.2 mg/L with a result of 6.60 mg/L.
Suspended Solids, Total violated the Monthly Average Limit of 30 mg/L with a result of 43.42 mg/L.
Suspended Solids, Total violated the Weekly Average Limit (week 4) of 45 mg/L with a result of 108.0 mg/L.

November 2021 DMR

Suspended Solids, Total violated the Weekly Average Limit (week 1) of 45 mg/L with a result of 52.33 mg/L.

October 2021 DMR

Phosphorus, Total violated the Monthly Average Limit of 5.2 mg/L with a result of 6.04 mg/L.

I. Cause for Noncompliance

The Village hired Delta 3 Engineering to investigate the local commercial businesses and was able to determine several issues that contributed toward noncompliance of Wastewater Treatment

Facility (WWTF) effluent limits.

Business	Type	Issue Identified?	Solution
Desperados Wonder Bar & Restaurant	Bar & Grill	No	None.
Country Gardens Motel & Lounge	Motel, Bar, & Grill	Yes	Eliminate discharge of excessive fats, oil, and grease to the sanitary sewer. Clean grease trap and ensure that it is sized appropriately.
Driftless Brewing Company	Brewery	Yes	Eliminate discharge of yeast and brewing byproducts to the sanitary sewer. Neutralize pH of wastewater prior to discharge.
Soldiers Grove Health Services	Nursing Home	No	None.
Solar Meats	Slaughterhouse	No	None.

Desperados Wonder Bar & Restaurant:

No substantial discharge to sanitary sewer. Fryer oil is collected and recycled. Grill/stove grease is collected and discarded in the garbage.

Country Gardens Motel & Lounge:

Sanitary sewer lateral was full of grease. Grease interceptor has not been cleaned frequently and may not intercept grease effectively.

Driftless Brewing Company:

Brewery operations include collection of wastewater in a 300-gallon holding tank which discharges wastewater to the sanitary sewer over a 36-hour period. The Brewery discharges yeast and brewing byproducts to the sanitary sewer. Chlorine bleach is sometimes added to kill the yeast prior to discharge. The Brewery wastewater's pH is typically 9.5-10.5 which is higher than allowed by the Sewer Ordinance. For cleaning equipment, phosphoric acid, nitric acid, and/or sodium hydroxide are used and discharged to the sanitary sewer. Yeast and brewery byproducts can shock the WWTF due to high concentration of BOD, TSS, and other pollutants. Cleaning agents or acidic shock loading can also have adverse effects at the WWTF.

Soldiers Grove Health Services:

No substantial discharge to the sanitary sewer. Current operation does not include friers or stove tops for grease generation. Existing grease trap, located inside the kitchen, is cleaned once per year.

Solar Meats:

Solar Meats has expanded production and has subsequently increased loadings to the WWTF which has caused treatment issues at the Village's WWTF. Solar Meats was notified to eliminate discharge of excessive blood and/or animal byproducts to the sanitary sewer following the previous Notice of Noncompliance dated October 25, 2021. Solar Meats has since altered blood collection and sanitary discharges. The Village WWTF operator has not observed bloody/red wastewater as he had previously.

II. Noncompliance Actions and Future Prevention

Treatment Modifications

The Village of Soldiers Grove operates a Wastewater Treatment Facility (WWTF) consisting of a bar screen, activated sludge aeration tank, final clarifier, chlorine disinfection, and sludge digester. Sludge is stored on site prior to land application on DNR approved sites. The Village has conducted its annual operations and maintenance at the WWTF in order maintain current performance levels of the facility and not regress treatment quality. The Village does not have great flexibility within the current treatment process to handle slug loads. For example, the aeration blowers operate as ON/OFF and do not allow for variable output. The operator has increased the RAS rate to provide a greater mixed liquor suspended solids (MLSS) concentration in order to reduce the food:microorganism ratio caused by the high strength waste from local businesses.

Alteration of Sanitary Sewer Discharges

Country Gardens Motel & Lounge:

Eliminate discharge of excessive fats, oil, and grease to the sanitary sewer. Clean grease trap and ensure that it is sized appropriately.

Drifless Brewing Company:

Eliminate discharge of yeast and brewing byproducts to the sanitary sewer. Neutralize pH of wastewater prior to discharge.

Solar Meats:

The Village and Delta 3 met with the owners of Solar Meats regarding high pollutant concentrations within wastewater discharges following the October 25, 2021 Notice of Noncompliance. Solar Meats has expanded production and has subsequently increased loadings to the WWTF which has caused treatment issues at the Village's WWTF. Solar Meats has since altered blood collection and sanitary discharges. The Village WWTF operator has not observed bloody/red wastewater as he had previously.

Public Education

The Village has provided educational materials to sewer users in order to reduce influent waste products that should be disposed to a solids waste disposal system.

I&I Reduction

Based on 2019 water usage as reported to the PSC, the Village should receive approximately **29,000 gallons per day (gpd)** of wastewater from sewer users. Average annual effluent flow at the WWTF was approximately **46,000 gpd**. Excess effluent flow is due to Inflow and Infiltration (I&I) to the sanitary sewer collection system and accounts for approximately **63%** of the average daily flow to the WWTF. Based on the Daily Monitoring Reports (DMRs) and historical weather data, the influent flow is immediately influenced by rain events, but remains high for several days following. This trend indicates that clearwater entering the sanitary collection system is partially

due to surface water inflow but predominantly due to groundwater infiltration. Primary sources of I&I are as follows:

- Leaking sewer manholes
- Leaking sewer main
- Leaking sewer laterals
- Illegal sump pump connections
- Basement drains

The Village is working toward I&I reduction to improve treatment capacity and efficiency at the WWTF. The Village is currently completing construction of Proposed 2021 Sanitary Sewer Improvements Project. The Project included the following:

- Construction of Lift Station #1
- Rehabilitation of Lift Station #2
- Rehabilitation of Lift Station #3
- Rehabilitation of Lift Station #4
- Sewer Lining
- Sanitary Sewer Replacement
- Abandonment of Old Sanitary Sewer

Compliance Schedule

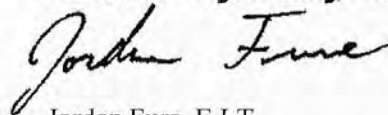
The Village has worked to restore the WWTF effluent to compliance. Additionally, the Village performed business inspections on February 24, 2022. Following the business inspections, the Village has worked with the business owners to remedy illegal wastewater discharges through the month of March.

In 2019, the WWTF was requested by the DNR to cease use of the drying beds which has caused a shortage of sludge storage capacity. The Village currently is unable to waste sludge until sludge is land applied which impacts treatment capability. The Village is currently developing a Facility Plan to address WWTF maintenance as well as sludge storage, E. Coli treatment, and Phosphorus treatment.

The Village will continue to work with the DNR to develop alternatives to meet the requirements of its WPDES Permit. Please review for approval.

If you have any questions, please feel free to contact me at (608) 348-5355. Thank you.

Sincerely,
DELTA 3 Engineering, Inc.



Jordan Fure, E.I.T.
Project Engineer

JDF: jf

Cc: Kaitlynn Gander – Clerk-Treasurer
Brian Copus – Director of Public Works

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► Platteville, Wisconsin
► Dubuque, Iowa

P 608.348.5355
P 563.542.9005

E mail@delta3eng.biz
W www.delta3eng.biz

December 7, 2022

Ms. Julia Stephenson
Wisconsin Department of Natural Resources
3550 Mormon Coulee Road
La Crosse, WI 54601

Re: Notice of Violation for E. Coli Compliance Schedule
Village of Soldiers Grove, WI

Dear Julia:

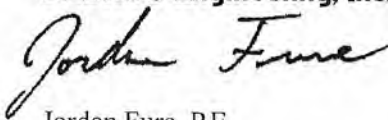
As requested during the October 31, 2022 Enforcement Conference, the Village of Soldiers Grove (Village) has provided a revised compliance schedule and submitted a Wastewater Facility Plan to satisfy Schedule 4.2 Effluent Limitations for E. Coli (Outfall 001) as provided in WPDES Permit WI-0022241-10-0. Please see Table 1 for the revised E. Coli Compliance Schedule.

Table 1 – E. Coli Compliance Schedule

Required Action	Due Date
Submit Facility Plan	December 15, 2022
Submit Plans and Specifications	September 30, 2023
Begin Construction	June 30, 2024
Construction Upgrade Progress Report	December 31, 2024
Complete Construction	April 30, 2025
Achieve Compliance	April 30, 2025

The Village will continue to work with the DNR to develop alternatives to meet the requirements of its WPDES Permit. Please review for approval.

If you have any questions, please feel free to contact me at (608) 348-5355. Thank you.

Sincerely,
DELTA 3 Engineering, Inc.

Jordan Fure, P.E.
Project Engineer

JDF: jf
Cc: Kaitlynn Ott – Clerk-Treasurer
Brian Copus – Director of Public Works

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January 31, 2023

 Ms. Julia Stephenson
 Wisconsin Department of Natural Resources
 3550 Mormon Coulee Road
 La Crosse, WI 54601

 Re: Annual Phosphorus Progress Report #3
 Village of Soldiers Grove, WI

Dear Julia:

As requested and required by Schedule 4.1 of the WPDES Permit #WI 0022241-10-0 for the Village of Soldiers Grove (Village), the Village has continued to monitor the effluent Phosphorus levels at the Wastewater Treatment Facility (WWTF) in order to work towards compliance with its effluent Total Phosphorus (TP) limit. Please see Table 1 for monthly average Phosphorus data collected from January through December, 2022. Please see Table 2 for a summary of annual average phosphorus data. Effluent Total Phosphorus concentrations and mass discharges have remained steady since 2020.

Table 1 – 2022 Monthly Average Phosphorus Data

Month	Outfall	Effluent Avg. Flow (MGD)	Effluent Avg. TP Concentration (mg/L)	Effluent TP Mass (lbs./day)
Jan. ('22)	001	0.0141	6.60	0.78
Feb. ('22)	001	0.0141	5.49	0.65
Mar. ('22)	001	0.0201	1.53	0.26
Apr. ('22)	001	0.0164	2.92	0.40
May ('22)	001	0.0247	4.50	0.93
Jun. ('22)	001	0.0375	8.75	2.74
Jul. ('22)	001	0.0443	4.50	1.66
Aug. ('22)	001	0.0515	4.05	1.74
Sept. ('22)	001	0.0477	5.83	2.32
Oct. ('22)	001	0.0355	5.28	1.56
Nov. ('22)	001	0.0376	5.36	1.68
Dec. ('22)	001	0.0478	5.38	2.32
Average =		0.0326	5.01	1.42

Table 2 – Summary of Annual Average Phosphorus Data

Year	Outfall	Effluent Avg. Flow (MGD)	Effluent Avg. TP Concentration (mg/L)	Effluent TP Mass (lbs./day)
2020	001	0.0457	3.96	1.59
2021	001	0.0228	4.05	0.75
2022	001	0.0326	5.01	1.42

I. Source Phosphorus Reduction

a. Previous point sources evaluated and determined to not be major contributors:

- | | |
|--|---|
| 1. Burkum Milling Co., Inc. | 16. Shear Heaven in the Grove |
| 2. Campbell's One Stop – gas station | 17. Sunshine Highlights |
| 3. Driftless Brewing Company | 18. Chormley Carpet Cleaning |
| 4. Solar Meats | 19. Kickapoo Valley Medical Center – VHM |
| 5. Solar Town Pharmacy | 20. Sannes Skogdalen Helm |
| 6. Soldiers Grove Health Services – Nursing Home | 21. Country Gardens Motel & Lounge |
| 7. Peoples State Bank | 22. Inn at Lonesome Hollow |
| 8. Soldiers Grove Church-Christ | 23. The Old Oak Inn / Acorn Lounge |
| 9. United Methodist Church Parsonage | 24. The Roth House Bed & Breakfast |
| 10. Our Saviors Lutheran Church | 25. McCormick's Bar & Grill |
| 11. Blackstone Guns & Repair | 26. Desperados Wonder Bar & Grill |
| 12. Lester Peterson Repair | |
| 13. T n A Auto | |
| 14. Nicholson Motors | |
| 15. P&D Repair | |

Although most of the commercial users were not considered major contributors, the users can still make efforts to reduce Phosphorus discharges to the sanitary sewer system. Commercial and Residential Sewer Users were provided with educational materials to inform them of specific guidance for reducing Phosphorus discharges.

During the initial evaluation of sanitary sewer users, the Village identified Driftless Brewery and Solar Meats as potential major TP contributors. The Village has evaluated the wastewater discharge and production procedures at Driftless Brewery and made recommendation to limit discharge of yeast (brewing byproduct). The Village will continue to evaluate Driftless Brewery for TP reduction. The Village also investigated Solar Meats' slaughtering operations. Solar Meats has expanded production and subsequently increased loadings to the WWTF. Solar Meats was determined to be a potential major contributor of phosphorus. The Village performed background sampling at Solar Meats in November 2022 to determine typical wastewater TP concentrations coming from Solar Meats. Results of the sampling are provided in Table 3. Solar Meats has provided a letter of intent, attached, to perform an upgrade for separation of blood discharged to the sanitary sewer. The blood and blood wash down will be collected and hauled to other facilities for disposal.

Table 3 – 2022 Solar Meats Sampling Results

Pollutant	# of Samples	Max	Min	Avg	Sewer Ordinance
BOD (mg/L)	4	2,720	727	1,707	250
TSS (mg/L)	4	648	181	352	250

Based on the 2022 WWTF Data in Table 1, the WWTF exceeded the interim monthly average TP limit of 5.2 mg/L for seven (7) months. TP loading has been typical of residential wastewater, but due to the lack of a TP treatment process, the WWTF has no means of

reducing effluent TP. The Village will continue to evaluate major TP contributors and work towards an overall facility upgrade.

- b. See Item 1(a.)
- c. See Item 1(a.)

II. WWTF Phosphorus Reduction

- a. New technologies such as algae treatment systems, membrane filters, and cloth disk filter systems have been investigated and were determined to be infeasible. The Village has resubmitted a Clean Water Fund ITA & PERF for the Wastewater Treatment Facility Upgrade; however, a cost-effective TP alternative is not available at this time.

The Village has increased sewer rates in 2023 to budget for a Major WWTF Upgrade in order for the WWTF to meet final effluent TP limits.

- b. Plans and Specifications for the Proposed 2021 Sanitary Sewer Improvements Project were approved by the DNR and construction has been substantially completed.
- c. See Item 2(b.)
- d. See Item 2(b.)
- e. See Item 2(b.)
- f. The Village of Soldiers Grove operates a Wastewater Treatment Facility (WWTF) consisting of a bar screen, activated sludge aeration tank, final clarifier, chlorine disinfection, and sludge digester. Sludge is stored on site prior to land application on DNR approved sites. Phosphorus is currently removed from the wastewater through the settling of Phosphorus-containing solids in the final clarifier. No chemicals or treatment processes are included for Phosphorus treatment. The Village has conducted its annual operations and maintenance at the WWTF in order maintain current performance levels of the facility and not regress treatment quality. The Village has hired Delta 3 Engineering to perform an evaluation of the existing WWTF and will recommend alternatives for managing current treatment issues including Phosphorus treatment, sludge storage, and aging equipment.

The Village intends to perform a Biological Phosphorus Removal (BPR) pilot study in 2023. The Village has purchased a baffle wall in order to create an anaerobic zone within the existing aeration tank as required for the BPR process.

III. Watershed Phosphorus Reductions

- a. The receiving water location for the Village is at Outfall 001 on the Kickapoo River in the Reeds & Tainter Creeks Watershed of the Lower Wisconsin River Basin located in Crawford County. From the results of the DNR Pollutant Load Ratio Estimation Tool (PRESTO), the watershed for the Kickapoo River has a nonpoint source ratio of 1:99 and is considered to be nonpoint-source dominated. The Kickapoo River is a Class II Trout River. Streambanks are heavily eroded. Like many other streams in Crawford County, the stream has been degraded due to agricultural development within the watershed and has had issues caused by

sedimentation. The Kickapoo River is listed as impaired for TP. The Village is evaluating streambank stabilization projects within the Kickapoo River Watershed (HUC-12 #070900060402). Any projects within this watershed would aim to reduce TP inputs to the Kickapoo River while also considering impacts to endangered resources, the risk of flooding, and impacts to wetland areas.

Stream monitoring data in 2015 from Station 10029649 at Kickapoo River / State Trunk Highway '131' demonstrated a background TP concentration of 0.136 mg/L which confirmed that the Kickapoo River was not meeting the Water Quality Criteria (WQC) for TP equal to 0.100 mg/L. Results were used in the Water Quality Based Effluent Limit (WQBEL) on July 12, 2019. If new background testing data is not available by April 1, 2024, the Village will perform background testing during the growing season in 2024 prior to WPDES Permit renewal to provide the DNR with the most accurate background TP concentrations to be used for the Water Quality Based Effluent Limit Calculations. If the background concentration is less than 0.100 mg/L, the effluent TP limit could be significantly increased or even eliminated.

Very minimal storm sewer is located within the municipality. Storm water outfalls are primarily within the State Trunk Highway '131' and United States Highway '61' right-of-way or discharge directly to surface waters. Due to the minimal storm sewer and outfall locations, best management practice installations are not feasible.

WQT Credits could be available for altering land application of municipal sludge but would be very limited since sludge is only land applied on fields with 0-2% slopes and is incorporated into the soil which leads to minimal runoff.

Crawford County Land Conservation Department and NRCS Office do not have any projects currently planned in HUC-12 #070900030904.

- b. The Village is pursuing a streambank project on Village-owned property along the Kickapoo River within the Village's HUC-12 watershed. The streambank project will help the WWTF meet phosphorus compliance through water quality trading (WQT). A WQT plan is anticipated to be submitted for DNR review in the Spring/Summer 2023 and construction in 2023/2024.
- c. See item 3(b.)

IV. Public Education

- a. The Village has provided educational materials to sewer users in order to reduce influent TP.
- b. Residents and businesses have not shown interest in attending Board Meetings or providing input.

V. I&I Reduction

- a. Average annual effluent flow at the WWTF was approximately **0.0228 gpd** in 2021. Which is less than half the average annual flow from 2020. This indicates that the Proposed 2021 Sanitary Sewer Improvements' Project helped reduce Inflow and Infiltration (I&I) to the

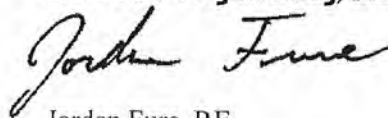
sanitary sewer collection system. The Village will continue to search for I&I sources including:

- Leaking sewer manholes
 - Leaking sewer main
 - Leaking sewer laterals
 - Illegal sump pump connections
 - Basement drains
- b. Regionalization was evaluated between Soldiers Grove and the Village of Gays Mills. Regionalization would require construction of a primary lift station in Soldiers Grove, installation of over 8.5 miles of sanitary force main, and a major WWTF Upgrade at the Gays Mills WWTF to not only accept the additional influent flow from Soldiers Grove but also to incorporate treatment for Total Phosphorus. The sanitary force main alone would require fourteen (14) stream crossings. For these reasons, regionalization will no longer be considered a feasible option.
- c. See item 5(a).

The Village will continue to work with the DNR to develop alternatives to meet the requirements of its WPDES Permit. Please review for approval.

If you have any questions, please feel free to contact me at (608) 348-5355. Thank you.

Sincerely,
DELTA 3 Engineering, Inc.



Jordan Fure, P.E.
Project Engineer

JDF: jf

Cc: Kaitlynn Ott – Clerk-Treasurer

Brian Copus – Director of Public Works

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February 8, 2023

Delta 3 Engineering, Inc.
Attention: Jordan Fure, P.E.
Via email to: furej@delta3eng.biz

**Re: Soldiers Grove, WI WWTP
LOI Denial Response
Solar Meats, LLC**

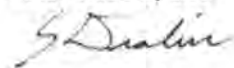
Dear Mr. Fure:

We confirm receipt of your February 6, 2023 denial of our letter of intent dated January 30, 2023 regarding proposed modifications to the slaughter floor to increase blood capture at Solar Meats, LLC. We are disappointed that the proposed improvement plan and timeline do not meet your expectations and you require more immediate action. We welcome your direction on improvements to our plan or timeline for resubmittal.

As stated in the January 30th cover, we understood the effectiveness of the proposed work cannot be quantified in terms of BOD or TSS reduction and additional testing will be needed after implementation to verify compliance.

I was not aware of any discussions regarding temporary pretreatment, or a septic tank installation and I expect the lead time for these solutions far exceeds three months. If these installations are being required by the Village of Soldiers Grove, please provide design specifications for their acceptable installation.

We welcome your direction on how you would like to proceed at this time.

Regards,
Solar Meats, LLC

Scott Drabicki
Cell 224.277.4691

SD:me

cc Duane Johannes
Rich Sitarski

From: Jordan Fure
Sent: Thursday, February 9, 2023 8:22 AM
To: scott@solarmeats.com
Cc: Duane Johannes; Rich Sitarski; Bart Nies; Brian Copus; Kepler, Tamera - MUN; Logan Hoppman
Subject: RE: [EXTERNAL]: Soldiers Grove - Solar Meats, LLC - Letter of Intent

Scott,

We did not deny your letter of intent for planned improvements. I simply identified that it may not be the final action item required by the Village as you nor I nor the Village know that the improvement will resolve the discharge problems coming from Solar Meats. I agree that it is a good step in the right direction. If the improvement effectively reduces blood discharge to the sanitary sewer and the Village is able to consistently meet DNR permit limits following improvement at your facility, then the Village won't require additional work.

The Village is willing to work with Solar Meats and has demonstrated their willingness to be flexible as they continue to accept sanitary discharge that is exceeding limits provided in the Sewer Ordinance. To help the Village meet DNR limits, Solar Meats is recommended to evaluate interim process improvement options between now and May 15 as this is over three (3) months that the Village is likely to experience additional non-compliances with DNR permit limits. As previously stated Some options include:

- Absorbent material/paper on kill floor to catch blood and disposal with garbage prior to washdown
- Develop Standard Operating Procedure for washdown. Don't wash clots of blood or fat down the drain. Instead, manually clean areas and dispose in trash prior to washdown.
- Routine cleaning of grease interceptors (if not already being done)
- Evaluation of pretreatment systems

If you have any questions or need further information, please feel free to contact me. Thank you.

Jordan Fure, P.E.

DELTA 3

jfurej@delta3eng.biz
@UE-732-2166 (Cell)

From: scott@solarmeats.com <scott@solarmeats.com>
Sent: Wednesday, February 8, 2023 9:33 PM
To: Jordan Fure <FureJ@delta3eng.biz>
Cc: Duane Johannes <duane@solarmeats.com>; Rich Sitarski <rich@solarmeats.com>
Subject: RE: [EXTERNAL]: Soldiers Grove - Solar Meats, LLC - Letter of Intent

Please see attached response and request for guidance.

Scott Drabicki
c: [224.277.4691](tel:224.277.4691)

Solar Meats, LLC
101 Sunbeam Blvd E
Soldiers Grove, WI 54655

-----Original Message-----

From: "Jordan Fure" <FureJ@delta3eng.biz>
Sent: Monday, February 6, 2023 5:46pm
To: "scott@solarmeats.com" <scott@solarmeats.com>
Cc: "Duane Johannes" <duane@solarmeats.com>, "Rich Sitarski" <rich@solarmeats.com>, "Brian Copus" <sgrovepw@mwt.net>, "Kepler, Tamera - MUN" <sgrove@mwt.net>, "Bart Nies" <NiesB@delta3eng.biz>, "Logan Hoppman" <hoppmanl@delta3eng.biz>
Subject: RE: [EXTERNAL]: Soldiers Grove - Solar Meats, LLC - Letter of Intent

Hey Scott,

The Village agrees that this would be a good step in the right direction. However, this may not be the final solution to the issue. The Village plans to take weekly grab samples going forward to monitor effluent from Solar Meats. If the upgrade is unable to meet treatable levels at the Wastewater Treatment Facility, the Village will require additional action.

What is Solar Meats planning to do between now and May 15? I spoke with Rich about incorporating some temporary pretreatment such as hydrogen peroxide addition. Any discussion on this? Additionally, biological pretreatment can readily be incorporated with a septic tank and aerator.

If you have any questions or need further information, please feel free to contact me. Thank you.

Jordan Fure, P.E.

DELTA 3

furej@delta3eng.biz
608-732-2166 (Cell)

From: scott@solarmeats.com <scott@solarmeats.com>
Sent: Monday, January 30, 2023 9:42 PM
To: Jordan Fure <FureJ@delta3eng.biz>
Cc: Duane Johannes <duane@solarmeats.com>; Rich Sitarski <rich@solarmeats.com>
Subject: [EXTERNAL]: Soldiers Grove - Solar Meats, LLC - Letter of Intent

You don't often get email from scott@solarmeats.com. [Learn why this is important](#)

Jordan,

Attached is the letter of intent we discussed last week during our meeting with the Village. Your prompt review and a written acceptance or denial is requested. As indicated, the first operation for the work proposed commits us to demolishing concrete and I prefer to have alignment between us and the Village before I take that first step.

I understand the proposed work does not guarantee a specific load reduction outcome and additional BOD and TSS testing upon completion will be needed. I'm confident the blood capture will address the TSS standard but I'm a little leery about the BOD target.

Best regards,

Scott Drabicki
c: 224.277.4691

Solar Meats, LLC
101 Sunbeam Blvd E
Soldiers Grove, WI 54655

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

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115 6th Street South
La Crosse, WI 54601
(608) 782-3130
www.davyinc.com



LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: May 25, 2022
Client No: 01230

Sample No: 22E0539-01
Sample Site: WW Influent

Sample Collected: 18-May-22 08:00

Sample Received: 19-May-22 10:35

Parameter	Result	Units	LOD	LOQ/RL	Dilution	Prepared	Analyzed	Method	Qualifier
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Laboratory Results

Biochemical Oxygen Demand	274	mg/L	2	6	1	19-May-22 12:30	19-May-22 12:30	SM 5210 B-2011	
Suspended Solids, Total	70	mg/L	20	60	20	24-May-22 06:00	24-May-22 06:00	USGS 1-3765-85	

Submitted by:
Davy Laboratories

Jennifer M. Buchholz

Jennifer M. Buchholz, Laboratory Director

The laboratory analyses reported were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the samples only; conditions can be expected to vary at different times and under different sampling conditions. This report may not be reproduced, except in full, without the written approval of the laboratory.

WI Certification 632021390 and WI DATCP 105-216, MN NELAC Certification 055-999-151, IA Certification 304.

Revision #3 - 7/29/2019

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La Crosse, WI 54601
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LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: May 25, 2022
Client No: 01230

Sample No: 22E0539-02
Sample Site: WW Effluent

Sample Collected: 18-May-22 08:00

Sample Received: 19-May-22 10:35

Parameter	Result	Units	LOD	LOQ/RL	Dilution	Prepared	Analyzed	Method	Qualifier
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Laboratory Results

Biochemical Oxygen Demand	298	mg/L	2	6	1	19-May-22 12:30	19-May-22 12:30	SM 5210 B-2011	
Fecal Coliform (MPN)	>24196	#/100 mL	10.0	10.0	10	19-May-22 13:18	19-May-22 13:18	SM 9223 B 18QT FC	M-06
Coliform, total	>24196	#/100 mL	10	10	10	19-May-22 11:34	19-May-22 11:34	SM 9223 B-2004	M-06
E. Coli	>24196	#/100 mL	10	10	10	19-May-22 11:34	19-May-22 11:34	SM 9223 B-2004	M-06
Suspended Solids, Total	32	mg/L	4	12	4	24-May-22 06:00	24-May-22 06:00	USGS 1-3765-85	

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LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: May 25, 2022
Client No: 01230

Sample No: 22E0539-02
Sample Site: WW Effluent

Sample Collected: 18-May-22 08:00

Sample Received: 19-May-22 10:35

Parameter

Result

Units

L.O.D

LOQ/RL

Dilution

Prepared

Analyzed

Method

Qualifier

Laboratory Results

Biochemical Oxygen Demand	298	mg/L	2	6	1	19-May-22 12:30	19-May-22 12:30	SM 5210 B-2011	
Fecal Coliform (MPN)	>24196	#/100 mL	10.0	10.0	10	19-May-22 13:18	19-May-22 13:18	SM 9223 B 18QT FC	M-06
Coliform, total	>24196	#/100 mL	10	10	10	19-May-22 11:34	19-May-22 11:34	SM 9223 B-2004	M-06
E. Coli	>24196	#/100 mL	10	10	10	19-May-22 11:34	19-May-22 11:34	SM 9223 B-2004	M-06
Suspended Solids, Total	32	mg/L	4	12	4	24-May-22 06:00	24-May-22 06:00	USGS I-3765-85	

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La Crosse, WI 54601
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LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: May 25, 2022
Client No: 01230

Notes and Definitions

Z-01 >24196
T3 Dilution Water D.O. depletion > 0.2 mg/L.
M-06 >8 hours
J Detected but below the laboratory LOQ; therefore, result is an estimated concentration
LOD Limit of Detection, adjusted for the dilution factor
LOQ/RL Limit of Quantitation/Reporting Limit, adjusted for the dilution factor
Total metals are equivalent to total recoverable metals.

Cooler Information

Temperature 16.20 °C	No
Received on Ice	Yes
Required COC Information completed	Yes
Sample labels match COC	No
All samples received in the appropriate Containers	No
All samples received with sufficient volume	No
All samples received with sufficient holding time	Yes
All sample bottles received with H2SO4 were pH <2	No
All sample bottles received with HNO3 were pH <2	No
All sample bottles received with HCl were pH <2	No
All sample bottles received with NaOH were pH >12	No
All sample bottles for cyanide confirmed Sulfide absent	No
All sample bottles for cyanide confirmed Residual Cl absent	No
Preservation of VOC samples checked by the analyst	No
Preservation of FOG samples checked by the analyst	No

Case Narrative

Phosphorus/Ammonia/TKN sample received unpreserved. 2 mL of H2SO4 was added to sample (ID #22E0539) at (1036) on date received. pH verified as <2.
Sample temperature upon receipt exceeded 6 °C.

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LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: May 25, 2022
Client No: 01230

Residual Chlorine absent checked by the analyst unless noted above.

DAVY LABORATORIES

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115 6th Street South
La Crosse, WI 54601
(608) 782-3130
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LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: November 08, 2022
Client No: 01230

Sample No: 22K0079-01
Sample Site: Locker Discharge

Sample Collected: 01-Nov-22 08:00

Sample Received: 02-Nov-22 10:23

Parameter	Result	Units	LOD	LOQ/RL	Dilution	Prepared	Analyzed	Method	Qualifier
Laboratory Results									
Biochemical Oxygen Demand	2720	mg/L	2	6	1	02-Nov-22 12:30	02-Nov-22 12:30	SM 5210 B-2011	T3
Suspended Solids, Total	648	mg/L	40	120	40	03-Nov-22 15:01	03-Nov-22 15:01	USGS 1-3765-85	

Submitted by:
Davy Laboratories

Jennifer M. Buchholz
Jennifer M. Buchholz, Laboratory Director

The laboratory analyses reported were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the samples only; conditions can be expected to vary at different times and under different sampling conditions. This report may not be reproduced, except in full, without the written approval of the laboratory.

WI Certification 632021390 and WI DATCP 105-216, MN NELAC Certification 055-999-151, IA Certification 304.

Revision #3 - 7/29/2019

DAVY LABORATORIES

A Division of Davy Engineering Co., Inc.
115 6th Street South
La Crosse, WI 54601
(608) 782-3130
www.davyinc.com



LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: November 15, 2022
Client No: 01230

Sample No: 22K0287-01
Sample Site: Locker Discharge

Sample Collected: 08-Nov-22 08:00

Sample Received: 09-Nov-22 10:39

Parameter	Result	Units	LOD	LOQ/RL	Dilution	Prepared	Analyzed	Method	Qualifier
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Biochemical Oxygen Demand	900	mg/L	2	6	1	09-Nov-22 12:30	09-Nov-22 12:30	SM 5210 B-2011	T3
Suspended Solids, Total	152	mg/L	20	60	20	10-Nov-22 10:19	10-Nov-22 10:19	USGS I-3765-85	

Submitted by:
Davy Laboratories

Jennifer M. Buchholz
Jennifer M. Buchholz, Laboratory Director

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Revision #3 - 7/29/2019

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LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: November 18, 2022
Client No: 01230

Sample No: 22K0370-01
Sample Site: Locker Discharge

Sample Collected: 10-Nov-22 08:10

Sample Received: 11-Nov-22 10:01

Parameter	Result	Units	LOD	LOQ/RL	Dilution	Prepared	Analyzed	Method	Qualifier
Biochemical Oxygen Demand	727	mg/L	2	6	1	11-Nov-22 12:30	11-Nov-22 12:30	SM 5210 B-2011	
Suspended Solids, Total	181	mg/L	10	30	10	14-Nov-22 10:44	14-Nov-22 10:44	USGS 1-3765-85	

Submitted by:
Davy Laboratories

Jennifer M. Buchholz
Jennifer M. Buchholz, Laboratory Director

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Revision #3 - 7/29/2019

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LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: November 21, 2022
Client No: 01230

Sample No: 22K0498-01
Sample Site: Locker Discharge

Sample Collected: 15-Nov-22 08:00

Sample Received: 16-Nov-22 10:40

Parameter	Result	Units	LOD	LOQ/RL	Dilution	Prepared	Analyzed	Method	Qualifier
Laboratory Results									
Biochemical Oxygen Demand	1040	mg/L	2	6	1	16-Nov-22 12:30	16-Nov-22 12:30	SM 5210 B-2011	T3
Suspended Solids, Total	256	mg/L	20	60	20	17-Nov-22 12:30	17-Nov-22 12:30	USGS 1-3765-85	

Submitted by:
Davy Laboratories

Jennifer M. Buchholz
Jennifer M. Buchholz, Laboratory Director

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WI Certification 632021390 and WI DATCP 105-216, MN NELAC Certification 055-999-151, IA Certification 304.

Revision #3 - 7/29/2019

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115 6th Street South
La Crosse, WI 54601
(608) 782-3130
www.davyinc.com



LABORATORY ANALYSIS REPORT

Soldiers Grove, Village of
Attn: Brian Copus
P.O. Box 121
Soldiers Grove, WI 54655

Date: February 17, 2023
Client No: 01230

Sample No: 23B0212-01
Sample Site: Locker Discharge

Sample Collected: 07-Feb-23 08:00

Sample Received: 08-Feb-23 09:49

Parameter	Result	Units	LOD	LOQ/RL	Dilution	Prepared	Analyzed	Method	Qualifier
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Laboratory Results

Biochemical Oxygen Demand	3460	mg/L	2	6	1	08-Feb-23 12:30	08-Feb-23 12:30	SM 5210 B-2011	B-02, T4
Phosphorus, Total as P	27.9	mg/L	4.30	14.2	50	10-Feb-23 11:51	10-Feb-23 11:51	EPA 365.1 Rev 2.0 (1993)	
Suspended Solids, Total	1480	mg/L	200	600	200	09-Feb-23 10:12	09-Feb-23 10:12	USGS 1-3765-85	

Submitted by:
Davy Laboratories

Jennifer M. Buchholz

Jennifer M. Buchholz, Laboratory Director

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WI Certification 632021390 and WI DATCP 105-216, MN NELAC Certification 055-999-151, IA Certification 304.

Revision #3 - 7/29/2019

Village of Soldiers Grove

Capacity, Management, Operation & Maintenance (CMOM)

July 27, 2016

1.0 GOALS

The Village of Soldiers Grove has developed this Capacity, Management, Operation and Maintenance Plan to put into place the ideas, concepts and procedures to be used to prevent sewer overflows to the extent possible and practicable. The goals of the plan are:

- Prevent overflows from the sanitary sewer to the extent possible and practicable.
- Manage the assets of the Public Works Dept. inclusive of personnel and equipment to affect a regular maintenance program and to be able to respond to emergency overflows of the system.
- Promote safety by verifying all workers have the required equipment prior to any work performed. Keep the Public Works crew up to date with all safety procedures through continuing education classes.
- Prioritize maintenance, rehabilitation and replacement activities for the portions of the collection system.
- Complete a percentage of preventative maintenance on the collection system including, but not limited to: televising, cleaning, root removal and inspections.
- Enforce appropriate ordinances that will help to better manage the performance of the collection system, including inspections for private sump connections and I/I reduction. Review and update these ordinances as necessary.
- Work together with the Village Board to ensure there is ample funds budgeted for any projected projects on the collection system.
- Educate the public on the importance of an efficient collection system through mailings.

2.0 ORGANIZATION

Management of the Public Works Dept. will be a proactive endeavor so that we are able to meet the goals of this plan as well as to provide our customers with fiscally, technically and environmentally sound operations of the system. An overview of our system along with our management approach is contained in the following sections.

2.1 Organization and system Parameters

2.1.1 System Profile

The Village of Soldiers Grove's sanitary sewer system consists of gravity components. The system is not interconnected with other sanitary collection systems. Maps of the system are maintained by the utility at Village Hall-102 Passive Sun Dr Soldiers Grove WI 54655, and the Public Works Shop-104 Legion Dr, Soldiers Grove WI 54655-Wilton, WI 54670. The system profile is as follows:

Table 3-1: System Profile	System Name & Address	Village of Soldiers Grove 102 Passive Sun Dr Soldiers Grove WI 54655
Population of Village of Soldiers Grove		585
Annual Precipitation		34"
Director of Public Works		Brian Copus Ph: (608-632-4202) Fax: (608-624-5209) Email: sgrove@mwt.net
Number of Public Works Employees		2
Wastewater Treatment Plant		WPDES Permit #WI-0022241-09-0 Activated Sludge Constructed: 1969
Plant Design Capacity		0.114 MGD
Average Daily Wastewater Flow		0.0350 MGD
Miles of Gravity Sewers		
Number of Lift Stations		4
Number of Manholes		74

2.1.2 Critical Components

In general, the collection system meets the needs of the Village of Soldiers Grove.

Grease and grease like products can be significant contributors of sewer overflows. Restaurants and industrial facilities can discharge grease as part of their normal sanitary flows that can lead, in time, to blockages, backups and overflows. Therefore, the discharge of fats, oils and grease (FOG) are regulated by Village Ordinance Chapter 165. All users are discouraged from discharging fats, oils, greases and all copper based products.

The system has one lift station to move sewage under the Kickapoo River. The WWTP Master Lift Station has back up power available.

The critical components as described above are shown in the Village of Soldiers Grove's Collection System Routine Maintenance Schedule. (Table 4-1)

2.1.3 Organizational Structure

Figure 1: Organizational Structure

Director of Public Works

2.2 Job Descriptions

Job descriptions lay out the foundation for the requirements and responsibilities of each person within the organizational structure. Employees are expected to comply with the elements of the job descriptions including any requirements for professional licenses and continuing education. Failure to meet the basic elements of an employee's assigned job description may be reason for termination, demotion or other disciplinary action deemed appropriate. Job descriptions for each position are available at Village Hall upon request.

2.3 Training

Each employee is required to periodically attend safety training courses. Training may be in the form of formal off-site or on-site training, on-the-job training. The training must be directly relevant to the employee's duties as described in his/her job description. Certified Operators are also required to obtain continuing education units (CEUs) for his/her license. Within one year of employment, employees are required to be trained in lock out/tag out and confined space entry. The Village President will approve the training prior to attendance. Other potential course topical areas include:

- Traffic control
- Environmental/safety regulations
- Pump theory, operation including speed control, and maintenance
- Laboratory procedures, equipment calibration, sample collection and handling
- Public relations
- Sewer overflow response and reporting
- Collection system evaluation including smoke testing and closed circuit TV
- Pipe repair
- Heavy equipment operation
- Wastewater System Operations and Maintenance

2.4 Public Information and Education

The public has a direct impact on the condition and maintenance of the collection system. The Village of Soldiers Grove makes every effort to educate the public through postings, public meetings and mailings. In addition, the Village will notify affected customers prior to any scheduled maintenance work with the distribution of notices by going door to door. The Village encourages users to avoid disposing of fats, oil and grease into the sewer system.

3.0 Legal Authority

The Village of Soldiers Grove has taken steps in order to enforce the legal authority necessary to regulate the flow entering the collection system from residential, commercial and industrial customers by passing Sewer Ordinance Chapter #165 on February 6th, 1969.

3.1 Asset Management

The ability of the Village of Soldiers Grove to effectively manage its collection system is directly related to its ability to maintain access to the most current information concerning the facilities. Maintenance of this current information is an effort involving all members of the collection system from the staff answering the telephone to the worker in the street. Operational information informs and clarifies financial information. This will make the financial information more useful for the policy makers, leading to better decisions. The system should be kept current with accurate information. A satisfactory management information system should supply the Village with the following advantages:

- Maintain preventive maintenance and inspection schedules
- Track repairs
- Manage tools and equipment inventories
- Record customer service inquiries, complaints or requests
- Provide measurement of effectiveness of program and Operation & Maintenance activities

The assets of the Village of Soldiers Grove's sanitary sewer system include the collection system, lift stations, Wastewater Treatment Plant, generators, vehicles, office and laboratory facilities and all related appurtenances. Both paper and computer-based records for these assets are located at Village Hall.

3.7 Condition Assessment

The condition of an asset is dependent upon a number of factors including its overall condition, maintenance requirements, whether it is over or under capacity for its intended service and how well the asset is performing the job it was designed to perform. All of these factors are subjective in nature so the condition assessment is meant to be an estimate and not an exact analysis. Following is the assessment criteria that the Village of Soldiers Grove will use to assess the condition of the utility's assets.

4.0 OPERATION AND MAINTENANCE

Collection system operation and maintenance (O&M) consists of inspection, evaluation, preventative maintenance, and cleaning of sewer main and laterals, manholes and lift station to maintain flow and mitigate inflow and infiltration. O&M varies by the equipment type, condition, age and operating history with equipment identified as critical receiving maintenance at greater frequencies. Section 2.1.2 described the Village of Soldiers Grove's critical components. The following is a baseline O&M schedule. Periodic factors may necessitate a more frequent O&M schedule for individual components. Appropriate corrective actions or temporary mitigation measures are initiated based upon the findings of the routine O&M activities.

4.1 Collection System

Table 4.1: Collection System Routine Maintenance Schedule

Description	Known Issues	Weekly	Monthly	Semi- Annually	Annually
WWTP-Master Lift Station,	No Known Problems	Visual check for general condition, grease buildup, floats, transducers. Test pumps, alarm system, generator			
Lift Stations #1-3	No Known Problems		Visual check for general condition, grease buildup, floats, transducers.		
Remainder of collection system	No known problems				Visual check for general condition and overflow evidence, clean 10% of the collection system and televise any areas with suspected problems

The Village of Soldiers Grove cleans the sanitary sewer per the routine maintenance schedule via contracted services.

All sewer cleaning records are kept on file at the Public Works Office and are also used for updating the Village's GIS mapping system. The records include such information as date, time, manhole and Lift Station ID#, type of work performed, cause and location of any stoppage, method of cleaning, length of sewer main cleaned or repaired, any further actions necessary.

4.2 Sewer System Inspection

Visual inspection of manholes and pipelines are the first line of defense in the identification of existing or potential problem areas. Visual inspections take place on both a scheduled basis and as part of any preventative or corrective maintenance activity. Visual inspections provide additional information concerning the accuracy of system mapping, the presence and degree of I/I problems and the physical state-of-repair of the system. By observing the manhole directly and the incoming and outgoing lines, it is possible to determine structural condition, the presence of roots, condition of joints, depth of debris in the line and depth of flow. The Public Works Director can examine the records of visual inspections to ensure that the following information is recorded:

- Manhole identification number location
- Cracks or breaks in the manhole or pipe
- Accumulation of grease, debris or grit
- Wastewater flow characteristics
- Inflow or Infiltration
- Condition of manhole cover
- Presence of corrosion
- Offsets of misalignments
- Condition of the frame
- Evidence of surcharge

Closed circuit television analysis of the interior of sewer lines is one of the most comprehensive evaluation methods available as it allows surveying the interior conditions of a pipe. Areas of the sewer system that are experiencing frequent blockages and/or inflow/infiltration should be analyzed by TV analysis to determine the cause of the problems. Tree roots, misaligned joints, saddles, and collapses are common reasons for blockages to occur as grease and other materials begin to accumulate in these areas. Likewise cracks, joint problems and illegal connections can be identified with the aid of television inspection. TV inspection of the sewer system will be utilized in areas with know and repeat problems to diagnose the cause(s) of the problems.

4.3 Mapping

The importance of maintaining accurate, current maps of the collection system cannot be overstated. Efficient collection system maintenance repairs are unlikely if mapping is not adequate. Collection system maps should clearly indicate the information that personnel need to carry out their assignments. The collection system maps contain information on the following:

- Sewer Gravity Mains
- Building/house laterals (where available)
- Manholes
- Lift Stations
- Service area boundaries
- Other landmarks (roads, water bodies, etc.)
- Aerial overlay

The collection system maps have a permanently assigned numbering system which uniquely identifies all elements of the collection system. The maps are simple and easy to understand. Easements and property lines are also included on the maps. Other information included on the maps is a scale, north arrow, date the map was drafted and the date of the last revision. Maps may come in different sizes and scales to be used for different purposes.

Geographic Information System (GIS) technology has made the mapping and map updating process considerably more efficient. GIS is a computerized mapping program capable of combining mapping with detailed information about the physical structures within the collection system.

Specific procedures have been established for correction of errors and updating maps and drawings. Field personnel are trained to recognize discrepancies between field conditions and map data so that office personnel can make the changes necessary to correct the existing mapping system. As-built plans are also used to update the maps. The maps are available to both office and field personnel.

4.4 Lift Stations

All of the Lift Stations are equipped with two submersible pumps.

In the case of a complete Village-wide electrical outage, portable pumping by Village personnel and private waste haulers and non-use of the low flow Lift Station would accommodate the system's needs on a temporary basis.

During an emergency, the Village of Soldiers Grove has a portable generator capable of running the WWTP Master Lift Station and all other lift stations during an emergency.

4.4.1 Lift Station Maintenance

All Lift Station equipment is to be maintained in accordance with the manufacturer's specifications. The following maintenance activities are conducted by Public Works personnel on a monthly basis:

- Inspect the Level Sensing Floats
- Inspect Transducer
- Inspect for Grease Buildup
- Test the Pumps
- Test Alarm System
- Run Generator

Specification manuals for each of the Lift Station pumps are located in the respective electrical panels.

4.5 Repairs

Routine maintenance will identify repair needs within system components. The appropriate repair for any given problem is dependent upon the nature of the problem and cannot be prescribed in this plan. Critical components are parts of the collection system which if failure occurs will result in system failure and sewer overflow. Such items may include failure of a pump, failure of a backup generator to start, or obstruction in the sewer line. Other problems identified by maintenance activities will be less acute and can be repaired on a lower priority basis. This may include loose or missing manhole bricks, broken manhole covers, lift station lighting, etc. When normal maintenance activities identify the need for component repairs or when problems are brought to the attention of the system by customers or others, the problem and corresponding repair will be assigned a priority ranking based on the following hierarchy.

4.6 Parts and Equipment Inventory

An inventory of spare parts, equipment and supplies is maintained by the Village of Soldiers Grove. The inventory is based on equipment manufacturer's recommendations, supplemented by historical experience with maintenance and equipment problems.

The Public Works Director is responsible for assuring that the adequate tools are always available. He/She should consider the frequency of usage of the part, how critical the part is, and finally how difficult the part is to obtain when determining how many of the part to keep in stock. Spare parts are kept in a clean, organized and well protected stock room.

Files for the Village's inventory of parts are maintained at the Public Works Shop. Below is a current list of equipment located at the Village Garage:

- (1) Portable Trash Pump
- (1) Portable Centrifugal Pump

Various sizes and lengths of Hoses for Pumps
 Various Fire Hoses with fittings and adapters

- (2) Portable Generators
- (1) Loader-Backhoe
- (2) Dump Trucks Utility Truck
- (1) Pick-up Trucks w/Warning Lights & Hand Tools
- (1) Street Sweeper
- (1) Skidsteer w/Snow Blower, Broom & Flail Mower
- (1) Snow Blower
- (1) Line Locators
- (1) Portable Spotlight
- (4) Extension Cords
- (1) First Aid Kits
- (4) Fire Extinguishers
- Personal Safety Equipment
- Barricades & Flashers

Below is a current list of available contract operations with several area vendors if needed:

Septic Haulers-Boaz RC Septic Service 608-647-8215
 Septic Haulers-Parr's Septic Service 608-632-4010
 Pipe & Fittings Supplier-First Supply 608-748-3839

5.0 DESIGN AND PERFORMANCE STANDARDS

The concept of capacity for a wastewater system has two basic elements; the capacity of the wastewater plant and the capacity of the collection system. Inflow/infiltration and growth can result in wastewater flows exceeding the design capacity of either the plant or collection system or both.

A Facility Plan was prepared by Davy Engineering Company in March 2006. The evaluation focused on the existing trunk sanitary sewer along with the existing lift stations. The ultimate development areas around the Village were also considered for a guide for expansion. Future expansion evaluation is general in nature, and detailed feasibility studies will be needed to confirm sizes and location of future facilities.

Existing flows were determined on a sewer district basis using the number of units within the sewer district and area wastewater flow rates for various types of land use. Land uses, and not population projections were used to determine future flows. Average flows for residential land uses were peaked in accordance with standard peaking factors. Peak flows were used as a basis for evaluating the existing sewer system and lift stations. In developed areas, peak flows were compared with the system capacities to identify those facilities that might be undersized at ultimate development. Each service area was analyzed independently. Of the four existing lift stations, all have adequate capacity today to handle ultimate flows.

5.1 Wastewater Treatment Plant

The Village of Soldiers Grove's Wastewater Treatment Plant is located at 45825 County Rd C Soldiers Grove WI 54655 and we own approximately 1 acre. All wastewater from the Village enters the Master Lift through a 10" main. The Treatment Plant was constructed in 1969 with a design flow of .114 mgd. It consists of an activated sludge plant, drying beds, with effluent released to the Kickapoo River.

5.2 Collection System

Capacities within the collection system vary by the size of the piping that makes up the system. It is important to determine capacities within the collection system to gauge whether portions are subject to surcharging and overflows and to develop a baseline from which planning decisions regarding new connections may be made. Even if the treatment plant flows are within the design capacity, portions of the collection system could be receiving flows in excess of their design capacities. Some items that may affect sewer capacity are: flat sewer pipes, surcharging, bottlenecks or constrictions, chronic basement backups, SSO's (sanitary sewer overflows), excess debris (solids, grease), root growth, I/I, manhole corrosion, new connections and Lift Station Evaluation, the collection system is in fairly good condition.

5.3 Lift Station Capacity Determination

All design standards for the Village of Soldiers Grove follows (State Plumbing Code, Municipal code, DNR code) for sewer design work, municipal sewer inspections or for construction design and inspections.

Detailed Facility Report



Detailed Facility Report

Facility Summary

SOLDIERS GROVE WASTEWATER TREATMENT FACILITY
800 CTH C, SOLDIERS GROVE, WISCONSIN, SOLDIERS GROVE, WI 54655

FRS (Facility Registry Service) ID: 110010848538
EPA Region: 05
Latitude: 43.396306
Longitude: -90.785806
Locational Data Source: NPDES
Industries: --
Indian Country: N

Enforcement and Compliance Summary

Statute	CWA
Compliance Monitoring Activities (5 years)	1
Date of Last Compliance Monitoring Activity	09/03/2019
Compliance Status	Significant/Category I Noncompliance
Qtrs in Noncompliance (of 12)	10
Qtrs with Significant Violation	8
Informal Enforcement Actions (5 years)	1
Formal Enforcement Actions (5 years)	--
Penalties from Formal Enforcement Actions (5 years)	--
EPA Cases (5 years)	--
Penalties from EPA Cases (5 years)	--

Regulatory Information

Clean Air Act (CAA): No Information
Clean Water Act (CWA): Minor, Permit Expired (WI0022241)
Resource Conservation and Recovery Act (RCRA): No Information
Safe Drinking Water Act (SDWA): No Information
[Go To Enforcement/Compliance Details](#)
[Known Data Problems](#)

Other Regulatory Reports

Air Emissions Inventory (EIS): No Information
Greenhouse Gas Emissions (eGGRT): No Information
Toxic Releases (TRI): No Information
Compliance and Emissions Data Reporting Interface (CEDRI): No Information

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110010848538					N	43.396306	-90.785806
ICIS-NPDES	CWA	WI0022241	Minor: NPDES Individual Permit	Expired	POTW, Pretreatment	09/30/2019	N	43.383333	-90.766667

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110010848538	SOLDIERS GROVE WASTEWATER TREATMENT FACILITY	800 CTH C, SOLDIERS GROVE, WISCONSIN, SOLDIERS GROVE, WI 54655	Crawford County
ICIS-NPDES	CWA	WI0022241	SOLDIERS GROVE WASTEWATER TREATMENT FACILITY	800 CTH C, SOLDIERS GROVE, WISCONSIN, SOLDIERS GROVE, WI 54655	Crawford County

Facility SIC (Standard Industrial Classification) Codes

System	Identifier	SIC Code	SIC Description
ICIS-NPDES	WI0022241	4952	Sewerage Systems

Facility Industrial Effluent Guidelines

Identifier	Effluent Guideline (40 CFR Part)	Effluent Guideline Description
		No data records returned

Facility NAICS (North American Industry Classification System) Codes

System	Identifier	NAICS Code	NAICS Description
			No data records returned

Facility Tribe Information

Reservation Name	Tribe Name	EPA Tribal ID	Distance to Tribe (miles)
Ho-Chunk Nation Reservation	Ho-Chunk Nation of Wisconsin	100000101	15.98

Enforcement and Compliance

Compliance Monitoring History

Last 5 Years

Statute	Source ID	System	Activity Type	Compliance Monitoring Type	Lead Agency	Date	Finding (if applicable)
CWA	W10022241	ICIS-NPDES	Inspection/Evaluation	Base Program - Evaluation	State	09/03/2019	

Entries in italics are not counted as EPA official inspections.

Compliance Summary Data

Statute	Source ID	Current SNC (Significant Noncompliance)/HPV (High Priority Violation)	Current As Of	Qtrs with NC (Noncompliance) (of 12)	Data Last Refreshed
CWA	W10022241	Yes	12/31/2022	10	03/17/2023

Three-Year Compliance History by Quarter

Statute	Program/Pollutant/Violation Type				QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12
CWA (Source ID: W10022241)					01/01-03/31/20	04/01-06/30/20	07/01-09/30/20	10/01-12/31/20	01/01-03/31/21	04/01-06/30/21	07/01-09/30/21	10/01-12/31/21	01/01-03/31/22	04/01-06/30/22	07/01-09/30/22	10/01-12/31/22
	Facility-Level Status				No Violation Identified	Significant/Category I Noncompliance	Significant/Category I Noncompliance	Significant/Category I Noncompliance	Violation Identified	No Violation Identified	Significant/Category I Noncompliance	No Violation Identified	Significant/Category I Noncompliance	Significant/Category I Noncompliance	Significant/Category I Noncompliance	Significant/Category I Noncompliance
	Quarterly Noncompliance Report History					Failure to Report DMR - Not Received	Failure to Report DMR - Not Received	Failure to Report DMR - Not Received	Other Violation		Effluent - Monthly Average Limit	Resolved	Effluent - Monthly Average Limit	Effluent - Monthly Average Limit	Effluent - Monthly Average Limit	Effluent - Monthly Average Limit
	Pollutant	Disch Point	Mon Loc	Freq												
► CWA	BOD, 5-day, 20 deg. C	001 - A	Effluent Gross	Mthly					156%		813%		182%	811%	11%	
► CWA	BOD, 5-day, 20 deg. C	001 - A	Effluent Gross	NMth			19%		277%		1130%		116%	1241%	21%	
► CWA	Phosphorus, total [as P]	001 - A	Effluent Gross	Mthly		18%			18%			16%	27%	68%	12%	4%
► CWA	Solids, total suspended	001 - A	Effluent Gross	Mthly					5%		331%		133%	93%		
► CWA	Solids, total suspended	001 - A	Effluent Gross	NMth		66%	73%		48%		658%	16%	140%	106%	33%	
	Late or Missing Discharge Monitoring Report (DMR) Measurements															
	Counts of Missing DMR Measurements				26	26	26	13								

Informal Enforcement Actions

Last 5 Years

Statute	System	Source ID	Type of Action	Lead Agency	Date
CWA	ICIS-NPDES	W10022241	Biosolids - Notice of Noncompliance Issued	State	05/03/2018

Entries in italics are not counted as "informal enforcement actions" in EPA policies pertaining to enforcement response tools.

Formal Enforcement Actions

Last 5 Years

Statute	System	Law/Section	Source ID	Type of Action	Case No.	Lead Agency	Case Name	Issued/Filed Date	Settlements/Actions	Settlement/Action Date	Federal Penalty Assessed	State/Local Penalty Assessed	Penalty Amount Collected	SEP Cost	Comp Action Cost
No data records returned															

Environmental Conditions

Watersheds

12-Digit WBD (Watershed Boundary Dataset) HUC (RAD (Reach Address Database))	WBD (Watershed Boundary Dataset) Subwatershed Name (RAD (Reach Address Database))	State Water Body Name (ICIS (Integrated Compliance Information System))	Beach Closures Within Last Year	Beach Closures Within Last Two Years	Pollutants Potentially Related to Impairment	Watershed with ESA (Endangered Species Act)-listed Aquatic Species?
070700060402	Trout Creek-Kickapoo River	KICKAPOO R	No	No	--	Yes

Assessed Waters From Latest State Submission (ATTAINS)

State	Report Cycle	Assessment Unit ID	Assessment Unit Name	Water Condition	Cause Groups Impaired	Drinking Water Use	Aquatic Life	Fish Consumption Use	Recreation Use	Other Use
WI	2022	<u>WI10008865</u>	Kickapoo River	Good	--	--	Fully Supporting	Not Assessed	Not Assessed	Not Assessed
WI	2022	<u>WI10017050</u>	Unnamed	Unknown	--	--	Not Assessed	Not Assessed	Not Assessed	Not Assessed

Air Quality Nonattainment Areas

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
No data records returned				

Pollutants

Toxics Release Inventory History of Reported Chemicals Released in Pounds per Year at Site

TRI Facility ID	Year	Total Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Releases to Land	Total On-Site Releases	Total Off-Site Transfers
No data records returned								

Toxics Release Inventory Total Releases and Transfers in Pounds by Chemical and Year

Chemical Name
No data records returned

Community

EJScreen EJ Indexes

Twelve environmental justice (EJ) indexes of EJScreen, EPA's screening tool for EJ concerns. EPA uses these indexes to identify geographic areas that may warrant further consideration or analysis for potential EJ concerns. The index values below are for the Census block group or 1-mile maximum (US or State) in which the facility is located. Note that use of these indexes does not designate an area as an "EJ community" or "EJ facility." EJScreen provides screening level indicators, not a determination of the existence or absence of EJ concerns. For more information, see the [EJScreen home page](#).

Show EJ Indexes calculated based on:

Census Block Group - US

Census Block Group EJ Indexes (percentile)	
Particulate Matter 2.5	38
Ozone	40
Diesel Particulate Matter	13
Air Toxics Cancer Risk	27
Air Toxics Respiratory Hazard Index	15
Traffic Proximity	17
Lead Paint	59
Risk Management Plan (RMP) Facility Proximity	5
Hazardous Waste Proximity	10
Superfund Proximity	14
Underground Storage Tanks (UST)	37
Wastewater Discharge	--

Number of EJ Indexes Above 80th Percentile
0

[View EJScreen Report](#) (US/regional/state percentiles, 1-mile average)

Demographic Profile of Surrounding Area (1 mile)

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 U.S. Census and 2016 - 2020 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. EPA's spatial processing methodology considers the overlap between the selected radii and the census blocks (for U.S. Census demographics) and census block groups (for ACS demographics) in determining the demographics surrounding the facility. For more detail about this methodology, see the [DFR Data Dictionary](#).

General Statistics (U.S. Census)	
Total Persons	473
Population Density	158/sq.mi.
Housing Units in Area	219
General Statistics (ACS (American Community Survey))	
Total Persons	99
Percent People of Color	4%
Households in Area	35
Households on Public Assistance	2
Persons With Low Income	45
Percent With Low Income	47%
Geography	
Radius of Selected Area	1 mi.
Center Latitude	43.396306
Center Longitude	-90.785806
Land Area	100%
Water Area	0%
Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than \$15,000	5 (13.89%)
\$15,000 - \$25,000	7 (19.44%)
\$25,000 - \$50,000	8 (22.22%)
\$50,000 - \$75,000	7 (19.44%)
Greater than \$75,000	9 (25%)

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	19 (4%)
Minors 17 years and younger	86 (18%)
Adults 18 years and older	387 (82%)
Seniors 65 years and older	133 (28%)
Race Breakdown (U.S. Census) - Persons (%)	
White	470 (99%)
African-American	0 (0%)
Hispanic-Origin	3 (1%)
Asian/Pacific Islander	0 (0%)
American Indian	1 (0%)
Other/Multiracial	2 (0%)
Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	4 (6.15%)
9th through 12th Grade	5 (7.69%)
High School Diploma	26 (40%)
Some College/2-year	12 (18.46%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	10 (15.38%)

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[DATA REFRESH INFORMATION](#)