STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law (Chapter 644 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.:	MO-0106461
Owner:	Rock Creek Public Sewer District (RCPSD)
Address:	P.O. Box 1060, Imperial, MO 63052
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	RCSPD Kimmswick WWTP
Facility Address:	6000 Mississippi Street, Kimmswick, MO 63052
Legal Description:	See Page 2
UTM Coordinates:	See Page 2
Receiving Stream:	See Page 2
First Classified Stream and ID:	See Page 2
USGS Basin & Sub-watershed No.:	See Page 2

authorizes activities pursuant to the terms and conditions of this permit in accordance with the Missouri Clean Water Law and/or the National Pollutant Discharge Elimination System; it does not apply to other regulated activities.

FACILITY DESCRIPTION

See Page 2

September 1, 2023
Effective Date

August 31, 2028
Expiration Date

John Hoke, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Outfall #001 – POTW
The use or operation of this facility shall be by or under the supervision of a Certified "A" Operator.
Influent lift station / mechanical fine screen / aerated grit chamber / 4 SBRs / effluent pump station / UV disinfection / gravity belt sludge thickener / 3 aerobic sludge digesters / 2 sludge holding tanks / biosolids are land applied or hauled to a facility that dewaters the biosolids and then disposes of the dewatered biosolids in a permitted landfill / facility does not have materials stored or conduct operations in a manner that would cause the discharge of pollutants via stormwater

Design population equivalent is 48,000.
Design flow is 4.8 million gallons per day.
Actual flow is 2.3 million gallons per day.
Design sludge production is 773 dry tons/year.

Legal Description:	Land Grant 1303, Jefferson County
UTM Coordinates:	X=730748, Y=4249738
Receiving Stream:	Mississippi River (P)
First Classified Stream and ID:	Mississippi River (P) (1707.03)
USGS Basin & Sub-watershed No.:	(07140101-0603)

Permitted Feature INF – Influent Monitoring Location – Headworks

Legal Description:	Land Grant 1303, Jefferson County
UTM Coordinates:	X=730524, Y=4249807

Permitted Feature SM1 – Eliminated

OUTFALL #001	TABLE A-1. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. The final effluent limitations in **Table A-1** shall become effective on **September 1, 2023** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: M						
Flow	MGD	*		*	once/day	24 hr. total
Biochemical Oxygen Demand$_5$	mg/L		45	30	twice/week	composite**
Total Suspended Solids	mg/L		45	30	twice/week	composite**
E. coli (**Note 1**)	#/100mL		1,030	206	once/week	grab
Ammonia as N	mg/L	*		*	once/month	composite**
Oil & Grease	mg/L	*		*	once/month	grab
Total Phosphorus	mg/L	*		*	once/month	composite**
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	composite**
Nitrite + Nitrate	mg/L	*		*	once/month	composite**
Total Nitrogen (**Note 3**)	mg/L	*		*	once/month	calculated

EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units***	SU	6.0		9.0	twice/month	grab

EFFLUENT PARAMETER(S)	UNITS	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand$_5$ – Percent Removal (**Note 2**)	%	85	once/month	calculated
Total Suspended Solids – Percent Removal (**Note 2**)	%	85	once/month	calculated

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE OCTOBER 28, 2023.

* Monitoring requirement only.

** A 24-hour composite sample is composed of aliquots (subsamples) collected at flow-based intervals by an automatic sampling device. The automatic sampling device is to collect a 30 mL aliquot for every 2,000 gallons of flow. In the event that the automatic sampling device malfunctions, the facility shall contact the St. Louis Regional Office for approval to use an alternative sample collection method and timetable for use, until the device is repaired or replaced.

*** pH is measured in pH units and is not to be averaged.

Note 1 – Effluent limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean. The Weekly Average for *E. coli* will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

Note 2 – Influent sampling for BOD_5 and TSS is not required when the facility does not discharge effluent during the reporting period. Samples are to be collected prior to any treatment process. Calculate Percent Removal by using the following formula: [(Average Influent –Average Effluent) / Average Influent] x 100% = Percent Removal. Influent and effluent samples are to be taken during the same month. The Average Influent and Average Effluent values are to be calculated by adding the respective values together and dividing by the number of samples taken during the month. Influent samples are to be collected as a composite sample, made up from a minimum of four grab samples collected within a 24 hour period with a minimum of two hours between each grab sample and then composited.

Note 3 – Total Nitrogen is calculated as; TN = Total Kjeldahl Nitrogen + Nitrate+Nitrite

PERMITTED FEATURE INF	TABLE B-1. INFLUENT MONITORING REQUIREMENTS

The monitoring requirements in **Table B-1** shall become effective on **September 1, 2023** and remain in effect until expiration of the permit. The influent wastewater shall be monitored by the permittee as specified below:

PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: IM						
Biochemical Oxygen Demand$_5$ (**Note 2**)	mg/L			*	once/month	composite**
Total Suspended Solids (**Note 2**)	mg/L			*	once/month	composite**
Ammonia as N	mg/L	*		*	once/month	composite**
Total Phosphorus	mg/L	*		*	once/month	composite**
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	composite**
Nitrite + Nitrate	mg/L	*		*	once/month	composite**

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE OCTOBER 28, 2023.

* Monitoring requirement only.

** A composite sample made up from a minimum of four grab samples collected within a 24 hour period with a minimum of two hours between each grab sample.

Note 2 – Influent sampling for BOD_5 and TSS is not required when the facility does not discharge effluent during the reporting period. Samples are to be collected prior to any treatment process. Calculate Percent Removal by using the following formula: [(Average Influent –Average Effluent) / Average Influent] x 100% = Percent Removal. Influent and effluent samples are to be taken during the same month. The Average Influent and Average Effluent values are to be calculated by adding the respective values together and dividing by the number of samples taken during the month. Influent samples are to be collected as a composite sample, made up from a minimum of four grab samples collected within a 24 hour period with a minimum of two hours between each grab sample and then composited.

C. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated August 1, 2014, May 1, 2013, and August 1, 2019, and hereby incorporated as though fully set forth herein. Annual reports required per Standard Conditions Part III Section K shall be submitted online to the Department via the Department's eDMR system as an attachment. This supersedes Standard Conditions Part III Section K #4. EPA reports shall continue to be submitted online via the Central Data Exchange system.

D. SPECIAL CONDITIONS

1. Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit) shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data about the NPDES program. All reports uploaded into the system shall be reasonably named so they are easily identifiable, such as "WET Test Chronic Outfall 002 Jan 2023," or "Outfall 004 Daily Data Mar 2025."
   (a) eDMR Registration Requirements. The permittee must register with the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem. Information about the eDMR system can be found at https://dnr.mo.gov/water/business-industry-other-entities/reporting/electronic-discharge-monitoring-reporting-system-edmr. The first user shall register as an Organization Official and the association to the facility must be approved by the Department. Regarding Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department. See paragraph (c) below.

(b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://apps5.mo.gov/mogems/welcome.action. If you experience difficulties with using the eDMR system you may contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082 for assistance.
(c) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days.

2. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:
   (a) To comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) To incorporate an approved pretreatment program or modification thereto pursuant to 40 CFR 403.8(c) or 40 CFR 403.18(e), respectively.

3. All outfalls must be clearly marked in the field.

4. Report as no-discharge when a discharge does not occur during the report period.

5. Reporting of Non-Detects:
   (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
   (b) See sufficiently sensitive test method requirements in Standard Conditions Part I, Section A, No. 4 regarding proper testing and method minimum levels used for sample analysis.
   (c) The permittee shall not report a sample result as "Non-Detect" without also reporting the method minimum level of the test. Reporting as "Non Detect" without also including the method minimum level, will be considered failure to report, which is a violation of this permit.
   (d) The permittee shall provide the "Non-Detect" sample result using the less than symbol and the method minimum level (e.g., <50 µg/L, if the method minimum level for the parameter is 50 µg/L).
   (e) Where the permit contains a Department determined Minimum Quantification Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
   (f) For the daily maximum, the facility shall report the highest value. If the highest value was a non-detect, use the less than "<" symbol and the laboratory's highest method minimum level.
   (g) For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.
   (h) For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of "0" for all non-detects for that reporting period and report the average of all the results.
   (i) When *E. coli* is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means.
   (j) See the Fact Sheet Appendix - Non-Detect Example Calculations for further guidance.

6. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

7. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9. In accordance with 10 CSR 20-9.010(3), a modification of the monitoring frequency is approved as follows. Monday - Friday means: Monday, Tuesday, Wednesday, Thursday & Friday, except for the eleven Federal legal holidays (New Year's, Martin Luther King Day, Washington's Birthday (Presidents Day), Memorial Day, Juneteenth National Independence Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day). The monitoring frequencies contained in the tables of this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. To request additional modifications of the operational control testing requirements listed in 10 CSR 20-9, the permittee shall submit a permit modification application and fee to the Department requesting a deviation from the operational control monitoring requirements. Upon approval of the request, the Department will modify the permit.

8. The permittee shall continue to implement and update if necessary, the program for maintenance and repair of its collection system. The permittee may compare collection system performance results and other data with the benchmarks used in the Departments' Capacity, Management, Operation, And Maintenance (CMOM) Model, located at https://dnr.mo.gov/document-search/capacity-management-operations-maintenance-plan-editable-template. Additional information regarding the Departments' CMOM Model is available at https://dnr.mo.gov/print/document-search/pub2574.

   The permittee shall also submit a report via the Electronic Discharge Monitoring Report (eDMR) Submission System annually, by January 28th, for the previous calendar year. The report shall contain the following information:
   (a) A summary of the efforts to locate and eliminate specific sources of excessive infiltration and inflow into the collection system serving the facility for the previous year.
   (b) A summary of the general maintenance and repairs to the collection system serving the facility for the previous year.
   (c) A summary of any planned maintenance and repairs to the collection system serving the facility for the upcoming calendar year. This list shall include locations (GPS, 911 address, manhole number, etc.) and actions to be taken.

9. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2. Bypasses are to be reported to the St. Louis Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours. Once an electronic reporting system compliant with 40 CFR Part 127, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, is available all bypasses must be reported electronically via the new system. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.

10. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.

11. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the facility.

12. An all-weather access road to the treatment facility shall be maintained.

13. The outfall sewer shall be protected and maintained against the effects of floodwater, ice, or other hazards as to reasonably ensure its structural stability, freedom from stoppage, and that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.

14. The permittee shall perform a minimum of four whole effluent toxicity tests in the four and one-half year period prior to the next permit renewal application. The four tests shall consist of four acute toxicity tests in accordance with Special Conditions #15.

15. Acute Whole Effluent Toxicity (WET) tests shall be conducted as follows:
   (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the acute toxicity of NPDES effluents are found in the most recent edition of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012; Table IA, 40 CFR Part 136). The permittee shall concurrently conduct 48-hour, static, non-renewal toxicity tests with the following species:
      i. The fathead minnow, *Pimephales promelas* (Acute Toxicity EPA Test Method 2000.0).
      ii. The daphnid, *Ceriodaphnia dubia* (Acute Toxicity EPA Test Method 2002.0).
   (b) Chemical and physical analysis of the upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
   (c) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
   (d) The laboratory shall not chemically dechlorinate the sample.
   (e) The Allowable Effluent Concentration (AEC) is 9%; the dilution series is: 36%, 18%, 9%, 4.5%, and 2.25%.
   (f) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
   (g) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of acute toxic units ($TU_a = 100/LC_{50}$) reported according to the test methods manual chapter on report preparation and test review. The Lethal Concentration 50 Percent (LC_{50}) is the effluent concentration that would cause death in 50 percent of the test organisms at a specific time.

16. Expanded Effluent Testing
Permittee must sample and analyze for the pollutants listed in Form B2 – Application for Operating Permit for Facilities That Receive Primarily Domestic Waste And Have A Design Flow More Than 100,000 Gallons Per Day (MO-780-1805 dated 10-20), Part D – Expanded Effluent Testing Data, #18. The permittee shall provide this data with the permit renewal application. A minimum of three samples taken within four and one-half years prior to the date of the permit application must be provided. Samples must be representative of the seasonal variation in the discharge from each outfall. Approved and sufficiently sensitive testing methods listed in 40 CFR 136.3 must be utilized. A method is "sufficiently sensitive" when; 1) The method minimum level is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter; or 2) the method minimum level is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or 3) the method has the lowest minimum level of the analytical methods approved under 40 CFR part 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established.

E. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: https://ahc.mo.gov

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0106461
RCPSD KIMMSWICK WWTP

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.], a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

Part I – Facility Information

Application Date: 08/06/2021
Expiration Date: 03/31/2022

Facility Type and Description: POTW - Influent lift station / mechanical fine screen / aerated grit chamber / 4 SBRs / effluent pump station / UV disinfection / gravity belt sludge thickener / 3 aerobic sludge digesters / 2 sludge holding tanks / biosolids are land applied or hauled to a facility that dewaters the biosolids and then disposes of the dewatered biosolids in a permitted landfill / facility does not have materials stored or conduct operations in a manner that would cause the discharge of pollutants via stormwater

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#011	7.44	Secondary	Domestic

Comments:
Changes in this permit for Outfall #001 include the addition of Total Kjeldahl Nitrogen and Nitrate + Nitrite, the revision of Oil & Grease from limits to monitoring only requirements, the revision of Total Phosphorus and Total Nitrogen sampling frequency from quarterly to monthly and from grab to composite sampling, the revision of *E. coli* sampling from twice per week to once per week, the revision of the definition of composite sampling, and the removal of the Acute WET test, and removal of the Chronic WET test. Changes in this permit includes the removal of Permitted Feature SM1. Changes in this permit includes the addition of Permitted Feature INF along with the addition of Biochemical Oxygen Demand$_5$, Total Suspended Solids, Ammonia, Total Kjeldahl Nitrogen, Nitrate + Nitrite, and Total Phosphorus. See Part II of the Fact Sheet for further information regarding the addition, revision, and removal of influent, instream, and effluent parameters. Special conditions were updated, which includes but is not limited to; the addition of inflow and infiltration reporting requirements, reporting of Non-detects, bypass reporting requirements, removal of instream monitoring requirements, and revision of the Electronic Discharge Monitoring Report (eDMR) Submission System.

Part II – Effluent Limitations and Monitoring Requirements

OUTFALL #001 – MAIN FACILITY OUTFALL
Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

OUTFALL #001 - RECEIVING STREAM INFORMATION

RECEIVING STREAM(S) TABLE:

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Mississippi River	P	1707.03	AHP(WWH), WBC-B, SCR, HHP, IRR, LWP, DWS, IND	07140101-0603	0

*As per 10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.:

AHP = Aquatic Habitat Protection - To ensure the protection and propagation of fish, shellfish, and wildlife. AHP is further subcategorized as:

WWH = Warm Water Habitat;
CLH = Cool Water Habitat;
CDH= Cold Water Habitat;
EAH = Ephemeral Aquatic Habitat;
MAH = Modified Aquatic Habitat;
LAH = Limited Aquatic Habitat.

This permit uses Aquatic Life Protection effluent limitations in 10 CSR 20-7.031 Table A for all aquatic habitat designations unless otherwise specified.

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water

WBC = Whole Body Contact recreation where the entire body is capable of being submerged. WBC is further subcategorized as:

WBC-A = Whole body contact recreation that supports swimming uses and has public access;
WBC-B = Whole body contact recreation that supports swimming;

SCR = Secondary Contact Recreation (like fishing, wading, and boating).

10 CSR 20-7.031(1)(C)3. to 7.:

HHP = Human Health Protection as it relates to the consumption of fish;
IRR = Irrigation - Application of water to cropland or directly to cultivated plants that may be used for human or livestock consumption;
LWP = Livestock and wildlife protection - Maintenance of conditions in waters to support health in livestock and wildlife;
DWS = Drinking water supply;
IND = Industrial water supply

10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)

WSA = Storm- and flood-water storage and attenuation;
WHP = Habitat for resident and migratory wildlife species;
WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses;
WHC = Hydrologic cycle maintenance.

10 CSR 20-7.031(6):

GRW = Groundwater

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM	LOW-FLOW VALUES (CFS)*		
	1Q10	7Q10	30Q10
Mississippi River	60,656	64,697	68,903

* - Data from USGS Gauge Station 07010000 located on the Mississippi River at St. Louis, MO, plus data from USGS Gauge Station 07019300 located on the Meramec River at Arnold, MO, plus data from USGS Gauge Station 07010097 located on the River Des Peres at St. Louis, MO

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(a)]			ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(b)]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
15,164	16,174.25	17,225.75	74.4	74.4	N/A

Receiving Water Body's Water Quality

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

- ✓ This facility does not discharge to a 303(d) listed stream.

- ✓ This facility discharges to a stream with an EPA approved TMDL. EPA approved the TMDL for the Mississippi River on November 3, 2006. The pollutants of concern were Chlordane and PCBs. This facility is not considered to be a source of the pollutants of concern and was not considered to contribute to the impairment of the Mississippi River.

- ✓ The Department has not conducted a stream survey for this waterbody. When a stream survey is conducted, more information may be available about the receiving stream.

CHANGES TO EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit / Frequency	Sampling Frequency	Reporting Frequency	Sample Type ****
Oil & Grease	mg/L	1, 3	*		*	15/10	1/month	monthly	G
Total Phosphorus	mg/L	1	*		*	1/quarter	1/month	monthly	C
Total Kjeldahl Nitrogen	mg/L	1	*		*	**	1/month	monthly	C
Nitrite + Nitrate	mg/L	1	*		*	**	1/month	monthly	C
Total Nitrogen	mg/L	7	*		*	1/quarter	1/month	monthly	M

* - Monitoring requirement only.
** - Parameter not previously established in previous state operating permit.

**** - C = 24-hour composite
G = Grab
M = Measured/calculated

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review
5. Antidegradation Policy
6. Water Quality Model
7. Best Professional Judgment
8. TMDL or Permit in lieu of TMDL
9. WET Test Policy
10. Multiple Discharger Variance
11. Nutrient Criteria Implementation Plan

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **Biochemical Oxygen Demand (BOD_5)**. Operating permit retains 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(2) for discharges to the Missouri or Mississippi Rivers.

- **Total Suspended Solids (TSS)**. Operating permit retains 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(2) for discharges to the Missouri or Mississippi Rivers.

- ***Escherichia coli (E. coli)***. Monthly average of 206 per 100 mL as a geometric mean and Weekly Average of 1,030 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), for discharges within two miles upstream of segments or lakes with Whole Body Contact Recreation (B) designated use of the receiving stream, as per 10 CSR 20-7.015(9)(B). An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d). The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected. For example: Five *E. coli* samples were collected with results of 1, 4, 6, 10, and 5 (#/100mL). Geometric Mean = 5^{th} root of (1)(4)(6)(10)(5) = 5^{th} root of 1,200 = 4.1 #/100mL.

- **Total Ammonia Nitrogen**. During the drafting of this permit, the permit writer conducted a reasonable potential analysis using the DMR data submitted by the permittee, and found that the discharge does not have the reasonable potential to cause or contribute to an in-stream excursion above the Ammonia water quality standard. As a result, monitoring requirements have been included in this permit to determine if the discharge has the reasonable potential to cause or contribute to an excursion of the water quality standard. Data will be reviewed at renewal to reassess this determination.

- **Oil & Grease**. During the drafting of this permit, the permit writer reviewed DMR data submitted by the permittee. Additionally, no evidence of an excursion of the water quality standard has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of the water quality standard. As a result, monitoring requirements have been included in this permit to determine if the discharge has the reasonable potential to cause or contribute to an excursion of the water quality standard. Data will be reviewed at renewal to reassess this determination.

- **Total Phosphorus, Total Kjeldahl Nitrogen, Nitrate + Nitrite, & Total Nitrogen**. Effluent monitoring for Total Phosphorus, Total Kjeldahl Nitrogen, and Nitrate + Nitrite are required per 10 CSR 20-7.015(9)(D)8. Effluent monitoring for Total Nitrogen is required per 10 CSR 20-6.010(8)(B). Total Nitrogen is calculated as; TN = Total Kjeldahl Nitrogen + Nitrate+Nitrite.

- **pH**. 6.0-9.0 SU. The permit writer has made a reasonable potential determination based on the assimilative capacity of the receiving stream that the discharge will not cause or contribute to the excursion of the water quality standard for pH instream. Therefore, effluent limitations as required by 10 CSR 20-7.015 are substituted for the pH water quality criteria of 6.5-9.0 SU.

- **Biochemical Oxygen Demand (BOD_5) Percent Removal**. In accordance with 40 CFR Part 133, removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to BOD_5 and TSS for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for BOD_5.

- **Total Suspended Solids (TSS) Percent Removal**. In accordance with 40 CFR Part 133, removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to BOD_5 and TSS for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for TSS.

Sampling Frequency Justification: The Department has determined that previously established sampling and reporting frequency is sufficient to characterize the facility's effluent and be protective of water quality. Monthly sampling is required for Total Phosphorus, Ammonia, Total Kjeldahl Nitrogen, and Nitrate + Nitrite per 10 CSR 20-7.015(9)(D)8.B. Weekly sampling is required for *E. coli*, per 10 CSR 20-7.015(9)(D)7.A.

Sampling Type Justification: As per 10 CSR 20-7.015, samples collected for mechanical plants shall be a 24 hour modified composite sample. Grab samples, however, must be collected for pH, *E. coli*, and Oil & Grease, in accordance with recommended analytical methods. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D) 2.

PERMITTED FEATURE INF – INFLUENT MONITORING

The monitoring requirements established in the below Monitoring Requirements Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including the monitoring requirements listed in this table.

CHANGES TO INFLUENT MONITORING:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ***
BOD_5	mg/L	1			*	**	1/month	monthly	C
TSS	mg/L	1			*	**	1/month	monthly	C
Ammonia as N	mg/L	1	*		*	**	1/quarter	quarterly	C
Total Phosphorus	mg/L	1	*		*	**	1/quarter	quarterly	C
Total Kjeldahl Nitrogen	mg/L	1	*		*	**	1/quarter	quarterly	C
Nitrite + Nitrate	mg/L	1	*		*	**	1/quarter	quarterly	C

* - Monitoring requirement only.
** - Parameter not previously established in previous state operating permit.
*** - C = Composite
M = Measured/calculated

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review
5. Antidegradation Policy
6. Water Quality Model
7. Best Professional Judgment
8. TMDL or Permit in lieu of TMDL
9. WET Test Policy
10. Multiple Discharger Variance
11. Nutrient Criteria Implementation Plan

Influent Parameters

- **Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS)**. An influent sample is required to determine the removal efficiency. In accordance with 40 CFR Part 133, removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to BOD_5 and TSS for Publicly Owned Treatment Works (POTWs)/municipals.

- **Total Phosphorus, Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia**. Influent monitoring for Total Phosphorus, Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia required per 10 CSR 20-7.015(9)(D)8. Total Kjeldahl Nitrogen is calculated as; TKN = Total Nitrogen – Nitrate+Nitrite.

Sampling Frequency Justification: The sampling and reporting frequencies for Total Phosphorus and Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia parameters were established to match the required sampling frequency of these parameters in the effluent, per 10 CSR 20-7.015(9)(D)8. The sampling and reporting frequencies for influent BOD_5 and TSS have been established to match the required sampling frequency of these parameters in the effluent.

Sampling Type Justification: Sample types for influent parameters were established to match the required sampling type of these parameters in the effluent. Samples should be analyzed as soon as possible after collection and/or properly preserved according to method requirements.

OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit states that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule or regulation promulgated by the commission.

(A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses. The discharge from this facility is made up of treated domestic wastewater. Based upon review of the Report of Compliance Inspection for the inspection conducted on September 9, 2020, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, this facility utilizes secondary treatment technology and is currently in compliance with the secondary treatment technology based effluent limits established in 40 CFR 133 and there has been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of this discharge. Based on the information reviewed during the drafting of this permit, these final effluent limitations appear to have protected against the excursion of this criterion in the past. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.
(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. This permit contains final effluent limitations which are protective of both acute and chronic toxicity for various pollutants that are either expected to be discharged by domestic wastewater facilities or that were disclosed by this facility on the application for permit coverage. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations established in this permit, there is no reasonable potential for the discharge to cause an excursion of this criterion.
(E) Waters shall provide for the attainment and maintenance of water quality standards downstream including waters of another state. Please see (D) above as justification is the same.
(F) There shall be no significant human health hazard from incidental contact with the water. Please see (D) above as justification is the same.
(G) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) above as justification is the same.
(H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.

(I) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

Part III – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:
As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream, and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

✓ The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)].

ANTI-BACKSLIDING:
A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(o); 40 CFR Part 122.44(l)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

✓ Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

- Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

  - **Removal of Upstream Permitted Feature SM1 (Nutrient Monitoring)**. The previous permit had Permitted Feature SM1, which contained instream monitoring requirements for Total Phosphorus and Total Nitrogen. The Department has made a determination that monitoring of background nutrients is not needed. This permit is still protective of water quality and this determination will be reassessed at the time of renewal. Also, the removal of the permitted feature meets the requirements of the safety clause, as the removal of the permitted feature will not result in a violation of a water quality standard.

  - **Oil and Grease**. The permit writer conducted a reasonable potential determination using new DMR data. The previous permit had final effluent limits of 15 mg/L as a daily maximum and 10 mg/L as a monthly average. During the drafting of this permit, the permit writer reviewed DMR data submitted by the permittee. Additionally, no evidence of an excursion of the water quality standard has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of the water quality standard. Therefore, the permit writer has made a determination that the discharge does not have the reasonable potential to cause or contribute to an excursion of the standard and has removed the final effluent limits from this permit and added monitoring only requirements. This backsliding is justified as there is information available which was not available at the time of the previous permit issuance (new DMR data). This new information justifies the application of a less stringent effluent limitation at the time of permit issuance. Also, the removal of the effluent limit and addition of a monitoring only requirement also meets the requirements of the safety clause, as the revision will not result in a violation of a water quality standard.

  - **Acute Whole Effluent Toxicity (WET) test**. The previous permit included requirements to conduct an Acute WET test once per year. The permit writer conducted a reasonable potential determination for all anticipated pollutants and established numeric effluent limitations where reasonable potential exists. Also, the facility has passed previous Acute WET tests. The permit writer determined the facility does not have reasonable potential to exceed narrative water quality standards for acute toxicity at this time and the Acute WET testing requirements have been removed from this permit. This backsliding is justified as there is information available which was not available at the time of the previous permit issuance (previous passing WET tests). This new information justifies the removal of the test at the time of permit issuance. Also, the removal of the test also meets the requirements of the safety clause, as the removal will not result in a violation of a water quality standard.

- **Chronic Whole Effluent Toxicity (WET) test**. The previous permit included requirements to conduct a Chronic WET test once during the permit cycle. The permit writer conducted a reasonable potential determination for all anticipated pollutants and established numeric effluent limitations where reasonable potential exists. Also, the facility has passed a previous Chronic WET test. The permit writer determined the facility does not have reasonable potential to exceed narrative water quality standards for chronic toxicity at this time and the Chronic WET testing requirements have been removed from this permit. This backsliding is justified as there is information available which was not available at the time of the previous permit issuance (previous passing WET tests). This new information justifies the removal of the test at the time of permit issuance. Also, the removal of the test also meets the requirements of the safety clause, as the removal will not result in a violation of a water quality standard.

o The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).

- **General Criteria**. The previous permit indicated "There Shall Be No Discharge of Floating Solids or Visible Foam in Other Than Trace Amounts" under each table. The statement was not evaluated against actual site conditions therefore, this general criteria was re-assessed. It was determined that this facility does not discharge solids or foam in amounts which would indicate reasonable potential, therefore the statement was removed. Each general criteria was assessed for this facility.

ANTIDEGRADATION:
In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)], for domestic wastewater discharge with new, altered, or expanding discharges, the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. In accordance with Missouri's water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See https://dnr.mo.gov/document-search/antidegradation-implementation-procedure.

✓ No degradation was proposed in this permit action and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

For stormwater discharges, the stormwater BMP chosen for the facility, through the antidegradation analysis performed by the facility, must be implemented and maintained at the facility. Failure to implement and maintain the chosen BMP alternative is a permit violation; see SWPPP.

✓ The stormwater outfalls onsite have no industrial exposure.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:
As per [10 CSR 20-6.010(2)(C)], an applicant may utilize a lower preference continuing authority when a higher level authority is available by submitting information as part of the application to the Department for review and approval, provided it does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:
Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

✓ Permittee is authorized to land apply biosolids in accordance with Standard Conditions III and to haul to a landfill for disposal. If other methods to remove and dispose (haul to another permitted treatment facility, etc.) of sludge/biosolids are needed and that method is not listed in the current permit, the permittee must modify the operating permit to add any biosolids/sludge disposal method to the facility description of the operating permit. For time sensitive situations, the permittee may contact the Department to see about approval for a one-time removal and disposal of sludge/biosolids that are not identified in the facility description of the operating permit.

COMPLIANCE AND ENFORCEMENT:
Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Facility Performance History:

✓ The facility is not currently under Water Protection Program enforcement action. This facility was last inspected on September 8, 2020. The inspection showed the following unsatisfactory features: failure to collect a proper 24-hr composite sample. This issue was addressed in an email dated October 21, 2020.

CONTINUING AUTHORITY:

Each application for an operating permit shall identify the person, as that term is defined in section 644.016(15), RSMo, that is the owner of, operator of, or area-wide management authority for a water contaminant source, point source, wastewater treatment facility, or sewer collection system. This person shall be designated as the continuing authority and shall sign the application. By doing so, the person designated as the continuing authority acknowledges responsibility for compliance with all permit conditions.

10 CSR 20-6.010(2) establishes preferential levels for continuing authorities: Levels 1 through 5 (with Level 1 as the highest level), and generally requires permits to be issued to a higher preference continuing authority if available. A Level 3, 4, or 5 applicant may constitute a continuing authority by showing that Level 1 and Level 2 authorities are not available; do not have jurisdiction; are forbidden by state statute or local ordinance from providing service to the person; or that the Level 3, 4, or 5 applicant has met one of the requirements listed in paragraphs (2)(C)1.–7. of 10 CSR 20-6.010(2). The seven options in paragraphs (2)(C)1.–7. for a lower-level authority to demonstrate that it is the valid continuing authority are:

1. A waiver from the existing higher authority declining the offer to accept management of the additional wastewater or stormwater;
2. A written statement or a demonstration of non-response from the higher authority;
3. A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
4. A proposed connection or adoption charge by the higher authority that would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;
5. A proposed service fee on the users of the system by the higher authority that is above what is affordable for existing homeowners in that area;
6. Terms for connection or adoption by the higher authority that would require more than two (2) years to achieve full sewer service; or
7. A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area.

Permit applicants that are Levels 3, 4, and 5 must, as part of their application, identify their method of compliance with this regulation. The following are the methods to comply.

o No higher level authorities are available to the facility;

o No higher level authorities have jurisdiction;

o Higher level authorities are forbidden by state statute or local ordinance from providing service to the person;

o The existing higher level authority is available to the facility, however the facility has proposed the use of a lower preference continuing authority and has submitted one of the following as part of their application provided it does not conflict with any area-wide management plan approved under section 208 of the Clean Water Act or by the Missouri Clean Water Commission. (See Fact Sheet Appendix - Continuing Authority for more information on these options):
- A waiver from the existing higher authority;
- A written statement or a demonstration of non-response from the higher authority;
- A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
- Documentation that the proposed connection or adoption charge by the higher authority would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;
- Documentation that the proposed service fee on the users of the system by the higher authority is above what is affordable for existing homeowners in that area;
- Documentation that the terms for connection or adoption by the higher authority would require more than two (2) years to achieve full sewer service;
- A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area;

- ✓ The continuing authority listed on the application is a public sewer district, and therefore a Level 3 Authority. East-West Gateway has an approved Clean Water Act Section 208 plan in Jefferson County. The Rock Creek Public Sewer District was added to the approved entities with a management plan under the East-West Gateway 208 plan in 2021 amendment. The applicant has shown that:

- o A higher level authority is not available to the facility;

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. This final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online. In an effort to aid facilities in the reporting of applicable information electronically, the Department has created several new forms including operational control monitoring forms and an I&I location and reduction form. These forms are optional and can be provided upon request to the Department.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692. Each facility must make a request. If a single entity owns or operates more than one facility, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

- ✓ The permittee/facility is currently using the eDMR data reporting system.

NUMERIC LAKE NUTRIENT CRITERIA:

- ✓ This facility does not discharge into a lake watershed where numeric lake nutrient criteria are applicable.

OPERATOR CERTIFICATION REQUIREMENTS:

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], the permittee shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems with population equivalents greater than 200 and are owned or operated by or for municipalities, public sewer districts, counties, public water supply districts, private sewer companies regulated by the Public Service Commission and state or federal agencies.

- ✓ This facility is required to have a certified operator as it has a population equivalent greater than 200 and is owned or operated by or for a municipality, public sewer district, county, public water supply district, private sewer company regulated by the PSC, state or federal agency.

This facility currently requires a chief operator with an (A) Certification Level. Please see **Appendix - Classification Worksheet**. Modifications made to the wastewater treatment facility may cause the classification to be modified.

Operator's Name: Jason M. Seger
Certification Number: 6166
Certification Level: WW-A

The listing of the operator above only signifies that staff drafting this operating permit have reviewed appropriate Department records and determined that the name listed on the operating permit application has the correct and applicable Certification Level.

OPERATIONAL CONTROL TESTING:

Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publicly owned treatment works and privately owned facilities regulated by the Public Service Commission to conduct internal operational control monitoring to further ensure proper operation of the facility and to be a safeguard or early warning for potential plant upsets that could affect effluent quality. This requirement is only applicable if the publicly owned treatment works and privately owned facilities regulated by the Public Service Commission has a calculated Population Equivalent greater than two hundred (200).

10 CSR 20-9.010(3) allows the Department to modify the monitoring frequency required in the rule based upon the Department's judgement of monitoring needs for process control at the specified facility.

- ✓ As per [10 CSR 20-9.010(4))], the facility is required to conduct operational monitoring. These operational monitoring reports are to be submitted to the Department along with the MSOP discharge monitoring reports.
  - o The facility is a mechanical plant and is required to conduct operational control monitoring as follows:

Operational Monitoring Parameter	Frequency
Precipitation	Daily (M-F)
Flow – Influent or Effluent	Daily (M-F)
pH – Influent	Daily (M-F)
Temperature (Aeration basin)	Daily (M-F)
TSS – Influent	Weekly
TSS – Mixed Liquor	Weekly
Settleability – Mixed Liquor	Daily (M-F)
Dissolved Oxygen – Mixed Liquor	Daily (M-F)
Temperature – Mixed Liquor (sample contact and reaeration basins for contact stabilization)	Daily (M-F)
Dissolved Oxygen – Aerobic Digester	Daily (M-F)

PRETREATMENT PROGRAM:

- ✓ The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

REASONABLE POTENTIAL (RP):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] and State Regulation [10 CSR 20-7.015(9)(A)2] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(1)(iii)] if the permit writer determines that any given pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

A reasonable potential analysis (RPA) is a numeric RP decision calculated using effluent data provided by the facility for parameters that have a numeric Water Quality Standard (WQS).

Reasonable potential determinations (RPD) are based on physical conditions of the site as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD using best professional judgement. An RPD consists of evaluating visual observations for compliance with narrative criteria, non-numeric information, or small amounts of numerical data (such as 3 data points supplied in the application). Narrative criteria with RP typically translate to a numeric WQS, so a parameter's establishment being based on narrative criteria does not necessarily make the decision an RPD vs RP—how the data is collected does, however. When insufficient data is received to make a determination on RP based on numeric effluent data, the RPD decisions are based on best professional judgment considering the sources of influent wastewater, type of treatment, and historical overall management of the site.

- ✓ An RPA was conducted on appropriate parameters. Please see **APPENDIX – RPA RESULTS.**

- ✓ A RPD was made for Oil & Grease, that a potential to violate water quality standards does not exist. Please see Derivation and Discussion of Limits.

REMOVAL EFFICIENCY:
Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

- ✓ Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) & (b)(3)].

SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):
Sanitary Sewer Overflows (SSOs) are defined as untreated sewage releases and are considered bypassing under state regulation [10 CSR 20-2.010(12)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

Inflow and Infiltration (I&I) is defined as unwanted intrusion of stormwater or groundwater into a collection system. This can occur from points of direct connection such as sump pumps, roof drain downspouts, foundation drains, and storm drain cross-connections or through cracks, holes, joint failures, faulty line connections, damaged manholes, and other openings in the collection system itself. I&I results from a variety of causes including line breaks, improperly sealed connections, cracks caused by soil erosion/settling, penetration of vegetative roots, and other sewer defects. In addition, excess stormwater and groundwater entering the collection system from line breaks and sewer defects have the potential to negatively impact the treatment facility.

Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur. The permit also contains requirements for permittees to develop and implement a program for maintenance and repair of the collection system. The permit requires that the permittee submit an annual report to the Department for the previous calendar year that contains a summary of efforts taken by the permittee to locate and eliminate sources of excess I & I, a summary of general maintenance and repairs to the collection system, and a summary of any planned maintenance and repairs to the collection system for the upcoming calendar year.

- ✓ At this time, the Department recommends the US EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002) or the Departments' CMOM Model located at https://dnr.mo.gov/document-search/capacity-management-operations-maintenance-plan-editable-template. For additional information regarding the Departments' CMOM Model, see the CMOM Plan Model Guidance document at https://dnr.mo.gov/print/document-search/pub2574. The CMOM identifies some of the criteria used to evaluate a collection system's management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

SCHEDULE OF COMPLIANCE (SOC):

- ✓ This permit does not contain an SOC.

SEWER EXTENSION AUTHORITY SUPERVISED PROGRAM:

- ✓ The permittee does not have a Department approved Sewer Extension Authority Supervised Program.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

- ✓ The Rock Creek Public Sewer District submitted to the Department a No Exposure Certification for Exclusion from NPDES Stormwater Permitting on April 17, 2023. As a result of the submittal of the certification, the permittee is not required to develop and implement a SWPPP at this time. This exclusion will be reevaluated at the time of renewal or during a Department inspection.

VARIANCE:

- ✓ This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:
As per [10 CSR 20-2.010(86)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

✓ Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$Ce = \frac{(Qe + Qs)C - (Qs \times Cs)}{(Qe)}$$ (EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration Ce = effluent concentration
Cs = upstream concentration Qe = effluent flow
Qs = upstream flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples "n":
Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

WLA MODELING:

✓ A WLA study was either not submitted or determined not applicable by Department staff.

WHOLE EFFLUENT TOXICITY (WET) TEST:
A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A) and the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(J)2.A & B are being met. Under [10 CSR 20-6.010(8)(B)], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc…); and 644.051.5 is the basic authority to require testing conditions. WET tests can be required for facilities meeting the following criteria:

☒ Facility is a designated Major.
☐ Facility continuously or routinely exceeds its design flow.
☐ Facility that exceeds its design population equivalent (PE) for BOD_5 whether or not its design flow is being exceeded.
☐ Facility (whether primarily domestic or industrial) that alters its production process throughout the year.
☐ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
☐ Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH_3)
☒ Facility is a municipality with a Design Flow ≥ 22,500 gpd.
☐ Other – please justify.

✓ At this time, the permittee is not required to conduct WET test for this facility. The previous permit included requirements to conduct an Acute WET test once per year and a Chronic WET test once per permit cycle. The permit writer conducted a reasonable potential determination for all anticipated pollutants and established numeric effluent limitations where reasonable potential exists. Also, the facility has passed previous Acute WET tests and the previous Chronic WET test.

40 CFR 122.41(m) - BYPASSES:

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from "bypassing" untreated or partially treated sewage (wastewater) beyond the headworks. A bypass is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-7.015(9)(G) states a bypass means the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending, to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri's Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

✓ This facility does not anticipate bypassing.

Part IV – Cost Analysis for Compliance

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a "finding of affordability" on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

✓ The Department is required to determine "findings of affordability" because the permit applies to a combined or separate sanitary sewer system for a publicly-owned treatment works.

Cost Analysis for Compliance - The Department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of Department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the Department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644. 145.3.

The following table summarizes the results of the cost analysis. See **Appendix – Cost Analysis for Compliance** for detailed information.

Summary Table. Cost Analysis for Compliance Summary for the Rock Creek Public Sewer District

New Permit Requirements			
Outfall #001 - Monthly sampling for Nitrate + Nitrite, Total Phosphorus, and Total Nitrogen Permitted Feature INF - Monthly sampling for Biochemical Oxygen Demand$_5$, Total Suspended Solids, Ammonia, Total Kjeldahl Nitrogen, Nitrate + Nitrite, and Total Phosphorus			
Estimated Annual Cost	Annual Median Household Income (MHI)	Estimated Monthly User Rate	User Rate as a Percent of MHI
$3,096	$68,857 (City of Arnold)	$37.36	0.65%

Part V – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

WATER QUALITY STANDARD REVISION:
In accordance with section 644.058, RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

- ✓ This operating permit does not contain requirements for a water quality standard that has changed twenty-five percent or more since the previous operating permit.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing. The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

The Public Notice period for this operating permit was from June 16, 2023 to July 17, 2023. No responses received.

DATE OF FACT SHEET: July 20, 2023

COMPLETED BY:

BRANT FARRIS, ENVIRONMENTAL PROGRAM SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
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Appendices

APPENDIX - CLASSIFICATION WORKSHEET:

Item	Points Possible	Points Assigned
Maximum Population Equivalent (P.E.) served , peak day	1 pt./10,000 PE or major fraction thereof. (Max 10 pts.)	5
Design Flow (avg. day) or peak month's flow (avg. day) whichever is larger	1 pt. / MGD or major fraction thereof. (Max 10 pts.)	5
Effluent Discharge		
Missouri or Mississippi River	0	0
All other stream discharges except to losing streams and stream reaches supporting whole body contact recreation	1	
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, lake or reservoir area supporting whole body contact recreation	3	
Direct reuse or recycle of effluent	6	
Land Application/Irrigation		
Drip Irrigation	3	
Land application/irrigation	5	
Overland flow	4	
Variation in Raw Wastes (highest level only)		
Variations do not exceed those normally or typically expected	0	
Reoccurring deviations or excessive variations of 100 to 200 percent in strength and/or flow	2	2
Reoccurring deviations or excessive variations of more than 200 percent in strength and/or flow	4	
Department-approved pretreatment program	6	
Preliminary Treatment		
STEP systems (operated by the permittee)	3	
Screening and/or comminution	3	3
Grit removal	3	3
Plant pumping of main flow	3	3
Flow equalization	5	
Primary Treatment		
Primary clarifiers	5	
Chemical addition (except chlorine, enzymes)	4	
Secondary Treatment		
Trickling filter and other fixed film media with or without secondary clarifiers	10	
Activated sludge (including aeration, oxidation ditches, sequencing batch reactors, membrane bioreactors, and contact stabilization)	15	15
Stabilization ponds without aeration	5	
Aerated lagoon	8	
Advanced Lagoon Treatment – Aerobic cells, anaerobic cells, covers, or fixed film	10	
Biological, physical, or chemical	12	
Carbon regeneration	4	
Total from page **ONE (1)**	----	36

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Solids Handling		
Sludge Holding	5	5
Anaerobic digestion	10	
Aerobic digestion	6	6
Evaporative sludge drying	2	
Mechanical dewatering	8	8
Solids reduction (incineration, wet oxidation)	12	
Land application	6	6
Disinfection		
Chlorination or comparable	5	
On-site generation of disinfectant (except UV light)	5	
Dechlorination	2	
UV light	4	4
Required Laboratory Control Performed by Plant Personnel (highest level only)		
Lab work done outside the plant	0	
Push – button or visual methods for simple test such as pH, settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	
More advanced determinations, such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	7
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
Total from page **TWO (2)**	----	36
Total from page **ONE (1)**	---	36
Grand Total	---	72

☒ - A: 71 points and greater
☐ - B: 51 points – 70 points
☐ - C: 26 points – 50 points
☐ - D: 0 points – 25 points

APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Ammonia as N – Summer (mg/L)	8.4	6.14	1.0	0.04	30.00	14/0.3	1.95	4.82	NO
Ammonia as N – Winter (mg/L)	8.4	0.43	2.2	0.01	30.00	2/0.15	1.07	2.30	NO

N/A – Not Applicable
* - Units are (µg/L) unless otherwise noted.
** - If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent. If the number of samples is < 10, then the default CV value must be used in the WQBEL for the applicable constituent.
*** - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.
RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).
n – Is the number of samples.
MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.
RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.

APPENDIX – Non-Detect Example Calculations:

Example: Permittee has four samples for Pollutant X which has a method minimum level of 5 mg/L and is to report a Daily Maximum and Monthly Average.

Week 1 = 11.4 mg/L
Week 2 = Non-Detect or <5.0 mg/L
Week 3 = 7.1 mg/L
Week 4 = Non-Detect or <5.0 mg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of "0" for all non-detects for that reporting period and report the average of all the results.

11.4 + 0 + 7.1 + 0 = 18.5 ÷ 4 (number of samples) = 4.63 mg/L.

The Permittee reports a Monthly Average of 4.63 mg/L and a Daily maximum of 11.4 mg/L (Note the < symbol was dropped in the answers).

Example: Permittee has five samples for Pollutant Y that has a method minimum level of 9 µg/L and is to report a Daily Maximum and Monthly Average.

Day 1 = Non-Detect or <9.0 µg/L
Day 2 = Non-Detect or <9.0 µg/L
Day 3 = Non-Detect or <9.0 µg/L
Day 4 = Non-Detect or <9.0 µg/L
Day 5 = Non-Detect or <9.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.

(9 +9 +9 +9 +9) ÷ 5 (number of samples) = <9 µg/L.

The Permittee reports a Monthly Average of <9.0 µg/L (retain the 'less than' symbol) and a Daily Maximum of <9.0 µg/L.

Example: Permittee has four samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining two tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L
Week 2 = Non-Detect or <4.0 µg/L
Week 3 = Non-Detect or <6.0 µg/L
Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.

(4 + 4 + 6 + 6) ÷ 4 (number of samples) = <5 µg/L. (Monthly)

The facility reports a Monthly Average of <5.0 µg/L and a Weekly Average of <6.0 µg/L.

APPENDIX – Non-Detect Example Calculations (Continued):

Example: Permittee has five samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining three tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L
Week 2 = Non-Detect or <4.0 µg/L
Week 2 = Non-Detect or <6.0 µg/L
Week 3 = Non-Detect or <6.0 µg/L
Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.

(4 + 4 + 6 + 6 + 6) ÷ 5 (number of samples) = <5.2 µg/L. (Monthly)
(4 + 6) ÷ 2 (number of samples) = <5 µg/L. (Week 2)

The facility reports a Monthly Average of <5.2 µg/L and a Weekly Average of <6.0 µg/L (report highest Weekly Average value)

Example: Permittee has four samples for Pollutant Z where the tests were conducted using a method with a method minimum level of 10 µg/L and is to report a Monthly Average and Daily Maximum. The permit lists that Pollutant Z has a Department determined Minimum Quantification Level (ML) of 130 µg/L.

Week 1 = 12 µg/L
Week 2 = 52 µg/L
Week 3 = Non-Detect or <10 µg/L
Week 4 = 133 µg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of "0" for all non-detects for that reporting period and report the average of all the results.

For this example, (12 + 52 + 0 + 133) ÷ 4 (number of samples) = 197 ÷ 4 = 49.3 µg/L.

The facility reports a Monthly Average of 49.3 µg/L and a Daily Maximum of 133 µg/L.

Example: Permittee has five samples for *E. coli* which has a method minimum level of 1 #/100mL and is to report a Weekly Average (seven (7) day geometric mean) and a Monthly Average (thirty (30) day geometric mean).

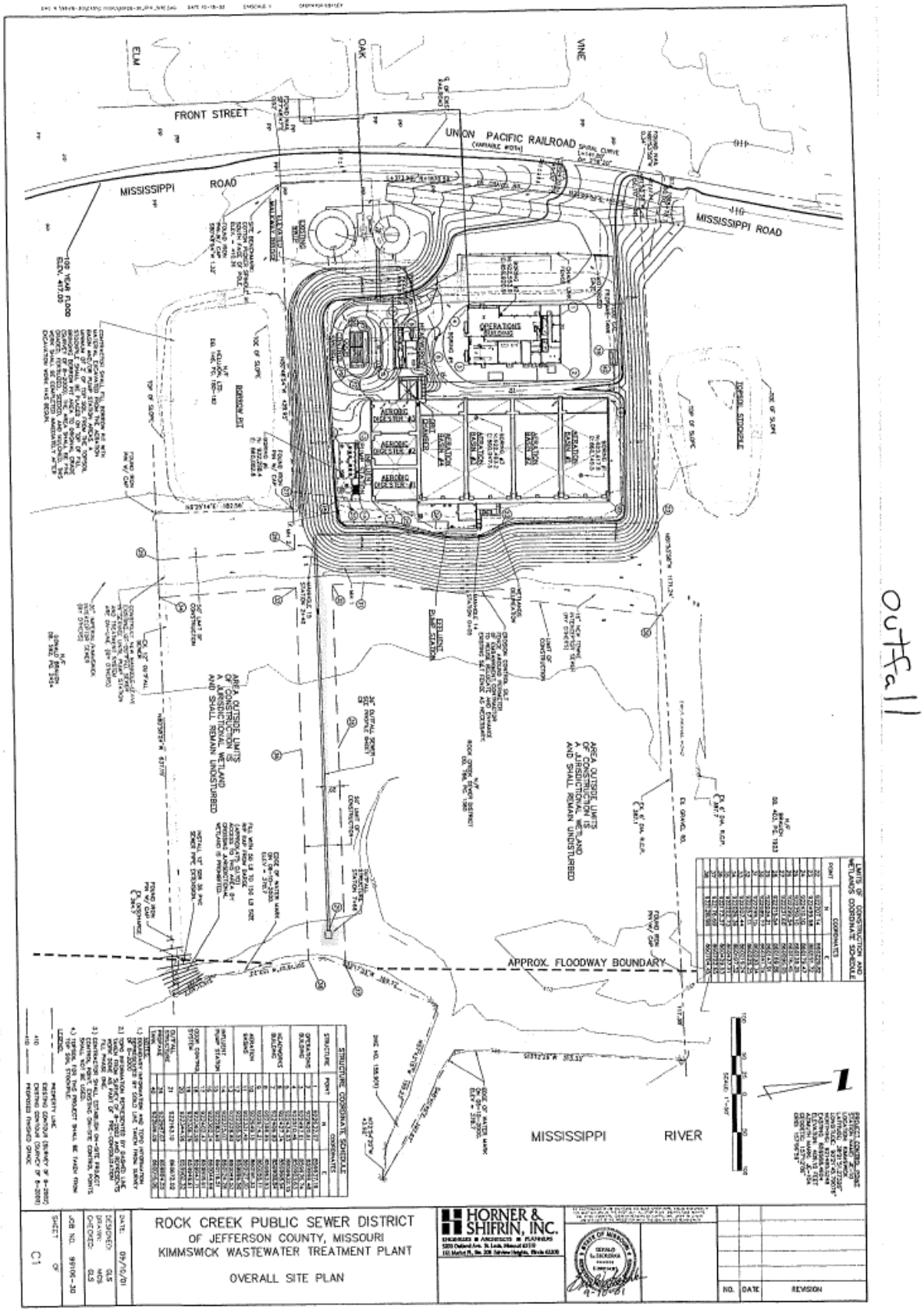
Week 1 = 102 #/100mL
Week 2 (Monday) = 400 #/100mL
Week 2 (Friday) = Non-Detect or <1 #/100mL
Week 3 = 15 #/100mL
Week 4 = Non-Detect or <1 #/100mL

For this example, use subpart (i) - When E. coli is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means. The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected.

The Monthly Average (30 day Geometric Mean) = 5th root of (102)(400)(0.5)(15)(0.5) = 5th root of 153,000 = 10.9 #/100mL.
The 7 day Geometric Mean = 2nd root of (400)(0.5) = 2nd root of 200 = 14.1 #/100mL. (Week 2)

The Permittee reports a Monthly Average (30 day Geometric Mean) of 10.9 #/100mL and a Weekly Average (7 day geometric mean) of 102 #/100mL (report highest Weekly Average value)

APPENDIX – FACILITY LAYOUT:



APPENDIX – COST ANALYSIS FOR COMPLIANCE:

Missouri Department of Natural Resources
Water Protection Program
Cost Analysis for Compliance
(In accordance with RSMo 644.145)

RCPSD Kimmswick WWTP, Permit Renewal
Rock Creek Public Sewer District (RCPSD)
Missouri State Operating Permit #MO-0106461

Section 644.145 RSMo requires the Department of Natural Resources (Department) to make a "finding of affordability" when "issuing permits under" or "enforcing provisions of" state or federal clean water laws "pertaining to any portion of a combined or separate sanitary sewer system for publicly-owned treatment works." This cost analysis does not dictate how the permittee will comply with new permit requirements.

New Permit Requirements

The permit requires compliance with new monthly monitoring requirements for Nitrate + Nitrite, Total Phosphorus, and Total Nitrogen for Outfall #001, and new monthly sampling requirements for Biochemical Oxygen Demand$_5$, Total Suspended Solids, Ammonia, Total Kjeldahl Nitrogen, Nitrate + Nitrite, and Total Phosphorus for Permitted Feature INF.

Connections
The number of connections was reported by the permittee on the Financial Questionnaire.

Connection Type	Number
Residential	12,536
Commercial	333
Industrial	0
Facility Total	**12,869**
Sewer District Total	**12,869**

Data Collection for this Analysis
This cost analysis is based on data available to the Department as provided by the permittee and data obtained from readily available sources. For the most accurate analysis, it is essential that the permittee provides the Department with current information about the District's financial and socioeconomic situation. If certain data was not provided by the permittee to the Department and the data is not obtainable through readily available sources, this analysis will state that the information is "unknown".

Eight Criteria of 644.145 RSMo
The Department must consider the eight (8) criteria presented in subsection 644.145 RSMo to evaluate the cost associated with new permit requirements.

(1) A community's financial capability and ability to raise or secure necessary funding;

Criterion 1 Table. Current Financial Information for the Rock Creek Public Sewer District and City of Arnold	
Current Monthly User Rates per 5,000 gallons*	$37.34
Bond Rating (if applicable)	A+
Bonding Capacity**	$15,000,000
Median Household Income (MHI) [2]	$68,857
Current Annual Operating Costs (excludes depreciation)	$4,450,658.51
Current Outstanding Debt for the Facility	$9,541,800
Amount within the Current User Rate Used toward Payments on Outstanding Debt Related to the Current Wastewater Infrastructure	$8.21

*User Rates were reported by the permittee on the Financial Questionnaire.

(2) Affordability of pollution control options for the individuals or households at or below the median household income level of the community;

The following tables outline the estimated costs of the new permit requirements:

Criterion 2A Table. Estimated Cost Breakdown of New Permit Requirements			
New Requirement	Frequency	Estimated Cost	Estimated Annual Cost
Total Phosphorus – Influent	Monthly	$26 x 12	$312
Total Kjeldahl Nitrogen - Influent	Monthly	$35 x 12	$420
Nitrate + Nitrite - Influent	Monthly	$44 x 12	$528
Ammonia - Influent	Monthly	$22 x 12	$264
Biochemical Oxygen Demand$_5$ - Influent	Monthly	$44 x 12	$528
Total Suspended Solids - Influent	Monthly	$17 x 12	$204
Total Phosphorus – Effluent	Monthly§	$26 x 8	$208
Total Nitrogen - Effluent	Monthly§	$13 x 8	$104
Nitrate + Nitrite - Effluent	Monthly	$44 x 12	$528
Total Estimated Annual Cost of New Permit Requirements			$3,096

§ - previously sampled quarterly

Criterion 2B Table. Estimated Costs for New Permit Requirements		
(1)	Estimated Annual Cost	$3,096
(2)	Estimated Monthly User Cost for New Requirements [2]	$0.02
	Estimated Monthly User Cost for New Requirements as a Percent of MHI [3]	0.0003%
(3)	Total Monthly User Cost*	$37.36
	Total Monthly User Cost as a Percent of MHI [4]	0.65%

Due to the minimal cost associated with new permit requirements, the Department anticipates an extremely low to no rate increase will be necessary, which could impact individuals or households of this community.

(3) An evaluation of the overall costs and environmental benefits of the control technologies;

This analysis is being conducted based on new requirements in the permit, which will not require the addition of new control technologies at the facility. However, the new sampling requirements are being established in order to provide data regarding the health of the receiving stream's aquatic life and to ensure that the existing permit limits are providing adequate protection of aquatic life. Improved wastewater provides benefits such as avoided health costs due to water-related illness, enhanced environmental ecosystem quality, and improved natural resources. The preservation of natural resources has been proven to increase the economic value and sustainability of the surrounding communities. Maintaining Missouri's water quality standards fulfills the goal of restoring and maintaining the chemical, physical, and biological integrity of the receiving stream; and, where attainable, it achieves a level of water quality that provides for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water.

Nutrient Monitoring
Nutrients are mineral compounds that are required for organisms to grow and thrive. Of the six (6) elemental macronutrients, nitrogen and phosphorus are generally not readily available and limit growth of organisms. Excess nitrogen and phosphorus will cause a shift in the ecosystem's food web. Once excess nitrogen and phosphorus are introduced into a waterbody, some species' populations will dramatically increase, while other populations will not be able to sustain life. Competition and productivity are two factors in which nutrients can alter aquatic ecosystems and the designated uses of a waterbody. For example, designated uses, such as drinking water sources and recreational uses, become impaired when algal blooms take over a waterbody. These blooms can cause foul tastes and odors in the drinking water, unsightly appearance, and fish mortality in the waterbody. Some algae also produce toxins that may cause serious adverse health conditions such as liver damage, tumor promotion, paralysis, and kidney damage. The monitoring requirements for nitrogen and phosphorus have been added to the permit to provide data regarding the health of the receiving stream's aquatic life. A healthy ecosystem is beneficial as it provides reduced impacts on human and aquatic health as well as recreational opportunities.

(4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates:

The Sewer District reported that their outstanding debt for their current wastewater collection and treatment systems is $9,541,800. The Sewer District reported that each user pays $37.34 monthly, of which, approximately $8.21 is used toward payments on the current outstanding debt.

As shown in Criterion 2, the user rate plus the amount for the additional sampling requirements is $37.36.

(5) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low and fixed income populations. This requirement includes but is not limited to:

(a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations.
(b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained.

The following table characterizes the current overall socioeconomic condition of the community as compared to the overall socioeconomic condition of Missouri. The following information was compiled using the latest U.S. Census data.

Criterion 5 Table. Socioeconomic Data [5-9] for Arnold Missouri

No.	Administrative Unit	Arnold City	Missouri State
1	Population (2021)	20,808	6,141,534
2	Percent Change in Population (2000-2021)	4.2%	9.8%
3	2021 Median Household Income (in 2022 Dollars)	$68,857	$65,928
4	Percent Change in Median Household Income (2000-2021)	-16.9%	-1.1%
5	Median Age (2021)	42.2	38.8
6	Change in Median Age in Years (2000-2021)	5.5	2.7
7	Unemployment Rate (2021)	3.1%	4.5%
8	Percent of Population Below Poverty Level (2021)	8.4%	12.8%
9	Percent of Household Received Food Stamps (2021)	5.3%	10.1%
10	(Primary) County Where the Community Is Located	Jefferson County	

(6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;

The sewer district reported that it started a 2.2 mile sewer upgrade in 2022 with an estimated cost of $8 million dollars. The District also reported that it is installing new high speed blowers for the WWTP with a cost of about $1.2 million dollars.

(7) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards;

The new requirements associated with this permit will not impose a financial burden on the community, nor will they require the Rock Creek Public Sewer District to seek funding from an outside source.

(8) An assessment of any other relevant local community economic conditions.

The sewer district did not report any other relevant local economic conditions.

Conclusion and Finding

As a result of new regulations, the Department is proposing modifications to the current operating permit that may require the permittee to increase monitoring. The Department has considered the eight (8) criteria presented in subsection 644.145 RSMo to evaluate the cost associated with the new permit requirements.

This analysis examined whether the new sampling requirements affect the ability of an individual customer or household to pay a utility bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household. After reviewing the above criteria, the Department finds that the new sampling requirements may result in a low burden with regard to the community's overall financial capability and a low financial impact for most individual customers/households; therefore, the new permit requirements are affordable.

References

1. (A) 2021 MHI in 2021 Dollar: United States Census Bureau. 2017-2021 American Community Survey 5-Year Estimates, Table B19013: Median Household Income in the Past 12 Months (in 2021 Inflation-Adjusted Dollars). https://data.census.gov/cedsci/table?q=B19013&tid=ACSDT5Y2021.B19013.
   (B) 2000 MHI in 1999 Dollar: (1) For United States, United States Census Bureau (2003) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-2-1 Part 1. United States Summary, Table 5. Work Status and Income in 1999: 2000, Washington, DC. https://www.census.gov/content/dam/Census/library/publications/2003/dec/phc-2-1-pt1.pdf.
   (2) For Missouri State, United States Census Bureau (2003) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-2-27, Missouri, Table 10. Work Status and Income in 1999: 2000, Washington, DC. https://www.census.gov/content/dam/Census/library/publications/2003/dec/phc-2-1-pt1.pdf.
   (C) 2022 CPI, 2021 CPI and 1999 CPI: U.S. Department of Labor Bureau of Labor Statistics (2022) Consumer Price Index - All Urban Consumers, U.S. City Average. All Items. 1982-84=100 (unadjusted) - CUUR0000SAO. https://data.bls.gov/cgi-bin/surveymost?bls.
   (D) 2021 MHI in 2022 Dollar = 2021 MHI in 2021 Dollar x 2022 CPI /2021 CPI; 2000 MHI in 2021 Dollar = 2000 MHI in 1999 Dollar x 2022 CPI /1999 CPI.
   (E) Percent Change in Median Household Income (2000-2021) = (2021 MHI in 2022 Dollar - 2000 MHI in 2022 Dollar) / (2000 MHI in 2022 Dollar).
2. ($3,096/12,869)/12 = $0.02 (Estimated Monthly User Cost for New Requirements)
3. ($0.02/($68,857/12))100% = 0.0003% (New Sampling Only)
4. ($37.36/($68,857/12))100% = 0.65% (Total User Cost)
5. (A) Total Population in 2021: United States Census Bureau. 2017-2021 American Community Survey 5-Year Estimates, Table B01003: Total Population - Universe: Total Population. https://data.census.gov/cedsci/table?q=B01003&tid=ACSDT5Y2021.B01003.
   (B) For United States, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-1-1 Part 1. United States Summary, Table 1. Age and Sex: 2000, Washington, DC. https://www.census.gov/content/dam/Census/library/publications/2003/dec/phc-2-1-pt1.pdf.
   (2) For Missouri State, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Population and Housing Characteristics, PHC-1-27, Missouri, Table 2. Age and Sex: 2000, Washington, DC. https://www2.census.gov/library/publications/2003/dec/phc-2-1-pt2.pdf.
   (C) Percent Change in Population (2000-2021) = (Total Population in 2021 - Total Population in 2000) / (Total Population in 2000).
6. Median Age in 2021: United States Census Bureau. 2017-2021 American Community Survey 5-Year Estimates, Table B01002: Median Age by Sex - Universe: Total population. https://data.census.gov/cedsci/table?q=B01002&tid=ACSDT5Y2021.B01002.
   (B) For United States, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-1-1 Part 1. United States Summary, Table 1. Age and Sex: 2000, Washington, DC., Page 2. https://www.census.gov/content/dam/Census/library/publications/2003/dec/phc-2-1-pt1.pdf.
   (2) For Missouri State, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Population and Housing Characteristics, PHC-1-27, Missouri, Table 2. Age and Sex: 2000, Washington, DC., Pages 64-92. https://www2.census.gov/library/publications/2003/dec/phc-2-1-pt2.pdf.
   (C) Change in Median Age in Years (2000-2021) = (Median Age in 2021 - Median Age in 2000).
7. United States Census Bureau. 2017-2021 American Community Survey 5-Year Estimates, S2301: Employment Status for the Population 16 Years and Over - Universe: Population 16 years and Over. https://data.census.gov/cedsci/table?q=unemployment&tid=ACSST5Y2021.S2301.
8. United States Census Bureau. 2017-2021 American Community Survey 5-Year Estimates, Table S1701: Poverty Status in the Past 12 Months. https://data.census.gov/cedsci/table?q=S1701&tid=ACSST5Y2021.S1701.
9. United States Census Bureau. 2017-2021 American Community Survey 5-Year Estimates, Table S2201: Food Stamps/Supplemental Nutrition Assistance Program (SNAP) - Universe: Households. https://data.census.gov/cedsci/table?q=S2201&tid=ACSST5Y2021.S2201.

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions
Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. **Monitoring Requirements**.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. **Test Procedures**. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
   a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
   b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
      iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

2. **Non-compliance Reporting.**
   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.

c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. **Anticipated Noncompliance**. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

6. **Other Information**. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. **Upset Requirements.**
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permitted facility was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
   a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
   b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement

imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. **Duty to Reapply.**
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
   c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. **Proper Operation and Maintenance**. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. **Permit Actions.**
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. **Permit Transfer.**
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
    a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
    b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
    a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
MAY 1, 2013

PART II - SPECIAL CONDITIONS – PUBLICLY OWNED TREATMENT WORKS
SECTION A – INDUSTRIAL USERS

1. Definitions

Definitions as set forth in the Missouri Clean Water Laws and approved by the Missouri Clean Water Commission shall apply to terms used herein.

Significant Industrial User (SIU). Except as provided in the *General Pretreatment Regulation* 10 CSR 20-6.100, the term Significant Industrial User means:

1. All Industrial Users subject to Categorical Pretreatment Standards; and
2. Any other Industrial User that: discharges an average of 25,000 gallons per day or more of process wastewater to the Publicly-Owned Treatment Works (POTW) (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's or for violating any Pretreatment Standard or requirement.

Clean Water Act (CWA) is the the federal Clean Water Act of 1972, 33 U.S.C. § 1251 et seq. (2002).

2. Identification of Industrial Discharges

Pursuant to 40 CFR 122.44(j)(1), all POTWs shall identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging to the POTW subject to Pretreatment Standards under section 307(b) of the CWA and 40 CFR 403.

3. Application Information

Applications for renewal or modification of this permit must contain the information about industrial discharges to the POTW pursuant to 40 CFR 122.21(j)(6)

4. Notice to the Department

Pursuant to 40 CFR 122.42(b), all POTWs must provide adequate notice of the following:

1. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging these pollutants; and
2. Any substantial change into the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
3. For purposes of this paragraph, adequate notice shall include information on:
   i. the quality and quantity of effluent introduced into the POTW, and
   ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

For POTWs without an approved pretreatment program, the notice of industrial discharges which was not included in the permit application shall be made as soon as practicable. For POTWs with an approved pretreatment program, notice is to be included in the annual pretreatment report required in the special conditions of this permit. Notice may be sent to:

Missouri Department of Natural Resources
Water Protection Program
Attn: Pretreatment Coordinator
P.O. Box 176
Jefferson City, MO 65102

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
August 1, 2019

PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.
2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Biosolids and Sludge Use and Disposal Practices:
    a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
    b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
    c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.
4. Biosolids or Sludge Received from other Facilities:
    a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee's design sludge capacity is not exceeded and the treatment facility performance is not impaired.
    b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge
5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.
6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.
8. In addition to Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
    a. The Department may modify a site-specific permit following permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR § 124.10, and 40 CFR § 501.15(a)(2)(ix)(E).
    b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.

SECTION B – DEFINITIONS

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR Part 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with 40 CFR Part 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limted to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological contact systems, and other similar facilities. It does not include wastewater treatment lagoons or constructed wetlands for wastewater treatment.
12. Plant Available Nitrogen (PAN) is nitrogen that will be available to plants during the growing seasons after biosolids application.
13. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
14. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
15. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
16. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RSMo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RSMo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – BIOSOLIDS OR SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR BY CONTRACT HAULER

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.

SECTION E – INCINERATION OF SLUDGE

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or, if the ash is determined to be hazardous, with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
    a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
    b. Permittee shall close the lagoon in accordance with Section I.

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.
2. This permit only authorizes "Class A" or "Class B" biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.
4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
    a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
    b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
    c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
    d. Animal grazing shall not be allowed for 30 days after application of biosolids.
    e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
    f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
    g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
    h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.

5. Pollutant limits
    a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
    b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
    c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.

TABLE 1

Biosolids ceiling concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track polluntant loading onto application sites for parameters that have exceeded the low metal concentration limits.

TABLE 2

Biosolids Low Metal Concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2,800

e. Annual pollutant loading rate.

Table 3

Biosolids Annual Loading Rate	
Pollutant	Kg/ha (lbs./ac) per year
Arsenic	2.0 (1.79)
Cadmium	1.9 (1.70)
Copper	75 (66.94)
Lead	15 (13.39)
Mercury	0.85 (0.76)
Nickel	21 (18.74)
Selenium	5.0 (4.46)
Zinc	140 (124.96)

f. Cumulative pollutant loading rates.

Table 4

Biosolids Cumulative Pollutant Loading Rate	
Pollutant	Kg/ha (lbs./ac)
Arsenic	41 (37)
Cadmium	39 (35)
Copper	1500 (1339)
Lead	300 (268)
Mercury	17 (15)
Nickel	420 (375)
Selenium	100 (89)
Zinc	2800 (2499)

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.
   a. Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.
   b. Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
   c. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop

nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kgTN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

i. PAN can be determined as follows:

(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).

[1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization factors and mineralization rates can be utilized on a case-by-case basis.

ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. **NOTE:** There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.

iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.

d. Buffer zones are as follows:

i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;

ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstandingstate resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;

iii. 150 feet of dwellings or public use areas;

iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);

v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.

vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.

e. Slope limitation for application sites are as follows:

i. For slopes less than or equal to 6 percent, no rate limitation;

ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;

iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.

iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.

f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.

g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:

i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of mthods or technology refletive of combination surface/shallow soil incorporation;

ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be used for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not included the use of methods or technology refletive of combination surface/shallow soil incorporation;

iii. Other best management practices approved by the Department.

SECTION H – SEPTAGE

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

SECTION I– CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
    a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
    b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
    c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
        i. PAN can be determined as follows:
        (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).
        [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization factors and mineralization rates can be utilized on a case-by-case basis
4. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are "similar treatment works" under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
    a. Testing for metals or fecal coliform is not required.
    b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
    c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
    a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate

surface water drainage without creating erosion.

b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.

c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.

8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

TABLE 5

Biosolids or Sludge produced and disposed (Dry Tons per Year)	Monitoring Frequency (See Notes 1, and 2)		
	Metals, Pathogens and Vectors, Total Phosphorus, Total Potassium	Nitrogen TKN, Nitrogen PAN[1]	Priority Pollutants[2]
319 or less	1/year	1 per month	1/year
320 to 1650	4/year	1 per month	1/year
1651 to 16,500	6/year	1 per month	1/year
16,501+	12/year	1 per month	1/year

[1] Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

[2] Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.
Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. Permittees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.
3. Additional testing may be required in the special conditions or other sections of the permit.
4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
   a. By February 19th of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.
   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:
   Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day or that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:

   DNR regional or other applicable office listed in the
   permit (see cover letter of permit)
   ATTN: Sludge Coordinator

Reports to EPA must be electronically submitted online via the Central Data Exchange at: https://cdx.epa.gov/ Additional information is available at: https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws

5. Annual report contents. The annual report shall include the following:
    a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
    b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
    c. Gallons and % solids data used to calculate the dry ton amounts.
    d. Description of any unusual operating conditions.
    e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
        i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
        ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
    f. Contract Hauler Activities:
    If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
    g. Land Application Sites:
        i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
        ii. If the "Low Metals" criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
        iii. Report the method used for compliance with pathogen and vector attraction requirements.
        iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.

37363

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM B2 – APPLICATION FOR AN OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED: 8-6-21	FEE SUBMITTED: 0
JET PAY CONFIRMATION NUMBER	

PART A – BASIC APPLICATION INFORMATION

1. THIS APPLICATION IS FOR:

- ☐ An operating permit for a new or unpermitted facility. Construction Permit # _____
- (Include completed Antidegradation Review or request to conduct an Antidegradation Review, see instructions)
- ☒ An operating permit renewal: Permit #MO- 0106461 Expiration Date 3-31-2022
- ☐ An operating permit modification: Permit #MO-_____ Reason: _____

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)? ☒ YES ☐ NO

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
RCPSD Kimmswick WWTP		636-461-2578	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
6000 Mississippi	Kimmswick	MO	63052

2.1 LEGAL DESCRIPTION (Facility Site): Sec. 21, T42, R 6 COUNTY

2.2 UTM Coordinates Easting (X): 736748 Northing (Y): 4249738
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: Mississippi River

2.4 Number of Outfalls: 1 wastewater outfalls: stormwater outfalls: 1 instream monitoring sites:

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Rock Creek Public Sewer District	jasons@rockcreekpsd.com	636-464-3305	
ADDRESS	CITY	STATE	ZIP CODE
4133 W. Outer Road	Arnold	MO	63010

3.1 Request review of draft permit prior to Public Notice? ☒ YES ☐ NO

3.2 Are you a Publically Owned Treatment Works (POTW)? ☒ YES ☐ NO
If yes, is the Financial Questionnaire attached? yes See: https://dnr.mo.gov/forms/780-2511-f.pdf

3.3 Are you a Privately Owned Treatment Facility? ☐ YES ☒ NO

3.4 Are you a Privately Owned Treatment Facility regulated by the Public Service Commission (PSC)? ☐ YES ☒ NO

4. CONTINUING AUTHORITY

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Rock Creek Public Sewer Dist	dondavis@rockcreekpsd.com	-636-464-3305	
ADDRESS	CITY	STATE	ZIP CODE
PO Box 1060	Imperial	MO	63052

If the Continuing Authority is different than the Owner, include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME	TITLE	CERTIFICATE NUMBER (IF APPLICABLE)
Jason Seger	Operations Manager	6166
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
jasons@rockcreekpsd.com		

6. FACILITY CONTACT

NAME	TITLE		
Jason Seger	Operations Manager		
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE		
jasons@rockcreekpsd.com	636-461-2578		
ADDRESS	CITY	STATE	ZIP CODE
6000 Mississippi	Kimmswick	MO	63052

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FINANCIAL QUESTIONNAIRE

NOTE ▶	FINANCIAL INFORMATION THAT IS NOT PROVIDED THROUGH THIS FORM WILL BE OBTAINED BY THE DEPARTMENT FROM READILY AVAILABLE SOURCES.

1. GENERAL INFORMATION

FACILITY NAME	PERMIT NUMBER
RCPSD Kimmswick WWTP	#MO- 0106461
CITY	**COUNTY**
Kimmswick, MO. 63052	Jefferson

2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES)

2.1	Number of connections to the facility: Residential 12,214 Commercial 326 Industrial Ø	
2.2	Current sewer user rate (Based on a 5,000 gallon per month usage)	$2.57 per 1,000 gal Use 12.85 Per 5,000 gal mo $37.28 per mo / 5000 gal $24.45 per month fixed 24.83 fixed Per Month
2.3	Current annual operating costs for the facility (excludes depreciation):	$ 4,450,458.51
2.4	Bond rating (if applicable):	A+
2.5	Bonding capacity:	> 15,000,000.00
2.6	Current outstanding debt relating to wastewater collection and treatment:	$3,337,084 (12-31-2020) New debt in 2021 Pmts Start 2023
2.7	Amount within the current user rate used toward payments on outstanding debt related to the current wastewater infrastructure:	25%
2.8	Attach any relevant financial statements. ✓	

3. FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES

3.1	Municipality's Full Market Property Value:	N/A
3.2	Municipality's Overall Net Debt:	N/A
3.3	Municipality's Property Tax Revenues (levied) [A]:	N/A
3.4	Municipality's Property Tax Revenues (collected) [B]:	N/A
3.5	Municipality's Property Tax Collection Rate ([B]/[A]):	N/A

4. FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS

4.1 Total connections to the sewer district: Residential 12,214 Commercial 326 Industrial Ø

4.2 When facilities require upgrades, how are the costs divided? Will the homes connected to the upgraded facility bear the costs? Will the costs be divided across the sewer district?

The Costs of upgrades ARE divided across the Sewer District.

5. ADDITIONAL CONSIDERATIONS (ALL FACILITIES)

5.1 Provide a list of major infrastructure or other investments in environmental projects. Include project timing and costs and indicate any possible overlap or complications (attach sheets as necessary): The District is starting a 2.2 mile Sewer upgrade in 2022. The estimated cost is 8.0 Million dollars. The District is installing new High speed blowers for B.S.R. The cost is about 1.2 million dollars. The District just started a Equipment Storage bldg in 2021, Expected for completion date is 2022. The cost is 1.5 million dollars. Every year The District budgets $250,000-$300,000 for CIPP work and manhole Lining.

5.2 Provide a list of any other relevant local community economic conditions that may impact the ability to afford new permit requirements (attach sheets as necessary):

6. CERTIFICATION

FINANCIAL CONTACT	OFFICIAL TITLE
Don Daniel	District Administrator
EMAIL ADDRESS	**TELEPHONE NUMBER WITH AREA CODE**
dondaniel@rockcreekrlsd.com	636-464-3305

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

OWNER OR AUTHORIZED REPRESENTATIVE	OFFICIAL TITLE
Don Daniel	District Administrator
SIGNATURE	**DATE SIGNED**
Don Daniel	7-27-21

INSTRUCTIONS FOR COMPLETING THE FINANCIAL QUESTIONNAIRE

The Financial Questionnaire it to be completed by municipalities, sewer districts, and water supply districts when filing for renewal of their Missouri State Operating Permit. The Financial Questionnaire is to be submitted as an attachment to *FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY* and *FORM B2: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY.*

1. GENERAL INFORMATION – Provide the name by which the facility is locally known, the Missouri State Operating Permit number, and the city and county where the facility is located.
2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES) – Municipalities, sewer districts, and water supply districts are to complete.

2.1 Self-explanatory.

2.2 Provide the rate that a household would be charged for sewer service if they use 5,000 gallons per month.

2.3 Provide the cost to operate and maintain the wastewater facility annually.

2.4 Bond ratings can be found here: https://emma.msrb.org/IssuerHomePage/HomepagesForC6?cusip6=795169.

2.5 General obligation bond capacity allowed by constitution: Cities = up to 20% of taxable tangible property; Sewer districts = up to 5% of taxable tangible property.

2.6 Provide the amount of debt owed on wastewater collection and treatment. Debt information is typically available from your community's annual financial statements

2.7 Provide the amount of a user's monthly sewer bill that is used toward debt owed on wastewater collection and treatment. This may be a percentage or dollar amount.

2.8 Self-explanatory.

3. FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES – Municipalities are to complete.

3.1 Full Market Property Value is typically available through your community or state assessor's office.

3.2 Debt information is typically available from your community's annual financial statements.

3.3 Property tax revenues are typically available from your community's annual financial statements. Property tax rates for Missouri communities can be found in the annual auditor's report: https://app.auditor.mo.gov/AuditReports/AudRpt2.aspx?id=31.

3.4 Property Taxes Levied = (Real Property Assessed Value) * (Property Tax Rate). This information is typically available through your community or state assessor's office and your community's annual financial statements. Property tax rates for Missouri communities can be found in the annual auditor's report: https://app.auditor.mo.gov/AuditReports/AudRpt2.aspx?id=31.

3.5 Property tax collection rate = (Property Tax Revenues) ÷ (Property Taxes Levied).

4. FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS – Sewer Districts and Water Supply Districts are to complete.

4.1-4.2 Self-explanatory.

5. ADDITIONAL CONSIDERATIONS (ALL FACILITIES) – Municipalities, sewer districts, and water supply districts are to complete.

5.1-5.2 Self-explanatory.

6. CERTIFICATION – Provide the name and contact information for the individual who can respond to financial information requests for your community. This form must be signed by your community's "owner" or "authorized representative". The owner for a municipality is either the principal executive officer or ranking elected official.

If there are any questions concerning this form or your Missouri State Operating Permit, contact the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-751-6825.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM B2 – APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FACILITY NAME: RCPSD Kimmswick WWTP

PERMIT NO.: MO-0106461

COUNTY: Jefferson

APPLICATION OVERVIEW

Form B2 has been developed in a modular format and consists of Parts A, B and C and a Supplemental Application Information (Parts D, E, F and G) packet. All applicants must complete Parts A, B and C. Some applicants must also complete parts of the Supplemental Application Information packet. The following items explain which parts of Form B2 you must complete. Submittal of an incomplete application may result in the application being returned.

BASIC APPLICATION INFORMATION

A. Basic application information for all applicants. All applicants must complete Part A.

B. Additional application information for all applicants. All applicants must complete Part B.

C. Certification. All applicants must complete Part C.

SUPPLEMENTAL APPLICATION INFORMATION

D. Expanded Effluent Testing Data. A treatment works that discharges effluent to surface water of the United States and meets one or more of the following criteria must complete *Part D - Expanded Effluent Testing Data*:

1. Has a design flow rate greater than or equal to 1 million gallons per day.
2. Is required to have or currently has a pretreatment program.
3. Is otherwise required by the permitting authority to provide the information.

E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete *Part E - Toxicity Testing Data*:

1. Has a design flow rate greater than or equal to 1 million gallons per day.
2. Is required to have or currently has a pretreatment program.
3. Is otherwise required by the permitting authority to provide the information.

F. Industrial User Discharges and Resource Conservation and Recovery Act / Comprehensive Environmental Response, Compensation and Liability Act Wastes. A treatment works that accepts process wastewater from any significant industrial users, also known as SIUs, or receives a Resource Conservation and Recovery Act or CERCLA wastes must complete *Part F - Industrial User Discharges and Resource Conservation and Recovery Act /CERCLA Wastes.*

SIUs are defined as:

1. All Categorical Industrial Users, or CIUs, subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations 403.6 and 40 Code of Federal Regulations 403.6 and 40 CFR Chapter 1, Subchapter N.
2. Any other industrial user that meets one or more of the following:
   i. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
   ii. Contributes a process waste stream that makes up 5%or more of the average dry weather hydraulic or organic capacity of the treatment plant.
   iii. Is designated as an SIU by the control authority.
   iv. Is otherwise required by the permitting authority to provide the information.

G. Combined Sewer Systems. A treatment works that has a combined sewer system must complete *Part G - Combined Sewer Systems.*

ALL APPLICANTS MUST COMPLETE PARTS A, B and C

Rock Creek Public Sewer District
System Map

Search... Sign out

Navigation Search Measure & Draw Editing Tasks

Tool Labels

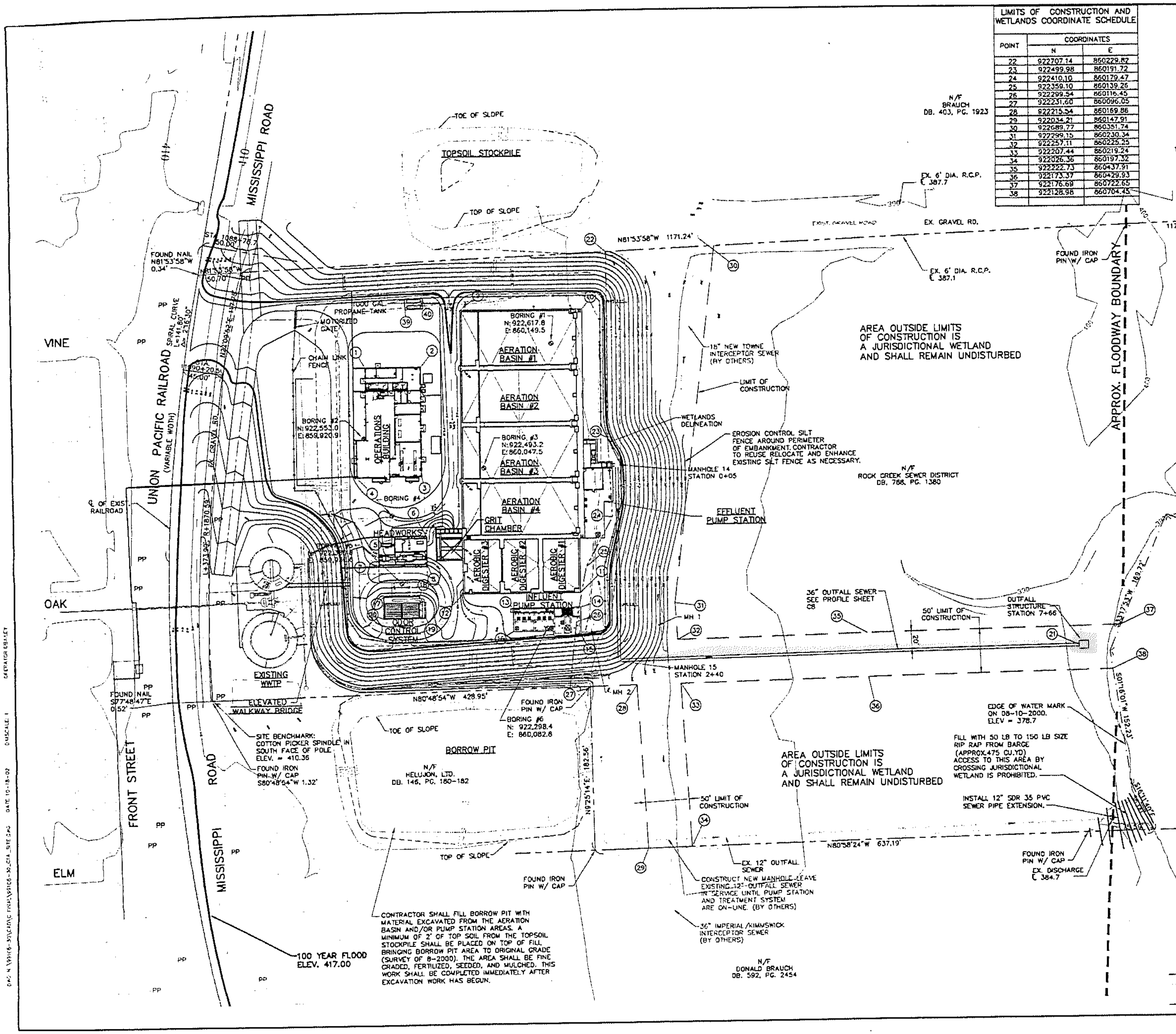
Tool Point | Query | Filter | Search Parcel Owner | Search Structure ID | Search Parcel Address | Search Main ID

Find Data | Advanced Search

Street Map

0 100 200ft

Outfall



LIMITS OF CONSTRUCTION AND WETLANDS COORDINATE SCHEDULE

POINT	COORDINATES N	COORDINATES E
22	922707.14	860229.82
23	922499.98	860191.72
24	922410.10	860179.47
25	922359.10	860139.26
26	922299.54	860116.45
27	922231.60	860096.05
28	922215.54	860169.86
29	922034.21	860147.91
30	922689.77	860351.74
31	922299.15	860230.34
32	922257.11	860225.25
33	922207.44	860219.24
34	922026.36	860197.32
35	922222.73	860437.91
36	922173.37	860429.93
37	922176.69	860722.65
38	922128.98	860704.45

PROJECT CONTROL POINT
STATION NAME: JE-10
LOCATION: KIMMSWICK
LATITUDE: 38°21'31.27320"
LONGITUDE: 90°21'43.79076"
NORTHING: 921485.5248
EASTING: 859568.4604
ELEVATION: 409.10 FEET
AZIMUTH MARK: JE-10A
GEODETIC: 157°12'06"
GRID: 157°06'59"

STRUCTURE COORDINATE SCHEDULE

STRUCTURE	POINT	COORDINATES N	COORDINATES E
OPERATIONS BUILDING	1	922632.07	859937.19
	2	922620.61	859999.48
	3	922497.01	859976.74
	4	922510.46	859903.63
HEADWORKS BUILDING	5	922434.03	8859932.15
	6	922427.34	859968.54
	7	922406.80	859908.84
	8	922396.85	859962.93
AERATION BASINS	9	922674.21	860055.11
	10	922649.15	860191.33
	11	922331.49	860127.30
	12	922355.55	859996.50
INFLUENT PUMP STATION	13	922328.80	860049.53
	14	922315.07	860124.28
	15	922283.60	860118.51
	16	922302.24	860044.66
ODOR CONTROL SYSTEM	17	922402.47	859818.61
	18	922362.99	859947.71
	19	922336.26	859949.61
	20	922344.96	859902.32
OUTFALL STRUCTURE	21	922163.10	860672.02
PROPANE TANK	39	922687.07	859994.55
	40	922696.09	860016.06

NOTES:

1.) BOUNDARY INFORMATION AND TOPO INFORMATION REPRESENTED BY SOILD LINE TAKEN FROM SURVEY OF 8-2000
2.) TOPO INFORMATION REPRESENTED BY DASHED LINE TAKEN FROM SURVEY OF 8-2002 AND REPRESENTS WORK DONE AS PART OF PRE-CONSOLIDATION FILL PHASE ONE.
3.) CONTRACTOR SHALL ESTABLISH ON-SITE PROJECT CONTROL POINT, EXISTING ON-SITE CONTROL POINTS SHALL NOT BE USED.
4.) TOPSOIL FOR THIS PROJECT SHALL BE TAKEN FROM TOP SOIL STOCKPILE.

LEGEND:

PROPERTY LINE
410 EXISTING CONTOUR (SURVEY OF 8-2002)
410 EXISTING CONTOUR (SURVEY OF 8-2000)
410 PROPOSED FINISHED GRADE

CONTRACTOR SHALL FILL BORROW PIT WITH MATERIAL EXCAVATED FROM THE AERATION BASIN AND/OR PUMP STATION AREAS. A MINIMUM OF 2' OF TOP SOIL FROM THE TOPSOIL STOCKPILE SHALL BE PLACED ON TOP OF FILL BRINGING BORROW PIT AREA TO ORIGINAL GRADE (SURVEY OF 8-2000). THE AREA SHALL BE FINE GRADED, FERTILIZED, SEEDED, AND MULCHED. THIS WORK SHALL BE COMPLETED IMMEDIATELY AFTER EXCAVATION WORK HAS BEGUN.

HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS
5200 Oakland Ave. St. Louis, Missouri 63110
141 Market Pl., Ste. 208 Fairview Heights, Illinois 62208

STATE OF MISSOURI GERALD L. SICKERKA

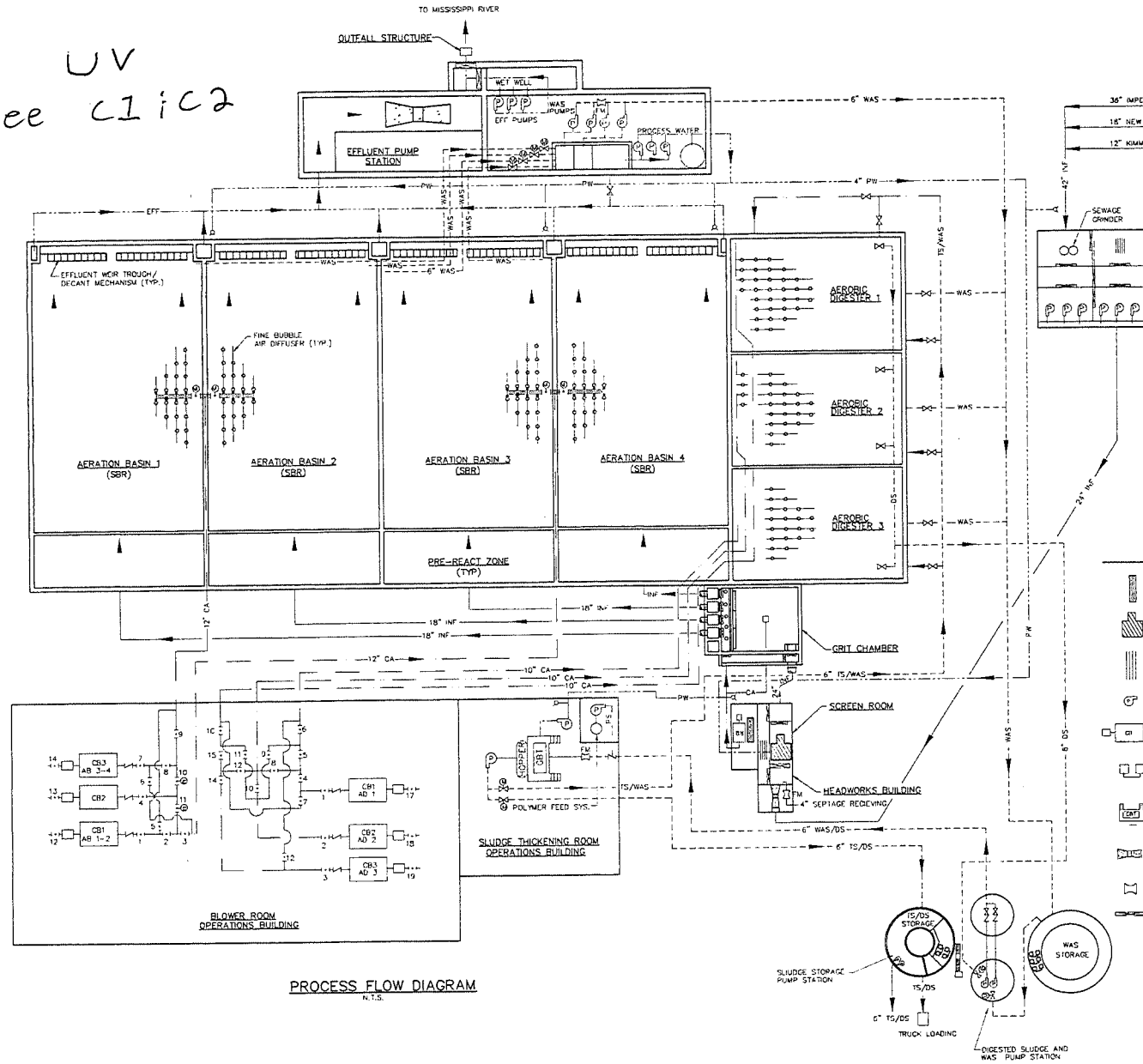
ROCK CREEK PUBLIC SEWER DISTRICT
OF JEFFERSON COUNTY, MISSOURI
KIMMSWICK WASTEWATER TREATMENT PLANT

OVERALL SITE PLAN

DATE:	09/10/01
DESIGNED:	GLS
DRAWN:	MCS
CHECKED:	GLS
JOB NO.	99106-30
SHEET OF	C1

NO.	DATE	REVISION

UV
see C1 & C2



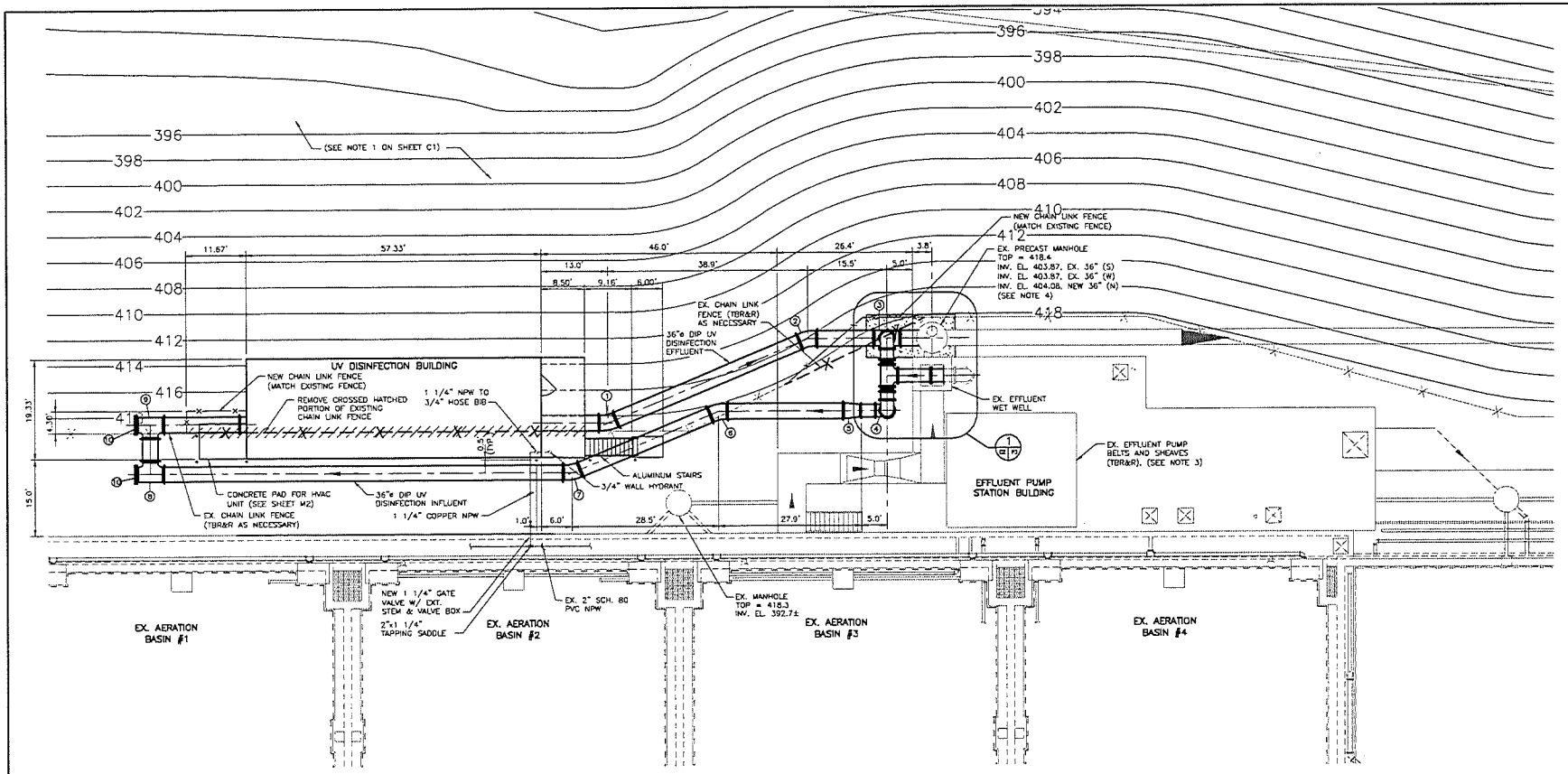
PROCESS FLOW DIAGRAM
N.T.S.

NO.	DATE	REVISION

HORNER & SHIFRIN, INC.
ENGINEERS & ARCHITECTS & PLANNERS
5300 Delmar Ave. St. Louis, Missouri 63110
141 Market St. 308 Harlem Heights, Illinois 62208

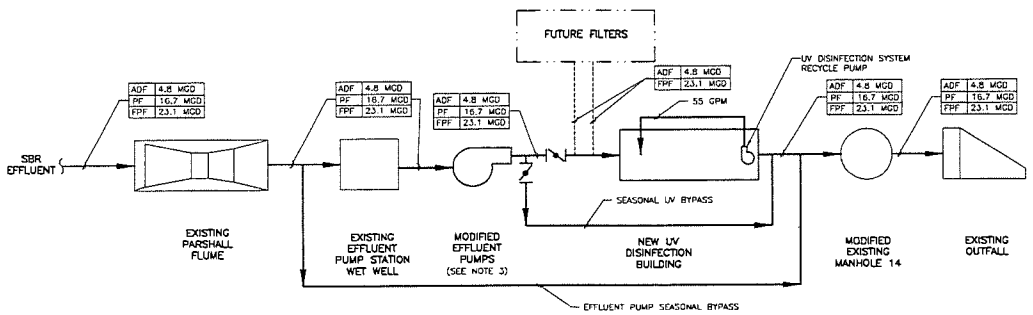
ROCK CREEK PUBLIC SEWER DISTRICT
OF JEFFERSON COUNTY, MISSOURI
KIMMSWICK WASTEWATER TREATMENT PLANT
PROCESS FLOW DIAGRAM

DATE:	09/10/01
DESIGNED:	GLS
DRAWN:	DRB
CHECKED:	GLS
JOB NO.	99106-30
SHEET	OF
	G2



SITE PLAN

SCALE: 1"=10'



PROCESS FLOW DIAGRAM

SCALE: N.T.S.

NOTES:

1. RESTORE SITE TO EXISTING CONDITIONS.
2. COORDINATE SYSTEM CONTROL POINTS AND BENCHMARK DATA WILL BE PROVIDED AFTER CONTRACT IS AWARDED.
3. REMOVE EXISTING BELTS AND SHEAVES FROM EXISTING EFFLUENT PUMPS AND REPLACE WITH NEW BELTS AND SHEAVES TO ALLOW PUMPS TO OPERATE AT APPROVED RPM. PUMP MANUFACTURER TO SUPPLY AND INSTALL NEW BELTS AND SHEAVES AND PERFORM PUMP TEST TO VERIFY DESIGN POINT ARE MET. PUMP MANUFACTURER SHALL MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACHIEVE DESIGN CONDITIONS.

   PUMP DESIGN CRITERIA.
   ONE PUMP OPERATING: 5,907 GPM AT 24.4' TOTAL DYNAMIC HEAD.
   TWO PUMPS OPERATING: 11,597 GPM AT 25.5' TOTAL DYNAMIC HEAD.
4. RAISE MANHOLE RIM FROM TOP ELEVATION 418.40 TO ELEVATION 423.00.
5. ~~FIELD LOCATE CHEMICAL CONDUIT AND TUBING PRIOR TO EXCAVATION FOR NPW. REPAIR/REPLACE EXISTING CONDUIT/TUBING AS REQUIRED, WITHOUT ADDITIONAL COST TO OWNER.~~
6. 500 YEAR FLOOD EL. 418.00
   100 YEAR FLOOD EL. 417.00

PIPE LEGEND:

① – 36"ø D.I. 22.5° BEND, (RJ), INV. EL. 404.26
② – 36"ø D.I. 22.5° BEND, (RJ), INV. EL. 404.19
③ – 36"x36"x30" D.I. TEE, (RJ), INV. EL. 404.10
④ – 30"ø D.I. 90° BEND, (RJ), INV. EL. 411.75
⑤ – 36"x30" D.I. REDUCER, (RJ)
⑥ – 36"ø D.I. 22.5° BEND, (RJ), INV. EL. 412.00
⑦ – 36"ø D.I. 22.5° BEND, (RJ), INV. EL. 412.00
⑧ – 36" D.I. TEE, (RJ), INV. EL. 412.00
⑨ – 36" D.I. TEE, (RJ), INV. EL. 412.00
⑩ – 36" PLUG, (RJ), INV. EL. 412.00

BEFORE YOU DIG – DRILL – BLAST

Call 1-800-344-7483 (MISSOURI)

THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENTS RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

10' 0' 10' 20'

SCALE: 1" = 10'

NO.	DATE	REVISION
0	10/23/09	ISSUED FOR BID
1	2/29/12	CONFORMING TO CONSTRUCTION DOCUMENTS

HORNER & SHIFRIN, INC. ENGINEERS

ROCK CREEK PUBLIC SEWER DISTRICT
KIMMSWICK WASTE WATER TREATMENT PLANT
LIQUID TREATMENT SYSTEM IMPROVEMENTS

SITE PLAN

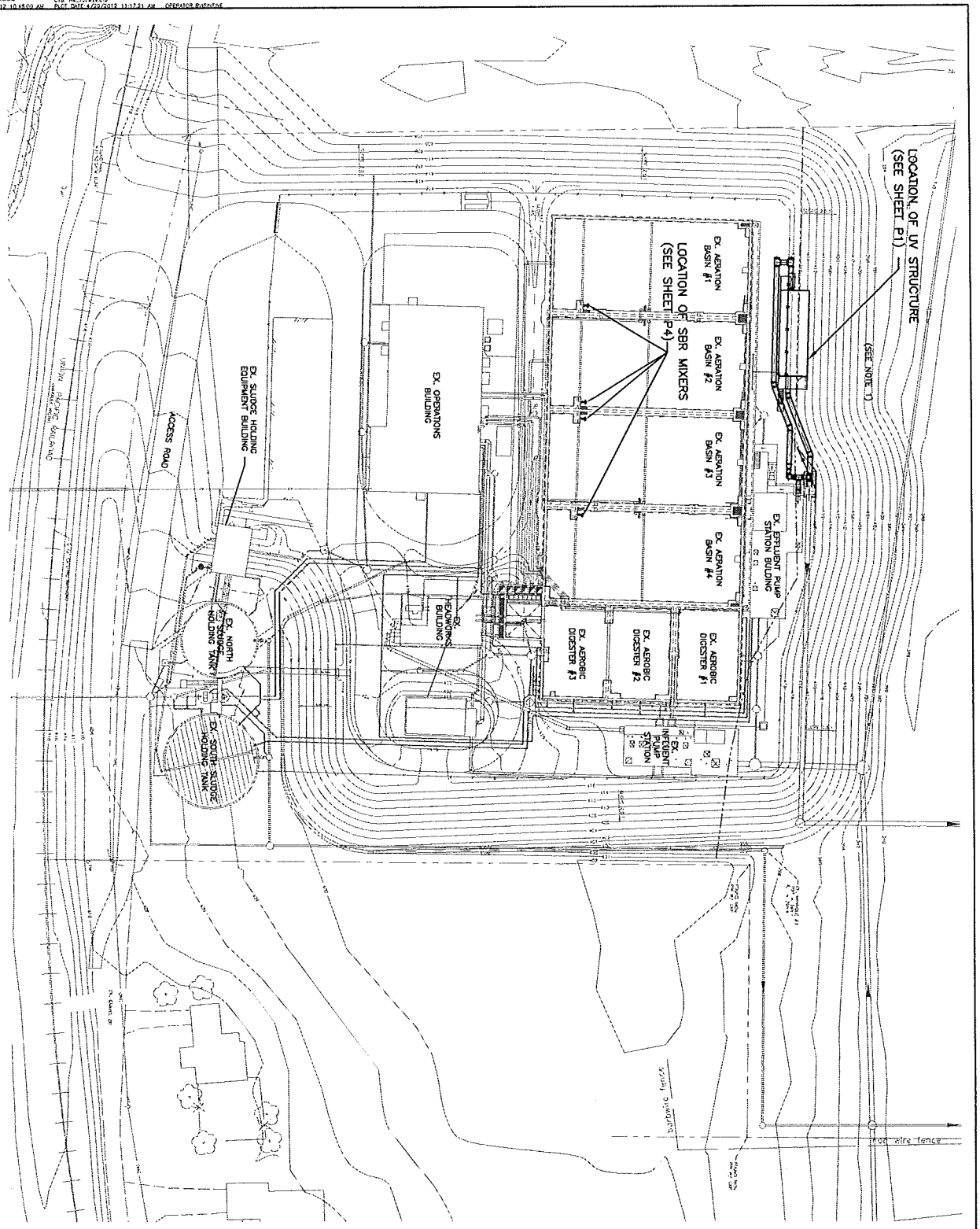
DATE: 10/23/09

DESIGNED: RAH
DRAWN: BDV
CHECKED: JTL

HS JOB NO. 0903300

SHEET 3 OF 30

C2



SITE PLAN
SCALE: 1"=30'

NOTE:
1. CONTRACTOR WILL NOT BE ALLOWED TO DISTURB LAND AT BASE OF BERM, BEYOND RIP-RAP, AS JURISDICTIONAL WETLANDS ARE PRESENT.

SCALE: 1" = 30'

ROCK CREEK PUBLIC SEWER DISTRICT
KIMMSWICK WASTE WATER TREATMENT PLANT
LIQUID TREATMENT SYSTEM IMPROVEMENTS

OVERALL SITE PLAN

HORNER & SHIFRIN, INC.
ENGINEERS
1220 OAKLAND AVE. ST. LOUIS, MO 63110-1393
(314) 241-4120 FAX (314) 241-4766 www.HornerShifrin.com
Discipline: Professional Engineering
Certificate of Authority: 000519
Expiration Date: December 31, 2010

STATE OF MISSOURI
JEREMEY T. LAY
PE-2006001158
PROFESSIONAL ENGINEER

Name: JEREMEY T. LAY
Discipline: CIVIL
License No. 2006001158
Expiration Date: 12/31/2009

NO.	DATE	REVISION
1	2/29/12	CONFORMING TO CONSTRUCTION DOCUMENTS
0	10/23/09	ISSUED FOR BID

DATE: 10/23/09
DESIGNED: RAH
DRAWN: BDV
CHECKED: JTL
HS JOB NO. 0903300
SHEET 2 OF 30
C1

FACILITY NAME	PERMIT NO.	OUTFALL NO.
RCPSD Kimmswick	MO- 0106461	001

PART A – BASIC APPLICATION INFORMATION

7. FACILITY INFORMATION

7.1 Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – Chlorination and Dechlorination), influents, and outfalls. Specify where samples are taken. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram.
Attach sheets as necessary.

Influent comes in via 3 main sources – 36" Imperial 18" New Town and 12" Kimmswick sewer. Sewer goes into Influent pumpstation with 6 pumps. Influent goes to headworks – fine screen then passes to grit chamber. Grit is air lifted to grit room and influent is channeled to equally split to SBR 1, 2, 3 or 4. Effluent is decanted from SBR to Effluent pump station and then pumped to UV system (Apr- Oct). Offseason flow is gravity to outfall #001.
See attachment C 1st - C2 - 62.

RCPSD

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Kimmswick WWTP	MO- 0106461	1

PART A – BASIC APPLICATION INFORMATION

7. FACILITY INFORMATION (continued)

7.2 Map. Attach to this application an aerial or topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. A map can be obtained by visiting the following website: https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce

a. The area surrounding the treatment plant, including all unit processes.
b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
c. The actual point of discharge.
d. Wells, springs, other surface water bodies and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, or disposed.

7.3 Number of people presently connected or population equivalent (P.E.): 37,620 (3.0 per home) Design P.E. 48000

7.4 Connections to the facility:

Number of units presently connected:

Residential. 12,214 Commericial: 326 Industrial 0 12,540 TOTAL

7.5 Design Flow	Actual Flow
4.8 MGD	1.9 MGD

7.6 Will discharge be continuous through the year? Yes ☒ No ☐

Discharge will occur during the following months: All 12

How many days of the week will discharge occur? 7

7.7 Is industrial wastewater discharged to the facility? Yes ☐ No ☒

If yes, describe the number and types of industries that discharge to your facility. Attach sheets as necessary

Refer to the APPLICATION OVERVIEW to determine whether additional information is needed for Part F.

7.8 Does the facility accept or process leachate from landfills?	Yes ☐	No ☒
7.9 Is wastewater land applied? **If yes**, please attach Form I See: https://dnr.mo.gov/forms/780-1686-f.pdf	Yes ☐	No ☒
7.10 Does the facility discharge to a losing stream or sinkhole?	Yes ☐	No ☒
7.11 Has a wasteload allocation study been completed for this facility?	Yes ☐	No ☒

8. LABORATORY CONTROL INFORMATION

LABORATORY WORK CONDUCTED BY PLANT PERSONNEL

Lab work conducted outside of plant.	Yes ☒	No ☐
Push–button or visual methods for simple test such as pH, settleable solids.	Yes ☒	No ☐
Additional procedures such as Dissolved Oxygen, Chemical Oxygen Demand, Biological Oxygen Demand, titrations, solids, volatile content.	Yes ☒	No ☐
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	Yes ☒	No ☐
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.	Yes ☒	No ☐

FACILITY NAME	PERMIT NO.	OUTFALL NO.
RCPSD Kimmswick WWTP	MO- 0106461	# 001

PART A – BASIC APPLICATION INFORMATION

9. SLUDGE HANDLING, USE AND DISPOSAL

9.1 Is the sludge a hazardous waste as defined by 10 CSR 25? Yes ☐ No ☒

9.2 Sludge production (Including sludge received from others): Design Dry Tons/Year 773 Actual Dry Tons/Year 289

9.3 Sludge storage provided: 1,346 Cubic feet; ____ Days of storage; 180 Average percent solids of sludge; 3.1

☐ No sludge storage is provided. ☐ Sludge is stored in lagoon.

9.4 Type of storage:
☐ Holding Tank ☐ Building
☒ Basin ☐ Lagoon
☐ Concrete Pad ☐ Other (Describe) ____

9.5 Sludge Treatment:

☐ Anaerobic Digester ☐ Storage Tank ☐ Lime Stabilization ☐ Lagoon
☒ Aerobic Digester ☐ Air or Heat Drying ☐ Composting ☐ Other (Attach Description)

9.6 Sludge use or disposal:

☒ Land Application ☐ Contract Hauler ☐ Hauled to Another Treatment Facility ☐ Solid Waste Landfill
☐ Surface Disposal (Sludge Disposal Lagoon, Sludge Held For More Than Two Years) ☐ Incineration
☐ Other (Attach Explanation Sheet) ____

9.7 Person responsible for hauling sludge to disposal facility:
☐ By Applicant ☒ By Others (complete below)

NAME	EMAIL ADDRESS
Metro-Ag	metroag@metroag.com

ADDRESS	CITY	STATE	ZIP CODE
550 N. 2nd Street	Breese	IL	62230

CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.
Brian Kramer	618-526-2341	MO-

9.8 Sludge use or disposal facility:
☐ By Applicant ☒ By Others (Complete below)

NAME	EMAIL ADDRESS
Bonacker Farms Inc.	

ADDRESS	CITY	STATE	ZIP CODE
4211 State Highway W	House Springs	MO	63051

CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.
Wayne Bonacker	636-671-0675	MO-

9.9 Does the sludge or biosolids disposal comply with Federal Sludge Regulation 40 CFR 503?
☒ Yes ☐ No (Explain)

END OF PART A

FACILITY NAME	PERMIT NO.	OUTFALL NO.
RCPSD Kimmswick WWTP	MO- 0106461	#001

PART B – ADDITIONAL APPLICATION INFORMATION

10. COLLECTION SYSTEM

10.1 Are there any municipal satellite collection systems connected to this facility? ____ Yes __X__ No

If yes, please list all connected to this facility, contact phone number and length of each collection system

FACILITY	CONTACT PHONE NUMBER	LENGTH OF SYSTEM (FEET OR MILES)

10.2 Length of sanitary sewer collection system in miles (If available, include totals from satellite collection systems) 150 miles

10.3 Does significant infiltration occur in the collection system? ☒ Yes ☐ No

If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:

The District liners old clay pipe with CIPP and also lines manholes that allow I:I.
The District is also going to upsize roughly 5,000' of sewer pipe based off of hydraulic Morelins.

11. BYPASSING

Does any bypassing occur anywhere in the collection system or at the treatment facility? Yes ☒ No ☐

If yes, explain:

During extreme rainfalls, the District does have to put up 2-4" bypass pumps in our collection system. However, the pipe upsizing project that will happen in 2022 will eliminate bypass pumping.

12. OPERATION AND MAINTENANCE PERFORMED BY CONTRACTOR(S)

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of the contractor?

Yes ☒ No ☐

If Yes, list the name, address, telephone number and status of each contractor and describe the contractor's responsibilities. (Attach additional pages if necessary.)

NAME Vandevanter Engineering

MAILING ADDRESS 1550 Larkin Williams Ave - Fenton, MO 63026

TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
636-343-8880	

RESPONSIBILITIES OF CONTRACTOR
Preventive Maint. on 6 influent pumps – GBT wet well pumps

13. SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

Provide information about any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses for each.

Upgrade & upsize 5,000' of existing undercapacity sewer pipes in our collection system

RCPSD

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Kimmswick WWTP	MO- 0106461	001

PART B – ADDITIONAL APPLICATION INFORMATION

14. EFFLUENT TESTING DATA

Applicants must provide effluent testing data for the following parameters. Provide the indicated effluent data **for each outfall through which effluent is discharged**. Do not include information of combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least **three samples** and must be no more than four and one-half years apart. See 40 CFR 136.3 for sufficiently sensitive methods: https://www.ecfr.gov/cgi-bin/text-idx?SID=2d29852e2dcdf91badc043bd5fc3d4df&mc=true&node=se40.25.136_13&rgn=div8

Outfall Number

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.75	S.U.	6.75	S.U.	3
pH (Maximum)	7.01	S.U.	7.01	S.U.	3
Flow Rate	2.129	MGD	1.847	MGD	3

*For pH report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
		Conc.	Units	Conc.	Units	Number of Samples		
Conventional and Nonconventional Compounds								
BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD_5	10	mg/L	10	mg/L	8	SM5210B	
	$CBOD_5$		mg/L		mg/L			
E. COLI		10	#/100 mL	10	#/100 mL	8	SM9223B	
TOTAL SUSPENDED SOLIDS (TSS)		4	mg/L	4	mg/L	8	SM2540D	
TOTAL PHOSPHORUS		3.42	mg/L	2.63	mg/L	3	EPA 200.7 Rev 4.4	
TOTAL KJELDAHL NITROGEN		1.6	mg/L	1.23	mg/L	3	OIA/PAI-DK03 & EPA 351.2 Rev 2*	
NITRITES + NITRATES		/	mg/L	/	mg/L	/		
AMMONIA AS N		0.5	mg/L	0.5	mg/L	3	EPA 350.1 REV2	
CHLORINE* (TOTAL RESIDUAL, TRC)		/	mg/L	/	mg/L	/		
DISSOLVED OXYGEN		[redacted]	mg/L	/	mg/L	/		
OIL and GREASE		5.3	mg/L	5.25	mg/L	3	EPA 1664A	
OTHER: _____			mg/L		mg/L			

*Report only if facility chlorinates

END OF PART B

X See attached

FACILITY NAME	PERMIT NO.	OUTFALL NO.
ROPSD Kimmswick WWTP	MO-0106461	001

PART C – CERTIFICATION

15. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

Per 40 CFR Part 127, National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure a timely, complete, accurate, and nationally-consistent set of data. One of the following options must be checked in order for this application to be considered complete. Visit https://dnr.mo.gov/env/wpp/edmr.htm to for information on the department's eDMR system and how to register.

- ☐ I will register an account online to participate in the department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before any reporting is due, in compliance with the Electronic Reporting Rule.
- ☒ I have already registered an account online to participate in the department's eDMR system through MoGEM.
- ☐ I have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.
- ☐ The permit I am applying for does not require the submission of discharge monitoring reports.

16. JETPAY

Permit fees may be payed online by credit card or eCheck through a system called JetPay. Use the URL provided to access JetPay and make an online payment.

New Site Specific Permit: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/591/
Construction Permits: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/592/
Modification Fee: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596/

17. CERTIFICATION

All applicants must complete the Certification Section. This certification must be signed by an officer of the company or city official. All applicants must complete all applicable sections as explained in the Application Overview. By signing this certification statement, applicants confirm that they have reviewed the entire form and have completed all sections that apply to the facility for which this application is submitted.

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PRINTED NAME	OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL)
Jason Seger	Operations Manager

SIGNATURE

TELEPHONE NUMBER WITH AREA CODE
636 461 - 2578

DATE SIGNED
06-18-2021

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

Send Completed Form to: cleanwaterpermits@dnr.mo.gov

OR

Department of Natural Resources
Water Protection Program
ATTN: NPDES Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176

END OF PART C

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH PARTS OF FORM B2 YOU MUST COMPLETE.

Do not complete the remainder of this application, unless at least one of the following statements applies to your facility:

1. Your facility design flow is equal to or greater than 1,000,000 gallons per day.
2. Your facility is a pretreatment treatment works.
3. Your facility is a combined sewer system.

Submittal of an incomplete application may result in the application being returned. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
RCPSD Kimmswick WWTP	MO- 0106461	# 001

PART D – EXPANDED EFFLUENT TESTING DATA

18. EXPANDED EFFLUENT TESTING DATA

Refer to the APPLICATION OVERVIEW to determine whether Part D applies to the treatment works.

If the treatment works has a design flow greater than or equal to 1 MGD or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information **for each outfall through which effluent is discharged**. Do not include information of combined sewer overflows in this section. All information reported must be based on data collected and analyzed using sufficiently sensitive methods found in 40 CFR Part 136. See 40 CFR 136.3 for sufficiently sensitive methods: https://www.ecfr.gov/cgi-bin/text-idx?SID=2d29852e2dcdf91badc043bd5fc3d4df&mc=true&node=se40.25.136_13&rgn=div8. In addition, all data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least **three pollutant scans** and must be no more than four and one-half years prior to the date of the permit application submittal. In the blank rows provided at the end of this list, include any additional data for pollutants not specifically listed in this form. Information may be written in the blanks below or provided as attached documents containing the laboratory test results.

Outfall Number (Complete Once for Each Outfall Discharging Effluent to Waters of the State.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS AND HARDNESS											
ALUMINUM											
ANTIMONY											
ARSENIC											
BERYLLIUM											
CADMIUM											
CHROMIUM III											
CHROMIUM VI											
COPPER											
IRON											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (as $CaCO_3$)											
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.

PART D – EXPANDED EFFLUENT TESTING DATA

18. EXPANDED EFFLUENT TESTING DATA

Complete Once for Each Outfall Discharging Effluent to Waters of the State

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
CHLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLORO-ETHANE											
1,2-DICHLORO-ETHANE											
TRANS-1,2-DICHLOROETHYLENE											
1,1-DICHLORO-ETHYLENE											
1,2-DICHLORO-PROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRA-CHLOROETHANE											
TETRACHLOROETHYLENE											
TOLUENE											
1,1,1-TRICHLORO-ETHANE											
1,1,2-TRICHLORO-ETHANE											
TRICHLOROETHYLENE											
VINYL CHLORIDE											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.

PART D – EXPANDED EFFLUENT TESTING DATA

18. EXPANDED EFFLUENT TESTING DATA

Complete Once for Each Outfall Discharging Effluent to Waters of the State.

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
BASE-NEUTRAL COMPOUNDS											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											
3,4-BENZO-FLUORANTHENE											
BENZO(GH) PHERYLENE											
BENZO(K) FLUORANTHENE											
BIS (2-CHLOROTHOXY) METHANE											
BIS (2-CHLOROETHYL) – ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPH-THALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO (A,H) ANTHRACENE											
1,2-DICHLORO-BENZENE											
1,3-DICHLORO-BENZENE											
1,4-DICHLORO-BENZENE											
3,3-DICHLORO-BENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.

PART D – EXPANDED EFFLUENT TESTING DATA

18. EXPANDED EFFLUENT TESTING DATA

Complete Once for Each Outfall Discharging Effluent to Waters of the State.

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
2,4-DINITRO-TOLUENE											
2,6-DINITRO-TOLUENE											
1,2-DIPHENYL-HYDRAZINE											
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO (1,2,3-CD) PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-PROPYLAMINE											
N-NITROSODI-METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											

Use this space (or a separate sheet) to provide information on other pollutants not specifically listed in this form.

END OF PART D

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

Rock Creek Public Sewer District

JEFFERSON COUNTY, MISSOURI
P.O. Box 1060 • Imperial, MO 63052
4133 W. Outer Rd. • Arnold, MO 63010

www.rockcreekpsd.com

Phone: 636-464-3305
Fax: 636-464-2196

DONALD DANIEL
District Administrator

Please email both Don Daniel & Jason Seger all information regarding this permit application and all future correspondences regarding permit renewal.

dondaniel@rockcreekpsd.com

jasons@rockcreekpsd.com

Thank you,

INSTRUCTIONS FOR COMPLETING FORM B2
APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY, Form 780-1805

(Facilities less than or equal to 100,000 gallons per day of domestic waste must use Form B, 780-1512.)

PART A – BASIC APPLICATION INFORMATION

1. Check the appropriate box. **Do not check more than one item.** Operating permits refer to permits issued by the Department of Natural Resources, Water Protection Program. If an Antidegradation Review has not been conducted, submit the application located at the following link, to the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102: dnr.mo.gov/forms/780-1893-f.pdf.

1.1 **Fees Information:**

DOMESTIC OPERATING PERMIT FEES – PRIVATELY OWNED TREATMENT WORKS (Non-POTW)

Annual operating permit fees are based on flow.

Annual fee/Design flow	Annual fee/Design flow	Annual fee/Design flow
$150.....<5,000 gpd	$1,000.....15,000-24,999 gpd	$4,000.....100,000-249,999 gpd
$300.....5,000-9,999 gpd	$1,500.....25,000-29,999 gpd	$5,000.....≥250,000 gpd
$600.....10,000-14,999 gpd	$3,000.....30,000-99,999 gpd	

New domestic wastewater treatment facilities must submit the annual fee with the original application.

If the application is for a site-specific permit re-issuance, send no fees. You will be invoiced separately by the department on the anniversary date of the original permit. Permit fees must be current for the department to reissue the operating permit. Late fees of 2% per month are charged and added to outstanding annual fees.

PUBLICLY OWNED SEWER SYSTEM OPERATING PERMIT FEES (City, public sewer district, public water district, or other publicly owned treatment works that charge a service connection fee.) Annual fee is based on number of service connections. Fees listings are found in 10 CSR 20-6.011 which is available at http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. New public sewer system facilities should not submit any fee as the department will invoice the permittee.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

a. Operating permits that charge a service connection fee - $200 each.
b. All other permits
   (1) $100 each for a minor modification (name changes, address changes, other non-substantive changes) or
   (2) A fee equal to 25% of the facility's annual operating fee for a major modification.

2. Name of Facility – Include the name by which this facility is locally known. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the names of the closest intersection, highway, country road, etc.

2.1 Self-explanatory.

2.2 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce.

2.3-2.4 Self-explanatory. For the No Exposure Certification for Exclusion Application: https://dnr.mo.gov/forms/780-2828-f.pdf

3. Owner – Provide the legal name, mailing address, phone number, and email address of the owner. The owner identified in this section and subsequently reflected on the certificate page of the operating permit, is the owner of the regulated activity/discharge being applied for and is not necessarily the owner of the real property on which the activity or discharge is occurring.

3.1 Prior to submitting a permit to public notice, the Department of Natural Resources shall provide the permit applicant 10 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice.

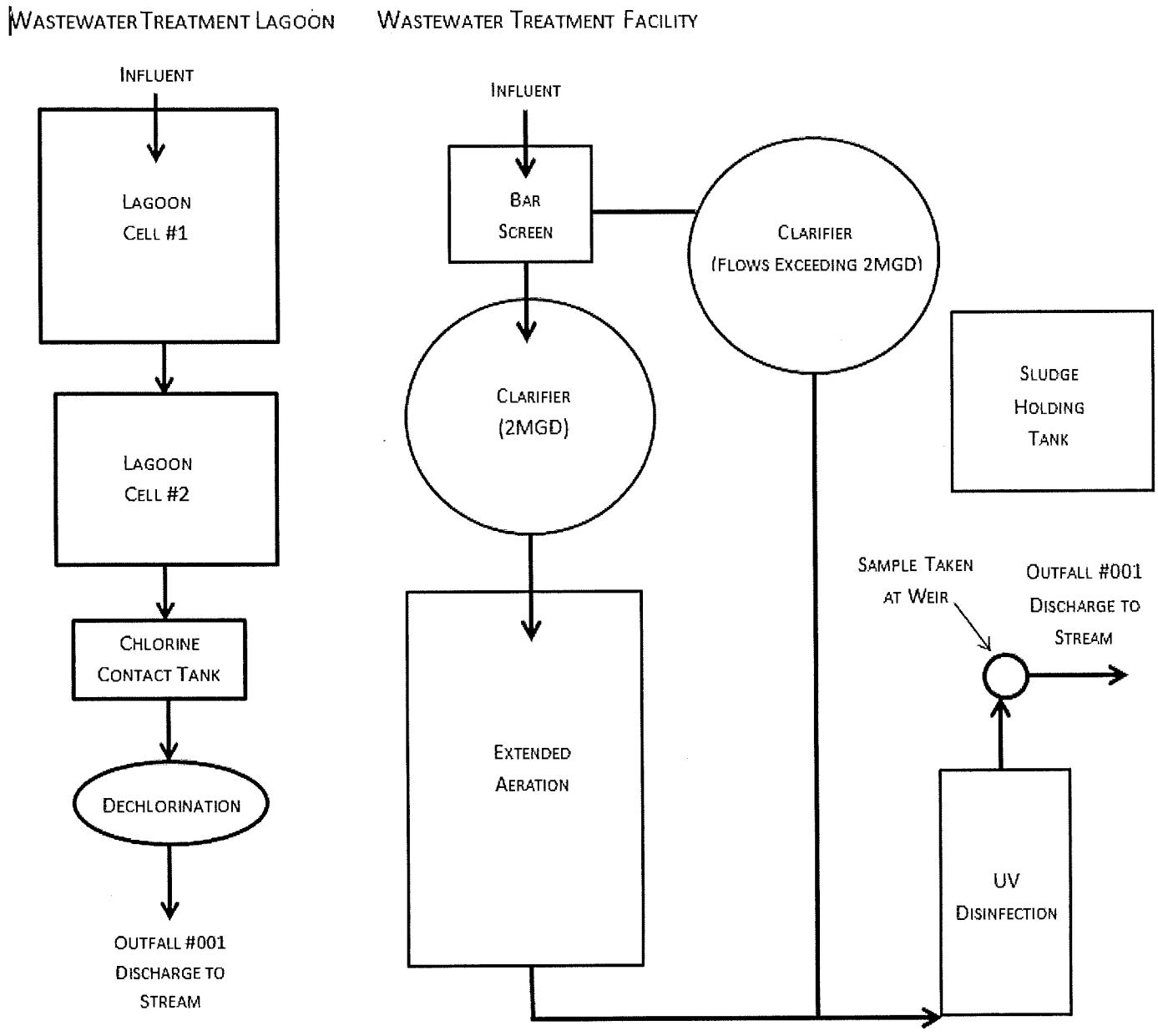
3.2-3.4 Self-explanatory. See the following link for Financial Questionnaire: https://dnr.mo.gov/forms/780-2511-f.pdf

4. Continuing Authority – A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. If the continuing authority is not an individual(s), government, or otherwise required to register with the Missouri Secretary of State (SoS), then the business name must be listed exactly as it appears on the SoS's webpage: https://bsd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0

5. Operator – Provide the name, certificate number, title, mailing address, primary phone number, and email address of the operator of the facility.

6. Provide the name, title, mailing address, primary phone number, and email address of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department.

7.1 Process Flow Diagram Examples



7.2 A map is available on the web at https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce or from the Department of Natural Resources' Geological Survey in Rolla at 573-368-2125.
7.3-7.8 Self – explanatory.
7.9 If wastewater is land-applied submit Form I: www.dnr.mo.gov/forms/780-1686-f.pdf.
7.10-8. Self-explanatory
9.1 A copy of 10 CSR 25 is available at www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-25.
9.2-9.9 Self – explanatory.

PART B – ADDITIONAL APPLICATION INFORMATION

10.-14. Self-explanatory

INSTRUCTIONS FOR COMPLETING FORM B2
APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY
(continued)

PART C – CERTIFICATION

15. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at http://dnr.mo.gov/env/wpp/edmr.htm and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and information about the eDMR system can be found in the Facility Participation Package.

    Waivers to electronic reporting may be granted by the department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the department for approval. Waivers may be granted to facilities owned or operated by:
    a. members of religious communities that choose not to use certain technologies or
    b. permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: https://broadbandmap.fcc.gov/#/. Please contact the department if you need assistance.

16. JetPay
    Applicants can pay fees online by credit card or eCheck through a system called JetPay.
    a. Per Section 37.001, RSMo, a transaction fee will be included. The transaction fee is paid to the third party vendor JetPay, not the Department of Natural Resources.
    b. Be sure to select the correct fee type and corresponding URL to ensure your payment is applied appropriately. If you are unsure what type of fee to pay, please contact the Water Protection Program's Budget, Fees, and Grants Management Unit by phone at (573) 522-1485 for assistance.
    c. Upon successful completion of your payment, JetPay provides a payment confirmation. Submit this form with a copy of the payment confirmation if requesting a new permit or a permit modification. For permit renewals of active permits, the Department will invoice fees annually in a separate request.
    d. If you are unable to make your payment online, but want to pay with credit card, you may email your name, phone number, and invoice number, if applicable, to **sherry.bell@dnr.mo.gov**. The Budget, Fees, and Grants Management Unit will contact you to assist with the credit card payment. **Please do not include your credit card information in the email.**
    e. Applicants can find fee rates in 10 CSR 20-6.011 (https://dnr.mo.gov/pubs/pub2564.htm).

17. Signature – All applications must be signed as follows and the signatures must be original:
    a. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
    b. For a partnership or sole proprietorship, by a general partner or the proprietor.
    c. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

PART D – EXPANDED EFFLUENT TESTING DATA

18 Self-explanatory. ML/MDL means minimum limit or minimum detection limit.

PART E – TOXICITY TESTING DATA

19. Self- explanatory.

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

20. Federal regulations are available through the U.S. Government Printing Office at https://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR.

20.1 Self – explanatory

20.2 A noncategorical significant industrial user is an industrial user that is not a CIU and meets one or more of the following:
    i. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
    ii. Contributes a process waste stream that makes up 5% or more of the average dry weather hydraulic or organic capacity of the treatment plant.
    iii. Is designated as an SIU by the control authority.

21.-23.4 Self-explanatory.

PART G – COMBINED SEWER SYSTEMS

24.-25.4 Self-explanatory.

Submittal of an incomplete application may result in the application being returned.

This completed form and any attachments along with the applicable permit fees, should be submitted to:

cleanwaterpermits@dnr.mo.gov
or
Department of Natural Resources
Water Protection Program
ATTN: NPDES Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176

Map of regional offices with addresses and phone numbers are available on the web at http://dnr.mo.gov/regions/. If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-522-4502.

ANALYTICAL RESULTS

Sample: EG00047-01
Name: Effluent Grab
Matrix: Waste Water - Grab

Sampled: 07/01/21 08:00
Received: 07/01/21 15:00

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - STL									
Cyanide	< 0.0050	mg/L		07/02/21 10:11	1	0.0050	07/02/21 15:35	CLH	SM 4500-CN C E*
Hexavalent chromium	< 0.005	mg/L		07/01/21 15:34	1	0.005	07/01/21 15:49	CLH	SM 3500-Cr B*
Phenol	0.070	mg/L		07/09/21 08:37	1	0.050	07/09/21 15:36	CLH	EPA 420.1
Total Metals - STL									
Trivalent Chromium	< 0.0050	mg/L		07/02/21 10:54	1	0.0050	07/02/21 19:09	CLH	[CALC]
Chromium	< 0.00500	mg/L		07/02/21 10:54	1	0.00500	07/02/21 19:09	KAM	EPA 200.7 REV 4.4
Volatile Organics - STL									
1,1,1-Trichloroethane	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,1,2,2-Tetrachloroethane	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,1,2-Trichloroethane	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,1-Dichloroethane	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,1-Dichloroethene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,2-Dichlorobenzene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,2-Dichloroethane	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,2-Dichloropropane	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,3-Dichlorobenzene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
1,3-Dichloropropene - Total	< 10	ug/L		07/01/21 11:44	1	10	07/01/21 16:26	LEC	EPA 624*
1,4-Dichlorobenzene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Acrolein	< 50	ug/L		07/01/21 11:44	1	50	07/01/21 16:26	LEC	EPA 624
Acrylonitrile	< 10	ug/L		07/01/21 11:44	1	10	07/01/21 16:26	LEC	EPA 624
Benzene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Bromodichloromethane	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Bromoform	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Bromomethane	< 10	ug/L		07/01/21 11:44	1	10	07/01/21 16:26	LEC	EPA 624
Carbon tetrachloride	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Chlorobenzene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Chloroethane	< 10	ug/L		07/01/21 11:44	1	10	07/01/21 16:26	LEC	EPA 624
Chloroform	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Chloromethane	< 10	ug/L		07/01/21 11:44	1	10	07/01/21 16:26	LEC	EPA 624
Dibromochloromethane	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Ethylbenzene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624

ANALYTICAL RESULTS

Sample: EG00047-01
Name: Effluent Grab
Matrix: Waste Water - Grab

Sampled: 07/01/21 08:00
Received: 07/01/21 15:00

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Methylene chloride	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Tetrachloroethene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Toluene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
trans-1,2-Dichloroethene	< 10	ug/L		07/01/21 11:44	1	10	07/01/21 16:26	LEC	EPA 624
Trichloroethene	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
Vinyl chloride	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624
2-Chloroethylvinyl ether	< 5.0	ug/L		07/01/21 11:44	1	5.0	07/01/21 16:26	LEC	EPA 624*

ANALYTICAL RESULTS

Sample: EG00047-02
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 07/01/21 08:00
Received: 07/01/21 15:00

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Semivolatile Organics - STL									
1,2,4-Trichlorobenzene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
2,4,6-Trichlorophenol	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 16:26	JCB	EPA 625
2,4-Dichlorophenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
2,4-Dimethylphenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
2,4-Dinitrophenol	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 16:26	JCB	EPA 625
2,4-Dinitrotoluene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
2,6-Dinitrotoluene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
2-Chloronaphthalene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
2-Chlorophenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
2-Nitrophenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
3,3'-Dichlorobenzidine	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 16:26	JCB	EPA 625
4,6-Dinitro-2-methylphenol	< 50.0	ug/L		07/02/21 07:13	1	50.0	07/07/21 16:26	JCB	EPA 625
4-Bromophenyl phenyl ether	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
4-Chloro-3-methylphenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
4-Chlorophenylphenyl ether	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
4-Nitrophenol	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 16:26	JCB	EPA 625
Acenaphthene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Acenaphthylene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Anthracene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Azobenzene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625*
Benzidine	< 80.0	ug/L		07/02/21 07:13	1	80.0	07/07/21 16:26	JCB	EPA 625*
Benzo(a)anthracene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Benzo(a)pyrene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Benzo(b)fluoranthene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Benzo(g,h,i)perylene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Benzo(k)fluoranthene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Bis(2-chloroethoxy) methane	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Bis(2-chloroethyl) ether	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Bis(2-chloroisopropyl) ether	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Bis(2-ethylhexyl) phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Butyl benzyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Chrysene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Dibenzo(a,h)anthracene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Diethyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625

ANALYTICAL RESULTS

Sample: EG00047-02
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 07/01/21 08:00
Received: 07/01/21 15:00

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Dimethyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Di-n-butyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Di-n-octyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Diphenylamine	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Fluoranthene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Fluorene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Hexachlorobenzene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Hexachlorobutadiene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Hexachlorocyclopentadiene	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 16:26	JCB	EPA 625
Hexachloroethane	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Indeno(1,2,3-cd)pyrene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Isophorone	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Naphthalene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Nitrobenzene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
N-Nitrosodimethylamine	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
N-Nitrosodi-n-propylamine	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Pentachlorophenol	< 50.0	ug/L		07/02/21 07:13	1	50.0	07/07/21 16:26	JCB	EPA 625
2,3,7,8-TCDD Screen	< 50.0	ug/L		07/02/21 07:13	1	50.0	07/07/21 16:26	JCB	EPA 625
Phenanthrene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Phenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Pyrene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 16:26	JCB	EPA 625
Total Metals - STL									
Aluminum	< 0.0500	mg/L		07/02/21 10:54	1	0.0500	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Mercury	< 0.0002	mg/L		07/06/21 08:05	1	0.0002	07/06/21 13:51	CGB	EPA 245.1 / SW 7470
Antimony	< 0.0500	mg/L		07/02/21 10:54	1	0.0500	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Arsenic	< 0.0250	mg/L		07/02/21 10:54	1	0.0250	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Beryllium	< 0.00100	mg/L		07/02/21 10:54	1	0.00100	07/06/21 10:33	KAM	EPA 200.7 REV 4.4
Ca Calculated Hardness	139	mg/L		07/02/21 10:54	1	0.237	07/02/21 19:22	KAM	[CALC]
Cadmium	< 0.00100	mg/L		07/02/21 10:54	1	0.00100	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Calcium	55.5	mg/L		07/02/21 10:54	1	0.0950	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Copper	< 0.00500	mg/L		07/02/21 10:54	1	0.00500	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Iron	< 0.0300	mg/L		07/02/21 10:54	1	0.0300	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Lead	< 0.0400	mg/L		07/02/21 10:54	1	0.0400	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Nickel	< 0.00500	mg/L		07/02/21 10:54	1	0.00500	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Selenium	< 0.0400	mg/L		07/02/21 10:54	1	0.0400	07/02/21 19:22	KAM	EPA 200.7 REV 4.4

ANALYTICAL RESULTS

Sample: EG00047-02
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 07/01/21 08:00
Received: 07/01/21 15:00

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Silver	< 0.00500	mg/L		07/02/21 10:54	1	0.00500	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Thallium	< 0.0400	mg/L		07/02/21 10:54	1	0.0400	07/02/21 19:22	KAM	EPA 200.7 REV 4.4
Zinc	0.0422	mg/L		07/02/21 10:54	1	0.0100	07/02/21 19:22	KAM	EPA 200.7 REV 4.4

NOTES

Specifications regarding method revisions and method modifications used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Certified by: Amy Holmes, Project Manager

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REGULATORY PROGRAM (Check one:)		NPDES	
MORBCA	☐	RCRA	☐
CCDD	☐	TACO: RES OR IND/COMM	☐

CHAIN OF CUSTODY RECORD

STATE WHERE SAMPLE COLLECTED MO

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

(1) CLIENT: Rock Creek PSD
ADDRESS: 6000 Mississippi
CITY STATE ZIP: Kimmswick. MO 63053
CONTACT PERSON: Jason Seger

PROJECT NUMBER: Exp Eff Part D
PHONE NUMBER: (636) 633-0761
SAMPLER (PLEASE PRINT): PAUL LUTHER
SAMPLER'S SIGNATURE: Paul Luther

PROJECT LOCATION:
E-MAIL: jasons@rockcreekpsd.com
PURCHASE ORDER #:
DATE SHIPPED:

MATRIX TYPES:
WW- WASTEWATER
DW- DRINKING WATER
GW- GROUND WATER
WWSL- SLUDGE
NAS- NON AQUEOUS SOLID
LCHT-LEACHATE
OIL-OIL
SO-SOIL
SOL-SOLID

(3) ANALYSIS REQUESTED

(4) (FOR LAB USE ONLY)
LOGIN # EG0C047
LOGGED BY:
CLIENT:
PROJECT:
PROJ. MGR.:
CUSTODY SEAL #:

(2) SAMPLE DESCRIPTION (UNIQUE DESCRIPTION AS IT WILL APPEAR ON THE ANALYTICAL REPORT)	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	PRES CODE (CLIENT PROVIDED)	M624, 2-Cleve	M625	As, Al, Ag, Hg, Cd, Cu, Fe, Hardness, Hg, Ni, Pb, Sb, Se, Tl, Zn	CN, Phenols	Cr+3 Calc (Cr, Cr6, Cr3)			REMARKS
Effluent Grab	7/1/21	8:00	X		WW	10	1,2,4,6	X			X	X			
Effluent Composite	7/1/21	8:00		X	WW	4	3,6		X	X					

CHEMICAL PRESERVATION CODES: 1 – HCL | 2 – H2SO4 | 3 – HNO3 | 4 – NAOH | 5 – NA2S2O3 | 6 – UNPRESERVED | 7 – OTHER

(5) TURNAROUND TIME REQUESTED (PLEASE CHECK) (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE) ☐ NORMAL ☐ RUSH
DATE RESULTS NEEDED:
RUSH RESULTS VIA (PLEASE CIRCLE) EMAIL ☐ PHONE ☐
EMAIL IF DIFFERENT FROM ABOVE:
PHONE # IF DIFFERENT FROM ABOVE:

(6) *I understand that by initialing this box I give the lab permission to proceed with analysis, even though it may not meet all sample conformance requirements as defined in the receiving facility's Sample Acceptance Policy and the data will be qualified. Qualified data may NOT be acceptable to report to all regulatory authorities.*
PROCEED WITH ANALYSIS AND QUALIFY RESULTS: (INITIALS) _____

(7)	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	Paul Luther	7-1-21	9:11	A Moore	7/1/21	9:11
	A Moore	7/1/21	3:00	Nicole Mills	7/01/21	800

(8) COMMENTS: (FOR LAB USE ONLY) Headspace present. GM 7/1/21

SAMPLE TEMPERATURE UPON RECEIPT: 1.8 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT: Y OR N
SAMPLE(S) RECEIVED ON ICE: Y OR N
SAMPLE ACCEPTANCE NONCONFORMANT REPORT IS NEEDED: Y OR N
DATE AND TIME TAKEN FROM SAMPLE BOTTLE: NC

Qualtrax ID 63219

ANALYTICAL RESULTS

Sample: EF05489-01
Name: Effluent Grab
Matrix: Waste Water - Grab

Sampled: 06/29/21 08:00
Received: 06/29/21 14:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - STL									
Cyanide	< 0.0050	mg/L		06/30/21 08:52	1	0.0050	06/30/21 15:49	CLH	SM 4500-CN C E*
Hexavalent chromium	< 0.005	mg/L		06/29/21 14:55	1	0.005	06/29/21 15:16	CLH	SM 3500-Cr B*
Phenol	< 0.054	mg/L		07/01/21 14:43	1	0.054	07/02/21 08:33	CLH	EPA 420.1
Total Metals - STL									
Trivalent Chromium	< 0.0050	mg/L		06/29/21 16:47	1	0.0050	06/30/21 10:21	CLH	[CALC]
Chromium	< 0.00500	mg/L		06/29/21 16:47	1	0.00500	06/30/21 10:21	KAM	EPA 200.7 REV 4.4
Volatile Organics - STL									
1,1,1-Trichloroethane	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,1,2,2-Tetrachloroethane	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,1,2-Trichloroethane	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,1-Dichloroethane	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,1-Dichloroethene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,2-Dichlorobenzene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,2-Dichloroethane	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,2-Dichloropropane	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,3-Dichlorobenzene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
1,3-Dichloropropene - Total	< 10	ug/L	HS	06/29/21 08:27	1	10	06/29/21 16:37	LEC	EPA 624*
1,4-Dichlorobenzene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Acrolein	< 50	ug/L	HS	06/29/21 08:27	1	50	06/29/21 16:37	LEC	EPA 624
Acrylonitrile	< 10	ug/L	HS	06/29/21 08:27	1	10	06/29/21 16:37	LEC	EPA 624
Benzene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Bromodichloromethane	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Bromoform	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Bromomethane	< 10	ug/L	HS	06/29/21 08:27	1	10	06/29/21 16:37	LEC	EPA 624
Carbon tetrachloride	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Chlorobenzene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Chloroethane	< 10	ug/L	HS	06/29/21 08:27	1	10	06/29/21 16:37	LEC	EPA 624
Chloroform	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Chloromethane	< 10	ug/L	HS	06/29/21 08:27	1	10	06/29/21 16:37	LEC	EPA 624
Dibromochloromethane	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Ethylbenzene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624

ANALYTICAL RESULTS

Sample: EF05489-01
Name: Effluent Grab
Matrix: Waste Water - Grab

Sampled: 06/29/21 08:00
Received: 06/29/21 14:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Methylene chloride	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Tetrachloroethene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Toluene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
trans-1,2-Dichloroethene	< 10	ug/L	HS	06/29/21 08:27	1	10	06/29/21 16:37	LEC	EPA 624
Trichloroethene	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
Vinyl chloride	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624
2-Chloroethylvinyl ether	< 5.0	ug/L	HS	06/29/21 08:27	1	5.0	06/29/21 16:37	LEC	EPA 624*

ANALYTICAL RESULTS

Sample: EF05489-02
Name: Effluent composite
Matrix: Waste Water - Composite

Sampled: 06/28/21 08:00
Received: 06/29/21 14:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Semivolatile Organics - STL									
1,2,4-Trichlorobenzene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
2,4,6-Trichlorophenol	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 13:35	JCB	EPA 625
2,4-Dichlorophenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
2,4-Dimethylphenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
2,4-Dinitrophenol	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 13:35	JCB	EPA 625
2,4-Dinitrotoluene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
2,6-Dinitrotoluene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
2-Chloronaphthalene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
2-Chlorophenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
2-Nitrophenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
3,3'-Dichlorobenzidine	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 13:35	JCB	EPA 625
4,6-Dinitro-2-methylphenol	< 50.0	ug/L		07/02/21 07:13	1	50.0	07/07/21 13:35	JCB	EPA 625
4-Bromophenyl phenyl ether	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
4-Chloro-3-methylphenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
4-Chlorophenylphenyl ether	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
4-Nitrophenol	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 13:35	JCB	EPA 625
Acenaphthene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Acenaphthylene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Anthracene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Azobenzene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625*
Benzidine	< 80.0	ug/L		07/02/21 07:13	1	80.0	07/07/21 13:35	JCB	EPA 625*
Benzo(a)anthracene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Benzo(a)pyrene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Benzo(b)fluoranthene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Benzo(g,h,i)perylene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Benzo(k)fluoranthene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Bis(2-chloroethoxy) methane	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Bis(2-chloroethyl) ether	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Bis(2-chloroisopropyl) ether	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Bis(2-ethylhexyl) phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Butyl benzyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Chrysene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Dibenzo(a,h)anthracene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Diethyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625

ANALYTICAL RESULTS

Sample: EF05489-02
Name: Effluent composite
Matrix: Waste Water - Composite

Sampled: 06/28/21 08:00
Received: 06/29/21 14:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Dimethyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Di-n-butyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Di-n-octyl phthalate	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Diphenylamine	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Fluoranthene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Fluorene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Hexachlorobenzene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Hexachlorobutadiene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Hexachlorocyclopentadiene	< 20.0	ug/L		07/02/21 07:13	1	20.0	07/07/21 13:35	JCB	EPA 625
Hexachloroethane	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Indeno(1,2,3-cd)pyrene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Isophorone	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Naphthalene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Nitrobenzene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
N-Nitrosodimethylamine	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
N-Nitrosodi-n-propylamine	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Pentachlorophenol	< 50.0	ug/L		07/02/21 07:13	1	50.0	07/07/21 13:35	JCB	EPA 625
2,3,7,8-TCDD Screen	< 50.0	ug/L		07/02/21 07:13	1	50.0	07/07/21 13:35	JCB	EPA 625
Phenanthrene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Phenol	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Pyrene	< 10.0	ug/L		07/02/21 07:13	1	10.0	07/07/21 13:35	JCB	EPA 625
Total Metals - STL									
Aluminum	< 0.0500	mg/L		06/29/21 16:47	1	0.0500	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Mercury	< 0.0002	mg/L		07/01/21 15:32	1	0.0002	07/02/21 10:50	CGB	EPA 245.1 / SW 7470
Antimony	< 0.0500	mg/L		06/29/21 16:47	1	0.0500	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Arsenic	< 0.0250	mg/L		06/29/21 16:47	1	0.0250	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Beryllium	< 0.00100	mg/L		06/29/21 16:47	1	0.00100	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Ca Calculated Hardness	136	mg/L		06/29/21 16:47	1	0.237	06/30/21 10:25	KAM	[CALC]
Cadmium	< 0.00100	mg/L		06/29/21 16:47	1	0.00100	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Calcium	54.7	mg/L		06/29/21 16:47	1	0.0950	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Copper	< 0.00500	mg/L		06/29/21 16:47	1	0.00500	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Iron	< 0.0300	mg/L		06/29/21 16:47	1	0.0300	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Lead	< 0.0400	mg/L		06/29/21 16:47	1	0.0400	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Nickel	< 0.00500	mg/L		06/29/21 16:47	1	0.00500	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Selenium	< 0.0400	mg/L		06/29/21 16:47	1	0.0400	06/30/21 10:25	KAM	EPA 200.7 REV 4.4

ANALYTICAL RESULTS

Sample: EF05489-02
Name: Effluent composite
Matrix: Waste Water - Composite

Sampled: 06/28/21 08:00
Received: 06/29/21 14:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Silver	< 0.00500	mg/L		06/29/21 16:47	1	0.00500	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Thallium	< 0.0400	mg/L		06/29/21 16:47	1	0.0400	06/30/21 10:25	KAM	EPA 200.7 REV 4.4
Zinc	0.0344	mg/L		06/29/21 16:47	1	0.0100	06/30/21 10:25	KAM	EPA 200.7 REV 4.4

NOTES

Specifications regarding method revisions and method modifications used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Qualifiers

HS Headspace present

Certified by: Chenise Lambert-Sykes For Amy Holmes, Project Manager

PDC LABORATORIES, INC.
WWW.PDCLAB.COM

REGULATORY PROGRAM (Check one:)		NPDES	☐
MORBCA	☐	RCRA	☐
CCDD	☐	TACO: RES or IND/COMM	☐

CHAIN OF CUSTODY RECORD

STATE WHERE SAMPLE COLLECTED MO

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

① CLIENT: Rock Creek PSD
ADDRESS: 6000 Mississippi
CITY STATE ZIP: Kimmswick, MO 63053
CONTACT PERSON: Jason Seger

PROJECT NUMBER: Exp Eff Part D
PROJECT LOCATION:
PURCHASE ORDER #:
PHONE NUMBER: (636) 633-0761
E-MAIL: jasons@rockcreekpsd.com
DATE SHIPPED:
SAMPLER (PLEASE PRINT): PAUL LUTHER
SAMPLER'S SIGNATURE: Paul Luther

MATRIX TYPES: WW- WASTEWATER, DW- DRINKING WATER, GW- GROUND WATER, WWSL- SLUDGE, NAS- NON AQUEOUS SOLID, LCHT- LEACHATE, OIL- OIL, SO- SOIL, SOL- SOLID

③ ANALYSIS REQUESTED

④ (FOR LAB USE ONLY)
LOGIN # EF05489
LOGGED BY:
CLIENT:
PROJECT:
PROJ. MGR.:
CUSTODY SEAL #:

② SAMPLE DESCRIPTION (UNIQUE DESCRIPTION AS IT WILL APPEAR ON THE ANALYTICAL REPORT)	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	PRES CODE (CLIENT PROVIDED)	M624, 2-Cleve	M625	Ag Al As Be Cd Cr Cu Fe Hardness Hg Ni Pb Sb Se Tl Zn	CN, Phenols	Cr+3 Calc (Cr, Cr6, Cr3)			REMARKS
Effluent Grab	6/29/21	0800	X		WW	10	1,2,4,6	X			X	X			
Effluent Composite	6/29/21	0800		X	WW	4	3,6		X	X					

[redacted] … sampling

CHEMICAL PRESERVATION CODES: 1 – HCL 2 – H2SO4 3 – HNO3 4 – NAOH 5 – NA2S2O3 6 – UNPRESERVED 7 – OTHER

⑤ TURNAROUND TIME REQUESTED (PLEASE CHECK) ☐ NORMAL ☐ RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) EMAIL ☐ PHONE ☐
EMAIL IF DIFFERENT FROM ABOVE   PHONE # IF DIFFERENT FROM ABOVE
DATE RESULTS NEEDED

⑥ *I understand that by initialing this box I give the lab permission to proceed with analysis, even though it may not meet all sample conformance requirements as defined in the receiving facility's Sample Acceptance Policy and the data will be qualified. Qualified data may NOT be acceptable to report to all regulatory authorities.*
PROCEED WITH ANALYSIS AND QUALIFY RESULTS: (INITIALS) ________

⑦ RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
Paul Luther	DATE 6-29-21 TIME 9:10	[signature]	DATE 6/29/21 TIME 9:10
RELINQUISHED BY: (SIGNATURE) [signature]	DATE 6/29/21 TIME 3:20	RECEIVED BY: (SIGNATURE) [signature]	DATE 6/29/21 TIME 4:40
RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME

⑧ COMMENTS: (FOR LAB USE ONLY)
date/time per Jason Seger (SM) 6/29/21
SAMPLE TEMPERATURE UPON RECEIPT 1.7 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
SAMPLE ACCEPTANCE NONCONFORMANT REPORT IS NEEDED Y OR N
DATE AND TIME TAKEN FROM SAMPLE BOTTLE ________

ANALYTICAL RESULTS

Sample: EF04812-01
Name: Effluent Grab
Matrix: Waste Water - Grab

Sampled: 06/24/21 08:20
Received: 06/24/21 14:55

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - STL									
Cyanide	< 0.0050	mg/L		06/25/21 09:04	1	0.0050	06/25/21 15:17	CLH	SM 4500-CN C E*
Hexavalent chromium	< 0.005	mg/L		06/24/21 15:15	1	0.005	06/24/21 15:31	CLH	SM 3500-Cr B*
Phenol	< 0.050	mg/L		06/25/21 09:37	1	0.050	06/25/21 11:17	drc	EPA 420.1
Total Metals - STL									
Trivalent Chromium	< 0.0050	mg/L		06/25/21 16:24	1	0.0050	06/28/21 14:24	CLH	[CALC]
Chromium	< 0.00500	mg/L		06/25/21 16:24	1	0.00500	06/28/21 14:24	KAM	EPA 200.7 REV 4.4
Volatile Organics - STL									
1,1,1-Trichloroethane	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,1,2,2-Tetrachloroethane	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,1,2-Trichloroethane	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,1-Dichloroethane	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,1-Dichloroethene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,2-Dichlorobenzene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,2-Dichloroethane	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,2-Dichloropropane	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,3-Dichlorobenzene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
1,3-Dichloropropene - Total	< 10	ug/L		06/24/21 08:25	1	10	06/25/21 01:20	LEC	EPA 624*
1,4-Dichlorobenzene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Acrolein	< 50	ug/L		06/24/21 08:25	1	50	06/25/21 01:20	LEC	EPA 624
Acrylonitrile	< 10	ug/L		06/24/21 08:25	1	10	06/25/21 01:20	LEC	EPA 624
Benzene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Bromodichloromethane	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Bromoform	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Bromomethane	< 10	ug/L		06/24/21 08:25	1	10	06/25/21 01:20	LEC	EPA 624
Carbon tetrachloride	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Chlorobenzene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Chloroethane	< 10	ug/L		06/24/21 08:25	1	10	06/25/21 01:20	LEC	EPA 624
Chloroform	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Chloromethane	< 10	ug/L		06/24/21 08:25	1	10	06/25/21 01:20	LEC	EPA 624
Dibromochloromethane	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Ethylbenzene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Methylene chloride	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Tetrachloroethene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624

ANALYTICAL RESULTS

Sample: EF04812-01
Name: Effluent Grab
Matrix: Waste Water - Grab

Sampled: 06/24/21 08:20
Received: 06/24/21 14:55

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Toluene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
trans-1,2-Dichloroethene	< 10	ug/L		06/24/21 08:25	1	10	06/25/21 01:20	LEC	EPA 624
Trichloroethene	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
Vinyl chloride	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624
2-Chloroethylvinyl ether	< 5.0	ug/L		06/24/21 08:25	1	5.0	06/25/21 01:20	LEC	EPA 624*

ANALYTICAL RESULTS

Sample: EF04812-02
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 06/24/21 08:40
Received: 06/24/21 14:55

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Semivolatile Organics - STL									
1,2,4-Trichlorobenzene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
2,4,6-Trichlorophenol	< 20.0	ug/L		06/25/21 10:00	1	20.0	06/30/21 00:55	SCI	EPA 625
2,4-Dichlorophenol	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
2,4-Dimethylphenol	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
2,4-Dinitrophenol	< 20.0	ug/L		06/25/21 10:00	1	20.0	06/30/21 00:55	SCI	EPA 625
2,4-Dinitrotoluene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
2,6-Dinitrotoluene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
2-Chloronaphthalene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
2-Chlorophenol	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
2-Nitrophenol	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
3,3'-Dichlorobenzidine	< 20.0	ug/L		06/25/21 10:00	1	20.0	06/30/21 00:55	SCI	EPA 625
4,6-Dinitro-2-methylphenol	< 50.0	ug/L		06/25/21 10:00	1	50.0	06/30/21 00:55	SCI	EPA 625
4-Bromophenyl phenyl ether	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
4-Chloro-3-methylphenol	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
4-Chlorophenylphenyl ether	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
4-Nitrophenol	< 20.0	ug/L		06/25/21 10:00	1	20.0	06/30/21 00:55	SCI	EPA 625
Acenaphthene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Acenaphthylene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Anthracene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Azobenzene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625*
Benzidine	< 80.0	ug/L		06/25/21 10:00	1	80.0	06/30/21 00:55	SCI	EPA 625*
Benzo(a)anthracene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Benzo(a)pyrene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Benzo(b)fluoranthene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Benzo(g,h,i)perylene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Benzo(k)fluoranthene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Bis(2-chloroethoxy) methane	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Bis(2-chloroethyl) ether	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Bis(2-chloroisopropyl) ether	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Bis(2-ethylhexyl) phthalate	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Butyl benzyl phthalate	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Chrysene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Dibenzo(a,h)anthracene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Diethyl phthalate	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625

ANALYTICAL RESULTS

Sample: EF04812-02
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 06/24/21 08:40
Received: 06/24/21 14:55

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Dimethyl phthalate	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Di-n-butyl phthalate	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Di-n-octyl phthalate	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Diphenylamine	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Fluoranthene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Fluorene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Hexachlorobenzene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Hexachlorobutadiene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Hexachlorocyclopentadiene	< 20.0	ug/L		06/25/21 10:00	1	20.0	06/30/21 00:55	SCI	EPA 625
Hexachloroethane	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Indeno(1,2,3-cd)pyrene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Isophorone	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Naphthalene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Nitrobenzene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
N-Nitrosodimethylamine	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
N-Nitrosodi-n-propylamine	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Pentachlorophenol	< 50.0	ug/L		06/25/21 10:00	1	50.0	06/30/21 00:55	SCI	EPA 625
2,3,7,8-TCDD Screen	< 50.0	ug/L		06/25/21 10:00	1	50.0	06/30/21 00:55	SCI	EPA 625
Phenanthrene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Phenol	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Pyrene	< 10.0	ug/L		06/25/21 10:00	1	10.0	06/30/21 00:55	SCI	EPA 625
Total Metals - STL									
Aluminum	< 0.0500	mg/L		06/25/21 16:24	1	0.0500	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Mercury	< 0.0002	mg/L		06/28/21 11:33	1	0.0002	06/29/21 12:59	CGB	EPA 245.1 / SW 7470
Antimony	< 0.0500	mg/L		06/25/21 16:24	1	0.0500	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Arsenic	< 0.0250	mg/L		06/25/21 16:24	1	0.0250	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Beryllium	< 0.00100	mg/L		06/25/21 16:24	1	0.00100	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Ca Calculated Hardness	109	mg/L		06/25/21 16:24	1	0.237	06/28/21 14:29	KAM	[CALC]
Cadmium	< 0.00100	mg/L		06/25/21 16:24	1	0.00100	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Calcium	43.6	mg/L		06/25/21 16:24	1	0.0950	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Copper	< 0.00500	mg/L		06/25/21 16:24	1	0.00500	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Iron	< 0.0300	mg/L		06/25/21 16:24	1	0.0300	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Lead	< 0.0400	mg/L		06/25/21 16:24	1	0.0400	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Nickel	< 0.00500	mg/L		06/25/21 16:24	1	0.00500	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Selenium	< 0.0400	mg/L		06/25/21 16:24	1	0.0400	06/28/21 14:29	KAM	EPA 200.7 REV 4.4

ANALYTICAL RESULTS

Sample: EF04812-02
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 06/24/21 08:40
Received: 06/24/21 14:55

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Silver	< 0.00500	mg/L		06/25/21 16:24	1	0.00500	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Thallium	< 0.0400	mg/L		06/25/21 16:24	1	0.0400	06/28/21 14:29	KAM	EPA 200.7 REV 4.4
Zinc	0.0709	mg/L		06/25/21 16:24	1	0.0100	06/28/21 14:29	KAM	EPA 200.7 REV 4.4

NOTES

Specifications regarding method revisions and method modifications used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Certified by: Chenise Lambert-Sykes For Amy Holmes, Project Manager

PDC LABORATORIES, INC.
WWW.PDCLAB.COM

REGULATORY PROGRAM (Check one:)		NPDES	☐
MORBCA	☐	RCRA	☐
CCDD	☐	TACO: RES or IND/COMM	☐

CHAIN OF CUSTODY RECORD

STATE WHERE SAMPLE COLLECTED MO

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

(1) CLIENT: Rock Creek PSD
ADDRESS: 6000 Mississippi
CITY STATE ZIP: Kimmswick, MO 63053
CONTACT PERSON: Jason Seger

PROJECT NUMBER: Exp Eff Part D
PROJECT LOCATION:
PURCHASE ORDER #:
PHONE NUMBER: (636) 633-0761
E-MAIL: jasons@rockcreekpsd.com
DATE SHIPPED:
SAMPLER (PLEASE PRINT): PAUL LUTHER
SAMPLER'S SIGNATURE: [signature]

MATRIX TYPES: WW- WASTEWATER, DW- DRINKING WATER, GW- GROUND WATER, WWSL- SLUDGE, NAS- NON AQUEOUS SOLID, LCHT-LEACHATE, OIL-OIL, SO-SOIL, SOL-SOLID

(3) ANALYSIS REQUESTED

(4) (FOR LAB USE ONLY)
LOGIN # EF04812
LOGGED BY:
CLIENT:
PROJECT:
PROJ. MGR.:
CUSTODY SEAL #:

(2) SAMPLE DESCRIPTION (UNIQUE DESCRIPTION AS IT WILL APPEAR ON THE ANALYTICAL REPORT)	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	PRES CODE (CLIENT PROVIDED)	M624, 2-Cleve	M625	Ag, Al, As, Be, Cd, Co, Fe, Hardness, Hg, Ni, Pb, Sb, Se, Tl, Zn	CN, Phenols	Cr+3 Calc (Cr, Cr6, Cr3)			REMARKS
Effluent Grab	6-24-21	8:20	X		WW	10	1,2,4,6	X			X	X			
Effluent Composite	6-24-21	8:40		X	WW	4	3,6		X	X					

CHEMICAL PRESERVATION CODES: 1 – HCL | 2 – H2SO4 | 3 – HNO3 | 4 – NAOH | 5 – NA2S2O3 | 6 – UNPRESERVED | 7 – OTHER

(5) TURNAROUND TIME REQUESTED (PLEASE CHECK) (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE) ☐ NORMAL ☐ RUSH
DATE RESULTS NEEDED
RUSH RESULTS VIA (PLEASE CIRCLE) EMAIL ☐ PHONE ☐
EMAIL IF DIFFERENT FROM ABOVE
PHONE # IF DIFFERENT FROM ABOVE

(6) *I understand that by initialing this box I give the lab permission to proceed with analysis, even though it may not meet all sample conformance requirements as defined in the receiving facility's Sample Acceptance Policy and the data will be qualified. Qualified data may NOT be acceptable to report to all regulatory authorities.*
PROCEED WITH ANALYSIS AND QUALIFY RESULTS: (INITIALS) ______

(7) RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
[signature]	DATE 6-24-21 TIME 8:44	[signature]	DATE 6/24/21 TIME 8:44
[signature]	DATE 6/24/21 TIME 2:55	[signature]	DATE 6/24/21 TIME 1455
	DATE TIME		DATE TIME

(8) COMMENTS: (FOR LAB USE ONLY)
SAMPLE TEMPERATURE UPON RECEIPT 1.6 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
SAMPLE ACCEPTANCE NONCONFORMANT REPORT IS NEEDED Y OR N
DATE AND TIME TAKEN FROM SAMPLE BOTTLE ______

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
RCPSD Kimswick WWTP	MO- C10 6461	#001

PART E – TOXICITY TESTING DATA

19. TOXICITY TESTING DATA

Refer to the APPLICATION OVERVIEW to determine whether Part E applies to the treatment works.

Publicly owned treatment works, or POTWs, meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points.

A. POTWs with a design flow rate greater than or equal to 1 million gallons per day.
B. POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403).
C. POTWs required by the permitting authority to submit data for these parameters.
   - At a minimum, these results must include quarterly testing for a 12-month period within the past one year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute or chronic toxicity, depending on the range of receiving water dilution. Do not include information about combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
   - If EPA methods were not used, report the reason for using alternative methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E. If no biomonitoring data is required, do not complete Part E. Refer to the application overview for directions on which other sections of the form to complete.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years: 1 chronic 3 acute

Complete the following chart **for the last three whole effluent toxicity tests.** Allow one column per test. Copy this page if more than three tests are being reported.

	Most Recent	2ND Most Recent	3RD Most Recent
A. Test Information			
Test Method Number			
Final Report Number			
Outfall Number			
Dates Sample Collected			
Date Test Started			
Duration			
B. Toxicity Test Methods Followed			
Manual Title			
Edition Number and Year of Publication			
Page Number(s)			
C. Sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used			
24-Hour Composite			
Grab			
D. Indicate where the sample was taken in relation to disinfection (Check all that apply for each)			
Before Disinfection	☐	☐	☐
After Disinfection	☐	☐	☐
After Dechlorination	☐	☐	☐
E. Describe the point in the treatment process at which the sample was collected			
Sample Was Collected:			
F. Indicate whether the test was intended to assess chronic toxicity, acute toxicity, or both			
Chronic Toxicity	☐	☐	☐
Acute Toxicity	☐	☐	☐
G. Provide the type of test performed			
Static	☐	☐	☐
Static-renewal	☐	☐	☐
Flow-through	☐	☐	☐
H. Source of dilution water. If laboratory water, specify type; if receiving water, specify source			
Laboratory Water	☐	☐	☐
Receiving Water	☐	☐	☐

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.

PART E – TOXICITY TESTING DATA

19. TOXICITY TESTING DATA (continued)

	Most Recent	Second Most Recent	Third Most Recent
I. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh Water			
Salt Water			
J. Percentage of effluent used for all concentrations in the test series			
K. Parameters measured during the test (State whether parameter meets test method specifications)			
pH			
Salinity			
Temperature			
Ammonia			
Dissolved Oxygen			
L. Test Results			
Acute:			
Percent Survival in 100% Effluent			
LC_{50}			
95% C.I.			
Control Percent Survival			
Other (Describe)			
Chronic:			
NOEC			
IC_{25}			
Control Percent Survival			
Other (Describe)			
M. Quality Control/ Quality Assurance			
Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (Describe)			

Is the treatment works involved in a toxicity reduction evaluation? ☐ Yes ☒ No

If yes, describe:

If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date Submitted (MM/DD/YYYY) 06-18-2021

Summary of Results (See Instructions)

END OF PART E

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

ANALYTICAL RESULTS

Sample: EB03919-01
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 02/23/21 07:00
Received: 02/24/21 11:00

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - SPMO									
Chlorine - Total Residual	< 0.10	mg/L	H	03/02/21 16:47	1	0.10	03/02/21 16:47	CIH	SM 4500-Cl G*
Conductivity	810	umhos/cm		02/24/21 15:07	1	0.10	02/24/21 15:07	CIH	SM 2510B
Dissolved Oxygen	7.7	mg/L	H	02/24/21 14:10	1	1.0	02/24/21 14:10	CIH	SM 4500-O G 2009*
pH	7.7	pH Units	H	02/24/21 15:07	1		02/24/21 15:07	CIH	SM 4500H B - SW 9040
Temperature at pH measurement	24	°C		02/24/21 15:08	1		02/24/21 15:08	CIH	SM 4500 H B*
General Chemistry - STL									
Alkalinity at pH 4.5 - total as CaCO3	180	mg/L		02/25/21 11:00	1	20	02/25/21 11:00	CLH	SM 2320B*
Nutrients - SPMO									
Ammonia-N	6.0	mg/L		02/26/21 12:12	1	0.10	02/26/21 12:12	CIH	EPA 350.1 - QC 10-107-06-1-I & J*
Total Metals - STL									
Hardness	233	mg/L		02/25/21 17:15	1	0.237	02/26/21 14:18	KAM	SM 2340B 1997
Calcium	63.2	mg/L		02/25/21 17:15	1	0.0950	02/26/21 14:18	KAM	EPA 200.7 REV 4.4
Magnesium	18.2	mg/L		02/25/21 17:15	1	0.0500	02/26/21 14:18	KAM	EPA 200.7 REV 4.4
WETT - SPMO									
Ceriodaphnia Dubia TUa	< 1.0	units		02/24/21 15:08	1	1.0	02/24/21 15:08	CIH	EPA 2000.0/2002.0*
Pimephales Promelas TUa	< 1.0	units		02/24/21 15:08	1	1.0	02/24/21 15:08	CIH	EPA 2000.0/2002.0*

ANALYTICAL RESULTS

Sample: EB03919-02
Name: Upstream Grab
Matrix: Surface Water - Grab

Sampled: 02/23/21 10:30
Received: 02/24/21 11:00

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - SPMO									
Chlorine - Total Residual	< 0.10	mg/L	H	03/02/21 16:47	1	0.10	03/02/21 16:47	CIH	SM 4500-Cl G*
Conductivity	640	umhos/cm		02/24/21 15:07	1	0.10	02/24/21 15:07	CIH	SM 2510B
Dissolved Oxygen	9.7	mg/L	H	02/24/21 14:10	1	1.0	02/24/21 14:10	CIH	SM 4500-O G 2009*
pH	7.9	pH Units	H	02/24/21 15:07	1		02/24/21 15:07	CIH	SM 4500H B - SW 9040
Temperature at pH measurement	24	°C		02/24/21 15:08	1		02/24/21 15:08	CIH	SM 4500 H B*
Nutrients - SPMO									
Ammonia-N	0.17	mg/L		02/26/21 12:12	1	0.10	02/26/21 12:12	CIH	EPA 350.1 - QC 10-107-06-1-I & J*

NOTES

Specifications regarding method revisions and method modifications used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Memos

Report of Acute Toxicity Testing

Reference Toxicity Test:
PDC Laboratories, INC. conducts a monthly reference toxicant test to demonstrate and obtain consistent, precise results for permit compliance purposes. This demonstration is to ensure satisfactory laboratory performance. The most recent reference test results are as follows:

Date Initiated: February 10th, 2021
Date Concluded: February 12th, 2021

Reference Toxicant: Potassium Chloride (KCl)
Lot Number: 18A195207
Expiration: N/A
Standards ID: SPMO6-22A

Moderately Hard Synthetic Water: 4-06CC1
Prepared: February 10th, 2021
Expiration: February 24th, 2021
Analyst: CIH

Pimephales promelas: 48 hour Acute Test - LC50 = 1000 mg/L
SPMO %CV = 14.74 %
National Limits (75th Percentile) = 17.9% CV
National Control Limit (90th Percentile) = 33% CV
Ceriodaphnia dubia: 48 hour Acute Test - LC50 = 5687.5 mg/L
SPMO %CV = 22.95 %
National Limits (75th Percentile) = 29% CV
National Control Limit (90th Percentile) = 34% CV

Literature Cited:
1.) APHA. 1992. Standard methods for the examination of water and wastewater, 18th Ed. American Public Health Association, Washington, D.C.
2.) USEPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms, 5th ed. EPA-821-R-02-012
3.) USEPA 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the National Pollutant Discharge Elimination System, (Table B-2). June 2000. EPA 833-R-00-003

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Qualifiers

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

Certified by: Chad Cooper, Laboratory Supervisor

PDC LABORATORIES, INC.
1805 W. SUNSET
SPRINGFIELD, MO 65807

PHONE # 417-864-8924
FAX # 417-864-7081

CHAIN OF CUSTODY RECORD

State where samples collected _____MO_____

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
ROCK CREEK PSD			
ADDRESS: 6000 MISSISSIPPI	PHONE NUMBER	FAX NUMBER	DATE SHIPPED
CITY, STATE ZIP: KIMMSWICK, MO 63053	SAMPLER (PLEASE PRINT): Alex Portwood		MATRIX TYPES: WW- WASTEWATER, DW- DRINKING WATER, GW- GROUND WATER, WWSL- SLUDGE, NAS- SOLID, LCHT-LEACHATE, OTHER:
CONTACT PERSON: JASON SEGER	SAMPLER'S SIGNATURE: Alex Portwood		

2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	3 ANALYSIS REQUESTED: WET Test	Shipping	REMARKS
WET TEST EFFLUENT COMPOSITE	2-23-21	7:00		X	WW	3	X	X	1-P, 1Gal, Unp 1-P, 250mL, HNO3 1-P, 150mL, Unp
UPSTREAM GRAB (IF AVAILABLE)	2-23-21	10:30	X		WW	1	X		1-P, 1Gal, Unp
									$50 Cancelation fee applies
									to samples not received on
									schedule.

4 (FOR LAB USE ONLY)
LOGIN # EB03919
LOGGED BY: CCCW / CIH
LAB PROJ. #
TEMPLATE:
PROJ. MGR.: CHAD COOPER

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
DATE RESULTS NEEDED
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE:
PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	Alex Portwood	2-23-21	12:35	Stacy Wolf	2-24-21	1100
	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 0.0 °C

CHILL PROCESS STARTED PRIOR TO RECEIPT	Y OR N
SAMPLE(S) RECEIVED ON ICE	Y OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION	Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME	Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS)	Y OR N
DATE AND TIME TAKEN FROM SAMPLE BOTTLE	_____

X:\COC Templates\WET Test\Rock Creek.doc

SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.

EB03919

SENDING LABORATORY

PDC Laboratories, Inc.
1805 West Sunset Street
Springfield, MO 65807
(417) 864-8924

RECEIVING LABORATORY

PDC Laboratories, Inc. - Hazelwood
944 Anglum Road
Hazelwood, MO 63042
(314) 432-0550

Sample: EB03919-01
Name: Effluent Composite

Sampled: 02/23/21 07:00
Matrix: Waste Water
Preservative: Cool <6

Analysis	Due	Expires	Comments
04-Alk	03/05/21 16:00	03/09/21 07:00	
04-Ca 200.7 WWTot	03/05/21 16:00	08/22/21 07:00	
04-Mg 200.7 WWTot	03/05/21 16:00	08/22/21 07:00	

Please email results to Chad Cooper at ccooper@pdclab.com

Date Shipped: 2.24.21 Total # of Containers: 2 Sample Origin (State): MO PO #: —

Turn-Around Time Requested ☒ NORMAL ☐ RUSH Date Results Needed: —

Relinquished By	Date/Time	Received By	Date/Time
[signature]	2.24.21/1500	[signature] UPS	2/25/21 1005

Sample Temperature Upon Receipt 1.7 °C
Sample(s) Received on Ice Y or N
Proper Bottles Received in Good Condition Y or N
Bottles Filled with Adequate Volume Y or N
Samples Received Within Hold Time Y or N
Date/Time Taken From Sample Bottle Y or (N)

Routine Chemistries

Client Permit #: MO-0106461

Sample # EB03919
Client ROCK CREEK PSD

PP Hatch 021221A
CD Hatch 021221108

MHSF 4-07A12
Board/Shelf 004/4

Calibration data

pH	Initial	Date	Time	Analyst	48 hour	Date	Time	Analyst	DO (mg/L)	Date	Time	Analyst	Pressure (mmHg)	% Sat
4.00	4.010	2.24.21	1350	CIH	4.010	2.26.21	1456	CIH	Initial	2.24.21	1355	CIH	731.3	100
7.00	6.997				6.997				1 Hour	2.24.21	1559	CIH	737.6	100
10.00	10.013				11.013				24 Hour	2.25.21	1537	CIH	732.0	100
Curve	98.9				98.6				48 Hour	2.26.21	1611	CIH	727.0	100

Initial/Received

Cup #	8	7	5	1	11	15	3	2				
Concentration	MHSF	2.25%	4.5%	9.0%	18.0%	36% Eff	*Upstream	36% Eff Dup	Date	Time	Batch	Analyst
pH (EPA 150.1)	8.045	8.063	8.012	8.005	7.987	7.710	7.948	7.692	2.24.21	1507	B123124	CIH
DO mg/L (SM 5010)	8.32	8.67	9.10	9.13	8.60	8.79	8.15	9.67	2.24.21	1507	B123124	CIH
DO mg/L Received						7.71	4.73	4.71	2.24.21	1410	B123124	CIH

Conductivity (µMohs) (SM 2510B)	MHSF	36% Effluent	*Upstream	Date	Time	Batch	Analyst
	330	812(812)	641	2.24.21	1507	B123124	CIH

	Method	Effluent	Upstream *	Date	Time	Batch	Analyst
Chlorine (mg/L)	4500Cl-G	0.00	0.04	3.2.21	1417	B123109	CIH

0 Hour

	Fathead Minow	Cerodaphnia Dubia	Date	Time	Analyst
Temperature (°C)	24.3	24.1	2.24.21	1508	CIH

1 Hour

Test	MHSF	36% Effluent	Upstream *	Date	Time	Analyst
DO (mg/L)	8.31	8.69	8.83	2.24.21	1608	CIH

	Fathead Minow	Cerodaphnia Dubia	Date	Time	Analyst
Temperature (°C)	24.3	24.2	2.24.21	1609	CIH

24 Hour

Test	MHSF	2.25%	4.5%	9.0%	18.0%	36% Eff	*Upstream	Date	Time	Analyst
DO (mg/L)	7.44	7.28	6.47	6.34	6.44	6.37	7.40	2.25.21	1538	CIH

	Fathead Minow	Cerodaphnia Dubia		Time	Analyst
Temperature (°C)	25.5	25.4	2.25.21	1538	CIH

48 Hour

Test	MHSF	2.25%	4.5%	9.0%	18.0%	36% Eff	*Upstream	Date	Time	Analyst
pH	7.745	8.248	8.261	8.259	8.274	8.253	8.377	2.26.21	1621	CIH
DO (mg/L)	7.09	6.70	6.71	6.59	6.71	6.77	6.91	2.26.21	1621	CIH

	Fathead Minow	Cerodaphnia Dubia	Date	Time	Analyst
Temperature (°C)	25.5	25.4	2.26.21	1621	CIH

	MHSF	36% Effluent	*Upstream	Date	Time	Analyst
Conductivity (µMohs)	378	795(800)	616	2.26.21	1621	CIH

Comments: H qualifier added to DO, pH, & Cl due to sample hold time CIH.

* Upstream only performed if supplied by the client

Analyst Signature: [signature]

Date: 2.26.21

Read and Understood By: [signature]

Date: 3/05/21

PDC Laboratories Inc, SPMO.

EPA Test Methods: 2002.0 & 2000.0

Multiple Dilution WET Test

Client Permit #: MO-0106461

Sample # EB0391 PP Hatch 021221A MHSF 1 DPA2

Client ROCK CREEK PSD CD Hatch 021221CB Board/Shelf DA1/4

Cup	Conc.	Initial	24 hour	48 hour
P1	9	10	10	10
P2	36	10	10	10
P3	0	10	10	10
P4	0	10	10	10
P5	4.5	10	10	10
P6	2.25	10	10	10
P7	1.25	10	10	10
P8	888	10	10	10
P9	888	10	10	10
P10	36	10	10	10
P11	18	10	10	10
P12	18	10	10	9
P13 *	4.5	10	10	10
P14 *	9	10	10	10
C1	18	5	5	5
C2	18	5	5	5
C3	0	5	5	5
C4	2.25	5	5	5
C5	888	5	5	5
C6	2.25	5	5	5
C7	4.5	5	5	5
C8	4.5	5	5	5
C9	36	5	5	5
C10	18	5	5	5
C11	9	5	5	5
C12	0	5	5	5
C13	36	5	5	5
C14	36	5	5	5
C15	9	5	5	5
C16	9	5	5	5
C17	2.25	5	5	5
C18	9	5	5	5
C19	4.5	5	5	5
C20	4.5	5	5	5
C21	888	5	5	5
C22	0	5	5	5
C23	0	5	5	5
C24	18	5	5	5
C25 *	888	5	5	5
C26 *	36	5	5	5
C27 *	888	5	5	4
C28 *	2.25	5	5	5

* These cups only used when upstream samples are provided.

Set Times

	Date	Time	Analyst
0 Hour	2.24.21	1806	CLH
24 Hour	2.25.21	1536	CLH
48 Hour	2.26.21	1621	CLH

Results

Pimephales promelas

48 Hour Result		Date	Analyst
LC 50	>36	3.1.21	CLH
TUa	<2.778	3.1.21	CLH

Ceriodaphnia Dubia

48 Hour Result		Date	Analyst
LC 50	>36	3.1.21	CLH
TU_a	<2.778	3.1.21	CLH

		Date	Analyst
Filtered (Y / N):	Y	2.24.21	CLH
Light Check:	76.4	2.26.21	CLH
PP Fry Age:	12 days	2.24.21	CLH
CD Neonates Age:	< 24 hrs.	2.24.21	CLH

Comments: PP fry were set in 200 ml of conc. w/in a 250 ml cup .CD were set in 15 ml of conc. w/in a 30 ml cup

Analyst Signature: [signature]

Date: 3.1.21

Read and Understood By: [signature]

Date: 3/5/21

Logbook: 5 Report #: 4

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

September 01, 2020

Chad Cooper
PDC Laboratories
1805 W. Sunset
Springfield, MO 65807

RE: Project: CHRONIC
Pace Project No.: 60345703

Dear Chad Cooper:

Enclosed are the analytical results for sample(s) received by the laboratory on August 18, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
- Pace Analytical Services - SE Kansas

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church

Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: CHRONIC
Pace Project No.: 60345703

Pace Analytical Services Southeast Kansas
808 West McKay, Frontenac, KS 66763
Arkansas Certification #: 18-016-0
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10426
Louisiana Certification #: 03055
Oklahoma Certification #: 9935
Texas Certification #: T104704407
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: CHRONIC
Pace Project No.: 60345703

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60345703001	KIMTP EFF	Water	08/17/20 08:30	08/18/20 08:30

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: CHRONIC
Pace Project No.: 60345703

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60345703001	KIMTP EFF	EPA 821/R-02/013	MEB	1	PASI-SE

PASI-SE = Pace Analytical Services - SE Kansas

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: CHRONIC
Pace Project No.: 60345703

Sample: KIMTP EFF **Lab ID: 60345703001** Collected: 08/17/20 08:30 Received: 08/18/20 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Chronic Toxicity	Analytical Method: EPA 821/R-02/013 Pace Analytical Services - SE Kansas							
Toxicity, Chronic	**Complete**		1.0	1		08/18/20 11:45		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: CHRONIC
Pace Project No.: 60345703

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CHRONIC
Pace Project No.: 60345703

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60345703001	KIMTP EFF	EPA 821/R-02/013	674404		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60345703

60345703

Client Name: PDC

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No X

Custody Seal on Cooler/Box Present: Yes X No ☐ Seals intact: Yes X No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None X Other ☐

Thermometer Used: T-193 Type of Ice: (Wet) Blue None

Cooler Temperature (°C): As-read 3.1 Corr. Factor -1.5 Corrected 1.6

Date and initials of person examining contents: MB 830

Temperature should be above freezing to 6°C

Chain of Custody present:	XYes ☐No ☐N/A	8/18/20
Chain of Custody relinquished:	MB 8/18/20 XYes XNo ☐N/A	
Samples arrived within holding time:	☐Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	XYes ☐No ☐N/A	
Rush Turn Around Time requested:	☐Yes XNo ☐N/A	
Sufficient volume:	XYes ☐No ☐N/A	
Correct containers used:	XYes ☐No ☐N/A	
Pace containers used:	XYes ☐No ☐N/A	
Containers intact:	XYes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No XN/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☐x/A	
Sample labels match COC: Date / time / ID / analyses	XYes ☐No ☐N/A	
Samples contain multiple phases? Matrix:	☐Yes XNo ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No XN/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No XN/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No XN/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No XN/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No Xx/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:	Section C Invoice Information:
Company: PDC Laboratories, Inc.		Report To: Chad Cooper	Attention:
Address:		Copy To:	Company Name: PDC Laboratories, Inc.
			Address:
Email To: ccooper@pdclab.com		Purchase Order No.:	Pace Quote Reference:
Phone: 3096831767	Fax:	Project Name:	Pace Project Manager: Jamie Church
Requested Due Date/TAT: standard		Project Number:	Pace Profile #:

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | OTHER

Site Location STATE:

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60345703
1	KimTP #1 Instream	W	G			8-17-20	9:00													
2	KimTP #2 Instream	W	G			8-17-20	9:20													5Cuh-002
3	KimTP #3 Eff	WW	C	8-16-20	8:30	8-17-20	8:30													6Clb-001
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
				[signature] / Pace	8/18/20	830	6.0	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex Portwood

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 08-17-20

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

REFERENCE #60345703

CHRONIC TOXICITY TEST FOR RCSD (Kimmswick WWTP)

PERMIT # MO-0106461

PERFORMED ON:

Pimephales promelas

and

Ceriodaphnia dubia

PREPARED FOR:

PDC Laboratories, Inc.
1805 W. Sunset
Springfield, MO 65807
417-864-8924

PREPARED BY:
Pace Analytical Services, Inc.
808 West McKay
Frontenac, KS 66763
1-620-235-0003

August 27, 2020

TABLE OF CONTENTS

SUMMARY

A Chronic Whole Effluent Toxicity Test using the 7-day chronic fathead minnows (Pimephales promelas), static renewal larval survival and growth test, and three brood 7-day chronic Cladoceran (Ceriodaphnia dubia), static renewal survival and reproduction test, was conducted on effluent discharge water collected at RCSD (Kimmswick WWTP) effluent discharge from August 17, 2020 to August 21, 2020. All the test methods followed are as listed in EPA 821-R-02-013, "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms."

Statistically significant ($p<0.05$) mortality is determined by Dunnet's procedure using average percent survival of each test concentration versus the average survival of the controls. If significant mortality occurs, median lethal concentrations are calculated using effluent concentrations and their corresponding percent mortality data. The 95% confidence intervals are calculated where appropriate by the Spearman-Karber method. Statistical analysis is accomplished by following steps in EPA 821-R-02-013, November 2002 and by use of Toxstat version 3.4.

In minnow section of testing, it was observed that the effluent had no significant effect on the survival of the larvae at the 1.0% concentration. No significant mortality was observed in the other effluent concentrations after the 7-day exposure period. The No Observed Effect Concentration (NOEC) was determined to be 1.0% for survival. No significant reduction in growth was observed in the 1.0% effluent concentration. The Toxic Units is <100. The IC25 is >1. The NOEC for growth in effluent was determined to be 1.0%.

In Cladoceran section of testing, it was observed that the effluent had no significant effect on the survival of the organisms in the 1.0% effluent concentration. No significant mortality was observed in the other effluent concentrations after the 7-day exposure period. The No Observed Effect Concentration (NOEC) was determined to be 1.0% for survival. No significant reduction in reproduction was observed in the 1.0% effluent concentrations. The Toxic Units is <100. The IC25 is >1. The NOEC for reproduction in effluent was determined to be 1.0%.

The chronic toxicity exhibited by the fathead minnows and the Ceriodaphnia treated by the effluent sampled from August 17 to August 21 from the RCSD (Kimmswick WWTP) effluent discharge, is acceptable as described in EPA 821-R-02-013.

INTRODUCTION

Pace Analytical was contracted to perform this chronic toxicity test on effluent from RCSD (Kimmswick WWTP) effluent discharge. Chronic toxicity was measured using the Pimephales promelas at larval for survival and growth test and the Ceriodaphnia dubia survival and reproduction test described in EPA 821-R-02-013, "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms." The raw data of the study is stored at Pace Analytical Services, INC. 808 West McKay, Frontenac, KS 66763.

TEST MATERIAL

RCSD (Kimmswick WWTP) personnel collected sampling of the effluent. A sample of the effluent was delivered to Pace by commercial carrier on 8-18-20. Subsequent samples followed by delivery on 8-20-20, and on 8-22-20. All samples were stored at ≤ 6° Celsius. Upstream was used as a control and also to make the required dilutions in the test as described in EPA 821-R-02-013.

TEST METHODS

Pace used EPA test method 1000.0 for conducting the Fathead Minnow, Pimephales promelas, Larval Survival and Growth Test. EPA test method 1002.0 was used for conducting the Cladoceran, Ceriodaphnia dubia, Survival and Reproduction Test. The tests were conducted to estimate the NOEC, and LOEC for survival, growth, and reproduction of these test species.

The Pimephales and Ceriodaphnia tests were initiated on 8-18-20 and carried out until 8-25-20. The Pimephales tests were conducted in 500 ml plastic jars with 250 ml of test solution. Ten larvae were placed in each of at least 4 replicates to make a total of 40 larvae per sample concentration. The Ceriodaphnia tests were carried out in 35ml vials containing 25 ml of test solution. One Neonate was placed in each of 10 replicates to make a total of 10 neonates per sample concentration.

TEST ORGANISMS

The organisms used in these tests were cultured at Pace under controlled temperature and photoperiod conditions and/or were purchased from an external supplier. Pace maintains records of all culture techniques used in producing organisms.

Permittee: RCSD (Kimmswick WWTP) Effluent discharge.

Date Sampled	No. 1:	8-17-20	8:30
	No. 2:	8-19-20	9:00
	No. 3:	8-21-20	8:30

Test Initiated: 11:45 Date: 8-18-20

Dilution Water used: Upstream

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL
(Pimephales promelas)

DATA TABLE FOR GROWTH OF FATHEAD MINNOWS

Effluent Concentration (%)	Average Dry Weight in Milligrams in Replicate Chambers A	B	C	D	Mean Dry Weight (mg)	CV% *
Upstream 0%	0.486	0.497	0.514	0.437	0.484	6.84
Dilution 1 0.025%	0.414	0.420	0.402	0.464	0.425	6.37
Dilution 2 0.05%	0.481	0.408	0.421	0.518	0.457	11.30
Dilution 3 0.125%	0.501	0.430	0.427	0.495	0.463	8.68
Dilution 4 0.625%	0.450	0.473	0.479	0.438	0.460	4.19
Dilution 5 1.0%	0.464	0.412	0.440	0.511	0.457	9.18

* Coefficient of Variation = Standard Deviation X 100 / Mean

Permittee: RCSD (Kimmswick WWTP) Effluent discharge.

FATHEAD MINNOW SURVIVAL

Conc. %	Percent Survival in Replicate Chambers				Mean Percent Survival			CV %
	A	B	C	D	24hr	48hr	7 day	
Upstream 0%	100	100	100	100	100	100	100	0.0
Dilution 1 0.025%	100	100	90	100	100	100	97.5	5.94
Dilution 2 0.05%	100	100	100	100	100	100	100	0.0
Dilution 3 0.125%	100	100	100	100	100	100	100	0.0
Dilution 4 0.625%	100	100	100	100	100	100	100	0.0
Dilution 5 1.0%	100	100	100	100	100	100	100	0.0

Permittee: RCSD (Kimmswick WWTP) Effluent discharge.

CERIODAPHNIA SURVIVAL AND REPRODUCTION

DATA TABLE FOR CERIODAPHNIA YOUNG PRODUCTION

Replicate	Upstream 0%	Dilution 1 0.025%	Dilution 2 0.05%	Dilution 3 0.125%	Dilution 4 0.625%	Dilution 5 1.0%
1	17	20	18	22	21	22
2	16	21	20	22	17	24
3	24	18	24	20	23	23
4	18	19	16	19	21	21
5	17	23	20	25	23	18
6	24	23	21	19	22	17
7	22	15	25	18	18	20
8	24	19	24	22	20	19
9	23	19	23	18	22	24
10	23	23	20	24	16	22
Mean	20.8	20.0	21.1	20.9	20.3	21.0
SD	3.360	2.582	2.885	2.470	2.497	2.449
CV %	16.15	12.91	13.67	11.82	12.30	11.66

CERIODAPHNIA MEAN PERCENT SURVIVAL

	Percent Effluent (%)					
Time Elapsed	Upstream 0%	Dilution 1 0.025%	Dilution 2 0.05%	Dilution 3 0.125%	Dilution 4 0.625%	Dilution 5 1.0%
24 hrs	100	100	100	100	100	100
48 hrs	100	100	100	100	100	100
7-day	100	100	100	100	100	100
SD	0.000	0.000	0.000	0.000	0.000	0.000
CV %	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 2
SUMMARY OF TEST CONDITIONS FOR THE FATHEAD MINNOW (Pimephales promelas) LARVAL SURVIVAL AND GROWTH TEST

1. Test type	Static renewal
2. Temperature	25 degrees Celsius
3. Light quality	Ambient laboratory light
4. Light intensity	Ambient laboratory levels
5. Photoperiod	16 hr light, 8 hr dark
6. Test chamber size	500 ml
7. Test solution volume	250 ml
8. Renewal of test concentrations	Daily
9. Age of test organism	< 24 hours
10. No. larvae/chamber	10
11. No. replicates/concentration	4
12. No. larvae/concentration	40
13. Feeding regime	Feed 0.15 g newly hatched brine shrimp nauplii two times daily. Larvae are not fed 12 hours prior to termination of test.
14. Cleaning	Siphon daily, immediately before test solution renewal
15. Aeration	None
16. Dilution Water	Upstream
17. Effluent concentrations	0%, 0.025%, 0.05%, 0.125%, 0.625%, 1.0%
18. Test duration	7 days
19. Endpoints	Survival and growth
20. Test acceptability	80% or greater survival in the controls, Average dry weight in controls >0.25 mg, Coefficient of variation in the control must not exceed 40%.

TABLE 2 (CONT.)
SUMMARY OF TEST CONDITIONS FOR THE CLADOCERAN (Ceriodaphnia dubia) SURVIVAL AND REPRODUCTION TEST

1. Test type	Static renewal
2. Temperature	25 degrees Celsius
3. Light quality	Ambient laboratory light
4. Light intensity	Ambient laboratory levels
5. Photoperiod	16 hr light, 8 hr dark
6. Test chamber size	30 ml
7. Test solution volume	25 ml
8. Renewal of test concentrations	Daily
9. Age of test organism	< 24 hours
10. No. larvae/chamber	1
11. No. replicates/concentration	10
12. No. larvae/concentration	10
13. Feeding regime	Feed 0.1 ml YCT and 0.1 ml of Algae daily. Larvae are not fed 12 hours prior to termination of test.
14. Cleaning	Siphon daily, immediately before test solution renewal
15. Aeration	None
16. Dilution Water	Upstream
17. Effluent concentrations	0%, 0.025%, 0.05%, 0.125%, 0.625%, 1.0%
18. Test duration	Until 60% or more surviving control females have three broods or a maximum of 8 days.
19. Endpoints	Survival and Reproduction
20. Test acceptability	80% or greater survival in the controls, Average reproduction rate of 15 young / adult. Coefficient of variation in the control must not exceed 40%.

TABLE 2 (SECTION 2)

BIOMONITORING CHRONIC TOXICITY REPORT
FATHEAD MINNOW (Pimephales promelas)
CHEMICAL PARAMETERS CHART

Permittee: RCSD (Kimmswick WWTP) Effluent discharge.

ANALYSTS: Pace Analytical Services, Inc.
Timothy Harrell
Mike Bollin

TABLE 2 (SECTION 2)
INITIAL WATER QUALITY
EFFLUENT CONCENTRATION

	Upstream	100%
PH	7.82	7.84
D.O.	8.40	8.40
Temp	25.0	25.0
Alk	164	144
Hard	242	228
Cond	534	680
Chlorine	<0.1	<0.1

* D.O. is reported as mg/L
Alkalinity is reported as mg/L CaCO3
Hardness is reported as mg/L CaCO3
Conductance is reported as umhos
Chlorine is reported as mg/L

TEST WATER QUALITY

24-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Upstream	8.03	7.30	24.9
0.025% Effluent	8.03	7.30	24.9
0.05% Effluent	8.03	7.30	24.9
0.125% Effluent	8.03	7.30	24.9
0.625% Effluent	8.03	7.30	24.9
1.0% Effluent	8.03	7.30	24.9

48-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Upstream	8.16	7.50	24.9
0.025% Effluent	8.15	7.50	24.9
0.05% Effluent	8.15	7.50	24.9
0.125% Effluent	8.16	7.50	24.9
0.625% Effluent	8.16	7.50	24.9
1.0% Effluent	8.17	7.50	24.9

FINAL WATER QUALITY

EFFLUENT CONCENTRATION

	Upstream	1.0%
pH	8.13	8.14
D.O.	6.50	6.50
Temp	24.7	24.7
Alk	160	160
Hard	240	238
Cond	596	606

* D.O. is reported as mg/L
Alkalinity is reported as mg/L CaCO3
Hardness is reported as mg/L CaCO3
Conductance is reported as umhos

TEST VALIDITY

The Pimephales promelas control survival rate was 100. The mean dry weight (growth) of the Pimephales promelas was determined at 0.484 g/organism in the controls. The percent coefficient of variation (%CV) values for the fathead minnow control for survival and growth were 0.00 and 6.84. The Ceriodaphnia dubia survival rates were 100 in the control. The Ceriodaphnia in the control produced an average of 20.8 young over the seven-day exposure period. Percent CV values for Ceriodaphnia dubia control survival and reproduction was 0.00 and 16.15. Control data met or exceeded all criteria set out by EPA 821-R-02-013 for test acceptance.

REFERENCE TOXICANTS

The absence of significant control mortality during this test indicated the health of the organisms and indicated that any significant mortality in the test concentrations was not due to contaminants or variations in testing conditions.

Reference toxicity testing is routinely performed by staff members in our biomonitoring - bioassay laboratory.

Start: 7/21/20 11:45 End: 7/28/20 11:00

Reference Toxicant (NaCl) Pimephales promelas

Concentration of Toxicant	Avg. # of Live Organisms/replicate			
	0 hrs	24 hrs	48 hrs	7 days
10 g/l	40	6	2	0
8 g/l	40	36	23	3
6 g/l	40	40	37	23
4 g/l	40	40	40	40
2 g/l	40	40	40	39

IC25 (4.92 g/l Sodium Chloride)

Survival NOEC: 4.0 g/l

Reference Toxicant (NaCl) Ceriodaphnia Dubia

Concentration of Toxicant	Avg. # of Live Organisms/replicate			
	0 hrs	24 hrs	48 hrs	7 days
2.5 g/l	10	6	2	0
2.0 g/l	10	10	9	2
1.5 g/l	10	10	10	9
1.0 g/l	10	10	10	10
0.5 g/l	10	10	10	10

IC25 (1.19 g/l Sodium Chloride)

Survival NOEC: 1.5 g/l

Submitted By: Tim Harrell

Timothy Harrell, Technical Director

60345703 PDC Rock Creek FATHEAD SURVIVAL
File: 6345703A Transform: ARC SINE(SQUARE ROOT(Y))

Chi-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	1.608	5.808	9.168	5.808	1.608
OBSERVED	0	1	23	0	0

Calculated Chi-Square goodness of fit test statistic = 33.8729
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The first three homogeneity tests are sensitive to non-normal data and should not be performed.

60345703 PDC Rock Creek FATHEAD SURVIVAL
File: 6345703A Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro - Wilk's test for normality

D = 0.020

W = 0.465

Critical W (P = 0.05) (n = 24) = 0.916
Critical W (P = 0.01) (n = 24) = 0.884

Data FAIL normality test. Try another transformation.

Warning - The first three homogeneity tests are sensitive to non-normal data and should not be performed.

60345703 PDC Rock Creek FATHEAD SURVIVAL
File: 6345703A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Upstream	4	1.412	1.412	1.412
2	.025%	4	1.249	1.412	1.371
3	0.05%	4	1.412	1.412	1.412
4	0.125%	4	1.412	1.412	1.412
5	0.625%	4	1.412	1.412	1.412
6	1%	4	1.412	1.412	1.412

60345703 PDC Rock Creek FATHEAD SURVIVAL
File: 6345703A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	Upstream	0.000	0.000	0.000	0.00
2	.025%	0.007	0.081	0.041	5.94
3	0.05%	0.000	0.000	0.000	0.00
4	0.125%	0.000	0.000	0.000	0.00
5	0.625%	0.000	0.000	0.000	0.00
6	1%	0.000	0.000	0.000	0.00

60345703 PDC Rock Creek FATHEAD SURVIVAL
File: 6345703A Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.006	0.001	1.000
Within (Error)	18	0.020	0.001	
Total	23	0.025		

Critical F value = 2.77 (0.05,5,18)
Since F < Critical F FAIL TO REJECT Ho: All equal

60345703 PDC Rock Creek FATHEAD SURVIVAL
File: 6345703A Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETT'S TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	Upstream	1.412	1.000		
2	.025%	1.371	0.975	1.732	
3	0.05%	1.412	1.000	0.000	
4	0.125%	1.412	1.000	0.000	
5	0.625%	1.412	1.000	0.000	
6	1%	1.412	1.000	0.000	

Dunnett table value = 2.41 (1 Tailed Value, P=0.05, df=18,5)

60345703 PDC Rock Creek FATHEAD SURVIVAL
File: 6345703A Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETT'S TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	Upstream	4			
2	.025%	4	0.021	2.1	0.025
3	0.05%	4	0.021	2.1	0.000
4	0.125%	4	0.021	2.1	0.000
5	0.625%	4	0.021	2.1	0.000
6	1%	4	0.021	2.1	0.000

60345703 PDC Rock FATHEAD GROWTH
File: 6345703B Transform: NO TRANSFORMATION

Shapiro - Wilk's test for normality

D = 0.025

W = 0.959

Critical W (P = 0.05) (n = 24) = 0.916
Critical W (P = 0.01) (n = 24) = 0.884

Data PASS normality test at P=0.01 level. Continue analysis.

60345703 PDC Rock FATHEAD GROWTH
File: 6345703B Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance
Calculated B1 statistic = 2.89

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

60345703 PDC Rock FATHEAD GROWTH
File: 6345703B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Upstream	4	0.437	0.514	0.484
2	0.025%	4	0.402	0.464	0.425
3	0.05%	4	0.408	0.518	0.457
4	0.125%	4	0.427	0.501	0.463
5	0.625%	4	0.438	0.479	0.460
6	1.%	4	0.412	0.511	0.457

60345703 PDC Rock FATHEAD GROWTH
File: 6345703B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	Upstream	0.001	0.033	0.017	6.84
2	0.025%	0.001	0.027	0.014	6.37
3	0.05%	0.003	0.052	0.026	11.30
4	0.125%	0.002	0.040	0.020	8.68
5	0.625%	0.000	0.019	0.010	4.19
6	1.%	0.002	0.042	0.021	9.18

60345703 PDC Rock FATHEAD GROWTH
File: 6345703B Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.007	0.001	1.033
Within (Error)	18	0.025	0.001	
Total	23	0.032		

Critical F value = 2.77 (0.05,5,18)
Since F < Critical F FAIL TO REJECT Ho: All equal

60345703 PDC Rock FATHEAD GROWTH
File: 6345703B Transform: NO TRANSFORMATION

DUNNETT'S TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	Upstream	0.484	0.484		
2	0.025%	0.425	0.425	2.233	
3	0.05%	0.457	0.457	1.011	
4	0.125%	0.463	0.463	0.773	
5	0.625%	0.460	0.460	0.897	
6	1.%	0.457	0.457	1.021	

Dunnett table value = 2.41 (1 Tailed Value, P=0.05, df=18,5)

60345703 PDC Rock FATHEAD GROWTH
File: 6345703B Transform: NO TRANSFORMATION

DUNNETT'S TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	Upstream	4			
2	0.025%	4	0.063	13.1	0.059
3	0.05%	4	0.063	13.1	0.027
4	0.125%	4	0.063	13.1	0.020
5	0.625%	4	0.063	13.1	0.024
6	1.%	4	0.063	13.1	0.027

FISHER'S EXACT TEST

IDENTIFICATION	NUMBER OF ALIVE	DEAD	TOTAL ANIMALS
CONTROL	10	0	10
0.025%	10	0	10
TOTAL	20	0	20

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10.
Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

FISHER'S EXACT TEST

IDENTIFICATION	NUMBER OF ALIVE	DEAD	TOTAL ANIMALS
CONTROL	10	0	10
0.05%	10	0	10
TOTAL	20	0	20

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10.
Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

FISHER'S EXACT TEST

IDENTIFICATION	NUMBER OF ALIVE	DEAD	TOTAL ANIMALS
CONTROL	10	0	10
0.125%	10	0	10

TOTAL	20	0	20

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10.
Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

FISHER'S EXACT TEST

IDENTIFICATION	NUMBER OF ALIVE	NUMBER OF DEAD	TOTAL ANIMALS
CONTROL	10	0	10
0.625%	10	0	10
TOTAL	20	0	20

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10.
Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

FISHER'S EXACT TEST

IDENTIFICATION	NUMBER OF ALIVE	NUMBER OF DEAD	TOTAL ANIMALS
CONTROL	10	0	10
1.0%	10	0	10
TOTAL	20	0	20

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10.
Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

SUMMARY OF FISHER'S EXACT TESTS

	NUMBER	NUMBER	SIG

GROUP	IDENTIFICATION	EXPOSED	DEAD	(P=.05)
	CONTROL	10	0	
1	0.025%	10	0	
2	0.05%	10	0	
3	0.125%	10	0	
4	0.625%	10	0	
5	1.0%	10	0	

60345703 PDC Rock CERIODAPHNIA DUBIA SURVIV
File: 6345703D Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Upstream	10	1.000	1.000	1.000
2	0.025%	10	1.000	1.000	1.000
3	0.05%	10	1.000	1.000	1.000
4	0.125%	10	1.000	1.000	1.000
5	0.625%	10	1.000	1.000	1.000
6	1.0%	10	1.000	1.000	1.000

60345703 PDC Rock CERIODAPHNIA DUBIA SURVIV
File: 6345703D Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	Upstream	0.000	0.000	0.000	0.00
2	0.025%	0.000	0.000	0.000	0.00
3	0.05%	0.000	0.000	0.000	0.00
4	0.125%	0.000	0.000	0.000	0.00
5	0.625%	0.000	0.000	0.000	0.00
6	1.0%	0.000	0.000	0.000	0.00

60345703 PDC Rock Creek CERIODAPHNIA DUBIA REPROD
File: 6345703E Transform: NO TRANSFORMATION

Shapiro - Wilk's test for normality

******** Shapiro - Wilk's Test is aborted ********

This test can not be performed because total number of replicates
is greater than 50.

Total number of replicates = 60

60345703 PDC Rock Creek CERIODAPHNIA DUBIA REPROD
File: 6345703E Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance
Calculated B1 statistic = 1.45

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

60345703 PDC Rock Creek CERIODAPHNIA DUBIA REPROD
File: 6345703E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Upstream	10	16.000	24.000	20.800
2	0.025%	10	15.000	23.000	20.000
3	0.05%	10	16.000	25.000	21.100
4	0.125%	10	18.000	25.000	20.900
5	0.625%	10	16.000	23.000	20.300
6	1%	10	17.000	24.000	21.000

60345703 PDC Rock Creek CERIODAPHNIA DUBIA REPROD
File: 6345703E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	Upstream	11.289	3.360	1.062	16.15
2	0.025%	6.667	2.582	0.816	12.91
3	0.05%	8.322	2.885	0.912	13.67
4	0.125%	6.100	2.470	0.781	11.82
5	0.625%	6.233	2.497	0.790	12.30
6	1%	6.000	2.449	0.775	11.66

60345703 PDC Rock Creek CERIODAPHNIA DUBIA REPROD
File: 6345703E Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	9.483	1.897	0.255
Within (Error)	54	401.500	7.435	
Total	59	410.983		

Critical F value = 2.45 (0.05,5,40)
Since F < Critical F FAIL TO REJECT Ho: All equal

60345703 PDC Rock Creek CERIODAPHNIA DUBIA REPROD
File: 6345703E Transform: NO TRANSFORMATION

DUNNETT'S TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	Upstream	20.800	20.800		
2	0.025%	20.000	20.000	0.656	
3	0.05%	21.100	21.100	-0.246	
4	0.125%	20.900	20.900	-0.082	
5	0.625%	20.300	20.300	0.410	
6	1%	21.000	21.000	-0.164	

Dunnett table value = 2.31 (1 Tailed Value, P=0.05, df=40,5)

60345703 PDC Rock Creek CERIODAPHNIA DUBIA REPROD
File: 6345703E Transform: NO TRANSFORMATION

DUNNETT'S TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	Upstream	10			
2	0.025%	10	2.817	13.5	0.800
3	0.05%	10	2.817	13.5	-0.300
4	0.125%	10	2.817	13.5	-0.100
5	0.625%	10	2.817	13.5	0.500
6	1%	10	2.817	13.5	-0.200

Conc. ID	1	2	3	4	5	6
Conc. Tested	0	0.025	0.05	0.125	0.625	1.0
Response 1	.486	.414	.481	.501	.450	.464
Response 2	.497	.420	.408	.430	.473	.412
Response 3	.514	.402	.421	.427	.479	.440
Response 4	.437	.464	.518	.495	.438	.511

*** Inhibition Concentration Percentage Estimate ***
Toxicant/Effluent: PDC Rock
Test Start Date: 8/18/20 Test Ending Date: 8/25/20
Test Species: Fathead
Test Duration: 7 Day
DATA FILE:

Conc. ID	Number Replicates	Concentration	Response Means	Std. Dev.	Pooled Response Means
1	4	0.000	0.484	0.033	0.484
2	4	0.025	0.425	0.027	0.452
3	4	0.050	0.457	0.052	0.452
4	4	0.125	0.463	0.040	0.452
5	4	0.625	0.460	0.019	0.452
6	4	1.000	0.457	0.042	0.452

*** No Linear Interpolation Estimate can be calculated from the input data since none of the (possibly pooled) group response means were less than 75% of the control response mean.

Conc. ID	1	2	3	4	5	6
Conc. Tested	0	0.025	0.05	0.125	0.625	1.0
Response 1	17	20	18	22	21	22
Response 2	16	21	20	22	17	24
Response 3	24	18	24	20	23	23
Response 4	18	19	16	19	21	21
Response 5	17	23	20	25	23	18
Response 6	24	23	21	19	22	17
Response 7	22	15	25	18	18	20
Response 8	24	19	24	22	20	19
Response 9	23	19	23	18	22	24
Response 10	23	23	20	24	16	22

*** Inhibition Concentration Percentage Estimate ***
Toxicant/Effluent: PDC Rock
Test Start Date: 8/18/20 Test Ending Date: 8/25/20
Test Species: Dubia
Test Duration: 7 Day
DATA FILE:

Conc. ID	Number Replicates	Concentration	Response Means	Std. Dev.	Pooled Response Means
1	10	0.000	20.800	3.360	20.800
2	10	0.025	20.000	2.582	20.667
3	10	0.050	21.100	2.885	20.667
4	10	0.125	20.900	2.470	20.667
5	10	0.625	20.300	2.497	20.650
6	10	1.000	21.000	2.449	20.650

*** No Linear Interpolation Estimate can be calculated from the input data since none of the (possibly pooled) group response means were less than 75% of the control response mean.

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:	Section B Required Project Information	Section C Invoice Information
Company: PDC Laboratories, Inc	Report To: Chad Cooper	Attention:
Address:	Copy To:	Company Name: PDC Laboratories, Inc
		Address:
Email To: ccooper@pdclab.com	Purchase Order No:	Pace Quote Reference:
Phone: 3096831767 Fax:	Project Name:	Pace Project Manager: Jamie Church
Requested Due Date/TAT: standard	Project Number:	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

Requested Analysis Filtered (Y/N)

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	KimTP #1 Instream	W	G			8-17-20	9:00													60345703
2	KimTP #2 Instream	W	G			8-17-20	9:00													60345703
3	KimTP #3 Eff	WW	C	8-16-20	8:30	8-17-20	8:30													60345703
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
					8/18/20	830	Ice Y Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex Portwood

SIGNATURE of SAMPLER: Alex Portwood DATE Signed (MM/DD/YY): 08-17-20

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

Section A Required Client Information:

Company:	PDC Laboratories, Inc.
Address:	
Email To:	ccooper@pdclab.com
Phone: 3096831767	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Chad Cooper
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	PDC Laboratories, Inc.
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	KMTP #1 Instream	W	G	~~8-18-20~~	~~8:30~~	~~8-19-20~~	8:30														1GCADL
2	KMTP #2 Instream	W	G			8-19-20	8:30														"
3	KMTP #3 Eff	WW	C	8-18-20	9:00	8-19-20	9:00														"
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
				Tim Hamill Pace	8/20/20	8:00	3.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex Portwood

SIGNATURE of SAMPLER: Alex Portwood DATE Signed (MM/DD/YY): 8-19-20

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days

Pace Analytical
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Sample Condition Upon Receipt

Client Name: PPC

Courier: FedEx ☐ UPS ☐ VIA ☒ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No X

Custody Seal on Cooler/Box Present: Yes X No ☐ Seals intact: Yes X No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None X Other ☐

Thermometer Used: T-193 Type of Ice: (Wet) Blue None

Cooler Temperature (°C): As-read 4.5 Corr. Factor -1.5 Corrected 3.0

Date and initials of person examining contents: TH 8/20/20 8:02

Temperature should be above freezing to 6°C

Chain of Custody present:	XYes ☐No ☐N/A	
Chain of Custody relinquished:	☐Yes ☒No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	XYes ☐No ☐N/A	
Rush Turn Around Time requested:	☐Yes XNo ☐N/A	
Sufficient volume:	XYes ☐No ☐N/A	
Correct containers used:	XYes ☐No ☐N/A	
Pace containers used:	XYes ☐No ☐N/A	
Containers intact:	XYes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No XN/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☐x/A	
Sample labels match COC: Date / time / ID / analyses	XYes ☐No ☐N/A	
Samples contain multiple phases? Matrix:	☐Yes XNo ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2, NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No XN/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No XN/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No XN/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No XN/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No Xx/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately

Page: of

Section A Required Client Information:

Company:	PDC Laboratories, Inc.
Address:	
Email To:	ccooper@pdclab.com
Phone: 3096831767	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Chad Cooper
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	PDC Laboratories, Inc.
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Requested Analysis Filtered (Y/N)

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Kintp #1 Instream	W	G			8/21/20	8:10													
2	Kintp #2 Instream	W	G			8/21/20	8:15													
3	Kintp #3 EFF	WW	C	8-21-20	8:30	8/21/20	8:30													
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
					8-22-20	0800	2°	4	4	4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason Nance

SIGNATURE of SAMPLER: Jason Nance

DATE Signed (MM/DD/YY): 8/21/20

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

Client Name: PDC

Courier: FedEx ☐ UPS ☐ VIA ☒ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No X

Custody Seal on Cooler/Box Present: Yes X No ☐ Seals intact: Yes X No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None X Other ☐

Thermometer Used: T-193 Type of Ice: (Wet) Blue None

Cooler Temperature (°C): As-read 3.5 Corr. Factor -1.5 Corrected 2.0

Date and initials of person examining contents: 8/22/20 800 MJP

Temperature should be above freezing to 6°C

Chain of Custody present:	XYes ☐No ☐N/A	
Chain of Custody relinquished:	☐Yes ☒No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	XYes ☐No ☐N/A	
Rush Turn Around Time requested:	☐Yes XNo ☐N/A	
Sufficient volume:	XYes ☐No ☐N/A	
Correct containers used:	XYes ☐No ☐N/A	
Pace containers used:	XYes ☐No ☐N/A	
Containers intact:	XYes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No XN/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☐x/A	
Sample labels match COC: Date / time / ID / analyses	XYes ☐No ☐N/A	
Samples contain multiple phases? Matrix:	☐Yes XNo ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No XN/A	List sample IDs, volumes, lot #'s of preservative and date/time added.
Cyanide water sample checks Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No XN/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No XN/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No XN/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No Xx/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

0084870
KLH

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PDC Laboratories, Inc.	Report To: Chad Cooper	Attention:
Address:	Copy To:	Company Name: PDC Laboratories, Inc.
		Address:
Email To: ccooper@pdclab.com	Purchase Order No.:	Pace Quote Reference:
Phone: 3096831767 Fax:	Project Name:	Pace Project Manager: Jamie Church
Requested Due Date/TAT: standard	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	KimTP #1 Instream	W	G			8-17-20	9:00														60345703
2	KimTP #2 Instream	W	G			8-17-20	9:20														60345703-002
3	KimTP #3 Eff	WW	C	8-16-20	8:30	8-17-20	8:30														60345703-001
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
				[signature]	8/18/20	830	ICE

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex Portwood

SIGNATURE of SAMPLER: Alex Portwood DATE Signed (MM/DD/YY): 08-17-20

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Rock Creek PSD

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*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

ANALYTICAL RESULTS

Sample: 9094740-01
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 09/24/19 08:50
Received: 09/25/19 10:45

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - SPMO									
Chlorine - Total Residual	< 0.10	mg/L	H	09/26/19 15:57	1	0.10	09/26/19 15:57	CIH	SM 4500-Cl G*
Conductivity	610	umhos/cm		09/25/19 13:56	1	0.10	09/25/19 13:56	CIH	SM 2510B
Dissolved Oxygen	8.1	mg/L	H	09/25/19 13:56	1	1.0	09/25/19 13:56	CIH	SM 4500-O G*
pH	7.8	pH Units	H	09/25/19 13:56	1		09/25/19 13:56	CIH	SM 4500-H B - SW 9040
Temperature at pH measurement	24	°C		09/25/19 14:31	1		09/25/19 14:31	CIH	SM 4500 H B*
General Chemistry - STL									
Alkalinity - total as CaCO3	130	mg/L		09/30/19 08:32	1	20	09/30/19 08:32	JS	SM 2320B*
Nutrients - SPMO									
Ammonia-N	0.20	mg/L		09/27/19 11:16	1	0.10	09/27/19 11:16	KMR	EPA 350.1 - QC 10-107-06-1-I & J*
Total Metals - STL									
Hardness	190	mg/L		09/27/19 10:17	1	0.24	09/30/19 11:23	JMW1	SM 2340B
Calcium	45	mg/L		09/27/19 10:17	1	0.095	09/30/19 11:23	JMW1	EPA 200.7
Magnesium	18	mg/L		09/27/19 10:17	1	0.050	09/30/19 11:23	JMW1	EPA 200.7
WETT - SPMO									
Ceriodaphnia Dubia TUa	< 1.0	units		09/25/19 14:31	1	1.0	09/25/19 14:31	CIH	EPA 2000.0/2002.0*
Pimephales Promelas TUa	< 1.0	units		09/25/19 14:31	1	1.0	09/25/19 14:31	CIH	EPA 2000.0/2002.0*

ANALYTICAL RESULTS

Sample: 9094740-02
Name: Upstream Grab
Matrix: Surface Water - Grab

Sampled: 09/24/19 08:30
Received: 09/25/19 10:45

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - SPMO									
Chlorine - Total Residual	0.13	mg/L	H	09/26/19 15:57	1	0.10	09/26/19 15:57	CIH	SM 4500-Cl G*
Conductivity	520	umhos/cm		09/25/19 13:56	1	0.10	09/25/19 13:56	CIH	SM 2510B
Dissolved Oxygen	8.0	mg/L	H	09/25/19 13:56	1	1.0	09/25/19 13:56	CIH	SM 4500-O G*
pH	7.8	pH Units	H	09/25/19 13:56	1		09/25/19 13:56	CIH	SM 4500-H B - SW 9040
Temperature at pH measurement	24	°C		09/25/19 14:31	1		09/25/19 14:31	CIH	SM 4500 H B*
Nutrients - SPMO									
Ammonia-N	< 0.10	mg/L		09/27/19 11:16	1	0.10	09/27/19 11:16	KMR	EPA 350.1 - QC 10-107-06-1-I & J*

NOTES

Specific method revisions used for analysis are available upon request.

* Not a TNI accredited analyte

Memos

Report of Acute Toxicity Testing

Reference Toxicity Test:
PDC Laboratories, INC. conducts a monthly reference toxicant test to demonstrate and obtain consistent, precise results for permit compliance purposes. This demonstration is to ensure satisfactory laboratory performance. The most recent reference test results are as follows:

Date Initiated: September 4, 2019
Date Concluded: September 6, 2019

Reference Toxicant: Potassium Chloride (KCl)
Lot Number: 18A195207
Expiration: N/A
Standards ID: SPMO6-22A

Moderately Hard Synthetic Water: 3-10CC1
Prepared: August 29, 2019
Expiration: September 12, 2019
Analyst: CIH

Pimephales promelas: 48 hour Acute Test - LC50 = 763.2 mg/L
SPMO %CV = 15.15 %
National Limits (75th Percentile) = 17.9% CV
National Control Limit (90th Percentile) = 33% CV
Ceriodaphnia dubia: 48 hour Acute Test - LC50 = 446.4 mg/L
SPMO %CV = 25.20 %
National Limits (75th Percentile) = 29%CV
National Control Limit (90th Percentile) = 34%CV

Literature Cited:
1.) APHA. 1992. Standard methods for the examination of water and wastewater, 18th Ed. American Public Health Association, Washington, D.C.
2.) USEPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms, 5th ed. EPA-821-R-02-012
3.) USEPA 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the National Pollutant Discharge Elimination System, (Table B-2). June 2000. EPA 833-R-00-003

Certifications

CHI - McHenry, IL - 4314 W Crystal Lake Road A, McHenry, IL 60050
TNI Accreditation for Drinking Water, Wastewater, Fields of Testing through IL EPA Lab No. 100279
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPIL - Springfield, IL - 1210 Capitol Airport Drive, Springfield, IL 62707
TNI Accreditation through IL EPA Lab No. 100323

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - St. Louis, MO - 3278 N Highway 67, Florissant, MO 63033
TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389
TNI Accreditation for Wastewater, Hazardous, and Solid Waste Analysis through IL EPA No. 200080
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050
Missouri Department of Natural Resources
Microbiological Laboratory Service for Drinking Water

Qualifiers

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

Certified by: Chad Cooper, Laboratory Supervisor

PDC Laboratories Inc, SPMO.

EPA Test Methods: 2002.0 & 2000.0

Multiple Dilution WET Test

Client Permit #: MD-0100461

Sample # 9094740 PP Hatch SPM17420 MHSF 3-11BC3

Client Rock Creek CD Hatch 091219A Board/Shelf 002/2

Cup	Conc.	Initial	24 hour	48 hour
P1	2.25	10	10	10
P2	888	10	10	10
P3	4.5	10	10	10
P4	9	10	10	10
P5	18	10	10	10
P6	36	10	10	10
P7	9	10	10	10
P8	888	10	10	10
P9	36	10	10	10
P10	4.5	10	10	10
P11	0	10	10	10
P12	18	10	10	10
P13 *	0	10	10	10
P14 *	2.25	10	10	10
C1	0	5	5	4
C2	2.25	5	5	5
C3	888	5	5	5
C4	2.25	5	4	4
C5	9	5	5	5
C6	4.5	5	5	5
C7	888	5	5	5
C8	18	5	5	5
C9	888	5	5	5
C10	18	5	5	5
C11	36	5	5	5
C12	4.5	5	6	5
C13	2.25	5	5	5
C14	9	5	4	4
C15	0	5	5	5
C16	4.5	5	5	5
C17	2.25	5	5	5
C18	18	5	5	5
C19	18	5	5	5
C20	9	5	5	5
C21	888	5	5	4
C22	36	5	5	5
C23	0	5	5	5
C24	36	5	5	5
C25 *	9	5	5	5
C26 *	0	5	5	5
C27 *	36	5	5	3
C28 *	4.5	5	5	5

* These cups only used when upstream samples are provided.

Set Times			
Start Date/Time:	9.25.19 / 1431		
	Date	Time	Analyst
0 Hour	9.25.19	1431	CIH
24 Hour	9.26.19	1331	NSW
48 Hour	9.27.19	1400	CIH
End Date/Time:	9.27.19 / 1400		

Results			
Pimephales promelas			
48 Hour Result		Date	Analyst
LC 50	>36	9.27.19	CIH
TU_a	<2.778	9.27.19	CIH
Ceriodaphnia Dubia			
48 Hour Result		Date	Analyst
LC 50	>36	9.27.19	CIH
TU_a	<2.778	9.27.19	CIH
		Date	Analyst
Filtered (Y / N):	Y	9.25.19	CIH
Light Check:	58.4	9.26.19	CIH
PP Fry Age:	7 days	9.25.19	CIH
CD Neonates Age:	<24 hrs	9.25.19	CIH

Comments: PP fry were set in 200 ml of conc. w/in a 250 ml cup .CD were set in 15 ml of conc. w/in a 30 ml cup

Analyst Signature: Carly Stuckey

Date: 9.30.19

Read and Understood By:

Date: 10-1-19

Logbook: 3 Report #: 78

PDC Laboratories Inc, SPMO.

EPA Test Methods: 2002.0 & 2000.0

Routine Chemistries

Client Permit #: MO-0100461

Sample # 9094740 | PP Hatch SPM07-12D | MHSF 3-11BC3

Client ROCK Creek | CD Hatch 091219A | Board/Shelf 002/2

Calibration data

pH	Initial	Date	Time	Analyst	48 hour	Date	Time	Analyst
4.00	4.01	9.25.19	1028	CIH	4.01	9.27.19	1221	NSW
7.00	7.00				7.00			
10.00	10.01				10.01			
Curve	98.2				98.5			

DO (mg/L)	Date	Time	Analyst	Pressure (mmHg)	% Sat
Initial	9.25.19	1218	NSW	727	100
1 Hour	9.25.19	1514	CIH	726	100
24 Hour	9.26.19	1323	NSW	730	100
48 Hour	9.27.19	1400	CIH	724	100

again @ 1335 on 9.25.19 CIH 726 mmHg

Initial/Received

Cup #	2	1	3	4	5	6	11	9
Concentration	MHSF	2.25%	4.5%	9%	18%	36%	*Upstream	36% Dup
pH (EPA 150.1)	7.89	7.92	7.90	7.89	7.84	7.77	7.85	7.75
DO mg/L (SM S010)	7.92	7.96	8.04	8.04	8.08	8.14	7.98	8.21

	Date	Time	Batch	Analyst
	9.25.19	1356	B922043	CIH

Conductivity (µMohs) (SM 2510B)	MHSF	Effluent	*Upstream	Date	Time	Batch	Analyst
	310	614 (617)	515	9.25.19	1356	B922043	CIH

	Method	Effluent	Upstream *	Date	Time	Batch	Analyst
Chlorine (mg/L)	4500Cl-G	0	0.13	9.26.19	1557	B922054	CIH

Analyst Signature: [signature]

Date: 9.30.19

0 Hour

	Fathead Minow	Cerodaphnia Dubia	Date	Time	Analyst
Temperature (°C)	24.1	23.7	9.25.19	1431	CIH

Read and Understood By: [signature]

Date: 10-1-19

1 Hour

Test	MHSF	36% Effluent	Upstream *	Date	Time	Analyst
DO (mg/L)	7.83	7.87	7.78	9.25.19	1531	CIH

	Fathead Minow	Cerodaphnia Dubia	Date	Time	Analyst
Temperature (°C)	24.7	24.1	9.25.19	1531	CIH

24 Hour

Test	MHSF	2.25%	4.5%	9%	18%	36%	*Upstream	Date	Time	Analyst
DO (mg/L)	6.72	6.28	5.91	6.12	6.15	6.10	6.70	9.26.19	1331	NSW

	Fathead Minow	Cerodaphnia Dubia	Date	Time	Analyst
Temperature (°C)	26.0	26.0	9.26.19	1331	NSW

48 Hour

Test	MHSF	2.25%	4.5%	9%	18%	36%	*Upstream	Date	Time	Analyst
pH	7.19	7.09	7.61	7.75	7.74	7.72	7.79	9.27.19	1400	CIH
DO (mg/L)	6.91	6.52	6.16	6.46	6.51	6.48	6.75	9.27.19	1400	CIH

	Fathead Minow	Cerodaphnia Dubia	Date	Time	Analyst
Temperature (°C)	25.9	25.4	9.27.19	1400	CIH

Conductivity (µMohs)	MHSF	36% Effluent	*Upstream	Date	Time	Analyst
	317	592 (610)	545	9.27.19	1400	CIH

Comments: H qualifier added due to sample hold time to DO, pH, & Cl.

* Upstream only performed if supplied by the client

PDC LABORATORIES, INC.
1805 W. SUNSET
SPRINGFIELD, MO 65807

PHONE # 417-864-8924
FAX # 417-864-7081

CHAIN OF CUSTODY RECORD

State where samples collected _____MO_____

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
ROCK CREEK PSD			
ADDRESS: 6000 MISSISSIPPI	PHONE NUMBER	FAX NUMBER	DATE SHIPPED
CITY, STATE ZIP: KIMMSWICK, MO 63053	SAMPLER (PLEASE PRINT): BRIAN KOESTER		MATRIX TYPES: WW- WASTEWATER, DW- DRINKING WATER, GW- GROUND WATER, WWSL- SLUDGE, NAS- SOLID, LCHT-LEACHATE, OTHER:
CONTACT PERSON: JASON SEGER	SAMPLER'S SIGNATURE: Brian Koester		

3 ANALYSIS REQUESTED

4 (FOR LAB USE ONLY)
LOGIN # 9094740
LOGGED BY: SMW
LAB PROJ. #
TEMPLATE:
PROJ. MGR.: CHAD COOPER

2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	WET Test	Shipping	REMARKS
WET TEST EFFLUENT COMPOSITE	09/24/19	8:50 Am.		X	WW	3	X	X	1-P, 1 Gal Cube, Unp
UPSTREAM GRAB (IF AVAILABLE)	09/24/19	8:30 Am.	X		WW	1	X		1-P, 250ml, HNO3 1-P, 150ml, Unp 1-P, 1 Gal Cube, Unp

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
DATE RESULTS NEEDED
FAX # IF DIFFERENT FROM ABOVE:
PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7 RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
Brian Koester	09/24/19 9:00 Am.	Stacey Wolff	9-25-19 1045
RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 2-1 °C

CHILL PROCESS STARTED PRIOR TO RECEIPT	(Y) OR N
SAMPLE(S) RECEIVED ON ICE	(Y) OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION	(Y) OR N
BOTTLES FILLED WITH ADEQUATE VOLUME	(Y) OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS)	(Y) OR N
DATE AND TIME TAKEN FROM SAMPLE BOTTLE	_____

SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.

9094740

SENDING LABORATORY

PDC Laboratories, Inc.
1805 West Sunset Street
Springfield, MO 65807
(417) 864-8924

RECEIVING LABORATORY

PDC Laboratories, Inc. - St Louis
3278 N Highway 67
Florissant, MO 63033
(314) 432-0550

Sample: 9094740-01
Name: Effluent Composite

Sampled: 09/24/19 08:50
Matrix: Waste Water
Preservative: Cool <6

Analysis	Due	Expires	Comments
04-Alk	10/04/19 16:00	10/08/19 08:50	
04-Ca 200.7 WWTot	10/04/19 16:00	03/22/20 08:50	
04-Mg 200.7 WWTot	10/04/19 16:00	03/22/20 08:50	

Please email results to Chad Cooper at ccooper@pdclab.com

Date Shipped: 9-25-19 Total # of Containers: 2 Sample Origin (State): MO PO #: —

Turn-Around Time Requested ☒ NORMAL ☐ RUSH Date Results Needed: —

Relinquished By	Date/Time	Received By	Date/Time
Stacy Wolf	9-25-19 1500	Jill Clark	9/24/19

Sample Temperature Upon Receipt	4.8 °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

PDC Laboratories, Inc.
1805 West Sunset Street
Springfield, MO 65807
(417) 864-8924

ANALYTICAL RESULTS

Sample: 8112514-01
Name: Effluent Composite
Matrix: Waste Water - Composite

Sampled: 11/13/18 08:30
Received: 11/14/18 10:35

Parameter	Result	Unit	Qualifier	Prepared	Analyzed	Analyst	Method
General Chemistry - SPMO							
Chlorine - Total Residual	< 0.10	mg/L	H	11/14/18 16:36	11/14/18 16:36	KMR	SM 4500-Cl G*
Conductivity	680	umhos/cm		11/14/18 12:02	11/14/18 12:02	KB	SM 2510B
Dissolved Oxygen	9.5	mg/L	H	11/14/18 12:02	11/14/18 12:02	KB	SM 4500-O G*
pH	7.4	pH Units	H	11/14/18 12:02	11/14/18 12:02	KB	SM 4500-H B - SW 9040*
General Chemistry - STL							
Alkalinity - total as CaCO3	150	mg/L		11/21/18 15:36	11/21/18 15:46	sjp	SM 2320B*
Nutrients - SPMO							
Ammonia-N	0.28	mg/L		11/16/18 14:19	11/16/18 14:19	RRG	EPA 350.1 - QC 10-107-06-1-I & J*
Total Metals - STL							
Calcium	46	mg/L	Q4	11/19/18 08:18	11/20/18 10:12	WPS	EPA 200.7
Hardness	200	mg/L		11/19/18 08:18	11/20/18 10:12	WPS	SM 2340B
Magnesium	20	mg/L	Q4	11/19/18 08:18	11/20/18 10:12	WPS	EPA 200.7
WETT - SPMO							
Ceriodaphnia Dubia TUa	< 1.0	units		11/14/18 13:00	11/14/18 13:00	KB	EPA 2002.0*
Pimephales Promelas TUa	< 1.0	units		11/14/18 13:00	11/14/18 13:00	KB	EPA 2002.0*

Sample: 8112514-02
Name: Upstream Grab
Matrix: Surface Water - Grab

Sampled: 11/13/18 08:30
Received: 11/14/18 10:35

Parameter	Result	Unit	Qualifier	Prepared	Analyzed	Analyst	Method
General Chemistry - SPMO							
Chlorine - Total Residual	< 0.10	mg/L	H	11/14/18 16:36	11/14/18 16:36	KMR	SM 4500-Cl G*
Conductivity	660	umhos/cm		11/14/18 12:02	11/14/18 12:02	KB	SM 2510B
Dissolved Oxygen	9.1	mg/L	H	11/14/18 12:02	11/14/18 12:02	KB	SM 4500-O G*
pH	8.0	pH Units	H	11/14/18 12:02	11/14/18 12:02	KB	SM 4500-H B - SW 9040*
Nutrients - SPMO							
Ammonia-N	< 0.10	mg/L		11/16/18 14:19	11/16/18 14:19	RRG	EPA 350.1 - QC 10-107-06-1-I & J*

PDC Laboratories, Inc.
1805 West Sunset Street
Springfield, MO 65807
(417) 864-8924

NOTES

Specific method revisions used for analysis are available upon request.

Memos

Report of Acute Toxicity Testing

Reference Toxicity Test:
PDC Laboratories, INC. conducts a monthly reference toxicant test to demonstrate and obtain consistent, precise results for permit compliance purposes. This demonstration is to ensure satisfactory laboratory performance. The most recent reference test results are as follows:

Date Initiated: November 7, 2018
Date Concluded: November 9, 2018

Reference Toxicant: Potassium Chloride (KCl)
Lot Number: 18A195207
Expiration: N/A
Standards ID: SPMO6-22A

Moderately Hard Synthetic Water: 16-BC3
Prepared: November 5, 2018
Expiration: November 21, 2018
Analyst: KMR

Pimephales promelas: 48 hour Acute Test - LC50 = 736.8 mg/L
SPMO %CV = 19.97 %
National Limits (75th Percentile) = 17.9% CV
National Control Limit (90th Percentile) = 33% CV
Ceriodaphnia dubia: 48 hour Acute Test - LC50 = 722.2 mg/L
SPMO %CV = 19.81 %
National Limits (75th Percentile) = 29%CV
National Control Limit (90th Percentile) = 34%CV

Literature Cited:
1.) APHA. 1992. Standard methods for the examination of water and wastewater, 18th Ed. American Public Health Association, Washington, D.C.
2.) USEPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms, 5th ed. EPA-821-R-02-012
3.) USEPA 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the National Pollutant Discharge Elimination System, (Table B-2). June 2000. EPA 833-R-00-003

PDC Laboratories, Inc.
1805 West Sunset Street
Springfield, MO 65807
(417) 864-8924

Certifications

CHI - McHenry, IL
TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100279
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL
TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Missouri Department of Natural Resources Certificate of Approval for Microbiological Laboratory Service No. 870
Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPIL - Springfield, IL
NELAP/NELAC accredidation through the Illinois EPA, PAS IL 100323

SPMO - Springfield, MO
USEPA DMR-QA Program

STL - St. Louis, MO
TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389
Accredidation of Laboratories for Drinking Water, Wastewater, and Hazardous Wastes Analysis through IL EPA No. 200080
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050
Drinking Water Certifications: Missouri (1050)
Missouri Department of Natural Resources

* Not a TNI accredited analyte

Qualifiers

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.
Q4 The matrix spike recovery result is unusable since the analyte concentration in the sample is greater than four times the spike level. The associated blank spike was acceptable.

Certified by: Chad Cooper, Laboratory Supervisor

PDC Laboratories Inc, SPMO.

EPA Test Methods: 2002.0 & 2000.0

Multiple Dilution WET Test

Client Permit #: MO-0106461

Sample # 8112514-01

Client Rock Creek

PP Hatch 1106184

CD Hatch 1114181C8

MHSF 16-BC3

Board/Shelf 0414

Cup	Conc.	Initial	24 hour	48 hour
P1	Lab	10	10	9
P2	9	10	10	10
P3	18	10	10	10
P4	2.25	10	10	10
P5	18	10	10	9
P6	Lab	10	10	10
P7	UP	10	90	9
P8	4.5	10	10	9
P9	UP	10	10	10
P10	9	10	10	10
P11	2.25	10	10	10
P12	4.5	10	10	10
P13 *	36	10	10	10
P14 *	36	10	10	10
C1	4.5	5	5	5
C2	UP	5	5	5
C3	UP	5	4	4
C4	Lab	5	5	5
C5	9	5	6	6
C6	36	5	5	5
C7	9	5	5	5
C8	Lab	5	5	6
C9	UP	5	5	4
C10	36	5	5	5
C11	18	5	4	4
C12	2.25	5	5	5
C13	4.5	5	5	5
C14	18	5	5	6
C15	36	5	5	5
C16	9	5	5	5
C17	18	5	5	5
C18	4.5	5	5	5
C19	UP	5	5	6
C20	9	5	5	5
C21	36	5	5	5
C22	2.25	5	4	4
C23	Lab	5	4	3
C24	Lab	5	4	4
C25 *	2.25	5	5	6
C26 *	4.5	5	5	5
C27 *	18	5	5	5
C28 *	2.25	5	5	5

* These cups only used when upstream samples are provided.

Set Times			
Start Date/Time:	11.14.18 @ 1306		
	Date	Time	Analyst
0 Hour	11.14.18	1300	KMK
24 Hour	11.15.18	1345	KBB
48 Hour	11.16.18	1355	KMK
End Date/Time:	11.16.18 @	1355	

Results			
Pimephales promelas			
48 Hour Result		Date	Analyst
LC 50	> 36	11.20.18	KBB
TU_a	< 2.778	11.20.18	KBB
P-Value	—	—	—
Ceriodaphnia Dubia			
48 Hour Result		Date	Analyst
LC 50	> 36	11.20.18	KBB
TU_a	< 2.778	11.20.18	KBB
P-Value	—	—	—
		Date	Analyst
Filtered (Y / N):	Y	11.20.18	KMK
Light Check:	N/A	11.20.18	KMK
PP Fry Age:	8 day	11.20.18	KMK
CD Neonates Age:	< 24 hrs	11.20.18	KMK

Comments: PP fry were set in 200 ml of conc. w/in a 250 ml cup. CD were set in 15 ml of conc. w/in a 30 ml cup

Analyst Signature: Kim Bartlett

Date: 11/20/18

Read and Understood By: Krista Bice

Date: 11.20.18

Logbook: 2 Report #: 54

PDC Laboratories Inc, SPMO.

EPA Test Methods: 2002.0 & 2000.0

Routine Chemistries

Client Permit #: MO-0106461

Sample # 811851H-01
Client Rock Creek
PP Hatch 110618A
CD Hatch 111418CB
MHSF 16-BC3
Board/Shelf 004/4

Calibration data

pH	Initial	Date	Time	Analyst	48 hour	Date	Time	Analyst
4.00	4.01	11.14.18	1119	KMR	4.01	11.16.18	1319	KMR
7.00	7.00				7.00			
10.00	10.00				10.02			
Curve	98.1				98.3%			

DO (mg/L)	Date	Time	Analyst	Pressure (mmHg)	% Sat
Initial	11.14.18	1125	KMR	790	100%
1 Hour	11.15.18	1417	KMR	738	100%
24 Hour	11.15.18	1342	KBB	730	100%
48 Hour	11.16.18	1334	KMR	731	100%

Initial/Received

Cup #	1	4	8	2	3	13	7	14	Date	Time	Batch	Analyst
Concentration	MHSF	2.25%	4.5%	9%	18%	36	*Upstream	36	11.14.18	1202	B824126	KBB
pH (EPA 150.1)	7.75	7.90	7.92	7.91	7.90	7.85	8.02	7.88	1114.18	1202	B824126	KBB
DO mg/L (SM 5010)	8.21	8.75	8.85	8.89	8.93	8.86	9.14	8.95	Date	Time	Batch	Analyst
Conductivity (µMohs) (SM 2510B)	MHSF 318			Effluent 681(694)			*Upstream 662		11.14.18	1202	B824126	KBB

	Method	Effluent	Upstream *	Date	Time	Batch	Analyst
Chlorine (mg/L)	4500Cl-G	0.02	0.07	11.14.18	1636	B823690	KMR

Analyst Signature: Kim Bartlett
Date: 11/20/18

Read and Understood By: Krista Rice
Date: 11.20.18

0 Hour

	Fathead Minow	Cerodaphnia Dubia	Date	Time	Analyst
Temperature (°C)	22.9	21.7	11.14.18	1300	KMR

1 Hour

Test	MHSF	36%	Upstream *	Date	Time	Analyst
DO (mg/L)	8.27	8.27	8.71	11.14.18	1416	KMR
	Fathead Minow	Cerodaphnia Dubia		Date	Time	Analyst
Temperature (°C)	23.3	22.5		11.14.18	1414	KMR

24 Hour

Test	MHSF	2.25%	4.5%	9%	18%	36	*Upstream	Date	Time	Analyst
DO (mg/L)	7.70	6.94	6.63	6.69	6.25	6.31	7.15	11.15.18	1343	KBB
	Fathead Minow				Cerodaphnia Dubia			Time	Analyst	
Temperature (°C)	25.4				24.8			11.15.18	1345	KBB

48 Hour

Test	MHSF	2.25%	4.5%	9%	18%	36	*Upstream	Date	Time	Analyst
pH	7.71	8.30	8.33	8.32	8.30	8.29	8.38	11.16.18	1340	KMR
DO (mg/L)	7.22	7.11	7.04	6.97	6.99	7.03	7.11	11.16.18	1340	KMR
	Fathead Minow				Cerodaphnia Dubia			Date	Time	Analyst
Temperature (°C)	25.5				25.1			11.16.18	1337	KMR
	MHSF		36		*Upstream			Date	Time	Analyst
Conductivity (µMohs)	311		628		643			11.16.18	1340	KMR

Comments: "H" qualifier added to DO, pH and chlorine analytes due to sample hold time.

* Upstream only performed if supplied by the client

100% Eff

DO 9.49

pH 7.37

100% Eff Dup:

9.33

7.31

PDC LABORATORIES, INC.
1805 W. SUNSET
SPRINGFIELD, MO 65807

PHONE # 417-864-8924
FAX # 417-864-7081

CHAIN OF CUSTODY RECORD

State where samples collected _____MO_____

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
ROCK CREEK PSD			
ADDRESS: 6000 MISSISSIPPI	PHONE NUMBER	FAX NUMBER	DATE SHIPPED
CITY, STATE ZIP: KIMMSWICK, MO 63053	SAMPLER (PLEASE PRINT): BRIAN Koester		MATRIX TYPES: WW- WASTEWATER, DW- DRINKING WATER, GW- GROUND WATER, WWSL- SLUDGE, NAS- SOLID, LCHT-LEACHATE, OTHER:
CONTACT PERSON: JASON SEGER	SAMPLER'S SIGNATURE: Brian Koester		

2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	3 ANALYSIS REQUESTED: WET Test	Shipping	REMARKS
WET TEST EFFLUENT COMPOSITE	11/13/18	8:30AM		X	WW	3	X	X	1-P, 1 Gal Cube, Unp
UPSTREAM GRAB (IF AVAILABLE)	11/13/18	8:30AM	X		WW	1	X		1-P, 250ml, HNO3
									1-P, 250 ml, Unp
									1-P, 1 Gal Cube, Unp

4 (FOR LAB USE ONLY)
LOGIN # 8112514
LOGGED BY: JMW
LAB PROJ. #
TEMPLATE:
PROJ. MGR.: CHAD COOPER

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
DATE RESULTS NEEDED
FAX # IF DIFFERENT FROM ABOVE:
PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	Brian Koester	11/13/18	12:05P.m.		11-14-18	1035
	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 1.3 °C

CHILL PROCESS STARTED PRIOR TO RECEIPT	Y OR N
SAMPLE(S) RECEIVED ON ICE	Y OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION	Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME	Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS)	Y OR N
DATE AND TIME TAKEN FROM SAMPLE BOTTLE	_____

N:\COC Templates\WET Test WET COC.doc

Page ___ of ___

SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.

8112514

SENDING LABORATORY

PDC Laboratories, Inc.
1805 West Sunset Street
Springfield, MO 65807
(417) 864-8924

RECEIVING LABORATORY

PDC Laboratories, Inc. - St Louis
3278 N Highway 67
Florissant, MO 63033
(314) 432-0550

Sample: 8112514-01
Name: Effluent Composite

Sampled: 11/13/18 08:30
Matrix: Waste Water
Preservative: Cool <6

Analysis	Due	Expires	Comments
04-Alk	11/27/18 16:00	11/27/18 08:30	A) 250mL poly w/ HNO_3 TG
04-Ca 200.7 WWTot	11/26/18 16:00	05/12/19 08:30	
04-Mg 200.7 WWTot	11/26/18 16:00	05/12/19 08:30	
			D) 250mL Poly, U TG

Please email results to Chad Cooper at ccooper@pdclab.com

Date Shipped: 11-14-18 Total # of Containers: 2 Sample Origin (State): MO PO #: —

Turn-Around Time Requested ☒ NORMAL ☐ RUSH Date Results Needed: —

Relinquished By	Date/Time	Received By	Date/Time
Stacey Wolf	11-14-18 1500	Jill Clark	11/14/18 1300

Sample Temperature Upon Receipt	3.6 °C
Sample(s) Received on Ice	(Y) or N
Proper Bottles Received in Good Condition	(Y) or N
Bottles Filled with Adequate Volume	(Y) or N
Samples Received Within Hold Time	(Y) or N
Date/Time Taken From Sample Bottle	(Y) or N

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
NO EXPOSURE CERTIFICATION FOR EXCLUSION FROM NPDES STORMWATER PERMITTING UNDER MISSOURI CLEAN WATER LAW

RECEIVED
AUG 6 2021

Submission of this No Exposure Certification (NEC) constitutes notice by the facility representative identified in Section 7 of this form that there is no exposure of the facility's industrial activities, equipment, and materials to stormwater in accordance with the requirements of 10 CSR 20-6.200 Stormwater Regulations.

A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products or waste (including recyclable) products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm-resistance shelter is not required for the following industrial materials and activities:

- Storage of drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves.
- Adequately maintained vehicles used in material handling.
- Final products, other than products that would be mobilized in stormwater discharges (e.g., rock salt).

A NEC must be provided for each facility qualifying for the no exposure exclusion. In addition, the certification of exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the no exposure exclusion.

By signing and submitting this NEC, the facility representative in Section 7 certifies that a condition of no exposure exists at their facility or site, and is obligated to comply with the terms and conditions of 40 CFR 122.26(g).

1. FACILITY

FACILITY NAME			PHONE NUMBER WITH AREA CODE	
RCPSD Kimmswick WWTP			636-461-2578	
ADDRESS (PHYSICAL LOCATION)	**CITY**	**COUNTY**	**STATE**	**ZIP CODE**
6000 Mississippi	Kimmswick	Jefferson	MO	63052

1.2 PLEASE SELECT ONE:

- ☑ a. This facility is now in operation under No Exposure Certification MO – NX #002 and is submitting a certification for renewal
- ☐ b. This is a facility submitting a request for a new No Exposure Certification (for a new facility)
- ☐ c. This facility is now in operation under Missouri State Operating Permit MO – _____, is requesting a new NEC, and wishes to terminate existing operating permit.

2. OWNER

NAME	EMAIL ADDRESS	PHONE NUMBER WITH AREA CODE	FAX NUMBER WITH AREA CODE
Rock Creek Public Sewer District	jasons@rockcreekpsd.com	636-461-2578	
ADDRESS (MAILING)	**CITY**	**STATE**	**ZIP CODE**
PO Box 1060	Imperial	MO	63052

3. CONTINUING AUTHORITY

NAME	EMAIL ADDRESS	PHONE NUMBER WITH AREA CODE	FAX NUMBER WITH AREA CODE
Rock Creek Public Sewer District	dondaniel@rockcreekpsd.co	636-464-3305	
ADDRESS (MAILING)	**CITY**	**STATE**	**ZIP CODE**
po box 1060	Imperial	MO	63052

4. FACILITY CONTACT

NAME		PHONE NUMBER WITH AREA CODE	FAX NUMBER WITH AREA CODE
Jason Seger		636-461-2578	
TITLE		**EMAIL ADDRESS**	
Operations Manager		jasons@rockcreekpsd.com	

780-2828 (04-18)

5. ADDITIONAL INFORMATION

5.1 Does the discharge(s) for which you are seeking an exclusion discharge to a combined sewer system? ☐ Yes ☑ No

If yes, provide the name of the combined sewer system entity _____

5.2 Does the discharge(s) for which you are seeking an exclusion discharge through a Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☑ No

If yes, provide the name of the MS4 entity _____

5.3 Primary SIC Code of Facility _____ Other SIC Codes _____
(Optional) Primary NAICS Code of Facility _____

5.4 Provide an attached list of **any** materials that are stored outside and exposed to stormwater including wood pallets, empty storage barrels, waste disposal containers (except for a secured covered dumpster). Materials other than final product such as raw material or by-product of your industrial activities that can be mobilized by stormwater do not qualify for no exposure exclusion.

5.5 Attach a 1:1,000 aerial photograph (preferred) or USGS topographic map showing the location of the facility. Indicate on the map the facility, the property boundaries of the facility, the receiving water body, any septic tanks/lateral lines, stormwater basins, the location of items stored outside, and all outfall locations.

5.6 Is the facility causing an adverse impact on water quality due to major changes at the site to achieve no exposure? For example, constructing new buildings/shelters or constructing structures to prevent run-on in a formerly vegetated area. ☐ Yes ☑ No

If yes, please indicate approximately how much area was paved or roofed over. The department may use this information in considering whether stormwater discharges from your site are likely to have an adverse impact on water quality, in which you could be required to obtain permit coverage.

☐ Less than 1 acre ☐ 1 to 5 acres ☐ More than 5 acres

6. NO EXPOSURE CERTIFICATION CHECKLIST

The purpose of this checklist is to 1) help you determine whether the exposure of industrial activities, materials, and equipment to stormwater has been eliminated at the facility, and 2) help department staff evaluate the adequacy of your compliance activities and NEC. For the purpose of this checklist, "outdoors" are areas of the facility that are not beneath permanent roofed structures.

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future?
Please answer all questions by checking "Yes" or "No."

6.1	Using, storing, or cleaning industrial machinery or equipment, and areas where residuals from using, storing, or cleaning industrial machinery or equipment remain and are exposed to stormwater	☐ Yes ☑ No
6.2	Materials or residuals on the ground or in stormwater inlets from spills or leaks	☐ Yes ☑ No
6.3	Materials or products from past industrial activity	☐ Yes ☑ No
6.4	Material handling equipment (except adequately maintained vehicles)	☐ Yes ☑ No
6.5	Materials or products during loading/unloading or transporting activities	☐ Yes ☑ No
6.6	Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to stormwater does not results in the discharge of pollutants)	☐ Yes ☑ No
6.7	Materials contained in open, deteriorated or leaking storage drums, barrels, tank, and similar containers	☐ Yes ☑ No
6.8	Materials or products handled/stored on roads or railways owned or maintained by the facility	☐ Yes ☑ No
6.9	Waste Material (except waste in covered, non-leaking containers [e.g., dumpsters])	☐ Yes ☑ No
6.10	Application or disposal of process wastewater (unless otherwise permitted)	☐ Yes ☑ No
6.11	Particulate matter or visible deposits or residuals from roof stacks or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater outflow	☐ Yes ☑ No

If you answer "Yes" to any of these questions, you are <u>not</u> eligible for the no exposure exclusion.

7. CERTIFICATION

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES stormwater permitting.

I certify under penalty of law that there are no discharges of stormwater contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document [except as allowed under 40 CFR 122.26(g)(2)].

I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of stormwater from the facility.

Additionally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME (TYPE OR PRINT)	OFFICIAL TITLE
Jason Seger	Operations Manager
EMAIL	PHONE NUMBER WITH AREA CODE
jasons@rockcreekpsd.com	06/18/2021
SIGNATURE	DATE SIGNED
	06/18/2021

760-2828 (04-18)

GUIDANCE AND INSTRUCTIONS FOR COMPLETING THE NO EXPOSURE CERTIFICATION FOR EXCLUSION FROM NPDES STORMWATER PERMITTING UNDER MISSOURI CLEAN WATER LAW—FORM 780-2828

For assistance in determining if the facility meets the conditions of "No Exposure" please reference the Missouri Department of Natural Resources Guidance for No Exposure Certification for Exclusion from Stormwater Permit Requirements, Pub 2729. This document may be found online at https://dnr.mo.gov/pubs/pub2729.htm.

Additionally you may reference the U.S. Environmental Protection Agency's *Guidance Manual for Conditional Exclusion from Storm Water Permitting Based on "No Exposure" of Industrial Activities to Storm Water, June 2000."* This document may be found at https://www.epa.gov/npdes/guidance-manual-conditional-exclusion-stormwater-permitting-based-no-exposure-industrial

Persons with more than one operating location shall obtain a Missouri State Operating Permit or No Exposure Certification for each location unless other permitting arrangements are allowed by the terms of the permit. Where multiple discharge points exist at a single operating location, one application may cover all the applicable discharges.

The no exposure exclusion is conditional. Therefore, if there is a change in circumstances that causes exposure of industrial activities or materials to stormwater, the operator is required to comply immediately with all requirements of the stormwater program, including obtaining a permit. Where a facility operator determines that exposure is likely to occur in the future due to some anticipated change at the facility, the operator shall obtain a permit prior to the discharge of stormwater associated with industrial activity. Regulated industrial operators must to either apply for a permit or submit a no exposure certification in order to be in compliance with the NPDES stormwater regulations.

Failure to maintain the condition of no exposure or obtain a permit to discharge can lead to unauthorized discharge of pollutants to waters of the state. Such a discharge is a violation of the Missouri Clean Water Law and the Federal Water Pollution Control Act and may be subject to fines and penalties.

Even if the facility operator certifies the condition of no exposure, the department retains the authority to require the facility to obtain a permit if it is determined that there is exposure at the facility, or that the discharge of stormwater is contributing to the violation of water quality standards.

Fees: There is no fee associated with No Exposure Certifications; however, if the facility has a current operating permit all past due fees must be made current in order to terminate the existing permit.

1. Facility name and address. The name by which this facility is locally known. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the name of the closest intersection, highway, county road, accurate geographic description, etc. (e.g., Intersection of Route A and M).

1.2 Check the appropriate box. Do not check more than one.

2. Facility Owner. Provide the legal name, mailing address, work phone and fax numbers, and email address of the owner. Correspondence will be mailed to the owner address listed on this application.

3. Continuing Authority. Include the permanent organization that will serve as the continuing authority for the operation, maintenance, and modernization of the facility. The regulatory requirement regarding continuing authority is available at 10 CSR 20-6.010(3) on the website https://www.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf.

4. Facility Contact. Provide the name, title, work phone and fax numbers, and email address of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department.

5. Additional Information.

5.1 A combined sewer system is one in which the sanitary and storm sewers are one pipe. In Missouri, parts of Macon, Moberly, St. Joseph, Kansas City, Sedalia and all of the city of St. Louis are on combined sewer systems. To find information, consult with your municipal public works department or, if in St. Louis, the Metropolitan St. Louis Sewer District (MSD). If this discharge is to a combined sewer system, it is exempt from stormwater permitting requirements in most cases. Visit http://dnr.mo.gov/env/wpp/permits/index.html to view individual general permits to determine if the permit you are applying for includes this exemption. If it does, you do not need to file this application.

5.2 If discharge is located within a MS4 permitted authority, provide the name of the authority.

5.3 List in descending order of significance the four-digit Standard Industrial Classification (SIC) code that best describe your facility in terms of principal products or services you produce or provide. The SIC system was devised by the U.S. Office of Management and Budget to cover all economic activities. The primary SIC code is that of the operation that generates the most revenue, or, secondly, employs the most personnel. To find the correct SIC code, contact the Missouri Department of Natural Resources at 573-522-4502 or refer to the following websites: www.osha.gov/pls/imis/sicsearch.html or siccode.com/en/naicscode/list/directory. In addition, list the North American Industry Classification System (NAICS) code, if applicable.

5.4 List anything stored outside, including wood pallets, empty storage barrels, waste disposal containers, or anything that is a raw material, by-product, or product of your industrial activities.

5.5 An aerial photograph with appropriate detail, such as Google Earth or Google Maps. U.S. Geological Survey topographic maps are available from the department's Missouri Geological Survey in Rolla, Mo at 573-368-2100 and online at http://dnr.mo.gov/geology/adm/publications/topoquads.htm. To the best of your ability draw property boundaries, outfall locations, receiving water body(ies) and other significant facility features.

5.6 An increase in impervious area often leads to an increase in volume and velocity of runoff, which, in turn, can result in a higher concentration of pollutants in the discharge, since fewer pollutants are naturally filtered out.

6.0 All questions should be answered by checking "Yes" or "No". Please note that if you answer "Yes" to any of these questions, you are not eligible for the no exposure exclusion.

7. Include the name, title, phone number and email address of the person signing the form and the date of signing. An unsigned or undated certification will not be considered valid.

The No Exposure Certification form must be signed as follows:

(i) For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means:

a. a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

b. the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(ii) For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

(iii) For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA). Include the name and title of the person signing the form and the date of signing.

If you have any further questions regarding the no exposure certification or this form, contact the appropriate office.

Central Office, Water Protection Program -Operating Permits Section, (see contact information below)

Site-Specific MO-0000000

General Permits MOG – 05, 87
MOR – 240 (new)

Regional Offices (see map)

General Permits MOG – 09, 13, 14, 251, 35, 49, 50, 64, 641, 67, 69, 698, 75, 76, 821, 822, 84, 92, 94, 97,
MOR – 13, 203, 22A, 22B, 22C, 23A, 23D, 23E, 240 (renewal), 60A, 80C, 80F, 80H

This completed form and any attachments should be submitted to:

Central Office	Regional Offices
Department of Natural Resources Water Protection Program ATTN: Operating Permits Section P.O. Box 176 Jefferson City, MO 65102-0176 800-361-4827 or 573-522-4502	Please send to the appropriate regional office. A map of regional offices with addresses and phone numbers are available online at dnr.mo.gov/regions/.

Submittal of an incomplete form may result in form being returned.

Rock Creek Public Sewer District
System Map

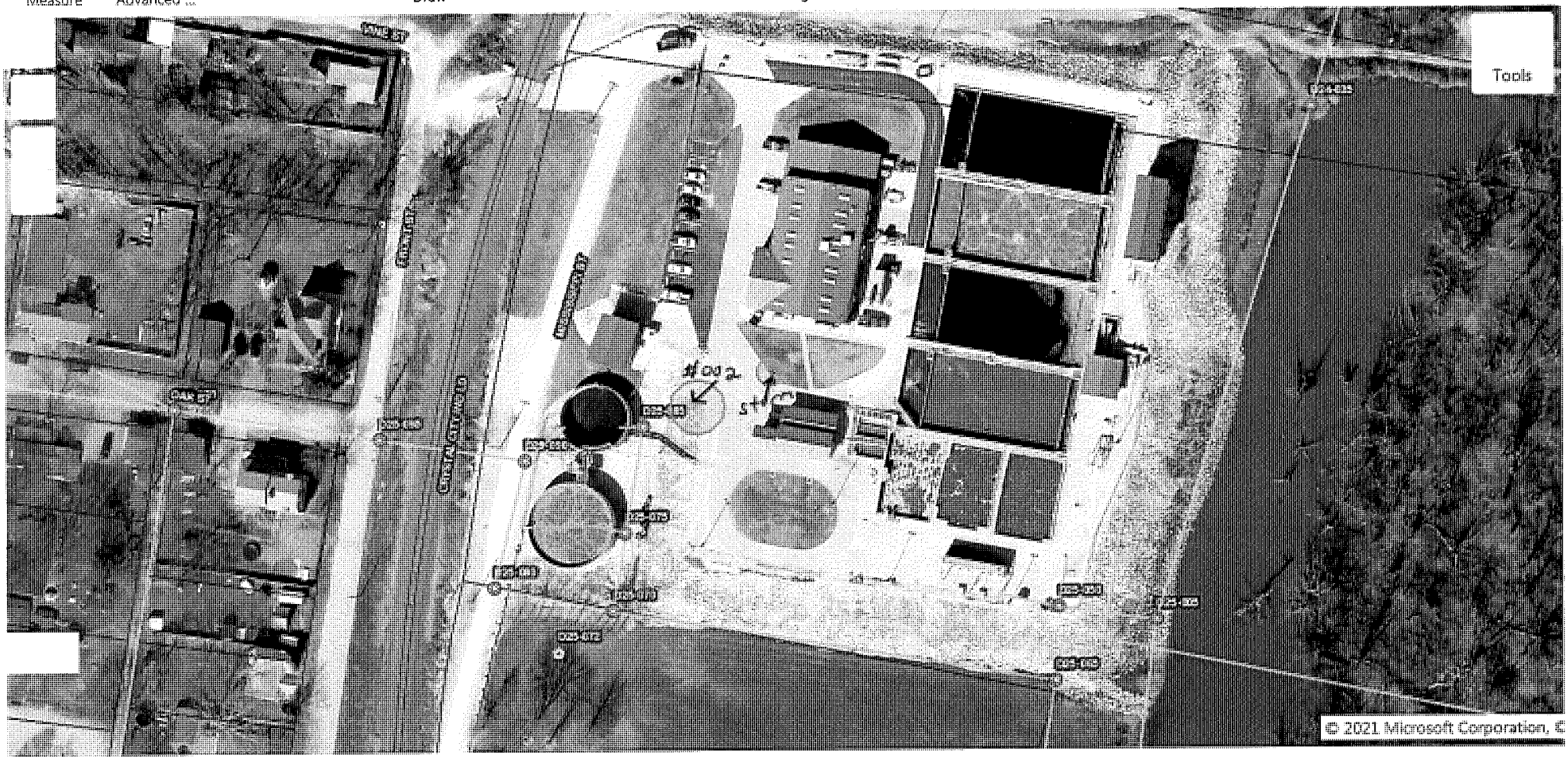
Search... Sign in

Navigation Identify Search Measure & Draw Tasks

Tool Labels

Distance Line Circle Enable Snapping Select Snapping Layers Styles Edit Export Drawings

Measure Advanced ... Draw Edit Drawings



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ROCK CREEK PUBLIC SEWER DISTRICT — ADOPTED FY 2021 BUDGET

		ACTUAL FY '16 TOTAL	ACTUAL FY '17 TOTAL	ACTUAL FY '18 TOTAL	ACTUAL FY '19 TOTAL	FY'20 BUDGET	FY '20 ACTUAL	PROPOSED FY '21 BUDGET	COMMENTS
INCOME									
Sewer Use Fees									
Residential		3,135,351.98	3,140,757.61	3,378,940.47	3,920,034.86	3,964,752.16	3,949,858.82	4,023,802.88	Based 1st quarter billing + growth of 80 units in '21 (hist: 171-20', 121-19', 143-18' ,138-17')
Multi-family		795,928.14	801,724.93	849,935.90	987,722.90	1,013,920.00	1,008,152.29	991,787.20	Based on 1st quarter billing; new rate applied of $73.29 plus $2.57 per 1,000 gallons
Commercial		395,255.97	408,674.19	444,288.32	518,754.43	500,000.00	459,425.52	401,635.56	Based on 1st Quarter Billing minus $40,000 Covid Related Adjustment
Total Income		**4,326,536.09**	**4,351,156.73**	**4,673,164.69**	**5,426,512.19**	**5,478,672.16**	**5,417,436.63**	**5,417,225.64**	
OPERATING EXPENSES									
Electric		272,186.27	280,836.78	290,000.00	280,427.49	290,000.00	230,494.24	275,000.00	Treatment plants, pump stations, Oper. buildings, UV lights.
Employee Benefits-Medical/Life/Dental		124,193.98	131,971.62	154,637.00	157,685.81	175,500.00	175,447.98	200,000.00	Medical: Cost share $600 + 85% over $600 and Dental:$50 per month
Employee Benefits-Pension		82,119.52	0.00	89,100.00	0.00	92,000.00	89,204.14	102,000.00	Lagers pension through State of Mo. rate 17.10% increased from 16.20% in '20
Employee Benefits-Vacation/Holiday		58,839.26	71,628.64	56,000.00	61,920.96	65,000.00	72,834.04	77,000.00	Includes adjustment by COLA of 0.00%, Pay Scale Adj 21' includes step increases allowed by
Gas & Oil		13,649.09	15,157.79	18,000.00	21,748.60	23,000.00	11,039.59	17,000.00	Gasoline, diesel, and oil,
Insurance-Liability & Vehicle		19,607.04	21,027.00	22,000.00	24,194.00	26,500.00	24,797.04	26,500.00	General Liability $11,647 & Vehicle $14,334
Insurance-Property		41,792.85	43,667.03	46,000.00	43,229.30	54,000.00	49,106.14	55,000.00	Property $47,548; Flood Insurance $1,547; Inland Marine $3,418
Insurance-Workers Compensation		12,168.47	10,165.88	12,000.00	12,545.59	14,000.00	13,450.50	14,000.00	Renewal bids due April '20; renewal based on percentage of payroll
Private Lateral Inspection		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Private Lateral Inspections
Laboratory Supplies		420.43	0.00	1,000.00	0.00	3,000.00	0.00	3,000.00	Miscellaneous supplies
Missouri One Call Locates		5,727.80	6,142.50	6,300.00	5,520.80	6,300.00	8,777.05	9,500.00	Locates under Missouri One Call System- rate increase to $1.30
Maintenance-Vehicles		0.00	0.00	2,500.00	0.00	2,500.00	0.00	2,500.00	Miscellaneous costs throughout year
Maintenance-Excavation Equipment		0.00	5,800.56	4,000.00	0.00	4,000.00	0.00	4,000.00	Maintenance of heavy equipment
Maintenance-Plant; Contract Prev. Maint		9,237.79	23,752.28	30,000.00	40,337.06	30,000.00	6,792.23	30,000.00	Generator ($22K); flow meter ($1K) Pumps/Blower ($29K)
Maintenance-Spare Parts		13,843.14	0.00	20,000.00	0.00	25,000.00	17,806.92	25,000.00	Spare parts for plant and Pump Station
Other Utilities		27,149.60	29,562.16	30,000.00	28,711.58	35,000.00	27,324.93	35,000.00	Water, propane gas, and trash service.
Payroll Taxes		36,720.15	37,323.57	39,000.00	41,589.37	44,000.00	43,384.25	48,000.00	Payroll tax 7.65%
Permits & Licenses		2,870.00	4,814.25	5,000.00	2,120.70	4,000.00	10,424.06	12,000.00	MoDNR licensing based upon 75 cents/residence + commercial
Plant Chemicals		24,751.73	15,186.58	23,000.00	18,630.72	22,000.00	23,578.35	30,000.00	polymer, weed control, ice melt
Purchased Sewer Service		187,389.51	239,987.46	255,000.00	310,752.93	338,000.00	342,737.76	410,000.00	New Mo. American rate on 7-18; They provide service for 878 units. 78 new in 20' & GG
Rental Equipment		1,834.00	1,698.05	5,000.00	0.00	5,000.00	0.00	5,000.00	Miscellaneous equipment rental - buried manholes
Repairs		108,856.57	69,242.29	150,000.00	115,141.47	150,000.00	85,652.16	150,000.00	Repair of all pumps, plant items, UV Bulbs, Collection System
Salaries		432,894.33	428,398.97	450,000.00	465,910.96	480,000.00	476,517.74	520,000.00	Pay Scal Adj 21' COLA 0.0%, includes step increases allowed by pay plan; reclassification
Shipping-Returns		909.26	405.93	800.00	106.01	800.00	0.00	800.00	Pay return of miscellaneous items
Sludge Removal		129,771.00	119,142.02	135,000.00	113,531.03	125,000.00	110,494.99	125,000.00	Sludge removal and disposal. Hauling cost increase, Bid in 2022
Small Tools		2,993.75	36.92	7,000.00	960.00	5,000.00	0.00	5,000.00	Miscellaneous tools throughout the year
Supplies		66,340.73	80,162.13	80,000.00	78,639.34	80,000.00	64,472.81	80,000.00	Miscellaneous supplies
Telephone		22,841.96	24,933.39	27,000.00	21,575.28	25,000.00	22,119.54	25,000.00	Auto dialers, answering service, pagers, cell phones, fire alarm installation & monitoring
Testing		17,841.84	16,945.30	20,000.00	16,491.00	20,000.00	21,700.60	22,000.00	Testing of effluent and sludge
Uniforms		6,617.50	5,228.21	6,700.00	6,507.85	7,000.00	6,632.11	7,200.00	Uniforms provided; bid in 2022
Total Operating Expenses		**1,723,567.57**	**1,683,217.31**	**1,985,037.00**	**1,868,277.85**	**2,151,600.00**	**1,934,789.17**	**2,315,500.00**	
GROSS MARGIN	####	**2,602,968.52**	**2,667,939.42**	**2,688,127.69**	**3,558,234.34**	**3,327,072.16**	**3,482,647.46**	**3,101,725.64**	
	####								
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ROCK CREEK PUBLIC SEWER DISTRICT ADOPTED FY 2021 BUDGET

	ACTUAL	ACTUAL	ACTUAL	ACTUAL	FY'20	FY '20	PROPOSED	COMMENTS
ADMINISTRATIVE EXPENSES	FY '16 TOTAL	FY '17 TOTAL	FY '18 TOTAL	FY '19 TOTAL	BUDGET	ACTUAL	FY '21 BUDGET	
Accounting	23,558.50	25,670.00	27,000.00	29,143.75	30,000.00	30,022.75	32,000.00	Monthly accounting services and annual audit
Advertising	1,785.00	390.00	3,000.00	4,785.00	5,000.00	2,460.00	5,000.00	Positions, bid notices, and public announcements
Bank Fees Remote Deposit				2,847.50	4,000.00	0.00	2,000.00	Remote Deposits
Bad Debt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Bad Debit
Computer Service	14,199.93	17,100.94	23,000.00	8,409.44	15,000.00	9,459.70	13,000.00	Computer licensing & support.
Continuing Education	8,498.40	1,285.00	15,000.00	12,230.29	17,000.00	2,325.59	17,000.00	Work related education expenses WEFTEC, REGFORM, MWEA Conf
Dues & Subscriptions	3,022.99	2,875.00	6,000.00	2,890.00	4,000.00	2,850.00	4,000.00	MASD; professional organizations,
Electric	7,232.14	7,285.54	9,000.00	7,471.42	9,000.00	6,867.44	8,000.00	Electric service for administrative offices based on last year
Employee Benefits-Medical/Life/Dental	47,245.91	44,176.84	47,000.00	52,674.44	62,000.00	58,389.25	68,000.00	Medical $600 + 85% over $600; Dental$50 per month
Employee Benefits-Pension	40,322.64	0.00	42,900.00	0.00	52,000.00	49,022.74	64,000.00	Lagers pension through State of Mo. rate 17.10% increase from 16.20% in '20
Employee Benefits-Vacation/Holiday	27,947.37	34,124.71	27,000.00	33,044.00	35,000.00	37,976.16	45,000.00	Includes adjustment by COLA of Pay Scale Adj 21' includes step increases allowed by pay pla
Bad Check Fees	9,253.58	9,556.86	13,000.00	9,500.06	11,000.00	4,825.79	7,000.00	Fees charged by banks for bad checks of customers.
Engineering	63,571.50	25,209.00	65,000.00	4,886.50	35,000.00	12,973.00	90,000.00	Engineering, Design, Bid; Black Creek Trunk Line & SSIA
Sewer User Claims	0.00	0.00	15,000.00	6,000.00	12,000.00	0.00	12,000.00	Cost of deductible for sewer backup claims.
Insurance-Public Official, Bonding, Employment	2,059.00	1,806.00	2,000.00	6,131.04	6,000.00	3,021.00	3,500.00	Errors & omissions, Employment, Crime, Treasurer's Bond & Notary Bonds
Insurance-Property	4,299.96	4,227.96	4,700.00	4,700.04	5,000.00	4,700.04	5,000.00	Insurance for administration bldg.
Insurance-Vehicle	550.00	690.44	600.00	600.00	600.00	600.00	600.00	Insurance for truck 211
Debit Card Payment Fees	0.00	87.45	400.00	15.90	200.00	0.00	200.00	Fees Charged for Debit Card
Legal	9,510.00	13,101.00	20,000.00	9,405.02	14,000.00	5,785.45	12,000.00	Expenses for legal counsel
Misc. Employee Expenses	8,327.18	11,819.92	5,000.00	4,957.04	5,000.00	65.00	5,000.00	Training, immunizations, drug screenings.
Late Charges	27,345.19	0.00	1,000.00	0.00	500.00	0.00	500.00	Late Charges
Processing Liens	3,900.00	3,205.30	5,500.00	5,353.40	5,500.00	3,059.55	5,000.00	Recording fees for filing and release of liens
Other Utilities	1,092.24	1,092.24	1,500.00	1,092.24	1,200.00	1,091.62	1,200.00	Water and natural gas service
Payroll Taxes	16,634.28	17,083.78	19,000.00	18,081.01	25,000.00	19,005.77	31,000.00	Payroll tax at 7.65%
Postage	25,623.18	22,438.46	27,000.00	24,882.39	27,000.00	19,778.05	27,000.00	Mailing of quarterly bills, notices and general mail- reflects rate increase in 2019
Rental	2,518.00	2,220.00	2,500.00	4,064.24	4,500.00	6,369.52	7,000.00	Postage machine leases
Repairs				0.00	5,000.00	462.00	5,000.00	Admin Repairs
Salaries	213,505.75	207,618.13	220,000.00	254,784.14	275,000.00	265,924.26	325,000.00	COLA Pay Scale Adj 21' includes step increases allowed by pay plan
Subcontract & Maintenance	3,336.00	6,288.00	3,500.00	4,264.00	4,500.00	4,361.00	5,000.00	Janitorial service for administration offices
Supplies	18,632.45	26,837.81	30,000.00	39,455.50	35,000.00	39,670.38	42,000.00	Miscellaneous office supplies
Telephone	9,129.57	9,519.20	11,000.00	9,429.11	11,500.00	11,513.85	12,000.00	Telephone, cell phone, pager, computer line, and internet
Trustee Fees	47,096.19	45,420.15	55,000.00	28,639.09	35,000.00	16,621.98	30,000.00	1999 and 2001C bonds trustee fees and MoDNR fees
Trustee Fees COP				2,000.00	2,500.00	2,000.03	2,500.00	Trustee Fees COP
Total Administrative Expenses	**640,196.95**	**541,129.73**	**701,600.00**	**591,736.56**	**754,000.00**	**621,201.92**	**886,500.00**	
INCOME (LOSS) BEFORE OTHER INCOME	**1,962,771.57**	**2,126,809.69**	**1,986,527.69**	**2,966,497.78**	**2,573,072.16**	**2,861,445.54**	**2,215,225.64**	
& EXPENSES								

ROCK CREEK PUBLIC SEWER DISTRICT ADOPTED FY 2021 BUDGET

		ACTUAL	ACTUAL	ACTUAL	ACTUAL	FY '20	FY '20	PROPOSED	COMMENTS
	OTHER INCOME	FY '16 TOTAL	FY '17 TOTAL	FY '18 TOTAL	FY '19 TOTAL	BUDGET	ACTUAL	FY '21 BUDGET	
	Tap on Fees	304,600.18	343,801.55	333,018.32	302,700.00	200,000.00	426,056.50	200,000.00	Res $2,500 new/$500 existing; Commercial $2,000 + $75 per 100 gal
	Postage Income	1.00	0.00	127.00	125.00	0.00	0.00	0.00	Recovery of certified mail costs from disconnect notices sent to customers
	Inspection Fees	24,631.78	17,989.64	14,500.00	9,975.00	6,000.00	8,800.00	6,000.00	Fees charged to developers at rate of $30 per hour adjusted end of 2006
	Sludge Removal Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Late Charges	102,741.02	111,666.69	124,701.57	127,243.39	90,000.00	93,206.06	95,000.00	Rate charged is 10% per quarter on unpaid principal balance
	Bad Check Fees	1,314.10	1,520.00	1,070.00	876.00	750.00	421.38	750.00	Fees charged to customer to recover bank fees
	Interest	44,019.73	51,698.45	62,309.11	62,330.35	30,000.00	45,971.63	35,000.00	Account balances will drop due to projects.
	Other Sales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Phone Pay	440.00	373.00	396.00	308.00	225.00	342.00	225.00	Rate charged is $1 for payment by phone
	Discounts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Insurance proceeds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Processing Liens	3,540.00	3,060.00	3,840.00	4,425.96	2,000.00	1,895.00	2,000.00	Lien recording fees recovered
	Debit Card Payment Fees	0.00	50.00	100.00	0.00	50.00	0.00	0.00	Fees Recovered from Debit Card
	Plant Chemical Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Telephone Reimbursement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Private Lateral Inspection Income	67,860.34	63,790.00	62,353.32	57,574.18	40,000.00	47,948.37	40,000.00	Private Inspection Fees
	Offset Trustee & Bond Admin Fee				0.00	0.00	0.00	0.00	
	Interest Subsidy - 2001C Issue	-271,578.92	-240,345.91	-171,120.58	133,833.99	98,502.00	101,641.79	64,000.00	SRF Interest Subsidy
	Amort-Original Premium 2001C	0.00	0.00	0.00	41,496.00	41,496.00	41,496.00	41,496.00	Bond premium of $854,126 amortization over life of bonds
	SSIA DeBeth						53,664.55	17,012.88	
	SSIA Lion's Den						68,407.96	6,129.84	
	SSIA Country Haven						28,924.98	13,852.56	
	Total Other Income	**277,569.23**	**353,603.42**	**431,294.74**	**740,887.87**	**509,023.00**	**918,776.22**	**521,466.28**	
	OTHER EXPENSES								
	Amortization of Bond Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Amortization of bond issuance costs
	Interest- 1994 Issue	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Paid in full
	Interest- 1999 Issue	96,249.96	65,750.04	33,750.00	0.00	0.00	0.00	0.00	Paid in full
	Interest Subsidy- 1999 Issue	-66,017.07	-56,066.17	-17,278.81	0.00	0.00	0.00	0.00	Paid in full
	Interest- 2001C Issue	377,409.36	324,734.40	269,237.52	212,875.02	155,625.00	155,625.00	95,500.00	Annual bond interest paid semi-annually in Jan & July at $63,125 and $32,375
	Interest Subsidy- 2001C Issue						0.00	0.00	
	Amort- Orig Premium 2001C						0.00	0.00	
	Interest-2012 COP	39,642.38	36,806.72	52,654.61	31,559.11	28,660.00	28,391.50	25,395.33	COP Interest
	Interest SSIA DeBeth	0.00	0.00	0.00	2,154.04	8,510.00	4,957.21	9,971.76	SSIA Interest
	Interest SSIA Lion's Den	0.00	0.00	0.00	20.12	7,310.00	12,242.12	3,624.43	SSIA Interest
	Interest SSIA Country Haven	0.00	0.00	0.00	5.85	4,450.00	15,259.78	8,166.99	SSIA Interest
	Depreciation	910,076.96	923,053.17	931,426.94	955,548.97	986,000.00	966,490.56	986,000.00	Scheduled depreciation of assets.
	Lateral Repairs	0.00	33,120.00	64,793.00	88,437.50	90,000.00	109,950.47	120,000.00	Lateral Repairs Pilot Project 50/50 split
	Refunding-Line Extensions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Property Taxes	199.57	0.00	0.00	0.00	0.00	0.00	0.00	

130	Tap-on Fees- Arnold	45,000.00	0.00	0.00	0.00	0.00	0.00	0.00			
131	Asset Disposition	0.00	0.00	0.00	10,924.08	10,000.00	0.00	0.00			
132	**Total Other Expenses**	**1,402,561.16**	**1,327,398.16**	**1,334,583.26**	**1,301,524.69**	**1,290,555.00**	**1,292,916.64**	**1,248,658.51**			
133											
134	**NET INCOME (LOSS) FOR THE FISCAL YEAR**	**837,779.64**	**1,153,014.95**	**1,083,239.17**	**2,405,860.96**	**1,791,540.16**	**2,487,305.12**	**1,488,033.41**			
135											
136	**BOND PRINCIPAL**										
137	Series SSIA DeBeth	0.00	0.00	0.00	0.00	14,220.00	14,220.00	7,041.12	Principal Payments		
138	Series SSIA Lion's Den	0.00	0.00	0.00	0.00	14,460.00	14,600.00	2,505.41	Principal Payments		
139	Series SSIA Country Haven	0.00	0.00	0.00	0.00	9,310.00	9,310.00	5,685.57	Principal Payments		
140	Series 1999A	610,000.00	640,000.00	675,000.00	0.00	0.00	0.00	0.00	Paid in Full		
141	Series 2001C	980,004.00	1,032,500.00	1,067,500.00	1,145,000.00	1,202,502.00	1,202,502.00	1,262,502.00	Based on monthly payment for annual principal amount in July 2019		
142	Series 2012 COP	87,047.00	89,885.00	92,808.00	94,870.00	98,029.00	98,029.00	101,293.11	Annual Principal payment for COP		
143	**Total Bond Principal Expenditures**	**1,677,051.00**	**1,762,385.00**	**1,835,308.00**	**1,239,870.00**	**1,338,521.00**	**1,338,661.00**	**1,379,027.21**			
144											
145	**NET AVAILABLE FOR CONTINGENCY**							**109,006.20**			

ROCK CREEK PUBLIC SEWER DISTRICT ADOPTED FY 2021 BUDGET

137	**CAPITAL EXPENDITURES**										
138	Smoke Testing Phase 2							190,000	Smoke testing 9,275' of Pomme Creek Sewer; Including Engineering		
139	Flow Meter, Model, & LOS							3,600	Remaining Balance 2019		
140	High Efficiency Blowers							720,000	New SBR Blowers, Includes Engineering & SCADA Integration		
141	New Maintenance Garage Treatment Facility							1,000,000	New Garage at Treatment Facility (75% completion)		
142	Phase 8 Repair & Rehab Project & Engineering							407,000	Phase 8 Repair & Replacement, Sewer & Manhole Lining & Engineering		
143	Old Lemay Ferry / East Rock Creek Relocation							120,000	Old Lemay Ferry / East Rock Creek Relocation, Eng & Const.		
144	Pomme Creek Sewer Upgrade 8" - 12"							275,000	Construction & Engineering MH H14-160 to H14 - 185		
145	SSIA Penny Lane Engineering							50,000	Engineering SSIA Penny Lane		
146	Process Water Unit							325,000	Process Water Treatment Plant		
147	Treatment Plant Upgrade							52,000	OSCAR Sanitaire Plant Upgrade Remaining balance		
148	Facility Plan Engineering							3,300	Facility Plan Update, Training		
149	Creek Crossing Repair							240,000	Creek Crossing Rex Aire; Including Engineering		
150	Manhole Raise to Grade Project Phase 4							0	2021 Investigative Year		
151	Manhole Raise to Grade Engineering							0	2021 Investigative Year		
152	Copier							7,000	New Copier Administration Building		
153	Private Lateral GIS							3,500	Private Lateral GIS Mapping		
154	Truck Replacement Reserve Account							20,000	Amount set aside on an annual basis for the replacement of trucks		
155	Equipment Replacement Reserve Account							16,000	Amount set aside on an annual basis for the replacement of equipment		
156	Pump Station Repair and Replacement							15,000	Amount set aside on an annual basis for the repair/replacement of pump stations		
157	Treatment Plant Repair and Replacement							220,000	Amount set aside on an annual basis for the repair/replacement of treatment plant		
158											
159	**Total Capital Expenditures**							**3,667,400**			
160											
161	**BUDGET SUMMARY FY 2021:**										
162											
163	Income										
164	User Fees	5,417,226									
165	Other Sources	521,466									
166	Total Income	5,938,692									

167												
168	Expenses											
169	Operations	2,315,500.00										
170	Administration	886,500.00										
171	Other	1,248,658.51										
172	Total Expenses	4,450,658.51										
173												
174	Net Income (Loss) FY 2020	1,488,033.41										
175												
176	Bond Principal	1,379,027.21										
177												
178	Net Funds Available for Contingency	109,006.20										
179												
180	Capital Expenditures and Reserve Accounts	3,667,400.00										
181												
182	Projected Year End Impact On Cash Reserves	-3,558,393.80										
183												
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ROCK CREEK PUBLIC SEWER DISTRICT ADOPTED FY 2021 BUDGET

185	**CASH ON HAND BEGINNING OF FY 2021**			REPAIR AND REPLACEMENT RESERVE ACCOUNT								
186	Money Market and CD on Deposit Lemay Bank	903,709										
187	Time Deposit Midwest Bank (Repair/Replacement Reserve Acct)	4,719,678					Existing Reserves	FY 2021	Bal End of '21			
188	Petty Cash	150		Vehicle/Equipment Replacement Fund			$304,000.00	36,000.00	$340,000.00			
189	**Total Cash Available**	**$5,623,537**		Pump Station Repair and Replacement Fund			239,000.00	15,000.00	254,000.00			
190				Treatment Plant Repair and Replacement Fund			1,331,642.00	220,000.00	1,551,642.00			
191				Total			$1,874,642.00	271,000.00	$2,145,642.00			
192	**PROJECTED CASH POSITION END OF FY 2021**											
193	Total Income from All Sources	5,938,691.92										
194	Total Expenses	-4,450,658.51		Vehicles/equipment reserve $36,000 per year								
195	**Net Income(Loss) for FY 2021**	**1,488,033.41**			Beginning balance		$304,000					
196	Bonds, Capital Expenditures and Reserves	-5,046,427.21			FY '21 Allocation		$36,000					
197	Depreciation (non-cash expense)	986,000.00										
198					Net Balance		$340,000					
199	**Adjustment from Capital, Deprec., & Sewer Project**	**-2,572,393.80**										
200				Pump station reserve $15,000 per year								
201					Beginning balance		$239,000					
202	Cash On Hand In Bank Beginning of 2021	$5,623,537.00			FY '21 Allocation		$15,000					
203	Net of Expenses and Adjustments	-2,572,393.80										
204	**Projected Net Cash On Hand at End of FY 2021**	**3,051,143.20**			Net balance		$254,000					
205												
206				Treatment plant reserve $220,000 per year (previously $195,000)								

207					No payments have been made from this reserve							
208					Net balance FY 21'		$1,551,642					
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