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 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0128490
Owner:	Northeast Public Sewer District (NPSD)
Address:	1041 Gravois Road, Fenton, MO 63026
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	NPSD, Interim Saline Creek Regional Wastewater Treatment Facility
Facility Address:	555 13th Street, Fenton, MO 63026
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

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See Page 2

This permit authorizes only wastewater and stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 621.250 RSMo, Section 640.013 RSMo and Section 644.051.6 of the Law.

June 1, 2019
Effective Date

March 1, 2022
Modification Date

June 30, 2023
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Outfall #001 – POTW – SIC #4952
The use or operation of this facility shall be by or under the supervision of a Certified B Operator.
Influent course bar screen / influent pump station / influent screening removal and compactor / grit removal / peak flow holding basin (10 MG) / multiple channel (3) oxidation ditch / secondary clarifiers (three) / UV disinfection / effluent cascade aerator / membrane sludge thickening / aerobic sludge digester / sludge holding basins (two) / sludge is hauled and land applied by contract hauler / 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 52,500.
Design flow is 5.25 million gallons per day.
Actual flow is 2.5 million gallons per day.
Design sludge production is 1,267 dry tons/year.

Legal Description:	Land Grant 664, Jefferson County
UTM Coordinates:	X= 725447, Y= 4260518
Receiving Stream:	Meramec River (P)
First Classified Stream and ID:	Meramec River (P) (2183) 303(d) List
USGS Basin & Sub-watershed No.:	(07140102-1004)

Permitted Feature INF – POTW – SIC #4952
Influent Monitoring Location – Headworks

Legal Description:	Sec. 10, T43N, R5W, Jefferson County

Permitted Feature SM1 – Instream Monitoring
Instream monitoring location – Upstream – Terminus of Casa Loma Drive

Legal Description:	Land Grant 664, Jefferson County
UTM Coordinates:	X= 725082, Y= 4261338
Receiving Stream:	Meramec River (P)
First Classified Stream and ID:	Meramec River (P) (2183) 303(d) List
USGS Basin & Sub-watershed No.:	(07140102-1004)

Permitted Feature SM2 – Instream Monitoring
Instream monitoring location – Downstream – Crossing of Meramec River by Highway 21

Legal Description:	Land Grant 664, Jefferson County
UTM Coordinates:	X= 725513, Y= 4260364
Receiving Stream:	Meramec River (P)
First Classified Stream and ID:	Meramec River (P) (2183) 303(d) List
USGS Basin & Sub-watershed No.:	(07140102-1004)

OUTFALL #001

TABLE A-1.
INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. In accordance with 10 CSR 20-7.031, the final effluent limitations outlined in Table A-2 must be achieved as soon as possible but no later than **June 1, 2020**. These interim effluent limitations are effective beginning **June 1, 2019** and remain in effect through **May 31, 2020** or as soon as possible. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/weekday***	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, Page 5)	#/100mL		630	126	once/week	grab
Ammonia as N (Apr 1 – Sep 30) (Oct 1 – Mar 31)	mg/L	 29.4 29.4		 6.1 6.3	once/week	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 JULY 28, 2019. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Oil & Grease	mg/L	15		10	once/quarter*****	grab
Cadmium, Total Recoverable	µg/L	*		*	once/quarter*****	composite**
Copper, Total Recoverable	µg/L	*		*	once/quarter*****	composite**
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2019.						

EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units****	SU	6.0		9.0	once/week	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JULY 28, 2019.						

REMOVAL EFFICIENCY	UNITS	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand$_5$ (Note 2, Page 5)	%	85	once/month	calculated
Total Suspended Solids (Note 2, Page 5)	%	85	once/month	calculated
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JULY 28, 2019.				

* Monitoring requirement only.
** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
*** Once each weekday means: Monday, Tuesday, Wednesday, Thursday, and Friday.
**** pH is measured in pH units and is not to be averaged.
***** See table on Page 5 for quarterly sampling requirements.

OUTFALL #001	**TABLE A-2. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **June 1, 2020** 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
Flow	MGD	*		*	once/weekday***	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, Page 5)	#/100mL		630	126	once/week	grab
Ammonia as N (Apr 1 – Sep 30) (Oct 1 – Mar 31)	mg/L	29.4 29.4		6.1 6.3	once/week	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 JULY 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Oil & Grease	mg/L	15		10	once/quarter*****	grab
Cadmium, Total Recoverable	µg/L	10.9		5.3	once/quarter*****	composite**
Copper, Total Recoverable	µg/L	*		*	once/quarter*****	composite**
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2020.						

EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units****	SU	6.0		9.0	once/week	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JULY 28, 2020.						

REMOVAL EFFICIENCY	UNITS	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand$_5$ (Note 2, Page 5)	%	85	once/month	calculated
Total Suspended Solids (Note 2, Page 5)	%	85	once/month	calculated
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JULY 28, 2020.				

* Monitoring requirement only.
** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
*** Once each weekday means: Monday, Tuesday, Wednesday, Thursday, and Friday.
**** pH is measured in pH units and is not to be averaged.
***** See table on Page 5 for quarterly sampling requirements.

Quarterly Minimum Sampling Requirements			
Quarter	**Months**	**Oil & Grease, Total Recoverable Cadmium and Copper**	**Report is Due**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

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 is not required when the facility does not discharge effluent during the reporting period. Samples are to be collected prior to any treatment process. Percent Removal is calculated by 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 24-hour composite sample, composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

OUTFALL #001	**TABLE A-3. WHOLE EFFLUENT TOXICITY FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **June 1, 2019** 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
Acute Whole Effluent Toxicity (Note 3)	TU_a	*			once/year	composite**
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE DECEMBER 28, 2019.						
Chronic Whole Effluent Toxicity (Note 4)	TU_c	*			once every five years	composite**
WET TEST REPORTS SHALL BE SUBMITTED ONCE EVERY FIVE YEARS; THE FIRST REPORT IS DUE DECEMBER 28, 2022.						

* Monitoring requirement only.

** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

Note 3 – The Acute WET test shall be conducted once per year during the 1st, 2nd, and 4th year of the permit cycle. See Special Condition #16 for additional requirements.

Note 4 –The Chronic WET test shall be conducted during the 3rd year of the permit cycle. See Special Condition #17 for additional requirements.

PERMITTED FEATURE INF	TABLE B. INFLUENT MONITORING REQUIREMENTS

The monitoring requirements shall become effective on **June 1, 2019** 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
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 JULY 28, 2019.

PERMITTED FEATURE SM1****	TABLE C-1. UPSTREAM INSTREAM MONITORING REQUIREMENTS

The monitoring requirements shall become effective on **June 1, 2019** and remain in effect until expiration of the permit. The stream shall be monitored by the permittee as specified below:

PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM		MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ammonia as N	mg/L	*		*	once/month	grab
Total Phosphorus	mg/L	*		*	once/month	grab
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	grab
Nitrite + Nitrate	mg/L	*		*	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JULY 28, 2019.

PERMITTED FEATURE SM2****	TABLE C-2. DOWNSTREAM INSTREAM MONITORING REQUIREMENTS

The monitoring requirements shall become effective on **June 1, 2019** and remain in effect until expiration of the permit. The stream shall be monitored by the permittee as specified below:

PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM		MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Hardness, Total	mg/L	*		*	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2019.

* Monitoring requirement only.
** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
*** See table on Page 7 for quarterly sampling requirements.
**** See Special Condition #19 for additional requirements.

Quarterly Minimum Sampling Requirements			
Quarter	**Months**	**Hardness**	**Report is Due**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

D. SCHEDULE OF COMPLIANCE

The existing multiple channel oxidation ditch facility employs technology capable of meeting the proposed new final effluent limitations for Cadmium; however, the permit includes a **one (1) year** schedule of compliance to make sufficient operational changes so that consistent compliance with final effluent limitations for Cadmium is attained.

E. 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 March 1, 2015, and hereby incorporated as though fully set forth herein.

F. SPECIAL CONDITIONS

1. Electronic Discharge Monitoring Report (eDMR) Submission System.
   (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
   (b) Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:
      (1) Collection System Maintenance Annual Reports;
      (2) Sludge/Biosolids Annual Reports;
         i. In addition to the annual Sludge/Biosolids report submitted to the Department, the permittee must submit Sludge/Biosolids Annual Reports electronically using EPA's NPDES Electronic Reporting Tool ("NeT") (https://cdx.epa.gov/).
      (3) Pretreatment Program Reports; and
      (4) Any additional report required by the permit excluding bypass reporting.

      After such a system has been made available by the Department, required data shall be directly input into the system by the next report due date.
   (c) Other actions. The following shall be submitted electronically after such a system has been made available by the Department:
      (1) Notices of Termination (NOTs);
      (2) No Exposure Certifications (NOEs);
      (3) Low Erosivity Waivers and Other Waivers from Stormwater Controls (LEWs); and
      (4) Bypass reporting, See Special Condition #10 for 24-hr. bypass reporting requirements.
   (d) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://apps5.mo.gov/mogems/welcome.action.
   (e) 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. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period that the approved electronic reporting waiver is effective.

F. SPECIAL CONDITIONS (continued)

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. This does not include instream monitoring locations.

4. Report as no-discharge when a discharge does not occur during the report period. For instream samples, report as "no flow" if no stream flow occurs 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) The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
   (c) The permittee shall provide the "Non-Detect" sample result using the less than sign and the minimum detection limit (e.g. <10).
   (d) Where the permit contains a Minimum 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.
   (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
   (f) When calculating monthly averages, one-half of the method detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the "<MDL" shall be reported as indicated in item (c).

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, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. To request a modification 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. If the request is approved, the Department will modify the permit.

8. The permittee shall develop and implement a program for maintenance and repair of the collection system. The recommended guidance is the US EPA's Guide for Evaluating Capacity, Management, Operation, And Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (Document number 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 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 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.

F. SPECIAL CONDITIONS (continued)

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 shall be provided to the treatment facility.

13. The discharge from the wastewater treatment facility shall be conveyed to the receiving stream via a closed pipe or a paved or rip-rapped open channel. Sheet or meandering drainage is not acceptable. The outfall sewer shall be protected against the effects of floodwater, ice or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so 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 berms of the peak flow holding basin shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.

15. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the peak flow holding basin and to divert stormwater runoff around the peak flow holding basin and protect embankments from erosion.

16. 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:
        - The fathead minnow, *Pimephales promelas* (Acute Toxicity EPA Test Method 2000.0).
        - 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 Allowable Effluent Concentration (AEC) for this facility is 40% with the dilution series being: 90%, 60%, 40%, 26.7%, and 17.8%.
    (e) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
    (f) 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.

F. SPECIAL CONDITIONS (continued)

17. Chronic 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 chronic toxicity of NPDES effluents are found in the most recent edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013; Table IA, 40 CFR Part 136).* The permittee shall concurrently conduct 7-day, static, renewal toxicity tests with the following species:
        - The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
        - The daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
    (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 Allowable Effluent Concentration (AEC) is 6.3%, the dilution series is: 100%, 50%, 25%, 12.5%, and 6.3%.
    (e) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
    (f) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of chronic toxic units ($TU_c = 100/IC_{25}$) reported according to the *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* chapter on report preparation and test review. The 25 percent Inhibition Effect Concentration (IC_{25}) is the toxic or effluent concentration that would cause 25 percent reduction in mean young per female or in growth for the test populations.

18. Pretreatment: The permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of 10 CSR 20-6.100. The approved pretreatment program is hereby incorporated by reference.
    (a) The permittee shall submit to the Department via the Electronic Discharge Monitoring Report (eDMR) Submission System on or before March 31st of each year a report briefly describing its pretreatment activities during the previous calendar year. At a minimum, the report shall include the following:
        (1) An updated list of the Permittee's Industrial Users, including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Permittee shall provide a brief explanation of each deletion. This list shall identify which Industrial Users are subject to categorical pretreatment Standards and specify which Standards are applicable to each Industrial User. The list shall indicate which Industrial Users are subject to local standards that are more stringent than the categorical Pretreatment Standards. The Permittee shall also list the Industrial Users that are subject only to local Requirements;
        (2) A summary of the status of Industrial User compliance over the reporting period;
        (3) A summary of compliance and enforcement activities (including inspections) conducted by the Permittee during the reporting period; and
        (4) Any other relevant information requested by the Department.
    (b) Pursuant to 40 CFR 122.44(j)(2)(ii), the permittee shall submit to the Department a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1) by **November 1, 2020**. Please contact the Department's pretreatment coordinator for further guidance. Should revision of local limits be deemed necessary, it is recommended that revisions follow the US Environmental Protection Agency's guidance document *Local Limits Development Guidance.* EPA833-R04-002A. July 2004.

F. SPECIAL CONDITIONS (continued)

19. Receiving Water Monitoring Conditions
    (a) In-stream receiving water samples should be taken at the location(s) specified on Page 2 of this permit. In the event that a safe, accessible location is not present at the location(s) listed, a suitable location can be negotiated with the Department. Samples should be taken at least four feet from the bank or from the middle of the stream (whichever is less) and 6-inches below the surface if possible.
    (b) When conducting in-stream monitoring, the permittee shall record observations that include: the time of day, weather conditions, unusual stream characteristics (e.g., septic conditions, algae growth, etc.), the stream segment (e.g., riffle, pool or run) from where the sample was collected. These observations shall be submitted with the sample results.
    (c) Samples shall not be collected from areas with especially turbulent flow, still water or from the stream bank, unless these conditions are representative of the stream reach or no other areas are available for sample collection. Sampling should not be made when significant precipitation has occurred recently. The sampling event should be terminated and rescheduled if any of the following conditions occur:
        - If turbidity in the stream increases notably; or
        - If rainfall over the past two weeks exceeds 2.5 inches or exceeds 1 inch in the last 24 hours
    (d) Always use the correct sampling technique and handling procedure specified for the parameter of interest. Please refer to the latest edition of Standard Methods for the Examination of Water and Wastewater for further discussion of proper sampling techniques. All analyses must be conducted in accordance with an approved EPA method. Meters shall be calibrated immediately (within 1 hour) prior to the sampling event.
    (e) Please contact the Department if you need additional instructions or assistance.

20. Expanded Effluent Testing:
    Approved and sufficiently sensitive testing methods listed in 40 CFR 136.3 must be utilized to detect pollutant concentrations below the Water Quality Criteria established in 10 CSR 20-7.031.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATEMENT OF BASIS
MO-0128490
NPSD, INTERIM SALINE CREEK REGIONAL WASTEWATER TREATMENT FACILITY

This Statement of Basis (Statement) gives pertinent information regarding modifications to the above listed operating permit. A Statement is not an enforceable part of a Missouri State Operating Permit.

Part I – Facility Information

Facility Type: POTW
Facility Description: Influent course bar screen / influent pump station / influent screening removal and compactor / grit removal / peak flow holding basin (10 MG) / multiple channel (3) oxidation ditch / secondary clarifiers (three) / UV disinfection / effluent cascade aerator / membrane sludge thickening / aerobic sludge digester / sludge holding basins (two) / sludge is hauled and land applied by contract hauler / facility does not have materials stored or conduct operations in a manner that would cause the discharge of pollutants via stormwater

Part II – Modification Rationale

This operating permit is hereby modified to reflect a re-rating to increase design flow, an increase in design population equivalent, to incorporate the 2019 Antidegradation Analysis, and to modify the facility description to include an additional clarifier and addition of a SILC TAD aerobic digestion process noted as membrane sludge thickening.

No other changes were made at this time.

Part III – 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.

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 November 24, 2021 to December 27, 2021. No response received.

DATE OF STATEMENT OF BASIS: 10/13/2021

COMPLETED BY:

ASHLEY KNEEMUELLER, ENVIRONMENTAL ANALYST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(573) 526-1503
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Missouri Department of Natural Resources
Water Protection Program
Water Pollution Control Branch
Engineering Section

Antidegradation Applicability Review

FACILITY INFORMATION

FACILITY NAME: NPSD-Interim Saline Creek WWTF PERMIT #: MO-0121827

COUNTY: Jefferson
UTM COORDINATES: X= 725447, Y= 4260518
12-DIGIT HUC: 07140102-1004
LEGAL DESCRIPTION: Land Grant 664
EDU*: Ozark Meramec Drainage
ECOREGION: Eastern Ozark Border

*Ecological Drainage Unit

OUTFALL CHARACTERISTICS

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	8.14	Secondary/Tertiary	Municipal/domestic	0.0

RECEIVING WATERBODY INFORMATION

WATERBODY NAME: Meramec River (WBID 2183) CLASS: P

PROJECT INFORMATION

DESCRIPTION: The existing Saline Creek WWTF is a permitted 4.0 MGD plant. The existing treatment plant includes an influent course bar screen, pump station, screening, and grit removal with a 10 MG peak flow holding basin, 3 channel oxidation ditch, secondary clarifiers, UV disinfection and aerobic sludge digester for land application of biosolids. With the Antidegradation request, the facility submitted a request to rerate the treatment plant to a design average flow of 5.25 MGD

PROPOSAL: Horner & Shifrin prepared, on behalf of Northeast Public Sewer District, the *Antidegradation Report for Saline Creek Regional WWTF dated February 2019. The Antidegradation Report* was submitted at the same time as the rerating request was received by the Department. In the re-rating request, the applicant provided design calculations and performance data to demonstrate the existing treatment plant could handle an increase in the design average flow to 5.25 MGD. In the Antidegradation Report, the facility assumed the discharge was significantly degrading and performed an alternatives analysis, which are summarized below.

- Alternative #1 was a no discharge land application system, which was determined to not be practical as the facility would need 1,200 acre-ft lagoon to meet the minimum storage requirements and would need a minimum of 1,960 acres for application to occur on. It was estimated to cost $41 million.
- Alternative #2 was alternative discharge location, which does not exist because the discharge was moved in the early 2000's due to a TMDL off from Saline Creek.
- Alternative #3 was re-rating the existing oxidation ditch system "as-is," which was modeled and provided but does not address the future nutrient and ammonia limits the facility expects to need to meet. There is no construction cost for this alternative.

- Alternative #4 was to upgrade the treatment plant for biological nutrient removal by reprograming the controls and instrumentation, and adding new aerobic digestion system, sludge processing building, waste activated sludge (WAS) fine screen building, a third secondary clarifier, and sludge holding basin decant transfer station. The expected total nitrogen effluent is 8 mg/L and the total phosphorus is 1 mg/L. The solids handling portion has already been submitted to the State Revolving Fund as a project. The present worth for the project is $18, 567,418.
- Alternative #5 was the addition of a vertical loop reactor to convert the facility to a biological nutrient removal facility. The expected total nitrogen effluent would be 5 mg/L and the total phosphorus of 1 mg/L. The present worth of the project is $25,298,322.
- Alternative #6 was the addition of tertiary filtration and chemical feed system which would give an expected total nitrogen effluent of 5 mg/L and total phosphorus of 0.5 mg/L. The present worth of the project is $24,500,722.

The preferred alternative is alternative #4 which is upgrading the treatment facility for biological nutrient removal with new solids handling equipment and a third secondary clarifier. For the discharge to the Meramec River, on August 31, 2008, the Saline Creek WWTF had a permitted discharge of 5.25 MGD, which is the same as the re-rating request.

Within Section II B 1. of the AIP, discussion of the potential for discharge to a regional wastewater collection system is mentioned. Northeast Public Sewer District is the regional treatment authority and the Saline Creek WWTF is their regional treatment plant in northern Jefferson County.

DISCUSSION:

In reviewing the submittal by Horner and Shifrin, the Department reviewed the facility history and key dates in relation to treatment plant operations and design flow, which are summarized below. The Department also evaluated the facility's performance, which has been in compliance with their effluent limits.

- May 17, 2006, the Ron-Rog and Highway 141 operating permits were terminated as the facility discharged with the Saline Creek plant in a combined discharge to the Meramec River. The Saline Creek plant was initially permitted a design average flow of 5.25 MGD with the flows divided with 4.0 MGD at the Ron Rog facility and 1.25 MGD at the Highway 141 facility.
- February 2011, an Antidegradation Report was submitted for the expansion to 6.75 MGD with the proposal of no degradation effluent limits and the report included the discussion of eliminating 17 treatment plants. The Antidegradation Report approved the plan and ideas, not the number of treatment components present. While the Antidegradation Report was approved in May 2011, the facility did not construct the proposed project.
- The February 2013 operating permit modification request included a request for re-rating, but that modification was never finalized.
- September 2013 had the Highway 141 plant eliminated with the installation of a pump station conveying all flows to the Saline Creek treatment plant.
- The February 2014 Biosolids Facility plan discusses the future plans for nutrient removal at the Saline Creek Plant
- September 2016, the operating permit was renewed with a design average flow of 4.0 MGD.
- February 15, 2019, an updated biosolids facility plan was submitted to the State Revolving Fund for improvements to the biosolids handling system. This does not impact the capacity of the biological treatment train. This project is currently on the 2019 Intended Use Plan.

- February 26, 2019- Antidegradation and Rerating request received. The addition of a third clarifier in the treatment train does not change the overall treatment capacity of the system, the oxidation ditch, screening, and ultraviolet disinfection system are all designed to handle 5.25 MGD.

DETERMINATION: The Department determined based on the information provided in the 2011 Antidegradation Report, the 2013 operating permit application, the 2019 Antidegradation Report, the 2019 Rerating Request, and reviewed the facility's discharge monitoring reports to determine that the facility was designed and constructed to meet the final effluent limits in the effective permit at the higher design average flow. In a review of the alternatives, the fundamental assumptions of the original Antidegradation Report are still applicable-the facility is serving as a regional treatment plant and since 2010, multiple treatment plants in the watershed have been removed and are now served by the Saline Creek WWTF. The facility currently provides a level of treatment higher than its effluent limits and the original assumptions of the regional treatment plant discharging to the Meramec River are still valid. For the discharge to the Meramec River, on August 31, 2008, the Saline Creek WWTF had a permitted discharge of 5.25 MGD, which is the same amount as the re-rating request. The facility's foresight to start planning for nutrient removal with minor changes to the facility is being cost effective of the resources available.

Per the requirements of the AIP, the effluent limits in this review were developed to be protective of beneficial uses and to attain the highest statutory and regulatory requirements. The Department has determined that the submitted review is sufficient and meets the requirements of the AIP. The increase in design flow does not trigger the requirements of Antidegradation.

Reviewer: Lease Meyers, EI
Date: May 9, 2019
Unit Chief: John Rustige, P.E.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0128490
NPSD, INTERIM SALINE CREEK REGIONAL WASTEWATER TREATMENT FACILITY

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.

This Factsheet is for a Major.

Part I – Facility Information

Facility Description:
Outfall #001 – POTW – SIC #4952
The use or operation of this facility shall be by or under the supervision of a Certified B Operator.
Influent course bar screen / influent pump station / influent screening removal and compactor / grit removal / peak flow holding basin (10 MG) / multiple channel (3) oxidation ditch / secondary clarifiers (two) / UV disinfection / effluent cascade aerator / aerobic sludge digester / sludge holding basins (two) / sludge is hauled and land applied by contract hauler / 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 40,000.
Design flow is 4.0 million gallons per day.
Actual flow is 2.5 million gallons per day.
Design sludge production is 1,061 dry tons/year.

Permitted Feature INF – POTW – SIC #4952
Influent Monitoring Location – Headworks

Permitted Feature SM1 – Instream Monitoring
Instream monitoring location – Upstream – Terminus of Casa Loma Drive

Permitted Feature SM2 – Instream Monitoring
Instream monitoring location – Downstream – Crossing of Meramec River by Highway 21

Have any changes occurred at this facility or in the receiving water body that affects effluent limit derivation?
☒ - No.

Application Date: 01/03/2018
Expiration Date: 06/30/2018

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	6.2	Secondary	Domestic

Facility Performance History:
This facility was last inspected on October 17, 2017. The conditions of the facility at the time of inspection were found to be satisfactory.

A pretreatment inspection was conducted on November 20, 2017. The facility was found to be in compliance at the time of the inspection.

Comments:
Changes in this permit include the recalculation of final effluent limits for Ammonia, the addition of a schedule of compliance to meet final effluent limits for Total Recoverable Cadmium, the addition of influent and effluent nutrient monitoring requirements per 10 CSR 20-7.015(9)(D)8.B, the addition of upstream nutrient monitoring requirements, the removal of monitoring requirements for Total Recoverable Chromium III, Zinc, and Total Dissolved Chromium VI, the addition of monitoring requirements for Total Recoverable Copper, and a change in pH requirements to 6.0-9.0 SU. See Part VI of the Fact Sheet for further information regarding the addition and removal of effluent parameters. Special conditions were updated to remove changes in discharges of toxic substances as Standard Conditions Part II contains these requirements. Also, general criteria was removed as a special condition as the permit writer evaluated each narrative statement in Part VI – Effluent Limits Determination for reasonable potential to cause or contribute to an excursion of the criteria and established numeric effluent limitations where necessary. Special conditions now include requirements to utilize approved and sufficiently sensitive testing methods listed in 40 CFR 136.3 for Expanded Effluent Testing Data.

Part II – Operator Certification Requirements

☒ - This facility is required to have a certified operator.

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 or supervisors of operations 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, if applicable, as listed below:

Owned or operated by or for a

- ☒ - Municipalities
- ☐ - Federal agency
- ☐ - County
- ☐ - Public Sewer District
- ☐ - State agency
- ☐ - Private Sewer Company regulated by the Public Service Commission
- ☐ - Public Water Supply Districts

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200).
This facility currently requires an operator with a B Certification Level. Please see **Appendix - Classification Worksheet**. Modifications made to the wastewater treatment facility may cause the classification to be modified.

Operators' Names:	Joseph D. Richardson; Kyle C. Ward; William J. Paul; Charles W. Drinen; Christopher R. Hoffman; Steven A. Rhives; Kyle J. Daniel
Certification Numbers:	4842; 12688; 9299; 9314; 14628; 14630; 15230
Certification Levels:	A; A; C; C; D; D; D

The listing of the operators above only signifies that staff drafting this operating permit have reviewed appropriate Department records and determined that the names listed on the operating permit application have the correct and applicable Certification Levels.

Part III– Operational Control Testing Requirements

Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publically 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 publically owned treatment works and privately owned facilities regulated by the Public Service Commission has a 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' 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.

Part IV – Receiving Stream Information

RECEIVING STREAM(S) TABLE: OUTFALL #001

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Meramec River	P	2183	AQL, DWS, HHP, IND, IRR, LWW, SCR, WBC-A	07140102-1004	Direct Discharge

*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 which may be found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.:
AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: WWH = Warm Water Habitat; **CDF** = Cold-water fishery (Current narrative use is cold-water habitat.); **CLF** = Cool-water fishery (Current narrative use is cool-water habitat); EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all 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-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 (formerly HHF) = Human Health Protection as it relates to the consumption of fish;
IRR = Irrigation for use on crops utilized for human or livestock consumption;
LWW = Livestock and wildlife watering (Current narrative use is defined as LWP = Livestock and Wildlife Protection);
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 (P)	LOW-FLOW VALUES (CFS)*		
	1Q10	7Q10	30Q10
Meramec River	355	371	430

* - Data from USGS Gauge Station 07019000 located on the Meramec River near Eureka, 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
88.75	92.75	107.5	8.875	9.275	N/A

RECEIVING STREAM MONITORING REQUIREMENTS:

Permitted Feature SM1—Upstream. Facilities with a design flow greater than or equal to one million gallons per day are required to sample their effluent monthly for Total Phosphorus and Total Kjeldahl Nitrogen, Nitrite + Nitrate and ammonia per 10 CSR 20-7.015(9)(D)8.B. Upstream monitoring for these parameters is necessary to determine background concentrations in order to complete calculations related to future effluent limit derivation where necessary or appropriate.

Permitted Feature SM2 – Downstream. Downstream sampling for Total Hardness is included as the permit includes metals that the toxicity of the metals are hardness dependent.

Receiving Water Body's Water Quality

Currently, no stream survey has been conducted by the Department. When a stream survey is conducted, more information may be available about the receiving stream.

Part V – 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)], or is an existing facility.

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.

- **Ammonia**. Effluent limitations were re-calculated for Ammonia based on new information derived from discharge monitoring reports and on the current Missouri Water Quality Standards for Ammonia. The newly established limitations are still protective of water quality.

- **Total Recoverable Copper**. As a result of a Reasonable Potential Analysis, it was determined that there is no reasonable potential to cause an excursion of water quality standard for Copper in the receiving stream. Therefore final effluent limits for Copper have been removed and monitoring only is required to collect data over the permit cycle so this determination can be reassessed during the next renewal. Please see **Appendix – RPA Results** for more information.

- **Total Recoverable Chromium III, Zinc; Total Dissolved Chromium VI**. As a result of a Reasonable Potential Analysis, it was determined that there is no reasonable potential to cause an excursion of water quality standards for Chromium III, Zinc, or Chromium VI in the receiving stream. Therefore monitoring requirements have been removed. This determination will be reassessed at renewal. The permit is still protective of water quality. Please see **Appendix – RPA Results** for more information.

- **pH**. – 6.0-9.0 SU. pH limitations [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the assimilative capacity of the receiving stream.

☒ - 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 contained a special condition which described a specific set of prohibitions related to general criteria found in 10 CSR 20-7.031(4). In order to comply with 40 CFR 122.44(d)(1), the permit writer has conducted reasonable potential determinations for each general criterion and established numeric effluent limitations where reasonable potential exists. While the removal of the previous permit special condition creates the appearance of backsliding, since this permit establishes numeric limitations where reasonable potential to cause or contribute to an excursion of the general criteria exists the permit maintains sufficient effluent limitations and monitoring requirements in order to protect water quality, this permit is equally protective as compared to the previous permit. Therefore, given this new information, and the fact that the previous permit special condition was not consistent with 40 CFR 122.44(d)(1), an error occurred in the establishment of the general criteria as a special condition of the previous permit. Please see Part VI – Effluent Limits Determination for more information regarding the reasonable potential determinations for each general criterion related to 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 proposed 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 facility does not have stormwater discharges or 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 by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver 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. Additional information regarding biosolids and sludge is located at the following web address: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74, items WQ422 through WQ449.

☒ - Permittee is authorized to land apply biosolids in accordance with Standard Conditions III.

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.

☒ - The facility is not currently under Water Protection Program enforcement action.

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 for optional use and can be found on the Department's website at the following locations:

Operational Monitoring Lagoon: https://dnr.mo.gov/document-search/operational-monitoring-report-lagoon-mo-780-2801
Operational Monitoring Mechanical: https://dnr.mo.gov/document-search/operational-monitoring-report-mechanical-recirculating-filter-media-bed-wastewater-facility-mo-780-2800
I&I Report: https://dnr.mo.gov/document-search/annual-inflow-infiltration-report-mo-780-2690

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. A request must be made for each facility. If more than one facility is owned or operated by a single entity, 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.

PRETREATMENT PROGRAM:
The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.
Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

☒ - This permittee has an approved pretreatment program in accordance with the requirements of [40 CFR Part 403] and [10 CSR 20-6.100] and is expected to implement and enforce its approved program.

REASONABLE POTENTIAL ANALYSIS (RPA):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] 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.

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

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):

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. *See also* Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit that was not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study associated with development of a site specific criterion. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance to Permit Writers in developing SOCs, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOCs. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as a Cost Analysis for Compliance.

☒ - The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(10)]. The facility has been given a schedule of compliance to meet final effluent limits for Total Recoverable Cadmium. The existing multiple channel oxidation ditch facility employs technology capable of meeting the proposed new final effluent limitations for Cadmium; however, the permit includes a **one (1) year** schedule of compliance to make sufficient operational changes so that consistent compliance with final effluent limitations for Cadmium is attained.

SEWER EXTENSION AUTHORITY SUPERVISED PROGRAM:
In accordance with [10 CSR 20-6.010(6)(A)], the Department may grant approval of a permittee's Sewer Extension Authority Supervised Program. These approved permittees regulate and approve construction of sanitary sewers and pump stations, which are tributary to this wastewater treatment facility. The permittee shall act as the continuing authority for the operation, maintenance, and modernization of the constructed collection system. See https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/wastewater/construction-engineering.

☒ - The permittee's Sewer Extension Authority Supervised Program is currently under review. The Department is reevaluating the permittee's Sewer Extension Authority Supervised Program to determine if it is current, complete, and meets the requirements of 10 CSR 20-8 Design Guides. Once the Sewer Extension Authority Supervised Program is reauthorized or denied by the Department, the operating permit will be updated accordingly.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities: (2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of stormwater discharges. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. For further guidance, consult the antidegradation implementation procedure (https://dnr.mo.gov/document-search/antidegradation-implementation-procedure).

Alternative Analysis (AA) evaluation of the BMPs is a structured evaluation of BMPs that are reasonable and cost effective. The AA evaluation should include practices that are designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of AIP defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The AA evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure* (AIP), Section II.B.

If parameter-specific numeric exceedances continue to occur and the permittee feels there are no practicable or cost-effective BMPs which will sufficiently reduce a pollutant concentration in the discharge to the benchmark values established in the permit, the permittee can submit a request to re-evaluate the benchmark values. This request needs to include 1) a detailed explanation of why the facility is unable to comply with the permit conditions and unable to establish BMPs to achieve the benchmark values; 2) financial

data of the company and documentation of cost associated with BMPs for review and 3) the SWPPP, which should contain adequate documentation of BMPs employed, failed BMPs, corrective actions, and all other required information. This will allow the Department to conduct a cost analysis on control measures and actions taken by the facility to determine cost-effectiveness of BMPs. The request shall be submitted in the form of an operating permit modification; the application is found at: https://dnr.mo.gov/forms-applications.

☒ - 10 CSR 20-6.200 and 40 CFR 122.26 includes treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that is located within the confines of the facility, with a design flow of 1.0 mgd or more, or are required to have an approved pretreatment program under 40 CFR part 403, as an industrial activity in which permit coverage is required.

In lieu of requiring sampling in the site-specific permit, the facility is required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP). A facility can apply for conditional exclusion for "no exposure" of industrial activities and materials to stormwater by submitting a permit modification via Form B2 (https://dnr.mo.gov/document-search/form-b2-application-operating-permit-facilities-receive-primarily-domestic-waste-have-design-flow-more-100000-gallons-day-mo-780-1805) appropriate application filing fees and a completed No Exposure Certification for Exclusion from NPDES Stormwater Permitting under Missouri Clean Water Law (https://dnr.mo.gov/document-search/no-exposure-certification-exclusion-npdes-stormwater-permitting-under-missouri-clean-water-law-mo-780-2828) to the Department's Water Protection Program, Operating Permits Section. Upon approval of the No Exposure Certification, the permit will be modified and the Special Condition to develop and implement a SWPPP will be removed. This information will be reevaluated at the time of renewal.

VARIANCE:
As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

☒ - 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:
There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

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

WATER QUALITY STANDARDS:
Per [10 CSR 20-7.031(4)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

☒ - The permittee is required to conduct WET test for this facility.

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 test will be required by facilities meeting the following criteria:

☒ Facility is a designated Major.
☒ 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.

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.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):
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 discharges to a 303(d) listed stream. The Meramec River is listed on the 2016 303(d) list for lead from Old Lead Belt tailings. The facility is not considered to be a source of lead or considered to contribute to the lead impairment of Meramec River. The Meramec River (P) (2183) is also listed on the 2016 303(d) list for *E. coli.* It is unknown at this time if the facility is a source of *E. coli* or considered to contribute to the impairment of Meramec River as the source(s) are unknown. Once a TMDL is developed, the permit may be modified to include WLAs from the TMDL.

Part VI – Effluent Limits Determination

CATEGORIES OF WATERS OF THE STATE:
As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

- ☐ Missouri or Mississippi River [10 CSR 20-7.015(2)]
- ☐ Lakes or Reservoirs [10 CSR 20-7.015(3)]
- ☐ Losing Streams [10 CSR 20-7.015(4)]
- ☐ Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- ☐ Special Streams [10 CSR 20-7.015(6)]
- ☐ Subsurface Waters [10 CSR 20-7.015(7)]
- ☒ All Other Waters [10 CSR 20-7.015(8)]

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.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
Flow	MGD	1	*		*	*/*	1/week-days	monthly	T
BOD_5	mg/L	1		45	30	45/30	2/week	monthly	C
TSS	mg/L	1		45	30	45/30	2/week	monthly	C
*Escherichia coli***	#/100mL	1, 3		630	126	630/126	1/week	monthly	G
Ammonia as N (Apr 1 –Sep 30)	mg/L	2, 3	29.4		6.1	31.7/6.9	1/week	monthly	C
Ammonia as N (Oct 1 – Mar 31)	mg/L	2, 3	29.4		6.3	31.7/6.7	1/week	monthly	C
Total Phosphorus	mg/L	1	*		*	*/*	1/month	monthly	C
Total Kjeldahl Nitrogen	mg/L	1	*		*	*/*	1/month	monthly	C
Nitrite + Nitrate	mg/L	1	*		*	*/*	1/month	monthly	C
Oil & Grease	mg/L	1, 3	15		10	15/10	1/quarter	quarterly	G
Cadmium, Total Recoverable	µg/L	2, 3	10.9		5.3	*/*	1/quarter	quarterly	C
Copper Total Recoverable	µg/L	2, 3	*		*	59.5/ 24.9	1/quarter	quarterly	C
Acute Whole Effluent Toxicity	TUa	1, 9	*			*	1/year	annually	C
Chronic Whole Effluent Toxicity	TUc	1, 9	*			*	1 every 5 years	1 every 5 years	C

PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
pH	SU	1	6.0		9.0	6.5-9.0	1/week	monthly	G

PARAMETER	Unit	Basis for Limits	Monthly Avg Min	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
BOD_5 Percent Removal	%	1	85	85	1/month	monthly	M
TSS Percent Removal	%	1	85	85	1/month	monthly	M

* - Monitoring requirement only.
** - #/100mL; the Monthly Average for *E. coli* is a geometric mean.
*** - Parameter not previously established in previous state operating permit.

**** - C = 24-hour composite
G = Grab
T = 24-hr. total
N/A=Not Applicable. Parameter Removed
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

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).** 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average. Please see the **CATEGORIZATION OF WATERS OF THE STATE** sub-section of the **Effluent Limits Determination.**

- **Total Suspended Solids (TSS).** 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average. Please see the **CATEGORIZATION OF WATERS OF THE STATE** sub-section of the **Effluent Limits Determination.**

- ***Escherichia coli (E. coli)***. Monthly average of 126 per 100 mL as a geometric mean and Weekly Average of 630 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.031(5)(C). 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**. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L.

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: April 1 – September 30
Chronic WLA: $C_e = ((6.2 + 107.5)1.5 – (107.5 * 0.01))/6.2$
$C_e = 27.33$ mg/L

Acute WLA: $C_e = ((6.2 + 8.875)12.1 – (8.875 * 0.01))/6.2$
$C_e = 29.41$ mg/L

$LTA_c = 27.33$ mg/L (0.519) = 14.18 mg/L [CV = 1.69, 99^{th} Percentile, 30 day avg.]
$LTA_a = 29.41$ mg/L (0.132) = 3.87 mg/L [CV = 1.69, 99^{th} Percentile]

Use most protective number of LTA_c or LTA_a.

MDL = 3.87 mg/L (7.60) = **29.4** mg/L [CV = 1.69, 99^{th} Percentile]
AML = 3.87 mg/L (1.57) = **6.1** mg/L [CV = 1.69, 95^{th} Percentile, n =30]

Winter: October 1 – March 31
Chronic WLA: $C_e = ((6.2 + 107.5)3.1 – (107.5 * 0.01))/6.2$
$C_e = 56.68$ mg/L

Acute WLA: $C_e = ((6.2 + 8.875)12.1 – (8.875 * 0.01))/6.2$
$C_e = 29.41$ mg/L

$LTA_c = 56.68$ mg/L (0.549) = 31.14 mg/L [CV = 1.53, 99^{th} Percentile, 30 day avg.]
$LTA_a = 29.41$ mg/L (0.142) = 4.18 mg/L [CV = 1.53, 99^{th} Percentile]

Use most protective number of LTA_c or LTA_a.

MDL = 4.18 mg/L (7.03) = **29.4** mg/L [CV = 1.53, 99^{th} Percentile]
AML = 4.18 mg/L (1.51) = **6.3** mg/L [CV = 1.53, 95^{th} Percentile, n =30]

- **Total Phosphorus and Total Nitrogen (Speciated)**. Monthly monitoring required for facilities greater than or equal to one million (1,000,000) gpd design flow per 10 CSR 20-7.015(9)(D)8.B. Nitrate + Nitrite can be analyzed together or separately. The analytical and sampling methods used must conform to 40 CFR 136.3.

- **Oil & Grease**. Conventional pollutant, Protection of aquatic life CCC = 10 mg/L [10 CSR 20-7.031, Table A1, Other Inorganic Substances]. The Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) (TSD), Section 5.4.2 , recognizes the use of the chronic criteria to be set to the average monthly limit. Therefore WLA=10 mg/L monthly average. The daily maximum was calculated by multiplying the monthly average by 1.5 per the TSD. Therefore, 1.5*10 mg/L = 15 mg/L Daily Maximum.

Metals

Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the "Technical Support Document for Water Quality-based Toxic Controls" (EPA/505/2-90-001) and "The Metals Translator: Guidance For Calculating a Total Recoverable Permit Limit from a Dissolved Criterion" (EPA 823-B-96-007). General warm-water fishery criteria apply and a water hardness of 176.1 mg/L is used in the conversion below.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, and total suspended solids with which to calculate metals translators, partitioning between the dissolved and absorbed phases was assumed to be minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals, and total suspended solids are provided to the Department, partitioning evaluations may be considered and site-specific translators developed.

METAL	CONVERSION FACTORS	
	ACUTE	CHRONIC
Cadmium	0.920	0.885

Conversion factors for Cd are hardness dependent. Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 176.1 mg/L.

- **Cadmium, Total Recoverable**

Acute AQL WQS: $e^{(1.0166 * \ln 176.1 - 3.062490)} * (1.136672 - \ln 176.1 * 0.041838) = 8.3$ [at Hardness 176.1]
Chronic AQL WQS: $e^{(0.7409 * \ln 176.1 - 4.719948)} * (1.101672 - \ln 176.1 * 0.041838) = 0.4$ [at Hardness 176.1]

Acute TR WQS: $8.3 \div 0.920 = 8.97$ [Total Recoverable Conversion]
Chronic TR WQS: $0.4 \div 0.885 = 0.41$ [Total Recoverable Conversion]

Acute WLA: $C_e = ((6.2 + 9.275)8.97 - (9.275 * 0.0))/6.2 = 22.40$ µg/L
Chronic WLA: $C_e = ((6.2 + 92.75)0.41 - (92.75 * 0.0))/6.2 = 6.6$ µg/L

LTA_a: 22.40 (0.312) = 3.40 [CV = 0.62, 99th Percentile]
LTA_c: 6.6 (0.518) = 7.0 [CV = 0.62, 99th Percentile]

Use most protective number of LTA_a or LTA_c.

MDL: 3.40 (3.20) = **10.9 µg/L** [CV = 0.62, 99th Percentile]
AML: 3.40 (1.57) = **5.3 µg/L** [CV = 0.62, 95th Percentile, n = 4]

- **pH**. – 6.0-9.0 SU. pH limitations [10 CSR 20-7.015] are technology-based effluent limitations protective of the consecutive 4-day average Water Quality Standard [10 CSR 20-7.031(5)(E)], due to the buffering capacity of the mixing zone.

- **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 Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (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 Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for TSS.

Whole Effluent Toxicity

- **Acute Whole Effluent Toxicity**. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards.
  Classified P with other than default Mixing Considerations, the AEC% is determined as follows:
  Acute AEC% = $\{[(6.2 + 9.275) / 6.2]^{-1}\} \times 100 = 40\%$

- **Chronic Whole Effluent Toxicity**. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards.
  (Classified P with other than default Mixing Considerations, the AEC% is determined as follows:.
  Chronic AEC% = $\{[(6.2 + 92.75) / 6.2]^{-1}\}$ x 100 = 6.3%

Parameters Removed.

- **Total Recoverable Chromium III, Zinc; Total Dissolved Chromium VI**. As a result of a Reasonable Potential Analysis, it was determined that there is no reasonable potential to cause an excursion of water quality standards for Cadmium, Chromium III, Zinc, or Chromium VI in the receiving stream. Therefore monitoring requirements have been removed. This determination will be reassessed at renewal. Please see **Appendix – RPA Results** for more information.

Sampling Frequency Justification:
Discharge monitoring data submitted by the permittee shows that operations related to flow at the facility have been consistent and have low variability. Therefore, the Department has found the permittee eligible for reduced monitoring frequency for flow. Weekly sampling is required for *E. coli*, per 10 CSR 20-7.015(9)(D)6.A.

WET Test Sampling Frequency Justification. WET Testing schedules and intervals are established in accordance with the Department's Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring.* It is recommended that WET testing be conducted during the period of lowest stream flow.

Acute Whole Effluent Toxicity

☒ - No less than **ONCE/YEAR:**

☒ -Facility is designated as a Major facility or has a design flow ≥ 1.0 MGD.

☒ - Facility incorporates a pretreatment program.

☒ -Facility has Water Quality-based effluent limitations for toxic substances (other than NH_3).

Chronic Whole Effluent Toxicity

☒ -No less than **ONCE/PERMIT CYCLE:**

☒ -POTW facilities with a design flow of greater than 1.0 million gallons per day, but less than 10 million gallons per day, shall conduct and submit to the Department a chronic WET test no less than once per five years.

Sampling Type Justification:
As per 10 CSR 20-7.015, BOD_5, TSS, and WET test samples collected for mechanical plants shall be a 24 hour composite sample. Grab samples, however, must be collected for pH, *E. coli*, and Oil & Grease. 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.

INFLUENT MONITORING TABLE:

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

* - Monitoring requirement only.
**** - C = 24-hour composite
*** - Parameter not previously established in previous state operating permit.

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

Permitted Feature INF – Derivation and Discussion of Monitoring Requirements:

- **Ammonia, Total Phosphorus, Total Kjeldahl Nitrogen, and Nitrate + Nitrite**. Monitoring required for facilities greater than 100,000 gpd design flow per 10 CSR 20-7.015(9)(D)8. Nitrate + Nitrite can be analyzed together or separately. The analytical and sampling methods used must conform to 40 CFR 136.3.

Sampling Frequency Justification:
The sampling and reporting frequency for Total Phosphorus, Total Kjeldahl Nitrogen, Ammonia, and Nitrate + Nitrite is established per 10 CSR 20-7.015(9)(D)8.B.

Sampling Type Justification
Sample types for Total Phosphorus, Total Kjeldahl Nitrogen, Ammonia, and Nitrate + Nitrite align with those same effluent parameters. Samples should be analyzed as soon as possible after collection and/or properly preserved according to method requirements.

Permitted Feature SM1 – Instream Monitoring (Upstream)
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.

Monitoring Requirements Table:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
Ammonia as N	mg/L	7	*		*	***	1/month	monthly	G
Total Phosphorus	mg/L	7	*		*	***	1/month	monthly	G
Total Kjeldahl Nitrogen	mg/L	7	*		*	***	1/month	monthly	G
Nitrite+Nitrate	mg/L	7	*		*	***	1/month	monthly	G

* - Monitoring requirement only.
*** - Parameter not previously established in previous state operating permit.
**** - C = 24-hour composite
G = Grab

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

Permitted Feature SM1 – Derivation and Discussion of Monitoring Requirements:

- **Ammonia, Total Phosphorus, Total Kjeldahl Nitrogen, and Nitrate + Nitrite**. Facilities with a design flow greater than 1 million gallons per day are required to sample their effluent monthly for Total Phosphorus, Total Kjeldahl Nitrogen, Ammonia, and Nitrate + Nitrite per 10 CSR 20-7.015(9)(D)8. Upstream monitoring for these parameters is necessary to identify background stream concentrations in order to complete calculations that determine instream nutrient loading.

Sampling Frequency Justification:
The sampling and reporting frequency for Total Phosphorus, Total Kjeldahl Nitrogen, Ammonia, and Nitrate + Nitrite has been established to match the required sampling frequency of these parameters in the effluent.

Sampling Type Justification
Due to ease and practicality of instream sampling, grab sampling should be sufficient for Total Phosphorus, Total Kjeldahl Nitrogen, Ammonia, and Nitrate + Nitrite. Samples should be analyzed as soon as possible after collection and/or properly preserved according to method requirements.

Permitted Feature SM2 – Instream Monitoring (Downstream)

The monitoring requirements established in the following 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.

MONITORING REQUIREMENTS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
Total Hardness	mg/L	1, 3	*		*	*/*	quarterly	quarterly	G

* - 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

PERMITTED FEATURE SM2 – DERIVATION AND DISCUSSION OF MONITORING REQUIREMENTS:

- **Total Hardness**. Monitoring only requirement as the metals parameters contained in the permit are hardness based. This data will be used in the next permit renewal.

Sampling Frequency Justification:
The sampling and reporting frequency for Total Hardness has been established to match the required sampling frequency of the metals parameters in the effluent.

Sampling Type Justification:
Due to ease and practicality of instream sampling, grab sampling should be sufficient for Total Hardness.

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 recent Report of Compliance Inspection for the inspection conducted on October 17, 2017, 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) There shall be no significant human health hazard from incidental contact with the water. Please see (D) above as justification is the same.

(F) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) above as justification is the same.

(G) 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.

(H) 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 VII – 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 publically-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 Northeast Public Sewer District

New Permit Requirements			
Monthly Influent, Effluent, Upstream Nutrient Monitoring Sampling			
Estimated Annual Cost	Annual Median Household Income (MHI)	Estimated Monthly User Rate	User Rate as a Percent of MHI
$2,956	$89,777	$47.60	0.64%

Part VIII – 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.

PERMIT SYNCHRONIZATION:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit. With permit synchronization, this permit will expire in the 2nd Quarter of calendar year 2023.

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 February 15, 2019 to March 18, 2019. No comments received.

DATE OF FACT SHEET: AUGUST 6, 2018
REVISED: JANUARY 31, 2019

COMPLETED BY:

SAMANTHA OSTMANN, ENVIRONMENTAL SPECIALIST
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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 (Max 10 pts.)	1 pt./10,000 PE or major fraction thereof.	4
Maximum: 10 pt Design Flow (avg. day) or peak month; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof.	4
EFFLUENT DISCHARGE RECEIVING WATER SENSITIVITY:		
Missouri or Mississippi River	0	-
All other stream discharges except to losing streams and stream reaches supporting whole body contact	1	-
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	-
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	3
PRELIMINARY TREATMENT – Headworks		
Screening and/or comminution	3	3
Grit removal	3	3
Plant pumping of main flow (lift station at the headworks)	3	3
PRIMARY TREATMENT		
Primary clarifiers	5	-
Combined sedimentation/digestion	5	-
Chemical addition (except chlorine, enzymes)	4	-
REQUIRED LABORATORY CONTROL – performed by plant personnel (highest level only)		
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	-
ALTERNATIVE FATE OF EFFLUENT		
Direct reuse or recycle of effluent	6	-
Land Disposal – low rate	3	-
High rate	5	-
Overland flow	4	-
Total from page **ONE (1)**	----	27

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
VARIATION IN RAW WASTE (highest level only) (DMR exceedances and Design Flow exceedances)		
Variation do not exceed those normally or typically expected	0	-
Recurring deviations or excessive variations of 100 to 200 % in strength and/or flow	2	-
Recurring deviations or excessive variations of more than 200 % in strength and/or flow	4	4
Raw wastes subject to toxic waste discharge	6	6
SECONDARY TREATMENT		
Trickling filter and other fixed film media with secondary clarifiers	10	-
Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15	15
Stabilization ponds without aeration	5	-
Aerated lagoon	8	-
Advanced Waste Treatment Polishing Pond	2	-
Chemical/physical – without secondary	15	-
Chemical/physical – following secondary	10	-
Biological or chemical/biological	12	-
Carbon regeneration	4	-
DISINFECTION		
Chlorination or comparable	5	-
Dechlorination	2	-
On-site generation of disinfectant (except UV light)	5	-
UV light	4	4
SOLIDS HANDLING – SLUDGE		
Solids Handling Thickening	5	-
Anaerobic digestion	10	-
Aerobic digestion	6	6
Evaporative sludge drying	2	-
Mechanical dewatering	8	-
Solids reduction (incineration, wet oxidation)	12	-
Land application	6	6
Total from page **TWO (2)**	----	41
Total from page **ONE (1)**	---	27
Grand Total	---	68

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

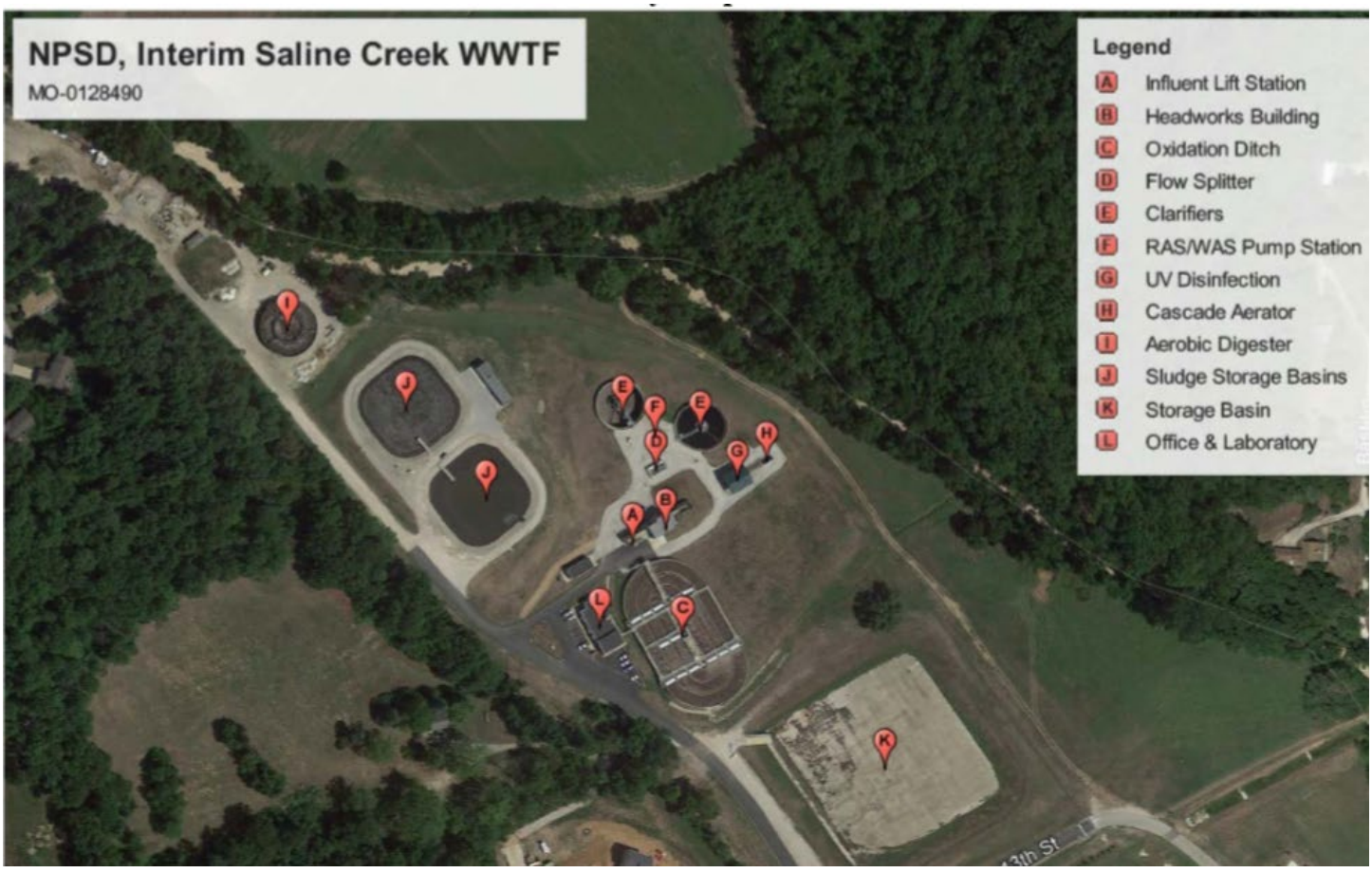
APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Total Ammonia as Nitrogen (Summer) mg/L	12.1	18.76	1.5	2.50	33.00	11.3/0.05	1.69	4.04	YES
Total Ammonia as Nitrogen (Winter) mg/L	12.1	25.37	3.1	3.37	32.00	16.2/0.028	1.53	3.81	YES
Cadmium, Total Recoverable	9.0	4.20	0.4	0.66	22.00	5/0.5	0.6	2.09	YES
Chromium III, Total Recoverable	2866.2	5.36	137.0	0.84	22.00	10/5	0.2	1.34	NO
Chromium VI, Total Dissolved	15.0	5.36	10.0	0.84	22.00	10/5	0.2	1.34	NO
Copper, Total Recoverable	23.9	8.73	15.1	1.37	22.00	10/2	0.6	2.18	NO
Zinc, Total Recoverable	193.9	46.93	192.4	7.34	22.00	71/5.1	0.4	1.65	NO

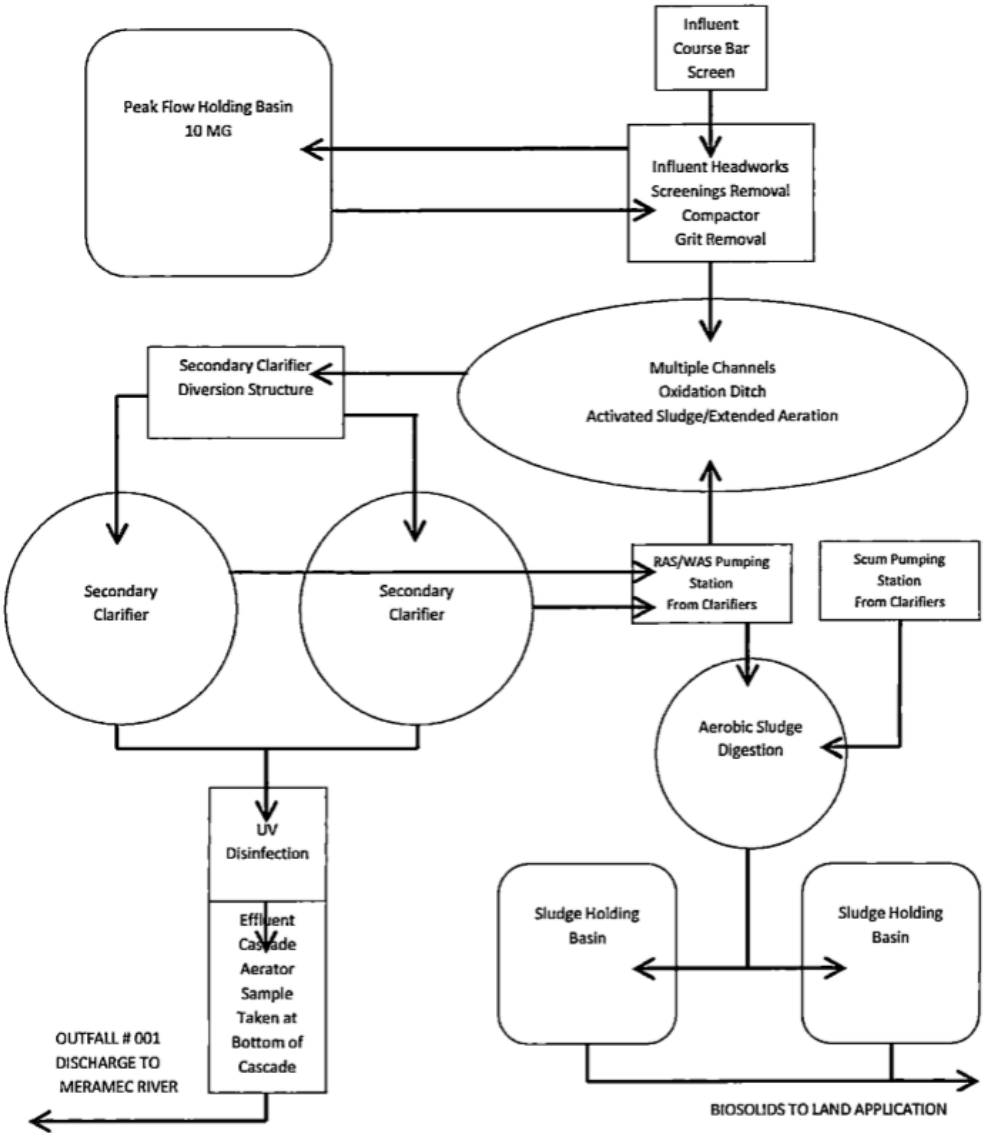
N/A – Not Applicable
* - Units are (µg/L) unless otherwise noted.
** - If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent. If the number of samples is < 10, then the default CV value must be used in the WQBEL for the applicable constituent.
*** - 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 – ALTERNATIVE: Outfall and Instream Locations and Facility Map



APPENDIX – ALTERNATIVE: Facility Diagram



APPENDIX – COST ANALYSIS FOR COMPLIANCE:

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

NPSD, Interim Saline Creek Regional Wastewater Treatment Facility, Permit Renewal
Northeast Public Sewer District
Missouri State Operating Permit #MO-0128490

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 influent, effluent, and upstream nutrient monitoring requirements.

Connections

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

Connection Type	Number
Residential	11,413
Commercial & Industrial	434
Total	**11,847**

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. The financial questionnaire available to permittees on the Department's website (https://dnr.mo.gov/document-search/financial-questionnaire-mo-780-2511) is a required attachment to the permit renewal application. 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 District	
Current Monthly User Rates per 5,000 gallons*	$47.58
Median Household Income (MHI)[1]	$89,777
Operating Budget for Fiscal Year 2018	$3,170,995

*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 per Sample	Estimated Annual Cost
Total Phosphorus (influent, effluent, upstream)	Monthly*	$24	$672
Total Kjeldahl Nitrogen (influent, effluent, upstream)	Monthly*	$33	$924
Nitrite (influent, effluent, upstream)	Monthly*	$20	$560
Nitrate (influent, effluent, upstream)	Monthly*	$20	$560
Ammonia (upstream)	Monthly	$20	$240
Total Estimated Annual Cost of New Permit Requirements			$2,956

*Effluent and upstream monitoring for total phosphorus and total nitrogen was previously a quarterly monitoring requirement.

Criterion 2B Table. Estimated Costs for New Permit Requirements		
(1)	Estimated Annual Cost	$2,956
(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*	$47.60
	Total Monthly User Cost as a Percent of MHI[4]	0.636%

* Current User Rate + Estimated Monthly Costs of New Sampling Requirements

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 phosphorous 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 community reported that their outstanding debt for their current wastewater collection and treatment systems is $16,808,000. The community reported that each user pays $47.58 monthly, of which, $14.26 is used toward payments on the current outstanding debt.

(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 [1, 5-9] for the City of Fenton

No.	Administrative Unit	Fenton City	Missouri State
1	Population (2016)	4,036	6,059,651
2	Percent Change in Population (2000-2016)	-7.4%	8.3%
3	2016 Median Household Income (in 2017 Dollars)	$89,777	$50,417
4	Percent Change in Median Household Income (2000-2016)	-14.9%	-5.9%
5	Median Age (2016)	45.3	38.3
6	Change in Median Age in Years (2000-2016)	5.2	2.2
7	Unemployment Rate (2016)	3.6%	6.6%
8	Percent of Population Below Poverty Level (2016)	1.5%	15.3%
9	Percent of Household Received Food Stamps (2016)	2.6%	13.0%
10	(Primary) County Where the Community Is Located	St. Louis County	

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

The District reported there would be a biosolids, process and handling design in 2018 and construction in 2019.

(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 secondary indicators for consideration are not applicable for sewer districts as the indicators are structured for the financial capability of a municipality. The financial impact of the new requirements is determined using all available data for the sewer district.

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

The 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) 2016 MHI in 2016 Dollar: United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table B19013: Median Household Income in the Past 12 Months (in 2016 Inflation-Adjusted Dollars). http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B19013&prodType=table.
   (B) 2000 MHI in 1999 Dollar: U.S. 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. http://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf.
   (C) 2017 CPI, 2016 CPI and 1999 CPI: For United States, United States Bureau of Labor Statistics (2017) Consumer Price Index - All Urban Consumers, United States City Average. All Items. 1982-84=100. http://data.bls.gov/timeseries/CUUR0000SA0?data_tool=Xgtable. For Missouri State: United States Bureau of Labor Statistics (2017) Consumer Price Index - All Urban Consumers, Midwest Urban Areas, All Items. 1982-84=100. http://data.bls.gov/timeseries/CUUR0200SA0?data_tool=Xgtable.
   (D) 2016 MHI in 2017 Dollar: 2016 MHI in 2016 Dollar x 2017 CPI /2016 CPI; 2000 MHI in 2017 Dollar: 2000 MHI in 1999 Dollar x 2017 CPI /1999 CPI.
   (E) Percent Change in Median Household Income (2000-2016) = (2016 MHI in 2017 Dollar - 2000 MHI in 2017 Dollar) / (2000 MHI in 2017 Dollars).
2. ($2,956/11,847)/12 = $0.02 (Estimated Monthly User Cost for New Requirements)
3. ($0.02/($89,777/12))100% = 0.0003% (New Sampling Only)
4. ($47.60/($89,777/12))100% = 0.636% (Total User Cost)
5. (A) Total Population in 2016: United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table B01003: Total Population - Universe: Total Population. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B01003&prodType=table.
   (B) Total Population in 2000: U.S. 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. http://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf.
   (C) Percent Change in Population (2000-2016) = (Total Population in 2016 - Total Population in 2000) / (Total Population in 2000).
6. (A) Median Age in 2016: United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table B01002: Median Age by Sex - Universe: Total population. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B01002&prodType=table.
   (B) Median Age in 2000: 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/prod/cen2000/phc-1-1-pt1.pdf. 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. http://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf.
   (C) Change in Median Age in Years (2000-2016) = (Median Age in 2016 - Median Age in 2000).
7. United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, B23025: Employment Status for the Population 16 Years and Over - Universe: Population 16 years and Over. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B23025&prodType=table.
8. United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table S1701: Poverty Status in the Past 12 Months. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1701&prodType=table.
9. United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table B22003: Receipt of Food Stamps/SNAP in the Past 12 Months by Poverty Status in the Past 12 Months for Households - Universe: Households. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B22003&prodType=table.

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
March 1, 2015

PART III – SLUDGE AND BIOSOLIDS FROM DOMESTIC AND INDUSTRIAL WASTEWATER TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation for domestic wastewater and industrial process wastewater. This permit also incorporates applicable federal sludge disposal requirements under 40 CFR 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR 503 for domestic wastewater. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address the federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW), privately owned facilities and sludge or biosolids generated at industrial facilities.
3. Sludge and Biosolids Use and Disposal Practices:
    a. The permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
    b. The permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
    c. The permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
4. Sludge Received from other Facilities:
    a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
    b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other 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 sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Actor under Chapter 644 RSMo.
8. In addition to STANDARD CONDITIONS, the Department may include sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Alternate Limits in the Site Specific Permit.
   Where deemed appropriate, the Department may require an individual site specific permit in order to authorize alternate limitations:
    a. A site specific permit must be obtained for each operating location, including application sites.
    b. To request a site specific permit, an individual permit application, permit fee, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the Department, as follows:
    a. The Department will prepare a permit modification and follow permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owner of the property located adjacent to each land application site, where appropriate.
    b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.

SECTION B – DEFINITIONS

1. Best Management Practices include agronomic loading rates, soil conservation practices 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 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 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 (PFRP) in accordance with 40 CFR 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. Industrial wastewater means any wastewater, also known as process water, not defined as domestic wastewater. Per 40 CFR Part 122, process water 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.
8. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include wastewater treatment lagoons and constructed wetlands for wastewater treatment.
9. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
10. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the growing seasons after biosolids application.
11. 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.
12. 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)
13. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen 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.
14. Septage is the material pumped from residential septic tanks and similar treatment works (with a design population of less than 150 people). The standard for biosolids from septage is different from other sludges.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and sludge conditions of this permit.
2. The permittee shall operate the facility so that there is no sludge discharged to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

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

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the Department; or the hauler transports the sludge to another permitted treatment facility.
3. Haulers who land apply septage must obtain a state permit.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility, unless it is required by the accepting facility.

SECTION E – INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
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, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored, and ash used or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.

SECTION F – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

1. Surface disposal sites of domestic facilities shall comply with the requirements in 40 CFR 503 Subpart C; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. 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 sludge storage lagoons as storage facilities, accumulated 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 sludge removed will be dependent on sludge generation and accumulation in the facility. Enough 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 sludge on the bottom of the lagoon, upon prior approval of the Department; or
    b. Permittee shall close the lagoon in accordance with Section H.

SECTION G – LAND APPLICATION

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the facility description or the special conditions of the issued NPDES permit.
2. Land application sites within a 20 miles radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless otherwise specified in a site specific permit. If the permittee's land application site is greater than a 20 mile radius of the wastewater treatment facility, approval must be granted from the Department.
3. Land application shall not adversely affect a threatened or endangered species or its designated critical habitat.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
    a. This permit does not authorize the land application of domestic sludge except for when sludge meets the definition of biosolids.
    b. This permit authorizes "Class A or B" biosolids derived from domestic wastewater and/or process water sludge 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.
5. Public Contact Sites:

    Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the Department after two years of proper operation with acceptable testing documentation that shows the biosolids meet Class A criteria. A shorter length of testing will be allowed with prior approval from the Department. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site specific permit.
    a. After Class B biosolids have been land applied, public access must be restricted for 12 months.
    b. Class B biosolids are only land applied to root crops, home gardens or vegetable crops whose edible parts will not be for human consumption.
6. Agricultural and Silvicultural Sites:

    Septage – Based on Water Quality guide 422 (WQ422) published by the University of Missouri
    a. Haulers that land apply septage must obtain a state permit
    b. Do not apply more than 30,000 gallons of septage per acre per year.
    c. Septage 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 other mechanical type treatment facilities.
    d. To meet Class B sludge requirements, maintain septage at 12 pH for at least thirty (30) minutes before land application. 50 pounds of hydrated lime shall be added to each 1,000 gallons of septage in order to meet pathogen and vector stabilization for septage biosolids applied to crops, pastures or timberland.
    e. 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.

Biosolids - Based on Water Quality guide 423, 424, and 425 (WQ423, WQ424, WQ425) published by the University of Missouri;

a. Biosolids shall be monitored to determine the quality for regulated pollutants
b. The number of samples taken is directly related to the amount of sludge produced by the facility (See Section I of these Standard Conditions). Report as dry weight unless otherwise specified in the site specific permit. 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 reach the maximum concentration of pollutants allowed.
c. Table 1 gives the maximum concentration allowable to protect water quality standards

TABLE 1

Biosolids ceiling concentration [1]	
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

[1] Land application is not allowed if the sludge concentration exceeds the maximum limits for any of these pollutants

d. The low metal concentration biosolids has reduced requirements because of its higher quality and can safely be applied for 100 years or longer at typical agronomic loading rates. (See Table 2)

TABLE 2

Biosolids Low Metal Concentration [1]	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	36
Zinc	2,800

[1] You may apply low metal biosolids without tracking cumulative metal limits, provided the cumulative application of biosolids does not exceed 500 dry tons per acre.

e. Each pollutant in Table 3 has an annual and a total cumulative loading limit, based on the allowable pounds per acre for various soil categories.

TABLE 3

Pollutant	CEC 15+		CEC 5 to 15		CEC 0 to 5	
	Annual	Total [1]	Annual	Total [1]	Annual	Total [1]
Arsenic	1.8	36.0	1.8	36.0	1.8	36.0
Cadmium	1.7	35.0	0.9	9.0	0.4	4.5
Copper	66.0	1,335.0	25.0	250.0	12.0	125.0
Lead	13.0	267.0	13.0	267.0	13.0	133.0
Mercury	0.7	15.0	0.7	15.0	0.7	15.0
Nickel	19.0	347.0	19.0	250.0	12.0	125.0
Selenium	4.5	89.0	4.5	44.0	1.6	16.0
Zinc	124.0	2,492.0	50.0	500.0	25.0	250.0

[1] Total cumulative loading limits for soils with equal or greater than 6.0 pH (salt based test) or 6.5 pH (water based test)

TABLE 4 - Guidelines for land application of other trace substances [1]

Cumulative Loading	
Pollutant	Pounds per acre
Aluminum	4,000[2]
Beryllium	100
Cobalt	50
Fluoride	800
Manganese	500
Silver	200
Tin	1,000
Dioxin	(10 ppt in soil)[3]
Other	[4]

[1] Design of land treatment systems for Industrial Waste, 1979. Michael Ray Overcash, North Carolina State University and Land Treatment of Municipal Wastewater, EPA 1981.)

[2] This applies for a soil with a pH between 6.0 and 7.0 (salt based test) or a pH between 6.5 to 7.5 (water based test). Case-by-case review is required for higher pH soils.

[3] Total Dioxin Toxicity Equivalents (TEQ) in soils, based on a risk assessment under 40 CFR 744, May 1998.

[4] Case by case review. Concentrations in sludge should not exceed the 95th percentile of the National Sewage Sludge Survey, EPA, January 2009.

Best Management Practices – Based on Water Quality guide 426 (WQ426) published by the University of Missouri

a. Use best management practices when applying biosolids.
b. Biosolids cannot discharge from the land application site
c. Biosolid application is subject to the Missouri Department of Agriculture State Milk Board concerning grazing restrictions of lactating dairy cattle.
d. Biosolid application must be in accordance with section 4 of the Endangered Species Act.
e. Do not apply more than the agronomic rate of nitrogen needed.
f. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop removal 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.
    i. PAN can be determined as follows and is in accordance with WQ426
    (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.
g. Buffer zones are as follows:
    i. 300 feet of a water supply well, sinkhole, lake, pond, 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 outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
    iii. 150 feet if dwellings;
    iv. 100 feet of wetlands or permanent flowing streams;
    v. 50 feet of a property line or other waters of the state, including intermittent flowing streams.
h. Slope limitation for application sites are as follows;
    i. A slope 0 to 6 percent has 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.
i. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
j. Do not apply biosolids to sites with soil that is snow covered, frozen or saturated with liquid without prior approval by the Department.
k. Biosolids / sludge applicators must keep detailed records up to five years.

SECTION H – CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical, industrial, and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. 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 residues, including sludge, biosolids. Mechanical plants, sludge lagoons, ash ponds and other storage structures must obtain approval of a closure plan from the Department. 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. Residuals 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. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
    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.
        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.
4. When closing a domestic wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered "septage" under the similar treatment works definition. See Section B of these standard conditions. 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. Residuals left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, 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.
6. Lagoons and/or earthen structure and/or ash pond 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 and/or industrial process wastewater plant; all 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. Per 10 CSR 20-6.015(4)(B)6, Hazardous Waste shall not be land applied or disposed during industrial and mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations under 10 CSR 25.
    c. After demolition of the mechanical plant / industrial plant, the site must only contain clean fill defined in RSMo 260.200 (5) 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 or other beneficial use. Other solid wastes must be removed.
8. If sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or H, 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 503, Subpart C.

SECTION I – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids 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

Design Sludge Production (dry tons per year)	Monitoring Frequency (See Notes 1, 2, and 3)			
	Metals, Pathogens and Vectors	Nitrogen TKN [1]	Nitrogen PAN [2]	Priority Pollutants and TCLP [3]
0 to 100	1 per year	1 per year	1 per month	1 per year
101 to 200	biannual	biannual	1 per month	1 per year
201 to 1,000	quarterly	quarterly	1 per month	1 per year
1,001 to 10,000	1 per month	1 per month	1 per week	--[4]
10,001 +	1 per week	1 per week	1 per day	--[4]

[1] Test total Kjeldahl nitrogen, if biosolids application is 2 dry tons per acre per year or less.

[2] 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.

[3] Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) and toxicity characteristic leaching procedure (40 CFR 261.24) is required only for permit holders that must have a pre-treatment program.

[4] One sample for each 1,000 dry tons of sludge.

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: Total Phosphorus: Total phosphorus and total potassium shall be tested at the same monitoring frequency as metals.
Note 3: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. If you own a wastewater treatment lagoon or sludge lagoon that is cleaned out once a year or less, you may choose to sample only when the sludge is removed or the lagoon is closed. Test one composite sample for each 100 dry tons of sludge or biosolids removed from the lagoon during the year within the lagoon at closing. 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. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the Department.
4. At this time, the Department recommends monitoring requirements shall be performed in accordance with, "POTW Sludge Sampling and Analysis Guidance Document," United States Environmental Protection Agency, August 1989, and the subsequent revisions.

SECTION J – 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 these standard conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
    a. By January 28th of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
    b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:

Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the Department and EPA. Other facilities need to report only to the Department. Reports shall be submitted to the addresses listed as follows:

DNR regional office listed in your permit
(see cover letter of permit)
ATTN: Sludge Coordinator

EPA Region VII
Water Compliance Branch (WACM)
Sludge Coordinator
11201 Renner Blvd.
Lenexa, KS 66219

5. Annual report contents. The annual report shall include the following:
    a. Sludge and biosolids testing performed. Include a copy or summary of all test results, even if not required by the permit.
    b. Sludge or biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at the end of the year, and the quantity used 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, 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 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 sludge or biosolids 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, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.

37557

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	10818
DATE RECEIVED	FEE SUBMITTED
9-15-21	$200.00
JET PAY CONFIRMATION NUMBER	SB

PART A – BASIC APPLICATION INFORMATION

1. THIS APPLICATION IS FOR:

- ☐ An operating permit for a new or unpermitted facility. Construction Permit # CP0002088
  (Include completed Antidegradation Review or request to conduct an Antidegradation Review, see instructions)
- ☐ An operating permit renewal: Permit #MO- _____ Expiration Date 06/30/2023
- ☑ An operating permit modification: Permit #MO-0128490 Reason: RE-RATE THE PLANT TO 5.25 MGD ADDITION OF 3RD CLARIFIER ADDITION SILO, TAP AEROBIC DIGESTION PROCESS

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	
NPSD, INTERIM SALINE CREEK REGIONAL WRRF		636-717-6523 ext. 14	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
555 13th STREET	FENTON	MO	63026

2.1 LEGAL DESCRIPTION (Facility Site): Sec. 10 , T 43 , R 5 COUNTY: JEFFERSON

2.2 UTM Coordinates Easting (X): 725447 Northing (Y): 4260516
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: MERAMEC RIVER

2.4 Number of Outfalls: 1 wastewater outfalls: 1 stormwater outfalls: 0 instream monitoring sites: 2

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
NORTHEAST PUBLIC SEWER DISTRICT	joer@northeastsewer.org	636-717-6523 ext. 14	
ADDRESS	CITY	STATE	ZIP CODE
1041 GRAVOIS ROAD	FENTON	MO	63026

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? 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	
NORTHEAST PUBLIC SEWER DISTRICT	joer@northeastsewer.org	636-717-6523 ext. 14	
ADDRESS	CITY	STATE	ZIP CODE
1041 GRAVOIS ROAD	FENTON	MO	63026

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)
REFER TO ATTACHED SHEET	FACILITY MANAGER	4842
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
joer@northeastsewer.org	636-717-6523 ext. 14	

6. FACILITY CONTACT

NAME	TITLE		
JOSEPH D. RICHARDSON	FACILITY MANAGER		
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE		
joer@northeastsewer.org	636-717-6523 ext. 14		
ADDRESS	CITY	STATE	ZIP CODE
555 13th STREET	FENTON	MO	63026

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
NPSD, INTERIM SALINE CREEK REGIONAL WRRF

PERMIT NO.
MO-0128490

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

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- 0128490	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.

SEE ATTACHED SHEETS

RECEIVED

SEP 15 2021

Water Protection Program

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- D128490	001

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.): 42,899 Design P.E. 52,500

7.4 Connections to the facility:

Number of units presently connected: 406 COMBINED

Residential: 12,481 Commericial: ____ Industrial ____

7.5 Design Flow	5.25 MGD	Actual Flow	2.45 MGD

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

Discharge will occur during the following months: ENTIRE YEAR

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

(ONLY 1), 433 SUBPART A, 433.17 SURFACE FINISHING OF METAL COMPONENTS (AERO METAL FINISHING, INC.)

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.
NPSD, ISCR WRRF	MO- 0128490	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 1,267 Actual Dry Tons/Year 302.23

9.3 Sludge storage provided: 423,860 Cubic feet; 365 Days of storage; 3.50% Average percent solids of sludge;

☐ 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: SILICON CARBIDE THICKENED (SiC-TAD PROCESS) AEROBIC DIGESTION

☐ 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
OROS & BUSCH APPLICATION TECHNOLOGIES, INC.	JAKE@orosandbosch.com

ADDRESS	CITY	STATE	ZIP CODE
14933 MOORE CEMETERY ROAD	CARLINVILLE	IL	62626

CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.
JAKE OROS	618-406-6180	MO-

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

NAME	EMAIL ADDRESS
OROS & BUSCH APPLICATION TECHNOLOGIES, INC.	JAKE@orosandbosch.com

ADDRESS	CITY	STATE	ZIP CODE
14933 MOORE CEMETERY ROAD	CARLINVILLE	IL	62626

CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.
JAKE OROS	618-406-6180	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.
NPSD, ISCR WRRF	MO- 0128490	001

PART B – ADDITIONAL APPLICATION INFORMATION

10. COLLECTION SYSTEM

10.1 Are there any municipal satellite collection systems connected to this facility? ____ Yes ✓ 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) 191.7 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 HAS AN AGGRESSIVE CLEANING, INSPECTION, AND REPAIR / IMPROVEMENT PROGRAM.

11. BYPASSING

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

If yes, explain:

ONE (1) MANHOLE IS KNOWN TO OVERFLOW DUE TO EXCESSIVE I/I DURING EXTREME RAIN EVENTS. WORK IS CURRENTLY UNDERWAY IN THE COLLECTION SYSTEM UPSTREAM TO ELIMINATE I/I SOURCES.

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	
MAILING ADDRESS	
TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
RESPONSIBILITIES OF CONTRACTOR	

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.

NONE

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- 0128490	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)	6.39	S.U.	7.30	S.U.	1046
pH (Maximum)	8.04	S.U.	7.30	S.U.	1046
Flow Rate	11.057	MGD	2.449269	MGD	1492

*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	15.75	mg/L	4.56	mg/L	427	SM(22) 5210 B	1 mg/L
	$CBOD_5$		mg/L		mg/L			
E. COLI		325.5	#/100 mL	36.3	#/100 mL	128	SM(22) 9223B COLI 18	1#/100 mL
TOTAL SUSPENDED SOLIDS (TSS)		15.62	mg/L	2.17	mg/L	428	SM(22) 2540 D	1.5 mg/L
TOTAL PHOSPHORUS		8.2	mg/L	2.16	mg/L	37	EPA 200.7 REV 4.4	0.05 mg/L
TOTAL KJELDAHL NITROGEN		8.4	mg/L	2.02	mg/L	37	D1A/PA1-DK03 + EPA 351.2 REV2	1 mg/L
NITRITES + NITRATES		6.5	mg/L	2.24	mg/L	26	EPA 300.0	0.5 mg/L
AMMONIA AS N		8.04	mg/L	0.63	mg/L	221	SM(22) 4500-NH3D	0.14 mg/L
CHLORINE* (TOTAL RESIDUAL, TRC)		N/A	mg/L		mg/L			
DISSOLVED OXYGEN		11.88	mg/L	9.15	mg/L	1046	SM(22) 4500 O G	0.1 mg/L
OIL and GREASE		5.1	mg/L	2.15	mg/L	19	EPA 1664 A	1.4 mg/L
OTHER: TOTAL NITROGEN		11.0	mg/L	3.95	mg/L	37	CALCULATED	1.0 mg/L

*Report only if facility chlorinates

END OF PART B

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- 0128490	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)
ROBERT A. HEMBROCK, P.E.	EXECUTIVE DIRECTOR

SIGNATURE: Robert A. Hembrock

TELEPHONE NUMBER WITH AREA CODE: 636-343-5090 ext. 226

DATE SIGNED: 9-3-21

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.

RECEIVED

SEP 15 2021

Water Protection Program

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- 0128490	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	50	ug/L	1.022	lbs	32.80	ug/L	0.670	lbs	5	EPA 200.7 REV 4.4	50 ug/L
ANTIMONY	50	"	1.022	"	11.13	"	0.227	"	7	"	50 ug/L
ARSENIC	25	"	0.511	"	10.00	"	0.204	"	13	"	25 ug/L
BERYLLIUM	1.5	"	0.031	"	0.92	"	0.019	"	4	"	1.5 ug/L
CADMIUM	5	"	0.102	"	1.01	"	0.021	"	19	"	5 ug/L
CHROMIUM III	10	"	0.204	"	5.38	"	0.110	"	13	SM 3500 -CR B	5 ug/L
CHROMIUM VI	10	"	0.204	"	5.38	"	0.110	"	13	CALC	10 ug/L
COPPER	10	"	0.204	"	3.27	"	0.067	"	19	EPA 200.7 REV 4.4	10 ug/L
IRON	43	"	0.879	"	31.04	"	0.634	"	5	"	30 ug/L
LEAD	40	"	0.817	"	6.97	"	0.142	"	13	"	40 ug/L
MERCURY	0.2	"	0.004	"	0.13	"	0.003	"	13	EPA 245.1 SW 7470	0.2 ug/L
NICKEL	5	"	0.102	"	2.66	"	0.054	"	13	EPA 200.7 REV 4.4	5 ug/L
SELENIUM	40	"	0.817	"	9.95	"	0.203	"	13	"	40 ug/L
SILVER	5	"	0.102	"	1.13	"	0.023	"	13	"	5 ug/L
THALLIUM	40	"	0.817	"	13.48	"	0.275	"	4	"	40 ug/L
ZINC	76	"	1.553	"	50.71	"	1.036	"	19	"	10 ug/L
CYANIDE	36	"	0.736	"	6.48	"	0.133	"	13	SM 4500 - CN CE	5 ug/L
TOTAL PHENOLIC COMPOUNDS	50	"	1.022	"	42.33	"	0.865	"	3	EPA 420.1	50 ug/L
HARDNESS (as $CaCO_3$)	215	mg/L	4393	"	165	mg/L	3371	"	3	CALC	0.237 mg/L
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN	50	ug/L	1.022	lbs	42	ug/L	0.858	lbs	4	EPA 624	50 ug/L
ACRYLONITRILE	50	"	1.022	"	17.775	"	0.363	"	4	"	50 ug/L
BENZENE	5	"	0.102	"	4.025	"	0.082	"	4	"	5 ug/L
BROMOFORM	5	"	0.102	"	4.15	"	0.085	"	4	"	5 ug/L
CARBON TETRACHLORIDE	5	"	0.102	"	3.99	"	0.082	"	4	"	5 ug/L

FACILITY NAME	PERMIT NO.	OUTFALL NO.
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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	5	ug/L	0.102	lbs	4.1	ug/L	0.084	lbs	4	EPA 624	5	ug/L
CHLORODIBROMO-METHANE	5	"	0.102	"	4.1	"	0.084	"	4	"	5	"
CHLOROETHANE	10	"	0.204	"	7.728	"	0.158	"	4	"	10	"
2-CHLORO-ETHYLVINYL ETHER	5	"	0.102	"	5	"	0.102	"	5	"	5	"
CHLOROFORM	5	"	0.102	"	4.025	"	0.082	"	4	"	5	"
DICHLOROBROMO-METHANE	5	"	0.102	"	4.025	"	0.082	"	4	"	5	"
1,1-DICHLORO-ETHANE	5	"	0.102	"	4.025	"	0.082	"	4	"	5	"
1,2-DICHLORO-ETHANE	5	"	0.102	"	4.075	"	0.083	"	4	"	5	"
TRANS-1,2-DICHLOROETHYLENE	20	"	0.409	"	10.25	"	0.209	"	4	"	20	"
1,1-DICHLORO-ETHYLENE	5	"	0.102	"	4	"	0.082	"	4	"	5	"
1,2-DICHLORO-PROPANE	5	"	0.102	"	4.025	"	0.082	"	4	"	5	"
1,3-DICHLORO-PROPYLENE	15	"	0.306	"	11.25	"	0.23	"	4	"	15	"
ETHYLBENZENE	5	"	0.102	"	4.075	"	0.083	"	4	"	5	"
METHYL BROMIDE	10	"	0.204	"	7.685	"	0.157	"	4	"	10	"
METHYL CHLORIDE	10	"	0.204	"	7.68	"	0.157	"	4	"	10	"
METHYLENE CHLORIDE	5	"	0.102	"	4.6	"	0.094	"	4	"	5	"
1,1,2,2-TETRA-CHLOROETHANE	5	"	0.102	"	4.15	"	0.085	"	4	"	5	"
TETRACHLOROETHYLENE	5	"	0.102	"	4.15	"	0.085	"	4	"	5	"
TOLUENE	5	"	0.102	"	4.075	"	0.083	"	4	"	5	"
1,1,1-TRICHLORO-ETHANE	5	"	0.102	"	4.025	"	0.082	"	4	"	5	"
1,1,2-TRICHLORO-ETHANE	5	"	0.102	"	4.1	"	0.084	"	4	"	5	"
TRICHLOROETHYLENE	5	"	0.102	"	4.025	"	0.082	"	4	"	5	"
VINYL CHLORIDE	5	"	0.102	"	3.965	"	0.081	"	4	"	5	"
ACID-EXTRACTABLE COMPOUNDS												
P-CHLORO-M-CRESOL	10	ug/L	0.204	lbs.	5.835	ug/L	0.119	lbs.	4	EPA 625	10	ug/L
2-CHLOROPHENOL	10	"	0.204	"	5.565	"	0.114	"	4	"	10	"
2,4-DICHLOROPHENOL	10	"	0.204	"	5.765	"	0.118	"	4	"	10	"
2,4-DIMETHYLPHENOL	10	"	0.204	"	5.77	"	0.118	"	4	"	10	"
4,6-DINITRO-O-CRESOL	50	"	1.022	"	29.155	"	0.596	"	4	"	50	"
2,4-DINITROPHENOL	20	"	0.409	"	14.645	"	0.299	"	4	"	20	"
2-NITROPHENOL	10	"	0.204	"	6.09	"	0.124	"	4	"	10	"
4-NITROPHENOL	20	"	0.409	"	13.63	"	0.279	"	4	"	20	"

FACILITY NAME	PERMIT NO.	OUTFALL NO.
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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	50	ug/L	1.022	lbs.	25.421	ug/L	0.519	lbs.	4	EPA 625	50	ug/L
PHENOL	10	"	0.204	"	5.41	"	0.111	"	4	"	10	"
2,4,6-TRICHLOROPHENOL	20	"	0.409	"	10.52	"	0.215	"	4	"	20	"
BASE-NEUTRAL COMPOUNDS												
ACENAPHTHENE	10	ug/L	0.204	lbs.	5.423	ug/L	0.111	lbs.	4	EPA 625	10	ug/L
ACENAPHTHYLENE	10	"	0.204	"	5.417	"	0.111	"	4	"	10	"
ANTHRACENE	10	"	0.204	"	8.155	"	0.167	"	4	"	10	"
BENZIDINE	80	"	1.635	"	41.445	"	0.847	"	4	"	80	"
BENZO(A)ANTHRACENE	10	"	0.204	"	8.18	"	0.167	"	4	"	10	"
BENZO(A)PYRENE	10	"	0.204	"	8.25	"	0.169	"	4	"	10	"
3,4-BENZO-FLUORANTHENE	10	"	0.204	"	8.045	"	0.164	"	4	"	10	"
BENZO(GH) PHERYLENE	10	"	0.204	"	8.165	"	0.167	"	4	"	10	"
BENZO(K) FLUORANTHENE	10	"	0.204	"	5.52	"	0.113	"	4	"	10	"
BIS (2-CHLOROTHOXY) METHANE	10	"	0.204	"	5.4	"	0.110	"	4	"	10	"
BIS (2-CHLOROETHYL) – ETHER	10	"	0.204	"	5.83	"	0.119	"	4	"	10	"
BIS (2-CHLOROISO-PROPYL) ETHER	10	"	0.204	"	5.415	"	0.111	"	4	"	10	"
BIS (2-ETHYLHEXYL) PHTHALATE	10	"	0.204	"	8.1	"	0.166	"	4	"	10	"
4-BROMOPHENYL PHENYL ETHER	10	"	0.204	"	5.7	"	0.116	"	4	"	10	"
BUTYL BENZYL PHTHALATE	10	"	0.204	"	8.25	"	0.169	"	4	"	10	"
2-CHLORONAPH-THALENE	10	"	0.204	"	5.401	"	0.110	"	4	"	10	"
4-CHLORPHENYL PHENYL ETHER	10	"	0.204	"	5.492	"	0.112	"	4	"	10	"
CHRYSENE	10	"	0.204	"	8.18	"	0.167	"	4	"	10	"
DI-N-BUTYL PHTHALATE	10	"	0.204	"	8.225	"	0.168	"	4	"	10	"
DI-N-OCTYL PHTHALATE	10	"	0.204	"	8.365	"	0.171	"	4	"	10	"
DIBENZO (A,H) ANTHRACENE	10	"	0.204	"	8.03	"	0.164	"	4	"	10	"
1,2-DICHLORO-BENZENE	10	"	0.204	"	5.495	"	0.112	"	4	"	10	"
1,3-DICHLORO-BENZENE	5	"	0.102	"	4.125	"	0.084	"	4	"	5	"
1,4-DICHLORO-BENZENE	5	"	0.102	"	4.1	"	0.084	"	4	"	5	"
3,3-DICHLORO-BENZIDINE	20	"	0.409	"	10.405	"	0.213	"	4	"	20	"
DIETHYL PHTHALATE	10	"	0.204	"	8.235	"	0.168	"	4	"	10	"
DIMETHYL PHTHALATE	10	"	0.204	"	5.424	"	0.111	"	4	"	10	"

FACILITY NAME	PERMIT NO.	OUTFALL NO.
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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	10	ug/L	0.204	lbs.	5.64	ug/L	0.115	lbs.	4	EPA 625	10	ug/L
2,6-DINITRO-TOLUENE	10	"	0.204	"	5.478	"	0.112	"	4	"	10	"
1,2-DIPHENYL-HYDRAZINE	10	"	0.204	"	5.462	"	0.112	"	4	"	10	"
FLUORANTHENE	10	"	0.204	"	8.17	"	0.167	"	4	"	10	"
FLUORENE	10	"	0.204	"	5.429	"	0.111	"	4	"	10	"
HEXACHLOROBENZENE	10	"	0.204	"	8.26	"	0.169	"	4	"	10	"
HEXACHLOROBUTADIENE	10	"	0.204	"	5.61	"	0.115	"	4	"	10	"
HEXACHLOROCYCLO-PENTADIENE	20	"	0.409	"	10.585	"	0.216	"	4	"	20	"
HEXACHLOROETHANE	10	"	0.204	"	5.525	"	0.113	"	4	"	10	"
INDENO (1,2,3-CD) PYRENE	10	"	0.204	"	8.16	"	0.167	"	4	"	10	"
ISOPHORONE	10	"	0.204	"	5.482	"	0.112	"	4	"	10	"
NAPHTHALENE	10	"	0.204	"	5.494	"	0.112	"	4	"	10	"
NITROBENZENE	10	"	0.204	"	5.53	"	0.113	"	4	"	10	"
N-NITROSODI-PROPYLAMINE	10	"	0.204	"	5.475	"	0.112	"	4	"	10	"
N-NITROSODI-METHYLAMINE	10	"	0.204	"	8.15	"	0.167	"	4	"	10	"
N-NITROSODI-PHENYLAMINE	10	"	0.204	"	5.5	"	0.112	"	4	"	10	"
PHENANTHRENE	10	"	0.204	"	8.195	"	0.167	"	4	"	10	"
PYRENE	10	"	0.204	"	8.15	"	0.165	"	4	"	10	"
1,2,4-TRICHLOROBENZENE	5	"	0.102	"	4.05	"	0.083	"	4	"	5	"

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

1,3-DICHLOROPROPENE	15	ug/L	0.306	lbs.	11.25	ug/L	0.230	lbs.	4	EPA 624	15	ug/L
CHLOROBENZENE	5	"	0.102	"	4.1	"	0.084	"	4	"	5	"
2,3,7,8-TCDD SCREEN	50	"	1.022	"	50	"	1.022	"	4	EPA 625	50	"
CHROMIUM	5	"	0.102	"	3.70	"	0.076	"	23	EPA 200.7 REV. 4.4	5	"
4,4'- DDD	1	"	0.02	"	0.38	"	0.008	"	4	EPA 608	1	"
4,4'- DDE	1	"	0.02	"	0.39	"	0.008	"	4	"	1	"
4,4'- DDT	1	"	0.02	"	0.485	"	0.01	"	4	"	1	"
ALDRIN	0.5	"	0.01	"	0.263	"	0.005	"	4	"	0.5	"
ALPHA-BHC	0.5	"	0.01	"	0.263	"	0.005	"	4	"	0.5	"
AROCLOR 1016	5	"	0.102	"	3.575	"	0.073	"	4	"	5	"
AROCLOR 1221	10	"	0.204	"	4.825	"	0.099	"	4	"	10	"

END OF PART D

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

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- 0128490	001

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.

AROCLOR 1232	5	ug/L	0.102	lbs.	3.575	Kg/L	0.073	lbs.	4	EPA 608	5	ug/L
AROCLOR 1242	5	"	0.102	"	3.575	ug/L	0.073	"	4	"	5	"
AROCLOR 1248	5	"	0.102	"	3.575	"	0.073	"	4	"	5	"
AROCLOR 1254	10	"	0.204	"	4.825	"	0.099	"	4	"	10	"
AROCLOR 1260	10	"	0.204	"	4.825	"	0.099	"	4	"	10	"
AROCLOR - TOTAL	50	"	1.022	"	15.125	"	0.309	"	4	"	50	"
BETA - BHC	0.5	"	0.01	"	0.278	"	0.006	"	4	"	0.5	"
CHLORDANE (TECHNICAL)	5	"	0.102	"	3.125	"	0.064	"	4	"	5	"
DELTA - BHC	0.5	"	0.01	"	0.253	"	0.005	"	4	"	0.5	"
DIEDRIN	1	"	0.02	"	0.4	"	0.008	"	4	"	1	"
ENDOSULFAN 1	0.5	"	0.01	"	0.288	"	0.006	"	4	"	0.5	"

END OF PART D

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

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- 0128490	001

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.

ENDOSULFAN II	1	ug/L	0.02	lbs.	0.415	ug/L	0.008	lbs.	4	EPA 608	1	ug/L
ENDOSULFAN SULFATE	1	"	0.02	"	0.46	"	0.009	"	4	"	1	"
ENDIN KETONE	0.1	"	0.002	"	0.1	"	0.002	"	1	"	0.1	"
ENDRIN	1	"	0.02	"	0.405	"	0.008	"	4	"	1	"
ENDRIN ALDEHYDE	1	"	0.02	"	0.41	"	0.008	"	4	"	1	"
GAMMA-BHC (LINDANE)	0.5	"	0.01	"	0.253	"	0.005	"	4	"	0.5	"
HEPTACLOR	0.5	"	0.01	"	0.368	"	0.008	"	4	"	0.5	"
HEPTACLOR EPOXIDE	0.5	"	0.01	"	0.278	"	0.006	"	4	"	0.5	"
ALPHA-CHLORDANE	0.5	"	0.001	"	0.05	"	0.001	"	1	"	0.5	"
GAMMA-CHLORDANE	0.5	"	0.001	"	0.05	"	0.001	"	1	"	0.5	"
METHOXYCLOR	5	"	0.102	"	2.375	"	0.049	"	4	"	5	"

END OF PART D

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

TOXAPHENE	5	"	0.102	"	3	"	0.061	"	4	"	5	"

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- 0128490	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 5 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. SEE ATTACHED REPORTS

	Most Recent	2ND Most Recent	3RD Most Recent
A. Test Information			
Test Method Number	EPA-821-R-02-012	EPA-821-R-02-012	EPA-821-R-02-012
Final Report Number	EAS LOG # 2612732	EAS LOG # 2509309	EAS LOG # 2403308
Outfall Number	#001	#001	#001
Dates Sample Collected	07/14/2021	07/22/2020	07/10/2019
Date Test Started	07/14/2021	07/22/2020	07/10/2019
Duration	48 HOURS	48 HOURS	48 HOURS
B. Toxicity Test Methods Followed			
Manual Title	US EPA	US EPA	US EPA
Edition Number and Year of Publication	5th EDITION OCTOBER 2002	5th EDITION OCTOBER 2002	5th EDITION OCTOBER 2002
Page Number(s)	6000/4-90/027	6000/4-90/027	6000/4-90/027
C. Sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used			
24-Hour Composite	YES	YES	YES
Grab	N/A	N/A	N/A
D. Indicate where the sample was taken in relation to disinfection (Check all that apply for each)			
Before Disinfection	☐	☐	☐
After Disinfection	☑ UV	☑ UV	☑ UV
After Dechlorination	☐	☐	☐
E. Describe the point in the treatment process at which the sample was collected			
Sample Was Collected:	FINAL EFFLUENT	FINAL EFFLUENT	FINAL EFFLUENT
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	☑ MERAMEC RIVER	☑ MERAMEC RIVER	☑ MERAMEC RIVER

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- D128490	001

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	UPSTREAM MERAMEC RIVER	UPSTREAM MERAMEC RIVER	UPSTREAM MERAMEC RIVER
Salt Water			
J. Percentage of effluent used for all concentrations in the test series			
AEC = 6.3%.	6.3%, 12.5%, 25%, 50%, 100%		
AEC = 40%.		17.8%, 26.7%, 40%, 60%, 90%	17.8%, 26.7%, 40%, 60%, 90%
K. Parameters measured during the test (State whether parameter meets test method specifications)			
pH	YES	YES	YES
Salinity	N/A	N/A	N/A
Temperature	YES	YES	YES
Ammonia	YES	YES	YES
Dissolved Oxygen	YES	YES	YES
L. Test Results			

Acute:	P. PROMELAS	C. DUBIA	P. PROMELAS	C. DUBIA	P. PROMELAS	C. DUBIA
Percent Survival in 100% Effluent	100%.	100%.	100%.	100%.	100%	100%
LC_{50}	>100%.	>100%.	>90%.	>90%.	>90%.	>90%.
95% C.I.						
Control Percent Survival	UC 100%.	UC 100%.	UC 100%.	UC 100%.	UC 100%.	UC 100%.
Other (Describe)	RC 100%.	RC 100%.	RC 100%.	RC 100%.	RC 100%.	RC 100%.
Chronic:						
NOEC						
IC_{25}						
Control Percent Survival						
Other (Describe)						

M. Quality Control/ Quality Assurance			
Is reference toxicant data available?	YES	YES	YES
Was reference toxicant test within acceptable bounds?	YES	YES	YES
What date was reference toxicant test run (MM/DD/YYYY)?	07/14/2021	07/08/2020	07/10/2019
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)

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.

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
MSD, ISCR WRRF	MO- 0128490	001

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

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

20. GENERAL INFORMATION

20.1 Does the treatment works have, or is it subject to, an approved pretreatment program?

☒ Yes ☐ No

20.2 Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:

Number of non-categorical SIUs 0

Number of CIUs 1

21. INDUSTRIES CONTRIBUTING MORE THAN 5% OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME: AERO METAL FINISHING, INC.

MAILING ADDRESS	CITY	STATE	ZIP CODE
2150 NORTH LARK	FENTON	MO	63026

21.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge

SURFACE FINISHING OF METAL COMPONENTS

21.2 Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

Principal Product(s): COATINGS AND FINISHING ON AEROSPACE AND COMMERCIAL AIRCRAFT PARTS.

Raw Material(s): METALS, CAUSTICS, ACIDS, PAINTS (SEE ATTACHED)

21.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

15,976 gpd ☐ Continuous ☒ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

745 gpd ☐ Continuous ☒ Intermittent

21.4 Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local Limits ☒ Yes ☐ No

b. Categorical Pretreatment Standards ☒ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

21.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☒ No

If Yes, describe each episode

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MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
NPSD, ISCR WRRF	MO- 0128490	001

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

22. RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE

22.1 Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe? ☐ Yes ☒ No

22.2 Method by which RCRA waste is received. (Check all that apply)
☐ Truck ☐ Rail ☐ Dedicated Pipe N/A

22.3 Waste Description

EPA Hazardous Waste Number	Amount (volume or mass)	Units

23. CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER

23.1 Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?
☐ Yes ☒ No
Provide a list of sites and the requested information for each current and future site.

23.2 Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

N/A

23.3 List the hazardous constituents that are received (or are expected to be received). Included data on volume and concentration, if known. (Attach additional sheets if necessary)

N/A

23.4 Waste Treatment

a. Is this waste treated (or will it be treated) prior to entering the treatment works?
☒ Yes ☐ No

If yes, describe the treatment (provide information about the removal efficiency):

(SEE ATTACHED)

b. Is the discharge (or will the discharge be) continuous or intermittent?
☐ Continuous ☒ Intermittent

If intermittent, describe the discharge schedule:

DISCHARGE WILL OCCUR FROM 6:00 AM TO 4:00 PM

END OF PART F

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

N/A

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL		
FACILITY NAME NPSD, ISCR WRRF	PERMIT NO. MO- 0128490	OUTFALL NO. 001

PART G – COMBINED SEWER SYSTEMS N/A

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

24. GENERAL INFORMATION

24.1 System Map. Provide a map indicating the following: (May be included with basic application information.)

A. All CSO Discharges.
B. Sensitive Use Areas Potentially Affected by CSOs. (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems and Outstanding Natural Resource Waters.)
C. Waters that Support Threatened and Endangered Species Potentially Affected by CSOs.

24.2 System Diagram. Provide a diagram, either in the map provided above or on a separate drawing, of the Combined Sewer Collection System that includes the following information:

A. Locations of Major Sewer Trunk Lines, Both Combined and Separate Sanitary.
B. Locations of Points where Separate Sanitary Sewers Feed into the Combined Sewer System.
C. Locations of In-Line or Off-Line Storage Structures.
D. Locations of Flow-Regulating Devices.
E. Locations of Pump Stations.

24.3 Percent of collection system that is combined sewer

24.4 Population served by combined sewer collection system

24.5 Name of any satellite community with combined sewer collection system

25. CSO OUTFALLS. COMPLETE THE FOLLOWING ONCE FOR EACH CSO DISCHARGE POINT

25.1 Description of Outfall

a. Outfall Number
b. Location

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c. Distance from Shore (if applicable) _____ ft
d. Depth Below Surface (if applicable) _____ ft
e. Which of the following were monitored during the last year for this CSO?

☐ Rainfall ☐ CSO Pollutant Concentrations ☐ CSO
☐ CSO Flow Volume ☐ Receiving Water Quality

f. How many storm events were monitored last year?

25.2 CSO Events

a. Give the Number of CSO Events in the Last Year Events ☐ Actual ☐ Approximate
b. Give the Average Duration Per CSO Event Hours ☐ Actual ☐ Approximate
c. Give the Average Volume Per CSO Event Million Gallons ☐ Actual ☐ Approximate
d. Give the minimum rainfall that caused a CSO event in the last year _____ inches of rainfall

25.3 Description of Receiving Waters

a. Name of Receiving Water
b. Name of Watershed/River/Stream System
c. U.S. Soil Conservation Service 14-Digit Watershed Code (If Known)
d. Name of State Management/River Basin
e. U.S. Geological Survey 8- Digit Hydrologic Cataloging Unit Code (If Known)

25.4 CSO Operations

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shellfish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable state water quality standard.)

END OF PART G

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

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.

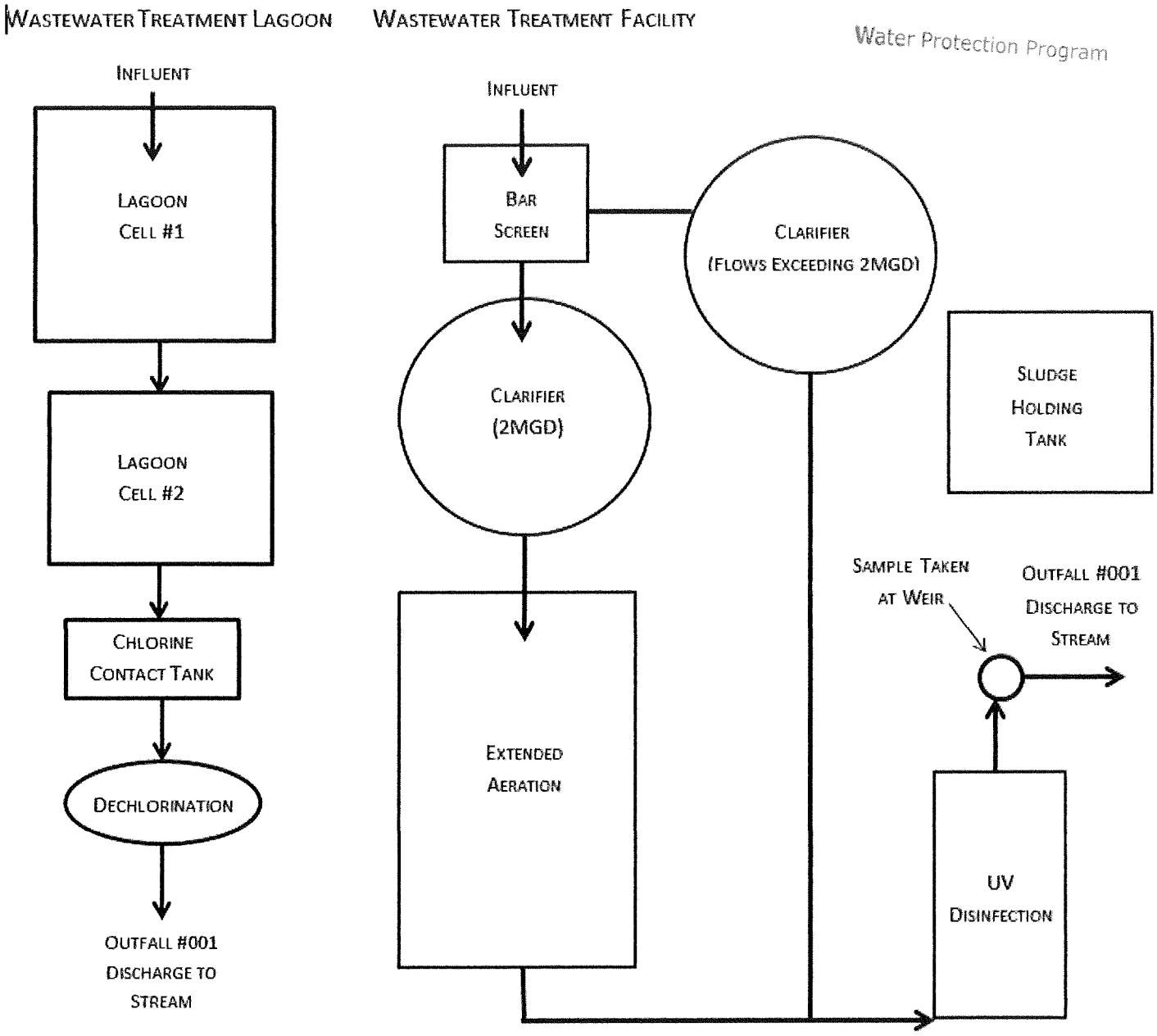
3.2-3.4 Self-explanatory. See the following link for Financial Questionnaire: https://dnr.mo.gov/forms/780-2511-f.pdf

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.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FINANCIAL QUESTIONNAIRE

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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
NPSD, INTERIM SALINE CREEK REGIONAL WRRF	#MO- 0128490
CITY FENTON	**COUNTY** JEFFERSON

2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES)

2.1	Number of connections to the facility: Residential 12,481 Commercial 406 (COMBINED) Industrial _____	
2.2	Current sewer user rate (Based on a 5,000 gallon per month usage):	$ 47.58
2.3	Current annual operating costs for the facility (excludes depreciation):	$ 4,069,715 OPERATING BUDGET
2.4	Bond rating (if applicable):	A+
2.5	Bonding capacity:	$ 8,145,135.50
2.6	Current outstanding debt relating to wastewater collection and treatment:	$ 17,060,000
2.7	Amount within the current user rate used toward payments on outstanding debt related to the current wastewater infrastructure:	$ 14.43
2.8	Attach any relevant financial statements.	

3. FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES

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

4. FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS

4.1 Total connections to the sewer district: Residential 12,731 Commercial 406 (COMBINED) Industrial _____

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?

COST DIVIDED ACROSS 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):

SEE ATTACHED

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):

COVID-19 RELATED ECONOMIC INSANITY

6. CERTIFICATION

FINANCIAL CONTACT	OFFICIAL TITLE
ROBERT A. HEMBROCK, P.E.	EXECUTIVE DIRECTOR
EMAIL ADDRESS	**TELEPHONE NUMBER WITH AREA CODE**
bobh@northeastsewer.org	636-343-5090 ext. 226

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
ROBERT A. HEMBROCK, P.E.	EXECUTIVE DIRECTOR
SIGNATURE	**DATE SIGNED**
Robert A. Hembrock	9-3-21

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.

NORTHEAST PUBLIC SEWER DISTRICT

Fiscal Year 2021 Budget

CAPITAL IMPROVEMENT PLANNING - FY2021 Budget

Description	2020	2022	2023	2024	2025
1 Vehicles & Equipment		36,000		39,000	460,000
2 CIP 2019-03 Lower Saline Interceptor & High Ridge Consolidation Phase 1	1,250,000 Construction				
3 CIP 2019-04 Antire Valley Phase 1	75,000 Design & Esmts	SRF Funding Construction			
4 CIP 2019-05 Antire Valley Phase 2		75,000 Design & Esmts	SRF Funding Construction		
5 CIP 2019-06 Antire Valley Phase 3			75,000 Design & Esmts	SRF Funding Construction	
6 CIP 2018-04 Harter Farms Sewer Extension*		230,000 Construction			
7 CIP 2018-02 Dutch Mill Farms Sewer Extension		10,000 Design & Esmt:	250,000 Construction		
8 Cured-In-Place-Pipe (CIPP) System Rehabilitation		50,000	500,000	500,000	500,000
9 Manhole Rehabilitation		250,000	250,000	250,000	250,000
Total	1,325,000	651,000	1,075,000	789,000	1,210,000
Projected Starting Capital Account Balance	1,128,261	733,808	1,219,128	1,227,108	1,428,981
Projected Capital Contributions	930,547	1,136,320	1,082,980	990,874	1,452,221
Projected Ending Capital Account Balance	733,808	1,219,128	1,227,108	1,428,981	1,671,202

* No additional easement acquisition required for project

NORTHEAST PUBLIC SEWER DISTRICT
OF JEFFERSON COUNTY
Fenton, Missouri

For the Year Ended December 31, 2020

ANNUAL FINANCIAL REPORT

BEUSSINK, HEY, ROE & STRODER, L.L.C.

Certified Public Accountants

CONTENTS

BEUSSINK, HEY, ROE & STRODER, L.L.C.

Certified Public Accountants

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INDEPENDENT AUDITORS' REPORT

To the Board of Trustees
Northeast Public Sewer District of
Jefferson County
Fenton, Missouri

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities of the Northeast Public Sewer District of Jefferson County, as of and for the year ended December 31, 2020, and the related notes to the financial statements, which comprise the District's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the business-type activities of the Northeast Public Sewer District of Jefferson County as of December 31, 2020, and the changes in financial position and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 5 through 12 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Government Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operation, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 21, 2021, on our consideration of the Northeast Public Sewer District of Jefferson County's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Northeast Public Sewer District of Jefferson County's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Northeast Public Sewer District of Jefferson County's internal control over financial reporting and compliance.

BEUSSINK, HEY, ROE & STRODER, L.L.C.

Beussink, Hey, Roe & Stroder, L.L.C.

Cape Girardeau, Missouri
June 21, 2021

BEUSSINK, HEY, ROE & STRODER, L.L.C.

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INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Board of Trustees
Northeast Public Sewer District of
Jefferson County
Fenton, Missouri

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activities of the Northeast Public Sewer District of Jefferson County as of and for the year ended December 31, 2020, and the related notes to the financial statements, which comprise the Northeast Public Sewer District of Jefferson County's basic financial statements, and have issued our report thereon dated June 21, 2021.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Northeast Public Sewer District of Jefferson County's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Northeast Public Sewer District of Jefferson County's internal control. Accordingly, we do not express an opinion on the effectiveness of the Northeast Public Sewer District of Jefferson County's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Northeast Public Sewer District of Jefferson County's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards.*

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

BEUSSINK, HEY, ROE & STRODER, L.L.C.

Beussink, Hey, Roe & Stroder, L.L.C.

Cape Girardeau, Missouri
June 21, 2021

REQUIRED SUPPLEMENTAL INFORMATION

NORTHEAST PUBLIC SEWER DISTRICT

MANAGEMENT'S DISCUSSION AND ANALYSIS

(Unaudited)

The Northeast Public Sewer District is presenting the following discussion and analysis in order to provide an overall review of the District's financial activities for the fiscal year ending December 31, 2020. The readers should consider the information presented with the District's financial statements and footnotes to the basic financial statements to form an understanding of the District's financial position.

FINANCIAL HIGHLIGHTS

- The District continues to work to improve operating efficiencies by a focus on system reliability maintenance and improvements. Future construction planning efforts include gravity system consolidation to eliminate a number of pump stations which will further improve efficiencies and have a positive impact on operating expenses. The Board has decided to apply for a loan through the State Revolving Fund (SRF) program to fund the Antire Valley projects which will eliminate two (2) of the District's three (3) remaining satellite treatment facilities.

- The District's Total Liabilities increased by $2.52 million, or 17.1 percent. Long-term debt outstanding increased as a result of the Biosolids Project at the Saline Creek WWTF. While the District plans to fund the Antire Valley projects with a SRF loan, this will not result in higher annual debt payment obligations due to the structure of the current debt which will see a reduction over the next two (2) years and a significant reduction in FY 2027.

- The District's Total Operating Expenses in 2020 increased (29.1%) as compared to 2019. This is due to the increased costs of repairs to the system as part of the District's system reliability improvement program. The District's average winter average for sewer billing slightly increased in FY 2021, but is relatively stable.

- The District's Net Position increased by 2.8 percent over 2019 due to increased construction in progress due to the Biosolids project at the Saline Creek WWTF.

OVERVIEW OF THE FINANCIAL STATEMENTS

This annual report consists of three parts, the Management's Discussion and Analysis, the independent auditor's report and the basic financial statements of the District. The financial statements also include footnotes that explain in more detail some of the information in the financial statements.

REQUIRED FINANCIAL STATEMENTS

The financial statements of the District report information of the District using accounting methods similar to those used by private sector companies. These statements offer short and long-term financial information about its activities.

The *Statement of Net Position (Balance Sheet)* includes all of the District's assets and liabilities and provides information about the nature and amount of investments in resources (assets) and the obligations to District creditors (liabilities). It also provides the basis for evaluating the capital structure of the District and assessing the liquidity and financial flexibility of the District.

All of the current year's revenues and expenses are accounted for in the *Statement of Revenues, Expenses, and Changes in Net Position.* This statement measures the results of the District's operations over the year and can be used to determine whether the District has successfully covered all its costs through its user fees and other charges, its profitability and its credit-worthiness.

The final requirement is the *Statement of Cash Flows*. The primary purpose of this statement is to provide information about the District's cash receipts and payments. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities and provides answers to questions such as: where did cash come from, what was cash used for, and what was the change in the cash balance during the reporting period.

FINANCIAL ANALYSIS OF THE DISTRICT

The most common financial question posed to the District is "Are we (the District) as a whole better off or worse off as a result of the year's activities?" The *Statement of Net Position* and the *Statement of Revenues, Expenses and Changes in Net Position* report information about the District's activities in a way that will help answer this question. These two statements report the net position of the District and the changes during the year. One can think of the District's net position, the difference between assets and liabilities, as one way to measure financial health or financial position. Over time, increases or decreases in the District's net position is one indicator of whether its financial health is improving or deteriorating. The reader will need to consider other non-financial factors such as changes in economic conditions, population growth, and new or changed government legislation.

NET POSITION

To begin our analysis, a summary of the District's *Statement of Net Position* is presented in Table A.1. As is apparent from the Table, the Total Net Position increased $1.11 million to $40.51 million in 2020, up from $36.51 million at the end of 2019.

Table A.1
Condensed Statements of Net Assets (Balance Sheet)

	FY 2019	FY 2020	Dollar Change	Total Percent Change
Current Assets	7,172,714	6,777,783	(394,931)	(5.5)
Other Assets	1,085,261	1,161,301	76,040	7.0
Total Current & Other Assets	8,257,975	7,939,084	(318,891)	(3.9)
Capital Assets	56,277,238	59,189,502	2,912,264	5.2
Construction in Progress	2,936,332	4,899,857	1,963,525	66.9
Accumulated Depreciation	(13,317,865)	(14,244,708)	(926,843)	7.0
Total Capital Assets	45,895,705	49,844,651	3,948,946	8.6
Total Assets	**54,153,680**	**57,783,735**	**3,630,055**	**6.7**
Long-Term Debt Outstanding	12,650,007	14,178,123	1,528,116	12.1
Other Liabilities	2,108,274	3,098,815	990,541	46.9
Total Liabilities	**14,758,281**	**17,276,938**	**2,518,657**	**17.1**
Invested In Capital Assets, Net of Related Debt	32,028,705	34,604,175	2,575,470	8.0
Restricted for Replacements	1,085,261	1,161,301	76,040	7.0
Unrestricted	6,281,433	4,741,321	(1,540,112)	(24.5)
Total Net Position	**39,395,399**	**40,506,797**	**1,111,398**	**2.8**

In examining Table A.1, much of the Change in Net Position was realized in the category titled *Capital Assets*. This is reflective of the increase in the District's Construction in Progress from the Biosolids project at the Saline Creek Regional WRRF which began in 2020 and will be completed in 2021. This project is being funded partially with a State Revolving Fund (SRF) loan and partially with cash from the District's Capital Improvement Fund. Long-Term Debt Outstanding increased in 2020 due to this SRF loan.

While the *Statement of Net Position (Balance Sheet)* depicts the change in net position, the *Statement of Revenues, Expenses and Changes in Net Position*, provides answers as to the nature and source of these changes. As can be seen in Table A.2, the *Income Before Capital Contributions* of -$1.91 million is significantly different than last year. This is due to the increased cost for repairs in the collection system as part of the District's system reliability program to reduce Infiltration & Inflow and correct other system defects which affect service

reliability. While the District has been increasing this work in the recent past, the program was far more extensive in 2020. It is anticipated that this level of expense will continue over the next five (5) years. In addition to this additional expense, connection fees were lower, sewer charges were slightly less and late fees were less due to the COVID-19 pandemic than in 2019.

2020's Capital Contributions are an increase over 2019. The District had more in-kind construction of sewer main extensions in 2020 than 2019. The economic effects of COVID19 make it difficult to estimate or predict the amount of in-kind construction for the next few years.

Table A.2
Condensed Statements of Revenues, Expenses, and Changes in Net Assets

	FY 2019	FY 2020	Dollar Change	Total Percent Change
Operating Revenues	7,414,674	7,137,886	(276,788)	(3.7)
Other Revenues	135,497	123,557	(11,940)	(8.8)
Other Expenses	(461,251)	(763,131)	(301,880)	65.4
Total Revenues	**7,088,920**	**6,498,312**	**(590,608)**	**(8.3)**
Depreciation Expense	1,115,539	1,171,432	55,893	5.0
Operating Expense	3,411,412	4,671,304	1,259,892	36.8
Total Expenses	**4,526,951**	**5,842,736**	**1,315,785**	**29.1**
Income (Loss) Before Capital Contributions	2,561,966	655,576	(1,906,390)	(74.4)
Capital Contributions (net of related depreciation)	321,440	455,822	134,382	41.8
Capitalized Labor & Material	-	-	-	-
	321,440	455,822	134,382	41.8
Change in Net Assets	2,883,406	1,111,398	(1,772,008)	(61.5)
Beginning Net Assets	36,511,993	39,395,399	2,883,406	7.9
Prior Period Adjustment	-	-	-	-
Ending Net Assets	**39,395,399**	**40,506,797**	**1,111,398**	**2.8**

BUDGETARY HIGHLIGHTS

The District adopts an annual Operating Budget before the start of the fiscal year as required by law. The Operating Budget includes proposed expenses and the means of financing them. A 2020 budget comparison and analysis is presented in Table A.3.

Table A.3
Budget vs. Actual

	FY 2020 Budget	FY 2020 Actual	Variance
REVENUES			
Operating Revenues	7,012,309	7,137,886	125,577
Non-Operating Revenues	70,949	123,557	52,608
Total Revenues	**7,083,258**	**7,261,443**	**178,185**
EXPENSES			
Employment Costs	1,970,120	1,948,929	(21,191)
Repair & Maintenance	203,920	1,503,729	1,299,809
Operating Supplies	60,730	70,463	9,733
Vehicle Costs	77,800	67,431	(10,369)
Utilities & Trash	254,730	236,136	(18,594)
Administrative Costs	402,380	393,807	(8,573)
Depreciation & Amortization	1,012,080	1,171,432	159,352
Interest Expenses	305,855	264,156	(41,699)
Outside Services	283,330	450,177	166,847
Total Operating Expenses	*4,570,945*	*6,106,260*	*1,535,315*
Total Non-Operating Expenses	*36,538*	*499,607*	*463,069*
Total Expenses	**4,607,483**	**6,605,867**	**1,998,384**
Net Revenue (Expense)	**2,475,775**	**655,576**	**(1,820,199)**

The increase in budgeted operating revenue is reflective of an increase over the budget amount of tap-on fees and sewer charges, as well as late fees which are not budgeted. Non-operating expense was higher than budgeted due to a bond refunding issue in the second half of 2020. It is anticipated that non-operating revenue will decrease in 2021 due to lower interest income from investing the District's reserves. Conservative estimates will predominate into the foreseeable future.

CAPITAL ASSETS

At the end of 2020, the District had $49.8 million invested in capital assets, net of depreciation, including wastewater treatment plants, collector sewers and interceptors as shown in Table A.4. This is an increase of $3.9 million over 2019 due to the biosolids project at the Saline Creek WWTF.

Table A.4
Capital Assets

	FY 2019	FY 2020	Variance	Total Percent Change
Land & Land Improvements	1,735,544	1,743,074	7,530	0.4
Structures & Treatment Facilities	49,580,494	52,620,792	3,040,298	6.1
Administrative & Maintenance Building	2,614,200	2,614,200	0	0
Vehicles	1,291,026	1,144,712	(146,314)	(11.3)
Equipment	833,832	844,582	10,750	1.3
Furniture & Fixtures	218,203	218,203	0	0
Leasehold Improvements	3,939	3,939	0	0
	56,277,238	59,189,502	2,912,264	5.2
Less: Accumulated Depreciation	(13,317,865)	(14,244,708)	(926,843)	7.0
Construction in Progress	2,936,332	4,899,857	1,963,525	66.9
Net Capital Assets	**45,895,705**	**49,844,651**	**3,948,946**	**8.6**

DEBT ADMINISTRATION

At year-end, the District had $15.2 million in long-term outstanding debt. More detailed information concerning the District's long-term liabilities is presented in the Notes to Financial Statements section of the audit report.

Table A.5
Debt Coverage Ratio

	FY 2019	FY 2020
REVENUES		
Operating Revenues	7,075,774	6,874,486
Interest & Other Income	131,914	102,350
Tap-On Fees	338,900	263,400
Total Revenues	**7,546,588**	**7,240,236**
Total Operating Expenses (less depreciation)	**3,411,412**	**4,671,304**
Net Earnings	**4,135,176**	**2,568,932**
Annual Debt Service	**1,941,808**	**2,247,210**
Debt Coverage Ratio	**2.13**	**1.14**

One area that demonstrates the District's borrowing capacity is seen in its debt coverage ratio. We currently have earnings coverage of 1.14 times debt, above that required by covenant. The major difference from FY 2019, as seen in table A.5 above, is increased operating expenses reflective of more activity in the inspection and repair of the collection system. This resulted in a lower Debt Coverage Ratio.

ECONOMIC FACTORS AND NEXT YEAR'S BUDGET AND RATES

Since the completion of major consolidation efforts in 2015 funded by a $9.26 million State Revolving Fund (SRF) bond issue, the District has been completing smaller scale system improvements on a pay-as-you-go basis. The District's revenue allows for this improvement program at the current rate structure. A large project ($6.5 million) at the Saline Creek Regional WRRF was awarded in 2019 and started in 2020. This project is being funded with a $5 million SRF bond issue and cash from the District's capital improvement account. The District plans to fund improvements in the Antire Valley, including pumping system consolidation and decommissioning of two (2) treatment facilities with an SRF loan. The District does not expect a rate increase in the foreseeable future.

DISTRICT CONTACT INFORMATION

This financial report is designed to provide our customers and creditors with a general overview of the District's finances and to demonstrate the District's accountability for the funds it receives. Anyone having questions regarding this report or desiring additional information may contact Bob Hembrock, P.E., Executive Director of Northeast Public Sewer District, 1041 Gravois Road, Fenton, MO 63026 or by phone at (636) 343-5090 extension 226 or by email at bobh@northeastsewer.org

BASIC FINANCIAL STATEMENTS

NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY
Fenton, Missouri

STATEMENT OF NET POSITION

December 31, 2020

ASSETS

CURRENT ASSETS:			
Cash and Cash Equivalents	$ 4,248,009		
Investments	1,600,000		
Accounts Receivable - Net	906,484		
Prepaid Expenses	23,290		
Total Current Assets		$	6,777,783
CAPITAL ASSETS:			
Sewer System and Buildings	$ 55,234,992		
Equipment	844,582		
Vehicles	1,144,712		
Office Furniture and Equipment	218,203		
Leasehold Improvements	3,939		
Accumulated Depreciation	(14,244,708)		
	43,201,720		
Construction Work in Progress	4,899,857		
Land and Land Rights	1,743,074		
Total Capital Assets, Net			49,844,651
OTHER ASSETS:			
Restricted Cash and Cash Equivalents	$ 116,250		
Restricted Investments	1,045,051		
			1,161,301
TOTAL ASSETS		$	57,783,735

See Accompanying Notes to Basic Financial Statements.

LIABILITIES

CURRENT LIABILITIES:		
Accounts Payable	$ 752,724	
Accrued Wages and Salaries	60,005	
Accrued Payroll Taxes	4,186	
Prepaid Tap-On Fees	376,900	
Bonds Payable	1,905,000	
Total Current Liabilities		$ 3,098,815
LONG-TERM LIABILITIES:		
Bonds Payable	$ 13,335,476	
Discount on Bonds Payable	842,647	
Total Long-Term Liabilities		14,178,123
TOTAL LIABILITIES		$ 17,276,938

NET POSITION

Net Investment in Capital Assets	$ 34,604,175	
Restricted for System Replacement	1,161,301	
Unrestricted	4,741,321	
TOTAL NET POSITION		$ 40,506,797

See Accompanying Notes to Basic Financial Statements.

NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY
Fenton, Missouri

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

For the Year Ended December 31, 2020

OPERATING REVENUES:		
Sewer Charges	$ 6,786,679	
Tap On Fees	263,400	
Late Fees	84,698	
Miscellaneous Income	3,109	
Total Operating Revenues		$ 7,137,886
OPERATING EXPENSES:		
Salaries	$ 1,394,324	
Payroll Taxes	105,325	
Employee Benefits	338,813	
Payroll Expenses	4,472	
Pension Contributions	79,999	
Depreciation	1,171,432	
Utilities	232,958	
Legal/Accounting	55,460	
Sludge Disposal	228,919	
Safety Equipment	8,865	
Chemicals	11,990	
Workers' Compensation Insurance	30,468	
Office Expense	64,272	
Telephone	40,945	
Vehicle Expense	67,431	
Equipment Rental	4,654	
Bad Debt Expense	632	
Fees/Assessments/Permits	67,039	
Equipment and Plant Repairs	1,528,306	
Dues and Subscriptions	20,158	
Licenses and Training	2,935	
Travel/Meals	(493)	
Lab Supplies	19,762	
Tools	15,861	
Uniform/Clothing	9,330	
Outside Services	167,579	
Insurance	95,272	
Miscellaneous Expense	76,028	
Total Operating Expenses		5,842,736
OPERATING INCOME, Carried Forward		$ 1,295,150

See Accompanying Notes to Basic Financial Statements.

NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY
Fenton, Missouri

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

For the Year Ended December 31, 2020

OPERATING INCOME, Brought Forward		$ 1,295,150
OTHER REVENUES (EXPENSES):		
Interest and Dividend Income	$ 102,350	
Gain on Sale of Assets	21,207	
Interest Expense	(264,156)	
Bond Account Expenses	(498,975)	
Total Other Revenues (Expenses)		(639,574)
INCOME BEFORE CONTRIBUTIONS		$ 655,576
CAPITAL CONTRIBUTIONS		455,822
INCREASE IN NET POSITION		$ 1,111,398
NET POSITION, January 1, 2020		39,395,399
NET POSITION, December 31, 2020		$ 40,506,797

See Accompanying Notes to Basic Financial Statements.

NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY
Fenton, Missouri

STATEMENT OF CASH FLOWS

For the Year Ended December 31, 2020

CASH FLOWS FROM OPERATING ACTIVITIES:		
Received from Customers	$ 7,090,115	
Paid to Suppliers for Goods and Services	(2,432,740)	
Paid to Employees for Services	(1,916,270)	
NET CASH PROVIDED (USED) BY OPERATING ACTIVITIES		$ 2,741,105
CASH FLOWS FROM INVESTING ACTIVITIES:		
Interest	$ 102,350	
Purchase of Investments	(2,649,007)	
Maturity of Investments	4,649,000	
Bond Account Expenses	(124,260)	
NET CASH PROVIDED (USED) BY INVESTING ACTIVITIES		1,978,083
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:		
Debt Retirement	$ (12,852,000)	
Debt Proceeds	14,225,476	
Interest Paid	(348,176)	
Proceeds from Disposal of Assets	21,207	
Acquisition and Construction of Capital Assets	(4,175,377)	
NET CASH PROVIDED (USED) BY FINANCING ACTIVITIES		(3,128,870)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS		$ 1,590,318
CASH AND CASH EQUIVALENTS, January 1, 2020		2,657,691
CASH AND CASH EQUIVALENTS, December 31, 2020		$ 4,248,009

See Accompanying Notes to Basic Financial Statements.

RECONCILIATION OF OPERATING INCOME TO NET CASH FLOWS FROM OPERATING ACTIVITIES:	
Operating Income	$ 1,295,150
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities:	
Depreciation	1,171,432
Bad Debt Expense	632
(Increase) Decrease in Accounts Receivable	(33,821)
(Increase) Decrease in Prepaid Expenses	27,262
Increase (Decrease) in Accounts Payable	287,737
Increase (Decrease) in Accrued Wages and Salaries	6,617
Increase (Decrease) in Accrued Payroll Taxes	46
Increase (Decrease) in Deferred Income	(13,950)
NET CASH PROVIDED BY OPERATING ACTIVITIES	$ 2,741,105

NONCASH CAPITAL FINANCING ACTIVITIES:

Capital assets of $455,822 were acquired through contributions from developers and landowners.

See Accompanying Notes to Basic Financial Statements.

NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY
Fenton, Missouri

NOTES TO BASIC FINANCIAL STATEMENTS

December 31, 2020

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Northeast Public Sewer District of Jefferson County supplies sewer services to customers in the Jefferson County, Missouri area.

A. The Reporting Entity:

The District's reporting entity includes the District's governing board and the operations of all related organizations for which the District exercises financial oversight. Oversight responsibility is derived from the District's authority and includes, but is not limited to, financial interdependency, selection of governing authority, designation of management, ability to significantly influence operations, and accountability for fiscal matters. Based on the foregoing criteria, no component units have been determined to be a part of the District's reporting entity.

B. Basis of Accounting:

The District's financial statements are reported on the accrual basis of accounting in conformity with generally accepted accounting principles (GAAP) as applied to government units. The financial transactions of the District are accounted for on a flow of economic resources measurement focus. The accounting objectives are a determination of net income, financial position, and changes in cash flows. Accordingly, revenues are recognized in the accounting period in which they become both available and measurable. Expenditures are recognized in the accounting period in which the liability is incurred.

C. Financial Statement Presentation:

The District's financial statements include a statement of net position; a statement of revenues, expenses, and changes in net position; and a statement of cash flows. The District classifies net position into three components: net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net assets component as the unspent proceeds.

Restricted – This component of net position consists of constraints placed on asset usage through external constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation.

Unrestricted net assets – This component of net position consists of assets that do not meet the definition of "restricted" or "net investment in capital assets."

D. Use of Estimates:

Management uses estimates and assumptions in preparing financial statements in accordance with GAAP. Those estimates and assumptions affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported revenues and expenditures. Actual results could vary from the estimates that were assumed in preparing the financial statements.

E. Cash and Cash Equivalents:

For purposes of the statement of cash flows, the District considers all short-term debt securities purchased with an original maturity of three months or less to be cash equivalents. Cash equivalents are stated at cost plus accrued interest, which approximates fair value. The District does not believe it is exposed to any significant credit risk related to cash and cash equivalents.

F. Accounts Receivable:

The District uses the allowance method to account for uncollectible accounts receivable. Accounts receivable are presented net of an allowance for doubtful accounts of $8,000 at December 31, 2020.

G. Capital Assets:

Property and equipment are recorded at cost. Systems donated to the District are recorded at their estimated cost at the time they are accepted by the District. Depreciation is computed using the straight-line method over the estimated useful lives of the respective assets. Maintenance and repairs are charged to expense as incurred, and major renewals and betterments are capitalized. Depreciation is recorded on a straight-line basis over the useful lives of the assets as follows:

Sewer System and Buildings	10-75 Years
Equipment	5-10 Years
Vehicles	5-10 Years
Office Furniture	5-10 Years
Leasehold Improvements	15 Years

H. Operating Revenues and Expenses:

Operating revenues and expenses result from providing services and producing and delivering services. They also include all revenues and expenses not related to capital and related financing, non-capital financing, or investing activities.

I. Tax Status:

The District is exempt from federal, state, and local income taxes. Therefore, no provision for income taxes is included in the financial statements.

J. Fair Value of Financial Instruments:

The District's financial instruments are cash and cash equivalents, accounts receivable, accounts payable, and long-term debt. The recorded values of cash and cash equivalents, accounts receivable, and accounts payable approximate their fair values based on their short-term nature. The recorded value of long-term debt approximates its fair values, as interest approximates market rates.

K. Vacation and Sick Pay:

The District permits employees to accumulate a limited amount of earned but unused vacation and personal leave. Vacation and personal leave are considered as expenditures in the year paid. Accumulated vacation time is paid if employment is terminated. Although the possibility that all employees will terminate in the coming year is remote, management estimates the potential liability at December 31, 2020 would have been $55,149.

L. Subsequent Events:

In preparing these financial statements, the District has evaluated events and transactions for potential recognition of disclosure through June 21, 2021, the date the financial statements were available to be issued.

2. CASH AND CASH EQUIVALENTS

The District's cash and cash equivalents are segregated into restricted and non-restricted funds and held by Commerce Bank. The balances of these funds were as follows:

Operating Account (Unrestricted)	$4,248,009
Bond Account (Restricted)	$ 81,097
SRF Operation and Maintenance Account (Restricted)	16,178
SRF Replacement Account (Restricted)	18,975
Total Restricted Cash	$ 116,250
Total Cash and Cash Equivalents	$4,364,259

The District has classified as restricted certain cash and cash equivalents that are not available for use in its operations. At December 31, 2020, the District had restricted accounts set aside to meet sinking fund requirements of the outstanding bonds discussed in Note 4. At December 31, 2020, the reported amount of the District's deposits was $4,364,259, and the bank balance was $4,448,001. The total balance was covered by federal depository insurance or by collateral securities held by the bank's fiscal agent in the District's name.

3. INVESTMENTS

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. The District does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates. Information about the exposure of the District's debt type investments to this risk, using the segmented time distribution model, is as follows:

		Investment Maturities (in Years)	
Type of Investment	Fair Value	Less Than 1 Year	1 – 5 Years
Certificates of Deposit	$ 1,600,000	$ 1,600,000	$ -0-
Federal National Mortgage Assoc.	1,045,051	1,045,051	-0-
Total	$ 2,645,051	$ 2,645,051	$ -0-

4. CAPITAL ASSETS

The following is a summary of property and equipment for the year ended December 31, 2020:

	Balance January 1, 2020	Additions	Deletions	Balance December 31, 2020
Sewer System and Buildings	$49,580,495	$3,040,298	$ -0-	$ 52,620,793
Administrative Building	2,614,199	-0-	-0-	2,614,199
Equipment	833,832	10,750	-0-	844,582
Vehicles	1,291,026	98,275	(244,589)	1,144,712
Office Furniture and Equipment	218,203	-0-	-0-	218,203
Leasehold Improvements	3,939	-0-	-0-	3,939
Accumulated Depreciation	(13,317,865)	(1,171,432)	244,589	(14,244,708)
Total	$41,223,829	$1,977,891	$ -0-	$ 43,201,720
Construction Work in Progress	2,936,332	4,437,197	(2,473,672)	4,899,857
Land and Land Rights	1,735,544	7,530	-0-	1,743,074
Net Capital Assets	$45,895,705	$6,422,618	$(2,473,672)	$ 49,844,651

5. LONG-TERM DEBT

A. Bond Issue:

The following is a summary of the District's long-term debt transactions for the year ended December 31, 2020:

	Revenue Bonds
Debt Outstanding, January 1, 2020	$ 13,867,000
Additions	14,225,476
Reductions	(12,852,000)
Debt Outstanding, December 31, 2020	$ 15,240,476

On April 1, 2007, the District issued Sewerage System Improvement and Refunding Revenue Bonds, Series 2007. Proceeds were used to pay off the remaining balances of the Series 1999 revenue bonds and to provide for additional improvements to the sewerage system. The bonds are special obligations of the District, payable solely from the net income and revenues derived by the District from the operation of its sewerage system after payment of costs of operation and maintenance. On January 23, 2014, the District issued Sewerage System Refunding Revenue Bonds, Series 2014. Proceeds were used to pay off the remaining balances of the Series 2007 revenue bonds. The bonds do not constitute a general obligation of the District. Interest rates vary from 3.00 to 5.00 percent. In October 2020, the District issued sewerage system revenue bonds and the proceeds were used to retire the remaining balance of the Series 2014 revenue bonds.

On June 5, 2012, the District issued Sewerage System Revenue Bonds (State of Missouri-Direct Loan Program), Series 2012. Proceeds were used to provide for extensions and improvements to the District's sewerage system. The bonds are also special obligations of the District, payable solely from the net income and revenues derived by the District from the operation of its sewerage system after payment of costs of operation and maintenance. The bonds do not constitute a general obligation of the District. Interest accrues at 1.42 percent. In October 2020, the District issued sewerage system revenue bonds and the proceeds were used to retire the remaining balance of the Series 2012 revenue bonds.

On January 30, 2020, the District issued Sewerage System Revenue Bonds, Series 2020 in the amount of $5 million. Proceeds were used to provide for extensions and improvements to the District's sewerage system. The bonds are special obligations of the District, payable solely from the net income and revenues derived by the District from the operation of its sewerage system after payment of costs of operation and maintenance. The bonds do not constitute a general obligation of the District. Interest accrues at 0.92 percent annually, and the bonds mature July 1, 2040.

On October 27, 2020, the District issued Sewerage System Refunding Revenue Bonds, Series 2020A and Series 2020B. Series 2020A was issued for $4,930,000 and Series 2020B was issued for $6,115,000. The proceeds from both series were used to pay off the remaining balances of the Series 2014 and Series 2012 revenue bonds described above. The bonds are special obligations of the District, payable solely from the net income and revenues derived by the District from the operation of its sewerage system after payment of costs of operations and maintenance. The bonds do not constitute a general obligation of the District. The interest rate for Series 2020A is 2.00 percent and the bonds mature on January 1, 2025. The interest rates for Series 2020B range from 1.50 to 3.00 percent and the bonds mature on January 1, 2034.

At December 31, 2020, the District's total future debt service requirements are summarized below:

Fiscal Year Ended	Principal	Interest	Total
2021	$ 1,905,000	$ 342,210	$ 2,247,210
2022	1,847,000	270,535	2,117,535
2023	1,601,000	236,038	1,837,038
2024	1,509,000	206,503	1,715,503
2025	312,000	178,846	490,846
2026-2030	5,488,000	518,047	6,006,047
2031-2035	2,578,476	115,192	2,693,668
Totals	$ 15,240,476	$ 1,867,371	$17,107,847

The bond covenants require that all monies be segregated and restricted in separate accounts within the revenue fund, in the sequence indicated by the following:

Account	Amount	Nature of Expenditures
Operation and Maintenance Account	Amount sufficient to pay the estimated cost of operating and maintaining the sewerage system for one month.	All disbursements for operations and maintenance of the system.
Bond Account	Amount sufficient to pay the current bond and interest maturities.	Payment of principal and interest on bonds.
Bond Replacement Account	Amount sufficient for the purpose of making replacements and repairs to the system.	To keep the system in good repair or working order and to assure the continued effective and efficient operation of the system.

6. CONSTRUCTION COMMITMENTS

As of December 31, 2020, the District was in various stages of several separate construction projects. At December 31, 2020, the construction contract for manhole rehabilitation had a remaining balance due of $243,425. The contract for the project at the plant had a remaining balance due of $2,703,145. Both projects are expected to be paid during the next fiscal year.

7. RISK OF LOSS

The District is exposed to risks of loss through their property ownership, employee injury, and liability of employees' actions. The District purchases commercial insurance policies to overcome these risks. There have been no significant reductions in insurance coverage from the prior year. Insurance settlements have not exceeded insurance coverage in any of the past three years.

The District is insured under a retrospectively-rated policy for workers' compensation coverage. The initial premium may be adjusted based on actual experience. Adjustments in premiums are recorded when paid or received. During the year ended December 31, 2020, there were no significant adjustments in premiums based on actual experience.

8. PENSION PLAN

The District provides pension benefits for all of its employees through two defined contribution plans. In a defined contribution plan, benefits depend solely on amounts contributed to the plan plus investment earnings.

The District's first plan is established in accordance with Internal Revenue Service (IRS) section 457 requirements. Employees are eligible to participate 90 days after employment. Employees are able to contribute either a fixed dollar amount or a percentage up to 15 percent of his/her gross compensation. The District makes no matching payments to this plan. Contributions and interest allocated to the employee's account are fully vested immediately. During the year ended December 31, 2020, employees contributed $59,815 to this plan.

The District's second plan is established in accordance with Internal Revenue Service (IRS) section 401(a) requirements. Full-time employees are eligible to participate 90 days after employment. Employees are considered full-time if they have 1,000 hours of creditable service per year. Employees do not make contributions to this plan. The District contributes 6 percent of the total compensation of all participants. The District's compensation is allocated to participants based on each participant's compensation in relation to the total of all compensation of all eligible participants. During the year ended December 31, 2020, the District contributed $76,926 to this plan.

Northeast Public Sewer District

636 343-5090 · 636 343-7904

Section: 5

Missouri Department of Natural Resources
Clean Water Commission
Certificate of Competency

WASTEWATER

OPERATOR	***LEVEL***	***CERTIFICATE NUMBER***	***email***	***PHONE #***
Joseph D. Richardson	**A**	# 4842	joer@northeastsewer.org	636.717.6523 x 14
Kyle C. Ward	**A**	#12688	kylew@northeastsewer.org	636.717.6523 x 12
Steven A. Rhives	**A**	#14630	stevenr@northeastsewer.org	636.717.6523 x 13
William J. Paul	**C**	# 9299	williep@northeastsewer.org	636.343.5090
Charles W. Drinen	**C**	# 9314	chuckd@northeastsewer.org	636.343.5090
Kyle J. Daniel	**C**	#15230	kyled@northeastsewer.org	636.717.6523 x 12

Northeast Public Sewer District

INTERIM SALINE CREEK REGIONAL WATER RESOURCE RECOVERY FACILITY
PERMIT #: MO - 0128490

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

Section 7.1 Description of Facility

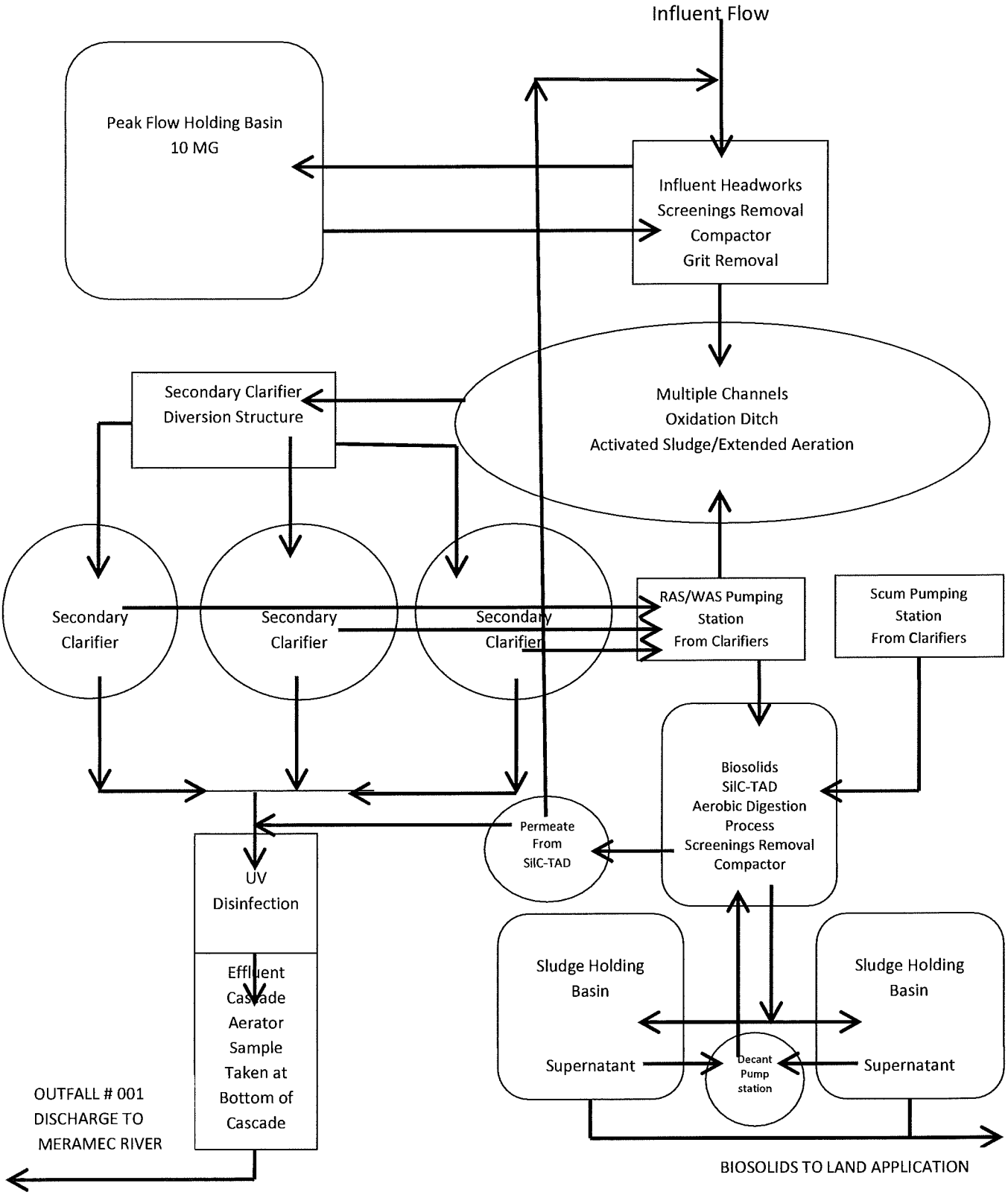
- Influent Pump Station
- Influent Flow Measurement
- Influent Screenings Removal, Washer and Compactor
- Grit Removal
- Design Average Flow 5.25 MGD
- Peak Daily Flow 15.75 MGD
- Peak Hourly Flow 26.25 MGD
- 10 MG Peak Flow Holding Basin
- Multiple Channels Oxidation Ditch (Activated Sludge / Extended Aeration)
- Secondary Clarifier Diversion Structure
- Three Secondary Clarifiers
- RAS / WAS Pumping Station and Flow Measurement
- Scum Pump Station
- Effluent Flow Measurement
- Seasonal Ultra Violet (UV) Disinfection
- Effluent Cascade Aerator (Samples Taken at Bottom of Cascade Aerator)
- Non-Potable Effluent Plant Water System
- Silicon Carbide Thickened (SilC-TAD Process) Aerobic Digestion
- Aerobic Digester Screenings Removal, Washer and Compactor
- Two MBT Tanks with Ceramic Membranes
- Biosolids Flow Measurement to Sludge Storage Ponds
- Permeate Pumps with Flow Measurement (Flow to Final Effluent Just Before UV Disinfection or to Existing Influent Pump Station
- Two 1 MG Sludge Storage Basins
- Sludge Storage Ponds Decant Transfer Pump Station (Pumps to SilC-TAD Process)
- Office / Laboratory Building

Final sludge disposal is hauled and land applied by Oros & Busch Application Technologies, Inc. from NPSD Interim Saline Creek Regional WRRF sludge storage basins.

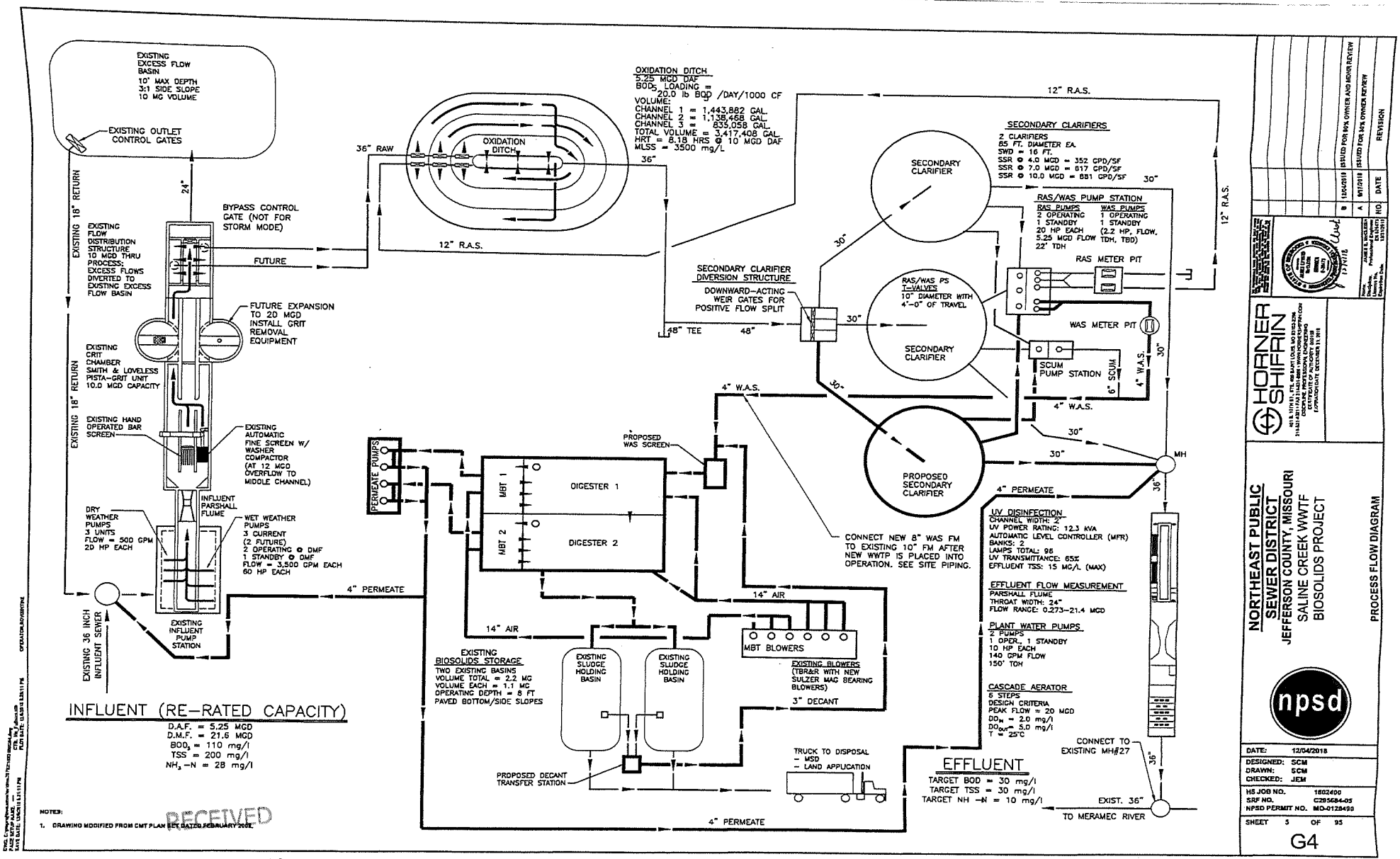
Northeast Public Sewer District

7.1 Process Flow Diagram

Interim Saline Creek Regional WRRF
Permit #: MO-0128490



NPSD, INTERIM SALINE CREEK REGIONAL WRRF MO-0128490



RECEIVED
SEP 15 2021
Water Protection Program

NO	DATE	REVISION
B	12/04/2018	ISSUED FOR 95% OWNER AND ENGR REVIEW
A	8/7/2018	ISSUED FOR 60% OWNER REVIEW

HORNER SHIFRIN

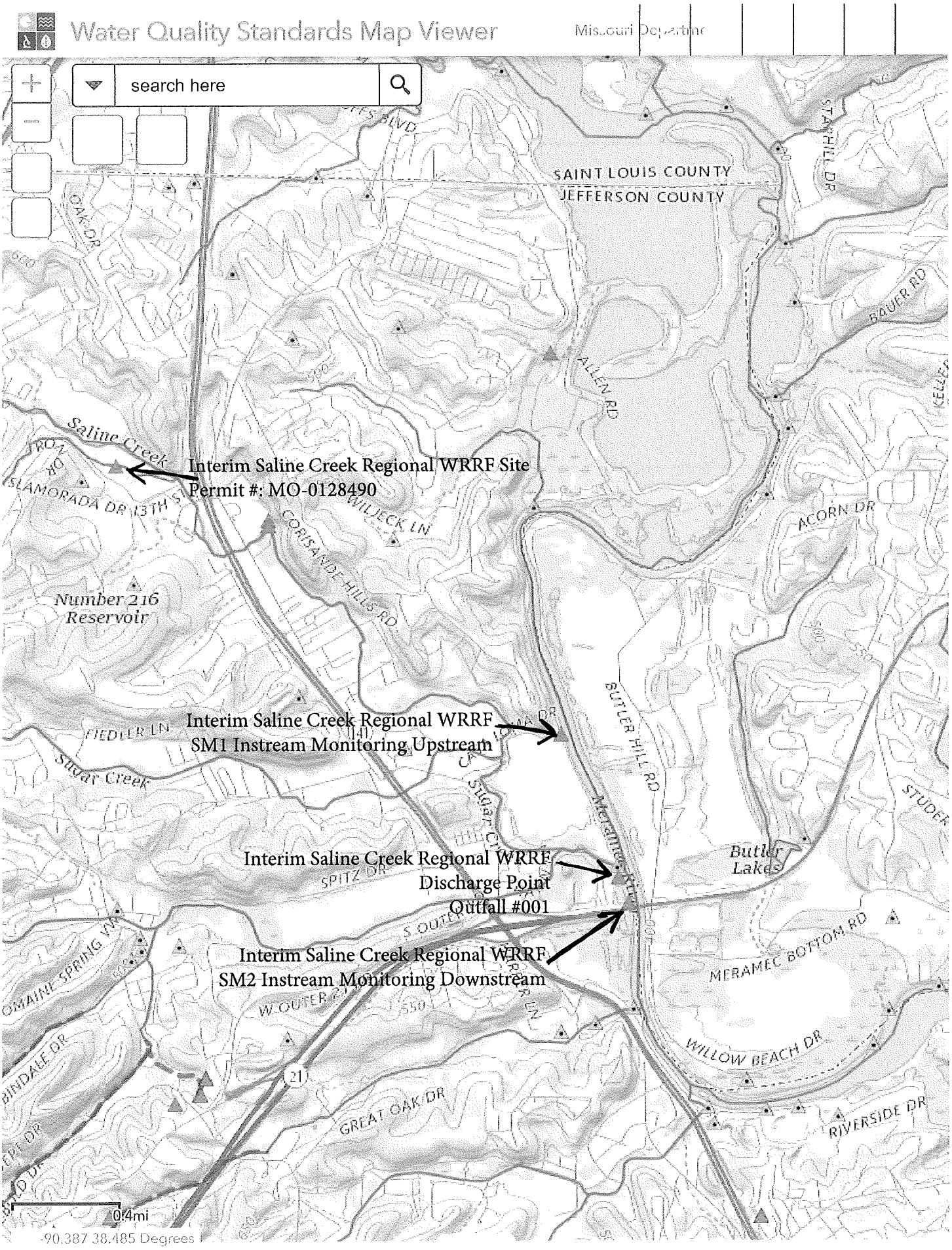
NORTHEAST PUBLIC SEWER DISTRICT
JEFFERSON COUNTY, MISSOURI
SALINE CREEK WWTF
BIOSOLIDS PROJECT

PROCESS FLOW DIAGRAM

npsd

DATE:	12/04/2018
DESIGNED:	SCM
DRAWN:	SCM
CHECKED:	JEM
HS JOB NO.	1802400
SRF NO.	C295684-05
NPSD PERMIT NO.	MO-0128490
SHEET	5 OF 95

G4

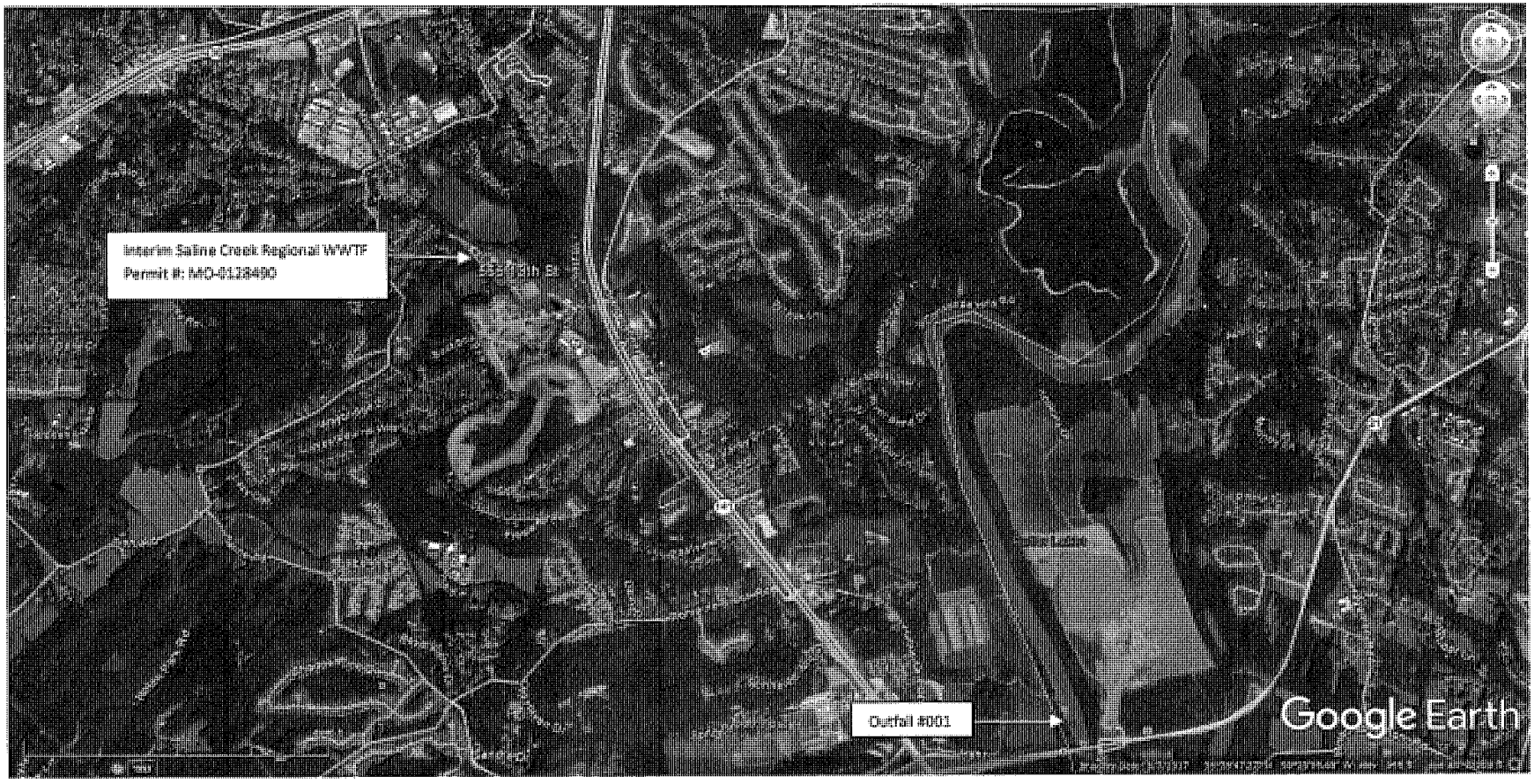

Water Quality Standards Map Viewer
search here
SAINT LOUIS COUNTY
JEFFERSON COUNTY
Saline Creek
Interim Saline Creek Regional WRRF Site
Permit #: MO-0128490
Number 216 Reservoir
Interim Saline Creek Regional WRRF
SM1 Instream Monitoring Upstream
Sugar Creek
Interim Saline Creek Regional WRRF
Discharge Point
Outfall #001
Interim Saline Creek Regional WRRF
SM2 Instream Monitoring Downstream
Butler Lakes
ALLEN RD
BUTLER HILL RD
MERAMEC BOTTOM RD
WILLOW BEACH DR
RIVERSIDE DR
GREAT OAK DR
ACORN DR
BAUER RD
0.4mi
-90.387 38.485 Degrees

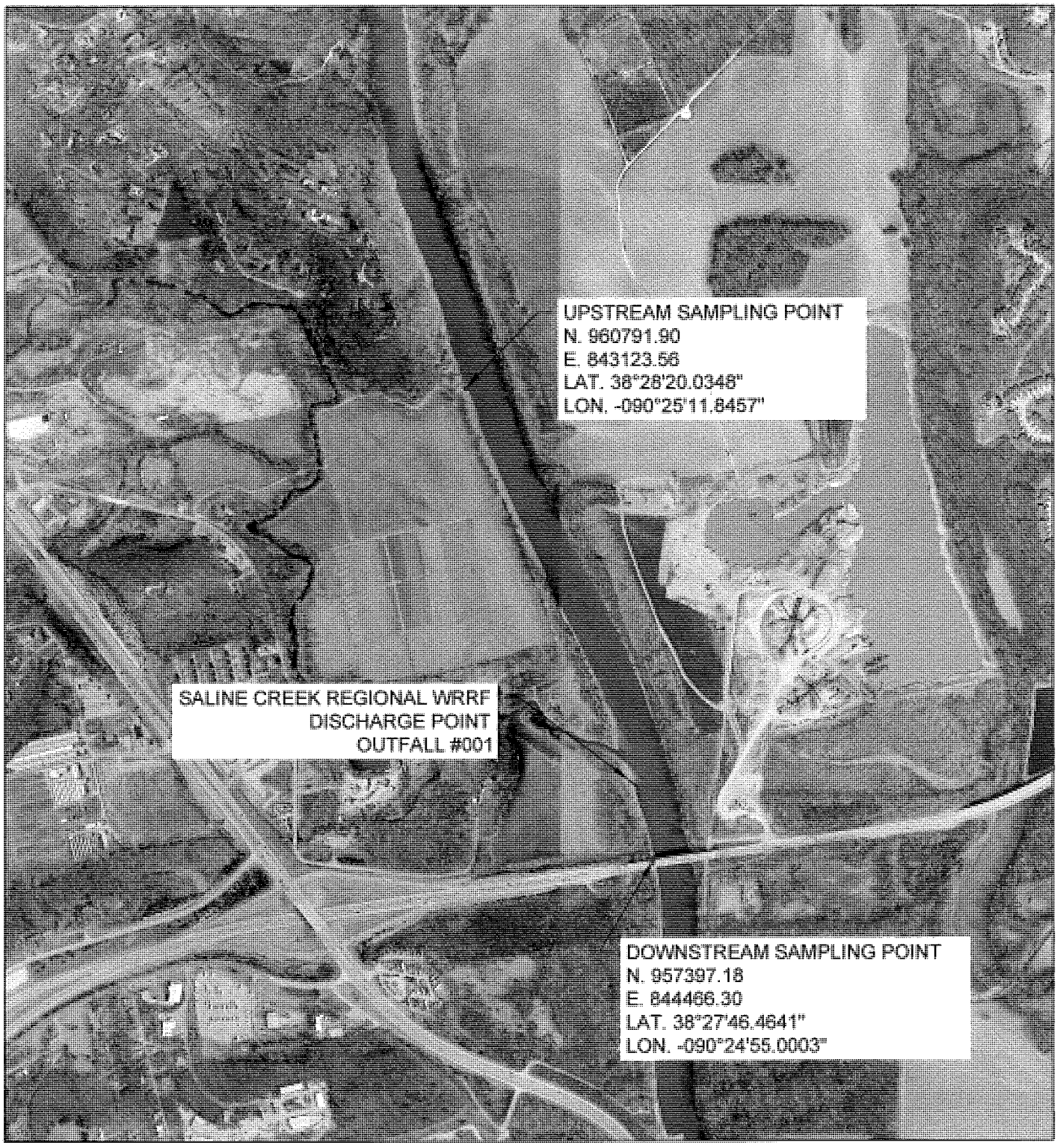
Northeast Public Sewer District

636 343-5090 · 636 343-7904

RECEIVED
SEP 15 2021
Water Protection Program

NPSD, INTERIM SALINE CREEK REGIONAL WWTF
MO-0128490





SALINE CREEK REGIONAL WRRF
MERAMEC RIVER
SAMPLING POINTS

NORTHEAST PUBLIC SEWER DISTRICT

SCALE: 1" = 1000'

N

Environmental Analysis South, Inc.
4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD Interim Saline Creek Regional WWTF
OUTFALL 001 (composite) AEC = 6.3%
MO-0128490
EAS LOG# 2612732
July 14, 2021 through July 16, 2021

Tests performed by:
John P. Clippard / Chemical Analyst at Environmental Analysis South (EAS)
Kelly J. Ray / Biologist at Environmental Analysis South (EAS)
Sara C. Shields / Lab Supervisor - Chemist at Environmental Analysis South (EAS)
David F. Warren / Lab Director - Chemist at Environmental Analysis South (EAS)

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REPORT OF ACUTE TOXICITY TESTING
NPSD Interim Saline Creek Regional WWTF
OUTFALL 001 (composite) AEC = 6.3%
MO-0128490
EAS LOG# 2612732
July 14, 2021 through July 16, 2021

1. REPORT SUMMATION:

1.1. Multiple Dilution Data Summation

Test Solution	*Pimephales promelas* Acute Toxicity Test 48 Hour Survival	*Ceriodaphnia dubia* Acute Toxicity Test 48 Hour Survival
Reconstituted Control (RC)	100%	100%
Upstream Control (UC)	100%	100%
6.3% Effluent	100%	100%
12.5% Effluent	100%	100%
25% Effluent	100%	100%
50% Effluent	100%	100%
100% Effluent	100%	100%
Estimated 48 Hour LC_{50} Value	>100% Effluent	>100% Effluent
TUa	<1.00	<1.00
Result of Toxicity Test	Monitor	Monitor

* Indicates a significant difference at alpha = 0.5 between effluent and control survival data.

Conclusion:

Pimephales promelas 48 hour WET results: LC 50 > 100% using the Graphical Method
NOAEC = 100% by Steel's Many-One Rank Test
TUa < 1.00

Ceriodaphnia dubia 48 hour WET results: LC 50 > 100% using the Graphical Method
NOAEC = 100% by Steel's Many-One Rank Test
TUa < 1.00

Approved by _____
Sara C. Shields, Chemist

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4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD Interim Saline Creek Regional WWTF
OUTFALL 001 (composite) AEC = 6.3%
MO-0128490
EAS LOG# 2612732
July 14, 2021 through July 16, 2021

2. TEST METHOD SUMMARY

2.1. TEST CONDITIONS AND METHODS:

	Ceriodaphnia dubia:	*Pimephales promelas:*
Test duration:	48 hours	48 hours
Temperature:	24 - 26 degree Celsius	24 - 26 degree Celsius
Light quality:	Ambient laboratory illumination	Ambient laboratory illumination
Photoperiod:	16 hour light, 8 hours dark	16 hour light, 8 hours dark
Control Water:	Moderately Hard Reconstituted Water	Moderately Hard Reconstituted Water
Dilution Water:	Upstream Water - If unavailable or toxic, then control water will be used.	Upstream Water - If unavailable or toxic, then control water will be used.
Size of test vessel:	30 milliliters	250 milliliters
Volume of test solution:	15 milliliters	200 milliliters
Age of test organisms:	<24 hours	1 -14 days (all same age)
Number of organisms/test vessel:	5	10
Number of replicates/concentration:	4	2
Number of organisms/concentration:	20	40 for a single dilution test and 20 for a multiple dilution test
Feeding regime:	None (fed prior to test)	None (fed prior to test)
Aeration:	None	None
Test acceptability criterion:	90% or greater survival in controls	90% or greater survival in controls

The methodology used for the chemistry data was taken from the *Standard Methods for the Examination of Water and Wastewater*, 18th edition (1992). The exception was hardness, which was determined using a Hach EDTA titration test kit. The toxicity tests follow guidelines laid out in the permittee's NPDES permit and were conducted according to EPA approved methods (USEPA 2002).

All test organisms were cultured according to EPA approved methods (USEPA 2002). The *Ceriodaphnia dubia* and the *Pimephales promelas* were obtained from ARO (Aquatic Research Organisms) located in Hampton, New Hampshire and the *Pimephales promelas* were obtained from Aquatic Bio Systems located in Fort Collins, CO. Both were shipped overnight for use in the whole effluent toxicity test.

Environmental Analysis South, Inc.
4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD Interim Saline Creek Regional WWTF
OUTFALL 001 (composite) AEC = 6.3%
MO-0128490
EAS LOG# 2612732
July 14, 2021 through July 16, 2021

2.2. REFERENCE TOXICITY TEST:

Environmental Analysis South performs monthly reference toxicity tests. The most recent reference test was initiated on July 14, 2021 using KCL Lot #41713. Following are the results:

2.2.1. ***P. promelas*** - 48 hr. Acute Test – LC_{50} = 1.220 g/l 95%CI (0.993 g/l -1.447 g/l)
EAS %CV = 9.3%
National Warning Limits (75th percentile) = 19%CV
National Control Limits (90th percentile) = 33%CV

2.2.2. ***C. dubia*** - 48 hr. Acute Test – LC_{50} = 0.451 g/l 95%CI (0.259 g/l - 0.642 g/l)
EAS %CV = 21.2%
National Warning Limits (75th percentile) = 29%CV
National Control Limits (90th percentile) = 34%CV

2.3. 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.

WHOLE EFFLUENT TEST conducted in accordance with US EPA 600/4-90/027
Fifth Edition October 2002

CLIENT NAME: NPSD Interim Saline Creek Regional WWTF, Outfall 001, composite
NPDES NUMBER: MO-0128490
TYPE OF METHOD: multiple dilution, 48 hr non-renewal WET, PP and CD species AEC=6.3%, TUa report
DATE & TIME OF COLLECTION: 07/13/21 0917 hrs - 07/14/21 0927 hrs by Kyle Ward
DATE & TIME OF SUBMISSION: 07/14/21 1130 hrs by TS

Field Temp: 001=14.8C/Upstream=25.4C
Upstream: Meramec River at Terminus of Casa Loma Drive
Collected: 07/14/21 0757 hrs by KW

INITIAL OBSERVATIONS	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	INT EFFL	INT UC	INT RC
LOG NUMBER / ID NUMBER						2612732	2612732A	RC4283
pH - SU	07/14/21	1145 hrs	SCS	SB114 (8.8-9.2)	9.02	7.87	8.05	8.14
TEMPERATURE °C RECEIVED	07/14/21	1145 hrs	SCS	EAS 106		16	15	22
SPECIFIC CONDUCTANCE umhos	07/14/21	1145 hrs	SCS	ERA P301-506(396-442)	430	585	396	254
HARDNESS - ppm	07/15/21	0830 hrs	SCS	ERA P296-507 (324-380)	346	172	189	75.2
CHLORINE - ppm	07/14/21	1145 hrs	SCS	A1067 (0.84-1.04)	0.93	<0.04	<0.04	<0.04
DISSOLVED OXYGEN - ppm	07/14/21	1145 hrs	SCS	cal@840		7.9	8.6	8.5
TOTAL ALKALINITY - ppm	07/16/21	0830 hrs	SCS	ERA P305-506 (106-126)	119	146	169	69.2
INITIAL AMMONIA - ppm	07/16/21	1250 hrs	JPC	DMRQA40 (8.69-13.1)	11.3	<0.030	<0.030	<0.030
TOTAL DISSOLVED SOLIDS -ppm								

0 HOUR OBSERVATIONS	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	100%	50%	25%	12.5%	6.3%	X %AEC
pH - SU	07/14/21	1200 hrs	SCS	SB114 (8.8-9.2)	9.02	8.14	8.29	7.73	7.97	8.10	8.13	8.18	
TEMPERATURE °C	07/14/21	1200 hrs	SCS	EAS 106		25.0	24.8	24.5	24.7	24.8	24.3	24.2	
SPECIFIC CONDUCTANCE umhos	07/14/21	1200 hrs	SCS	ERA P301-506(396-442)	430	259	408	619	507	454	426	417	
DISSOLVED OXYGEN - ppm	07/14/21	1200 hrs	SCS	cal@840		8.4	9.0	8.7	8.7	8.7	8.6	8.8	

24 HOUR OBSERVATIONS - PP	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	100%	50%	25%	12.5%	6.3%	X %AEC
pH - SU	07/15/21	1200 hrs	SCS	SB114 (8.8-9.2)	9.03	7.94	8.43	8.30	8.38	8.40	8.39	8.40	
TEMPERATURE °C	07/15/21	1200 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/15/21	1200 hrs	SCS	ERA P301-506(396-442)	430	275	428	677	537	453	429	418	
DISSOLVED OXYGEN - ppm	07/15/21	1200 hrs	SCS	cal@840		7.7	7.8	7.1	7.1	7.1	7.1	7.8	
48 HOUR OBSERVATIONS - PP	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	100%	50%	25%	12.5%	6.3%	X %AEC
pH - SU	07/16/21	1200 hrs	SCS	SB114 (8.8-9.2)	9.01	8.05	8.52	8.41	8.52	8.48	8.48	8.46	
TEMPERATURE °C	07/16/21	1200 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/16/21	1200 hrs	SCS	ERA P301-506(396-442)	430	303	440	698	568	457	432	421	
DISSOLVED OXYGEN - ppm	07/16/21	1200 hrs	SCS	cal@840		8.0	7.8	7.5	7.8	7.8	7.8	7.8	
FINAL AMMONIA - ppm				DMRQA40 (8.69-13.1)									

24 HOUR OBSERVATIONS - CD	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	100%	50%	25%	12.5%	6.3%	X %AEC
pH - SU	07/15/21	1200 hrs	SCS	SB114 (8.8-9.2)	9.03	8.21	8.59	8.41	8.57	8.58	8.56	8.59	
TEMPERATURE °C	07/15/21	1200 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/15/21	1200 hrs	SCS	ERA P301-506(396-442)	430	274	421	615	451	427	414	416	
DISSOLVED OXYGEN - ppm	07/15/21	1200 hrs	SCS	cal@840		7.7	7.1	7.8	7.8	7.8	7.8	7.9	
48 HOUR OBSERVATIONS - CD	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	100%	50%	25%	12.5%	6.3%	X %AEC
pH - SU	07/16/21	1200 hrs	SCS	SB114 (8.8-9.2)	9.01	8.28	8.69	8.51	8.63	8.64	8.63	8.67	
TEMPERATURE °C	07/16/21	1200 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/16/21	1200 hrs	SCS	ERA P301-506(396-442)	430	285	421	615	504	449	427	415	
DISSOLVED OXYGEN - ppm	07/16/21	1200 hrs	SCS	cal@840		8.2	8.0	8.1	8.1	8.0	8.0	8.0	
FINAL AMMONIA - ppm				DMRQA40 (8.69-13.1)									

Approved by: [signature]

Date: 07/19/21

WHOLE EFFLUENT TEST conducted in accordance with US EPA 600/4-90/027
Fifth Edition October 2002

NPSD Interim Saline Creek Regional WWTF, Outfall 001, composite EAS LOG# 2612732

Date Test Began: July 14, 2021 Time Test Began: 1200 hrs

Date Test Finished: July 16, 2021 Time Test Finished: 1200 hrs

Analyst 1: DFW
Analyst 2: KJR
Analyst 3: SCS

P. promelas (PP) AGE: 9 days HATCH NUMBER: 070421 ABS

	RC	UC	100%	50%	25%	12.5%	6.3%	X% AEC
PERIOD	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE
0 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	
24 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	
48 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	

Ceriodaphnia dubia (CD) AGE: <24 hours HATCH NUMBER: 071321CD ARO

	RC	UC	100%	50%	25%	12.5%	6.3%	X% AEC
PERIOD	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE
0 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	
24 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	
48 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	

Approved by: Date: 07/19/24

NPSD Interim Saline Creek Regional WWTF, Outfall 001, composite EAS#: 2612732

Notes & Comments

Prepared by: [signature]

Date: 07/19/21

multiple 100% 6.3 The

6.3, 12.5 25 50 100

161937

ENVIRONMENTAL ANALYSIS SOUTH, INC.
4000 East Jackson Blvd
Jackson, MO 63755
Phone: (573) 204-8817 Fax: (573) 204-8818

eas

WHOLE EFFLUENT TOXICITY TESTING CHAIN OF CUSTODY

CLIENT: Northeast Public Sewer District NPSD, Interim Saline Creek Regional WWTF

NPDES PERMIT NUMBER: MO-0128490

EFFLUENT NAME: Interim Saline Creek Regional WWTF GRAB ☐ 24 HR COMPOSITE ☒
(LEGAL NAME)

COLLECTION DATA: START DATE: 7-13-2021 START TIME: 9:17AM

FINISH DATE: 7-14-2021 FINISH TIME: 9:27AM

Composite FIELD TEMPERATURE: 14.8° C or F (*circle either Celsius or Fahrenheit*)
Grab field temperature 24.7

UPSTREAM NAME: Meramec River at Terminus of Casa Loma Drive (GRAB SAMPLE)
(LEGAL NAME)

COLLECTION DATA: DATE: 7-14-2021 TIME: 7:57AM

FIELD TEMPERATURE: 25.4° C or F (*circle either Celsius or Fahrenheit*)

SAMPLER NAME: Kyle Ward CARRIER: ______
(PRINT NAME)

Disclaimer: Environmental Analysis South, Inc. shall not be held financially liable for invalid whole effluent toxicity test (WET) or shipping charges resulting from the following reasons:
- Sampling & holding time errors (Will results in a setup charge of $150 to the client)
- Commercial carrier delivery problems or errors (Will results in a setup charge of $150 to the client)
- Problems with health or delivery of test organisms by vendor (No setup charge to client)

SAMPLER CHECK LIST

- NO HEADSPACE IN BOTTLES
- SHIP SAMPLES BY NEXT DAY CARRIER OR DELIVER TO LAB ON: 7-14-21
- SAMPLES SHOULD BE ICED, IF DELIVERY IS GREATER THAN 4 HOURS TO THE LABORATORY

RELINQUISHED BY: Tim [signature] DATE: 7-14-2021 TIME: 11:20 AM

LABORATORY USE ONLY

EFFLUENT LOG NUMBER: 2612732

RECEIVED TEMPERATURE: 16 °C THERMOMETER ASSIGNED NUMBER: ______

HEADSPACE: YES ☐ NO ☐ SAMPLES ICED: YES ☐ NO ☐

UPSTREAM LOG NUMBER: 2612732-A

RECEIVED TEMPERATURE: 15 °C THERMOMETER ASSIGNED NUMBER: ______

HEADSPACE: YES ☐ NO ☐ SAMPLES ICED: YES ☐ NO ☐

RECEIVED BY: [signature] DATE: 7/14/21 TIME: 1130

MISSOURI DEPARTMENT OF NATURAL RESOURCES
NPDES MONITORING REPORT FOR WHOLE EFFLUENT TOXICITY TESTS

RETURN FORM TO: Southeast Regional Office
2155 N. Westwood Blvd. Poplar Bluff, MO 63901

Facility Name	NPSD Interim Saline Creek Regional WWTF	Receiving Water	Meramec River at Terminus of Casa Loma Drive
Permit Number	MO-0128490	Laboratory Name	Environmental Analysis South, Inc.
Outfall	001	Laboratory Report #	MO_2612732

SAMPLE INFORMATION

Sample Number	Sample Collection				Sample Temperature (°C)		pH (SU)	Hand delivered? (If yes, ≤ 4 hrs?	Hold Time ≤ 36 hours?	Sample Acceptable
	Effluent or Upstream	Sample Type	Beginning Date	End Date	At Collection	At Lab	At Lab			
1	Effluent	composite	07/13/21	07/14/21	14.8	16	7.87	☒ Y ☐ N	☒ Y ☐ N	☒ Y ☐ N
2	Upstream	grab	07/14/21	07/14/21	25.4	15	8.05	☒ Y ☐ N	☒ Y ☐ N	☒ Y ☐ N
3								☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
4								☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N

Describe any unusual conditions during sampling that might influence test results

TEST INFORMATION - ACUTE

Test Method:	*C. dubia* 2002.0		*P. promelas* 2000.0	
Date Test Initiated:	07/16/2021			
AEC/IWC Info:	AEC = 6.3%			
Dilution Series	100%	50%	25%	12.5%
	6.3%			
Dilution Water:	*C. dubia*	RW ☒	LW ☐	
	P. promelas	RW ☒	LW ☐	
	RW = Receiving Stream Control		LW = Lab Water Control	

Comments:

QA/QC CONDITIONS - ACUTE

	YES	NO
Did test conditions meet all test acceptability criterion required by the specified method?	✓	
Temperatures maintained during test (20 ± 1°C)		✓
Temperatures maintained during test (25 ± 1°C)	✓	
Dissolved oxygen ≥ 4.0 mg/L throughout test?	✓	
Effluent pH maintained within 6.0 - 9.0 SU throughout test?	✓	
Concurrent or monthly reference tests within acceptable limits?	✓	
Were effluent samples modified prior to testing? (ex. filtration, aeration, chemical addition including de-chlorination or pH adjustment)		✓

Comments:

WATER CHEMISTRY (All values reported in mg/L, except for pH and conductivity)

Sample Type	Sample Number	Conductivity (µmhos)	Unionized Ammonia	Hardness	Alkalinity	pH (SU) After Warming	Total Residual Chlorine	Other	Other	Other
Upstream	2612732A	396	<0.030	189	169	8.29	<0.04	DO=8.6		
Effluent	2612732	585	<0.030	172	146	7.73	<0.04	DO=7.9		
Lab Water	RC4283	254	<0.030	75.2	69.2	8.14	<0.04	DO=8.5		

Comments:

TU_a limit = Monitoring only.

Pimephales promelas Acute Results	LC_{50}=	>100%	Confidence Interval % =	N/A	TU_a=	<1.00
Ceriodaphnia dubia Acute Results	LC_{50}=	>100%	Confidence Interval % =	N/A	TU_a=	<1.00

Receiving Water Controls				Lab Water Controls			
Fathead Minnow		*Ceriodaphnia dubia*		Fathead Minnow		*Ceriodaphnia dubia*	
Survival ≥ 90%	☒ Y ☐ N	Survival ≥ 90%	☒ Y ☐ N	Survival ≥ 90%	☒ Y ☐ N	Survival ≥ 90%	☒ Y ☐ N

Comments:

SIGNATURE AND TITLE OF AUTHORIZED INDIVIDUAL, IN ACCORDANCE WITH 10 CSR 20-6.010	DATE	PHONE NUMBER

Version 1.0

Environmental Analysis South, Inc

4000 East Jackson Blvd. - Jackson MO 63755 - 573-204-8817 - Fax 573-204-8818

Client Invoice

Invoice Number 161937

Purchase Order # Verbal

Bill To:

Accounts Payable
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Report To:

Joe Richardson
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Invoice Date: 7/20/2021 Sent Via: US Mail Terms 30 Net

Analysis Charges:

Item	Description	Quantity	Unit Cost	Item Total
B5484A	48 Hour WET Test 5 dil/4 reps	1	$450.00	$450.00
		Analysis Charge Total		$450.00

Additonal Charges:

Item	Description	Quantity	Unit Cost	Item Total
SHIP	Shipping Charges	25	$1.00	$25.00
		Other Charge Total		$25.00
		Invoice Total		**$475.00**

P.O.# 080321-01

7410

Environmental Analysis South, Inc

4000 East Jackson Blvd. - Jackson MO 63755 - 573-204-8817 - Fax 573-204-8818

Joe Richardson
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Report Number: 161937

Report of Analysis

Reference: The evaluation of wastewater by acute whole effluent toxicity testing is conducted in accordance with Methods for Measuring the Acute toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. Fifth edition. USEPA, Office of Water, Washington D.C., EPA 821-R-02-012

Log Number:	Sample Description:	Sample Date:	Sample Received Date:
2612732	Interim Saline Creek	7/14/2021	7/14/2021

Whole Effluent Toxicity

Test Description	Result	Units	Method	Comment Code	Analysis Date	Analyst
48 Hour WET Test 5 dil/4 reps	1	test	EPA-2000/2002		07/14/21	133

Respectfully submitted,

David F. Warren

Environmental Analysis South, Inc.
4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD, Interim Saline Creek Regional WWTF
Outfall 001 (24 hour composite) AEC = 40%
MO-0128490
EAS LOG# 2509309
July 22, 2020 through July 24, 2020

Tests performed by:
John P. Clippard / Chemical Analyst at Environmental Analysis South (EAS)
Kelly J. Ray / Biologist at Environmental Analysis South (EAS)
Sara C. Shields / Lab Supervisor - Chemist at Environmental Analysis South (EAS)
David F. Warren / Lab Director - Chemist at Environmental Analysis South (EAS)

Environmental Analysis South, Inc.
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REPORT OF ACUTE TOXICITY TESTING
NPSD, Interim Saline Creek Regional WWTF
Outfall 001 (24 hour composite) AEC = 40%
MO-0128490
EAS LOG# 2509309
July 22, 2020 through July 24, 2020

1. REPORT SUMMATION:

1.1. Multiple Dilution Data Summation

Test Solution	*Pimephales promelas* Acute Toxicity Test 48 Hour Survival	*Ceriodaphnia dubia* Acute Toxicity Test 48 Hour Survival
Reconstituted Control (RC)	100%	100%
Upstream Control (UC)	100%	100%
17.8% Effluent	100%	100%
26.7% Effluent	100%	100%
40% Effluent	100%	100%
60% Effluent	100%	100%
90% Effluent	100%	100%
Estimated 48 Hour LC_{50} Value	>90% Effluent	>90% Effluent
TUa Value	<1.11	<1.11
Result of Toxicity Test	Monitor	Monitor

* Indicates a significant difference at alpha = 0.5 between effluent and control survival data.

Conclusion:

Pimephales promelas 48 hour WET results: LC 50 >90% by the Graphical Method
NOAEC = 90% using Steel's Many-One Rank Test
TUa<1.11

Ceriodaphnia dubia 48 hour WET results: LC 50 >90% by the Graphical Method
NOAEC = 90% using Steel's Many-One Rank Test
TUa<1.11

Approved by _____
Sara C. Shields, Chemist

Environmental Analysis South, Inc.
4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD, Interim Saline Creek Regional WWTF
Outfall 001 (24 hour composite) AEC = 40%
MO-0128490
EAS LOG# 2509309
July 22, 2020 through July 24, 2020

2. TEST METHOD SUMMARY

2.1. TEST CONDITIONS AND METHODS:

	Ceriodaphnia dubia:	*Pimephales promelas:*
Test duration:	48 hours	48 hours
Temperature:	24 - 26 degree Celsius	24 - 26 degree Celsius
Light quality:	Ambient laboratory illumination	Ambient laboratory illumination
Photoperiod:	16 hour light, 8 hours dark	16 hour light, 8 hours dark
Control Water:	Moderately Hard Reconstituted Water	Moderately Hard Reconstituted Water
Dilution Water:	Upstream Water - If unavailable or toxic, then control water will be used.	Upstream Water - If unavailable or toxic, then control water will be used.
Size of test vessel:	30 milliliters	250 milliliters
Volume of test solution:	15 milliliters	200 milliliters
Age of test organisms:	<24 hours	1 -14 days (all same age)
Number of organisms/test vessel:	5	10
Number of replicates/concentration:	4	2
Number of organisms/concentration:	20	40 for a single dilution test and 20 for a multiple dilution test
Feeding regime:	None (fed prior to test)	None (fed prior to test)
Aeration:	None	None
Test acceptability criterion:	90% or greater survival in controls	90% or greater survival in controls

The methodology used for the chemistry data was taken from the *Standard Methods for the Examination of Water and Wastewater*, 18th edition (1992). The exception was hardness, which was determined using a Hach EDTA titration test kit. The toxicity tests follow guidelines laid out in the permittee's NPDES permit and were conducted according to EPA approved methods (USEPA 2002).

All test organisms were cultured according to EPA approved methods (USEPA 2002). The *Ceriodaphnia dubia* and the *Pimephales promelas* were obtained from ARO (Aquatic Research Organisms) located in Hampton, New Hampshire and shipped overnight for use in the whole effluent toxicity test.

Environmental Analysis South, Inc.
4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD, Interim Saline Creek Regional WWTF
Outfall 001 (24 hour composite) AEC = 40%
MO-0128490
EAS LOG# 2509309
July 22, 2020 through July 24, 2020

2.2. REFERENCE TOXICITY TEST:

Environmental Analysis South performs monthly reference toxicity tests. The most recent reference test was initiated on July 8, 2020 using KCL Lot #41713. Following are the results:

2.2.1. ***P. promelas*** - 48 hr. Acute Test – LC_{50} = 1.231 g/l 95%CI (0.938 g/l -1.524 g/l)
EAS %CV = 11.9%
National Warning Limits (75th percentile) = 19%CV
National Control Limits (90th percentile) = 33%CV

2.2.2. ***C. dubia*** - 48 hr. Acute Test – LC_{50} = 0.440 g/l 95%CI (0.297 g/l - 0.582 g/l)
EAS %CV = 16.3%
National Warning Limits (75th percentile) = 29%CV
National Control Limits (90th percentile) = 34%CV

2.3. 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.

WHOLE EFFLUENT TEST conducted in accordance with US EPA 600/4-90/027
Fifth Edition October 2002

CLIENT NAME:	NPSD, Interim Saline Creek Regional WWTF, Outfall 001, 24 hr composite
NPDES NUMBER:	MO-0128490
TYPE OF METHOD:	multiple dilution, 48 hrs, PP &CD, AEC=40%, TUa report
DATE & TIME OF COLLECTION:	07/21/20 0744 hrs - 07/22/20 0834 hrs by Kyle Ward
DATE & TIME OF SUBMISSION:	07/22/20 1055 hrs by Kyle Ward

Field Temp 001=8.8C/Upstream=27.4C
Upstream: Meramec River
Collected: 07/22/20 0745 hrs by KW

INITIAL OBSERVATIONS	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	INT EFFL	INT UC	INT RC
LOG NUMBER / ID NUMBER						2509309	2509309A	RC4261
pH - SU	07/22/20	1115 hrs	SCS	SB114 (8.8-9.2)	8.98	8.37	8.24	7.72
TEMPERATURE °C RECEIVED	07/22/20	1115 hrs	SCS	EAS 106		9	12	22
SPECIFIC CONDUCTANCE umhos	07/22/20	1115 hrs	SCS	ERA P255-506 (437-490)	478	579	360	229
HARDNESS - ppm	07/24/20	1400 hrs	SCS	P275-507 (288-337)	321	165	159	60.8
CHLORINE - ppm	07/22/20	1115 hrs	SCS	A9058 (0.82 - 1.02)	0.95	<0.04	<0.04	<0.04
DISSOLVED OXYGEN - ppm	07/22/20	1115 hrs	SCS	cal@840		7.9	7.5	8.4
TOTAL ALKALINITY - ppm	07/24/20	1500 hrs	SCS	P292-506 (71.4-85.1)	83.6	120	146	57.6
INITIAL AMMONIA - ppm	07/27/20	1545 hrs	JPC	DMRQA 39 (6.65-9.80)	8.42	<0.020	<0.020	<0.020
TOTAL DISSOLVED SOLIDS -ppm								

0 HOUR OBSERVATIONS	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/22/20	1130 hrs	SCS	SB114 (8.8-9.2)	8.98	8.07	7.83	7.76	7.79	7.83	7.79	7.79	
TEMPERATURE °C	07/22/20	1130 hrs	SCS	EAS 106		24.3	24.6	25.0	24.7	24.4	24.2	24.5	
SPECIFIC CONDUCTANCE umhos	07/22/20	1130 hrs	SCS	ERA P255-506 (437-490)	479	230	394	569	456	412	397	394	
DISSOLVED OXYGEN - ppm	07/22/20	1130 hrs	SCS	cal@840		8.5	7.8	7.7	7.7	7.7	7.8	7.8	

24 HOUR OBSERVATIONS - PP	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/23/20	1130 hrs	SCS	SB114 (8.8-9.2)	8.97	8.03	8.06	8.00	7.98	7.99	7.97	8.01	
TEMPERATURE °C	07/23/20	1130 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/23/20	1130 hrs	SCS	ERA P255-506 (437-490)	481	235	400	566	455	414	400	397	
DISSOLVED OXYGEN - ppm	07/23/20	1130 hrs	SCS	cal@840		7.8	7.8	7.2	7.3	7.3	7.3	7.2	
48 HOUR OBSERVATIONS - PP	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/24/20	1130 hrs	SCS	SB114 (8.8-9.2)	8.98	7.86	8.18	8.08	8.05	8.05	8.08	8.13	
TEMPERATURE °C	07/24/20	1130 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/24/20	1130 hrs	SCS	ERA P255-506 (437-490)	477	245	425	586	475	425	410	407	
DISSOLVED OXYGEN - ppm	07/24/20	1130 hrs	SCS	cal@840		7.8	8.0	7.8	7.6	7.6	7.6	7.8	
FINAL AMMONIA - ppm				DMRQA 39 (6.65-9.80)									

24 HOUR OBSERVATIONS - CD	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/23/20	1130 hrs	SCS	SB114 (8.8-9.2)	8.97	8.06	8.24	8.20	8.22	8.24	8.23	8.21	
TEMPERATURE °C	07/23/20	1130 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/23/20	1130 hrs	SCS	ERA P255-506 (437-490)	481	234	376	562	445	408	396	391	
DISSOLVED OXYGEN - ppm	07/23/20	1130 hrs	SCS	cal@840		8.2	8.2	8.2	8.3	8.2	8.2	8.3	
48 HOUR OBSERVATIONS - CD	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/24/20	1130 hrs	SCS	SB114 (8.8-9.2)	8.98	8.32	8.69	8.37	8.38	8.48	8.49	8.57	
TEMPERATURE °C	07/24/20	1130 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/24/20	1130 hrs	SCS	ERA P255-506 (437-490)	477	253	392	564	452	415	405	400	
DISSOLVED OXYGEN - ppm	07/24/20	1130 hrs	SCS	cal@840		8.2	8.6	8.5	8.5	8.5	8.5	8.4	
FINAL AMMONIA - ppm				DMRQA 39 (6.65-9.80)									

Approved by: 

Date: 7/27/20

WHOLE EFFLUENT TEST conducted in accordance with US EPA 600/4-90/027
Fifth Edition October 2002

NPSD, Interim Saline Creek Regional WWTF, Outfall 001, 24 hr composite EAS LOG# 2509309

Date Test Began:	July 22, 2020	Time Test Began:	1130 hrs	Analyst 1:	DFW
Date Test Finished:	July 24, 2020	Time Test Finished:	1130 hrs	Analyst 2:	KJR
				Analyst 3:	SCS

P. promelas (PP) AGE: 12 days HATCH NUMBER: 070620FH ARO

	RC	UC	90%	60%	40%	26.7%	17.8%	X% AEC
PERIOD	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE
0 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	
24 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	
48 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	

Ceriodaphnia dubia (CD) AGE: <24 hours HATCH NUMBER: 072120CD ARO

	RC	UC	90%	60%	40%	26.7%	17.8%	X% AEC
PERIOD	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE
0 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	
24 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	
48 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	

Approved by: Date: 7/27/20

NPSD, Interim Saline Creek Regional WWTF, Outfall 001, 24 hr composite EAS#: 2509309

Notes & Comments												

Prepared by: [signature]

Date: 07/27/20

multiple 40% Tha 17.8 267 90 60 40

157221

ENVIRONMENTAL ANALYSIS SOUTH, INC.
4000 East Jackson Blvd
Jackson, MO 63755
Phone: (573) 204-8817 Fax: (573) 204-8818

eas

WHOLE EFFLUENT TOXICITY TESTING
CHAIN OF CUSTODY

CLIENT: Northeast Public Sewer Dist

NPDES PERMIT NUMBER: MO-0128490

EFFLUENT NAME: Interim Saline Creek Regional WWTF (LEGAL NAME) GRAB ☐ 24 HR COMPOSITE ☒

COLLECTION DATA: START DATE: 7-21-20 START TIME: 7:44Am

FINISH DATE: 7-22-20 FINISH TIME: 8:34Am

Comp. FIELD TEMPERATURE: 8.8 °C or F (circle either Celsius or Fahrenheit)
Grab field temp - 22.0

UPSTREAM NAME: Meramec River Terminus of Casa Loma Drive (LEGAL NAME) (GRAB SAMPLE)

COLLECTION DATA: DATE: 7-22-20 TIME: 7:45Am

FIELD TEMPERATURE: 27.4 °C or F (circle either Celsius or Fahrenheit)

SAMPLER NAME: Kyle Ward (PRINT NAME) CARRIER: ____

Disclaimer: Environmental Analysis South, Inc. shall not be held financially liable for invalid whole effluent toxicity test (WET) or shipping charges resulting from the following reasons:

- Sampling & holding time errors (Will results in a setup charge of $150 to the client)
- Commercial carrier delivery problems or errors (Will results in a setup charge of $150 to the client)
- Problems with health or delivery of test organisms by vendor (No setup charge to client)

SAMPLER CHECK LIST

- NO HEADSPACE IN BOTTLES
- SHIP SAMPLES BY NEXT DAY CARRIER OR DELIVER TO LAB ON 7 / 22 / 20
- SAMPLES SHOULD BE ICED, IF DELIVERY IS GREATER THAN 4 HOURS TO THE LABORATORY

RELINQUISHED BY: Kyle Ward DATE: 7-22-20 TIME: 10:56am

LABORATORY USE ONLY

EFFLUENT LOG NUMBER: 2509309

RECEIVED TEMPERATURE: 8 °C THERMOMETER ASSIGNED NUMBER: ____

HEADSPACE: YES ☐ NO ☐ SAMPLES ICED: YES ☐ NO ☐

UPSTREAM LOG NUMBER: 2509309-A

RECEIVED TEMPERATURE: 12 °C THERMOMETER ASSIGNED NUMBER: ____

HEADSPACE: YES ☐ NO ☐ SAMPLES ICED: YES ☐ NO ☐

RECEIVED BY: [signature] DATE: 7/22/20 TIME: 1055

MISSOURI DEPARTMENT OF NATURAL RESOURCES
NPDES MONITORING REPORT FOR WHOLE EFFLUENT TOXICITY TESTS

RETURN FORM TO: Southeast Regional Office
2155 N. Westwood Blvd. Poplar Bluff, MO 63901

Facility Name	NPSD, Interim Saline Creek Regional WWTF	Receiving Water	Meramec River
Permit Number	MO-0128490	Laboratory Name	Environmental Analysis South, Inc.
Outfall	001	Laboratory Report #	MO_2509309

SAMPLE INFORMATION

Sample Number	Sample Collection				Sample Temperature (°C)		pH (SU)	Hand delivered? (If yes, ≤ 4 hrs?	Hold Time ≤ 36 hours?	Sample Acceptable
	Effluent or Upstream	Sample Type	Beginning Date	End Date	At Collection	At Lab	At Lab			
1	Effluent	composite	07/21/20	07/22/20	8.8	9	8.37	■ Y ☐ N	■ Y ☐ N	■ Y ☐ N
2	Upstream	grab	07/22/20	07/22/20	27.4	12	8.24	■ Y ☐ N	■ Y ☐ N	■ Y ☐ N
3								☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
4								☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N

Describe any unusual conditions during sampling that might influence test results

TEST INFORMATION - ACUTE

Test Method:	*C. dubia* 2002.0		*P. promelas* 2000.0	
Date Test Initiated:	07/22/2020			
AEC/IWC Info:	AEC = 40%			
Dilution Series	90%	60%	40%	26.7%
	17.8%			
Dilution Water:	*C. dubia*	RW ■	LW ☐	
	P. promelas	RW ■	LW ☐	
	RW = Receiving Stream Control		LW = Lab Water Control	

Comments:

QA/QC CONDITIONS - ACUTE

	YES	NO
Did test conditions meet all test acceptability criterion required by the specified method?	✓	
Temperatures maintained during test (20 ± 1°C)		✓
Temperatures maintained during test (25 ± 1°C)	✓	
Dissolved oxygen ≥ 4.0 mg/L throughout test?	✓	
Effluent pH maintained within 6.0 - 9.0 SU throughout test?	✓	
Concurrent or monthly reference tests within acceptable limits?	✓	
Were effluent samples modified prior to testing? (ex. filtration, aeration, chemical addition including de-chlorination or pH adjustment)		✓

Comments:

WATER CHEMISTRY (All values reported in mg/L, except for pH and conductivity)

Sample Type	Sample Number	Conductivity (µmhos)	Unionized Ammonia	Hardness	Alkalinity	pH (SU) After Warming	Total Residual Chlorine	Other	Other	Other
Upstream	2509309A	360	<0.010	159	146	7.83	<0.04	DO=7.5		
Effluent	2509309	579	<0.010	165	120	7.76	<0.04	DO=7.9		
Lab Water	RC4261	229	<0.010	60.8	57.6	8.07	<0.04	DO=8.4		

Comments:

TU_a limit = Monitoring only.

Pimephales promelas Acute Results	LC_{50}=	>90%	Confidence Interval % =	N/A	TU_a=	<1.11
Ceriodaphnia dubia Acute Results	LC_{50}=	>90%	Confidence Interval % =	N/A	TU_a=	<1.11

Receiving Water Controls				Lab Water Controls			
Fathead Minnow		*Ceriodaphnia dubia*		Fathead Minnow		*Ceriodaphnia dubia*	
Survival ≥ 90%	■ Y ☐ N	Survival ≥ 90%	■ Y ☐ N	Survival ≥ 90%	■ Y ☐ N	Survival ≥ 90%	■ Y ☐ N

Comments:

SIGNATURE AND TITLE OF AUTHORIZED INDIVIDUAL, IN ACCORDANCE WITH 10 CSR 20-6.010	DATE	PHONE NUMBER

Version 1.0

Environmental Analysis South, Inc

4000 East Jackson Blvd. - Jackson MO 63755 - 573-204-8817 - Fax 573-204-8818

Client Invoice

P.O.# 080520-04
7140

Invoice Number 157221

Purchase Order # Verbal

Bill To:
Accounts Payable
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Report To:
Joe Richardson
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Invoice Date:	7/30/2020	Sent Via:	US Mail	Terms	30 Net

Analysis Charges:

Item	Description	Quantity	Unit Cost	Item Total
B5484A	48 Hour WET Test 5 dil/4 reps	1	$450.00	$450.00
		Analysis Charge Total		$450.00

Additonal Charges:

Item	Description	Quantity	Unit Cost	Item Total
SHIP	Shipping Charges	20	$1.00	$20.00
		Other Charge Total		$20.00
		Invoice Total		**$470.00**

Environmental Analysis South, Inc

4000 East Jackson Blvd. - Jackson MO 63755 - 573-204-8817 - Fax 573-204-8818

Joe Richardson
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Report Number: 157221

Report of Analysis

Reference: The evaluation of wastewater by acute whole effluent toxicity testing is conducted in accordance with Methods for Measuring the Acute toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. Fifth edition. USEPA, Office of Water, Washington D.C., EPA 821-R-02-012

Log Number:	Sample Description:	Sample Date:	Sample Received Date:
2509309	Interim Saline Creek	7/22/2020	7/22/2020

Whole Effluent Toxicity

Test Description	Result	Units	Method	Comment Code	Analysis Date	Analyst
48 Hour WET Test 5 dil/4 reps	1	test	EPA-2000/2002		07/22/20	133

Respectfully submitted,

David F. Warren

Environmental Analysis South, Inc.
4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD, Interim Saline Creek Regional WWTF
Outfall 001 (24 hour composite) AEC = 40%
MO-0128490
EAS LOG# 2403308
July 10, 2019 through July 12, 2019

Tests performed by:
John P. Clippard / Chemical Analyst at Environmental Analysis South (EAS)
Kelly J. Ray / Biologist at Environmental Analysis South (EAS)
Sara C. Shields / Lab Supervisor - Chemist at Environmental Analysis South (EAS)
David F. Warren / Lab Director - Chemist at Environmental Analysis South (EAS)

Environmental Analysis South, Inc.
4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD, Interim Saline Creek Regional WWTF
Outfall 001 (24 hour composite) AEC = 40%
MO-0128490
EAS LOG# 2403308
July 10, 2019 through July 12, 2019

1. REPORT SUMMATION:

1.1. Multiple Dilution Data Summation

Test Solution	*Pimephales promelas* Acute Toxicity Test 48 Hour Survival	*Ceriodaphnia dubia* Acute Toxicity Test 48 Hour Survival
Reconstituted Control (RC)	100%	100%
Upstream Control (UC)	100%	100%
17.8% Effluent	100%	100%
26.7% Effluent	100%	100%
40% Effluent	100%	100%
60% Effluent	100%	100%
90% Effluent	100%	100%
Estimated 48 Hour LC_{50} Value	>90% Effluent	>90% Effluent
TUa Value	<1.11	<1.11
Result of Toxicity Test	Monitor	Monitor

* Indicates a significant difference at alpha = 0.5 between effluent and control survival data.

Conclusion:

Pimephales promelas 48 hour WET results: LC 50 >90% by the Graphical Method
NOAEC = 90% using Steel's Many-One Rank Test
TUa<1.11

Ceriodaphnia dubia 48 hour WET results: LC 50 >90% by the Graphical Method
NOAEC = 90% using Steel's Many-One Rank Test
TUa<1.11

Approved by _____
Sara C. Shields, Chemist

Environmental Analysis South, Inc.
4000 East Jackson Blvd. • Jackson, MO 63755 • 573-204-8817 • Fax 573-204-8818

REPORT OF ACUTE TOXICITY TESTING
NPSD, Interim Saline Creek Regional WWTF
Outfall 001 (24 hour composite) AEC = 40%
MO-0128490
EAS LOG# 2403308
July 10, 2019 through July 12, 2019

2. TEST METHOD SUMMARY

2.1. TEST CONDITIONS AND METHODS:

	Ceriodaphnia dubia:	*Pimephales promelas:*
Test duration:	48 hours	48 hours
Temperature:	24 - 26 degree Celsius	24 - 26 degree Celsius
Light quality:	Ambient laboratory illumination	Ambient laboratory illumination
Photoperiod:	16 hour light, 8 hours dark	16 hour light, 8 hours dark
Control Water:	Moderately Hard Reconstituted Water	Moderately Hard Reconstituted Water
Dilution Water:	Upstream Water - If unavailable or toxic, then control water will be used.	Upstream Water - If unavailable or toxic, then control water will be used.
Size of test vessel:	30 milliliters	250 milliliters
Volume of test solution:	15 milliliters	200 milliliters
Age of test organisms:	<24 hours	1 -14 days (all same age)
Number of organisms/test vessel:	5	10
Number of replicates/concentration:	4	2
Number of organisms/concentration:	20	40 for a single dilution test and 20 for a multiple dilution test
Feeding regime:	None (fed prior to test)	None (fed prior to test)
Aeration:	None	None
Test acceptability criterion:	90% or greater survival in controls	90% or greater survival in controls

The methodology used for the chemistry data was taken from the *Standard Methods for the Examination of Water and Wastewater*, 18th edition (1992). The exception was hardness, which was determined using a Hach EDTA titration test kit. The toxicity tests follow guidelines laid out in the permittee's NPDES permit and were conducted according to EPA approved methods (USEPA 2002).

All test organisms were cultured according to EPA approved methods (USEPA 2002). The *Ceriodaphnia dubia* and the *Pimephales promelas* were obtained from ARO (Aquatic Research Organisms) located in Hampton, New Hampshire and shipped overnight for use in the whole effluent toxicity test.

Environmental Analysis South, Inc.
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REPORT OF ACUTE TOXICITY TESTING
NPSD, Interim Saline Creek Regional WWTF
Outfall 001 (24 hour composite) AEC = 40%
MO-0128490
EAS LOG# 2403308
July 10, 2019 through July 12, 2019

2.2. REFERENCE TOXICITY TEST:

Environmental Analysis South performs monthly reference toxicity tests. The most recent reference test was initiated on July 10, 2019 using KCL Lot #41713. Following are the results:

2.2.1. ***P. promelas*** - 48 hr. Acute Test – LC_{50} = 1.147 g/l 95%CI (0.814-1.480 g/l)
EAS %CV = 14.5%
National Warning Limits (75th percentile) = 19%CV
National Control Limits (90th percentile) = 33%CV

2.2.2. ***C. dubia*** - 48 hr. Acute Test – LC_{50} = 0.406 g/l 95%CI (0.219-0.593 g/l)
EAS %CV = 23.0%
National Warning Limits (75th percentile) = 29%CV
National Control Limits (90th percentile) = 34%CV

2.3. 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.

WHOLE EFFLUENT TEST conducted in accordance with US EPA 600/4-90/027
Fifth Edition October 2002

CLIENT NAME:	NPSD, Interim Saline Creek Regional WWTF, Outfall 001, 24 hr composite
NPDES NUMBER:	MO-0128490
TYPE OF METHOD:	multiple dilution, 48 hrs, PP &CD, AEC=40%, TUa report
DATE & TIME OF COLLECTION:	07/09/19 0909 hrs - 07/10/19 0809 hrs by JR
DATE & TIME OF SUBMISSION:	07/10/19 1120 hrs by JR (NPSD)

Upstream: Meramec River
Collected: 07/10/19 0845 hrs by JR

INITIAL OBSERVATIONS	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	INT EFFL	INT UC	INT RC
LOG NUMBER / ID NUMBER						2403308	2403308A	RC4234
pH - SU	07/10/19	1130 hrs	SCS	SB114 (8.8-9.2)	9.01	7.77	7.91	7.96
TEMPERATURE °C RECEIVED	07/10/19	1130 hrs	SCS	EAS 106		10	10	21
SPECIFIC CONDUCTANCE umhos	07/10/19	1130 hrs	SCS	ERA P255-506 (437-490)	485	607	362	169
HARDNESS - ppm	07/11/19	1400 hrs	SCS	P269-507 (179-210)	206	174	169	73.6
CHLORINE - ppm	07/10/19	1130 hrs	SCS	A9058 (0.82 - 1.02)		<0.04	<0.04	<0.04
DISSOLVED OXYGEN - ppm	07/10/19	1130 hrs	SCS	cal@840		9.2	8.9	8.7
TOTAL ALKALINITY - ppm	07/12/19	1100 hrs	SCS	P273-506 (24.9-29.7)	27.6	131	148	50.4
INITIAL AMMONIA - ppm	07/12/19	1100 hrs	JPc	DMRQA38 (4.16-6.59)	5.41	0.307	<0.02	<0.02
TOTAL DISSOLVED SOLIDS -ppm								

0 HOUR OBSERVATIONS	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/10/19	1200 hrs	SCS	SB114 (8.8-9.2)	9.01	7.89	8.11	7.92	8.03	8.06	8.07	8.07	
TEMPERATURE °C	07/10/19	1200 hrs	SCS	EAS 106		24.8	24.4	24.5	24.9	24.7	24.1	24.5	
SPECIFIC CONDUCTANCE umhos	07/10/19	1200 hrs	SCS	ERA P255-506 (437-490)	485	169	369	582	454	405	379	374	
DISSOLVED OXYGEN - ppm	07/10/19	1200 hrs	SCS	cal@840		8.8	8.7	8.7	8.7	8.7	8.7	8.7	

24 HOUR OBSERVATIONS - PP	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/11/19	1200 hrs	SCS	SB114 (8.8-9.2)	9.01	8.21	8.28	8.23	8.29	8.29	8.29	8.29	
TEMPERATURE °C	07/11/19	1200 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/11/19	1200 hrs	SCS	ERA P255-506 (437-490)	486	179	374	590	450	404	380	371	
DISSOLVED OXYGEN - ppm	07/11/19	1200 hrs	SCS	cal@840		8	7.8	7.4	7.7	7.7	7.6	7.7	
48 HOUR OBSERVATIONS - PP	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/12/19	1200 hrs	SCS	SB114 (8.8-9.2)	9.01	8.64	8.39	8.37	8.37	8.34	8.35	8.36	
TEMPERATURE °C	07/12/19	1200 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/12/19	1200 hrs	SCS	ERA P255-506 (437-490)	485	205	392	615	474	412	384	374	
DISSOLVED OXYGEN - ppm	07/12/19	1200 hrs	SCS	cal@840		8.1	8.2	7.9	7.9	7.8	7.8	8.2	
FINAL AMMONIA - ppm				DMRQA33 (10.0-16.8)									

24 HOUR OBSERVATIONS - CD	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/11/19	1200 hrs	SCS	SB114 (8.8-9.2)	9.01	8.09	8.29	8.21	8.27	8.28	8.33	8.37	
TEMPERATURE °C	07/11/19	1200 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/11/19	1200 hrs	SCS	ERA P255-506 (437-490)	486	169	328	570	450	401	378	367	
DISSOLVED OXYGEN - ppm	07/11/19	1200 hrs	SCS	cal@840		8.3	8.5	8.5	8.6	8.6	8.7	8.7	
48 HOUR OBSERVATIONS - CD	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	90%	60%	40%	26.7%	17.8%	X %AEC
pH - SU	07/12/19	1200 hrs	SCS	SB114 (8.8-9.2)	9.01	8.05	8.40	8.31	8.42	8.40	8.35	8.38	
TEMPERATURE °C	07/12/19	1200 hrs	SCS	EAS 106		25.0	25.0	25.0	25.0	25.0	25.0	25.0	
SPECIFIC CONDUCTANCE umhos	07/12/19	1200 hrs	SCS	ERA P255-506 (437-490)	485	181	381	569	451	376	372	368	
DISSOLVED OXYGEN - ppm	07/12/19	1200 hrs	SCS	cal@840		8.1	7.9	7.9	7.9	7.9	7.9	7.9	
FINAL AMMONIA - ppm				DMRQA33 (10.0-16.8)									

Approved by: [signature]

Date: 07/16/19

WHOLE EFFLUENT TEST conducted in accordance with US EPA 600/4-90/027
Fifth Edition October 2002

NPSD, Interim Saline Creek Regional WWTF, Outfall 001, 24 hr composite EAS LOG# 2403308

Date Test Began: July 10, 2019 Time Test Began: 1200 hrs

Date Test Finished: July 12, 2019 Time Test Finished: 1200 hrs

Analyst 1: DFW
Analyst 2: KJR
Analyst 3: SCS

P. promelas (PP) AGE: 12 days HATCH NUMBER: 062519FH ARO

	RC	UC	90%	60%	40%	26.7%	17.8%	X% AEC
PERIOD	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE
0 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	
24 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	
48 HR-PP	10,10	10,10	10,10	10,10	10,10	10,10	10,10	

Ceriodaphnia dubia (CD) AGE: <24 hours HATCH NUMBER: 070919CD ARO

	RC	UC	90%	60%	40%	26.7%	17.8%	X% AEC
PERIOD	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE
0 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	
24 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	
48 HR-CD	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	

Approved by: Date: 07/16/19

NPSD, Interim Saline Creek Regional WWTF, Outfall 001, 24 hr composite EAS#: 2403308

Notes & Comments

Prepared by: [signature]

Date: 07/16/19

multiple 403 Tue

151980

ENVIRONMENTAL ANALYSIS SOUTH, INC.
4000 East Jackson Blvd
Jackson, MO 63755
Phone: (573) 204-8817 Fax: (573) 204-8818

eas

WHOLE EFFLUENT TOXICITY TESTING CHAIN OF CUSTODY

CLIENT: Northeast Public Sewer District

NPDES PERMIT NUMBER: MO-0128490
NORTHEAST PUBLIC SEWER DISTRICT

EFFLUENT NAME: Saline Creek Regional WWTF (LEGAL NAME) GRAB ☐ 24 HR COMPOSITE ☑

COLLECTION DATA: START DATE: 7/9/19 START TIME: 9:09 AM

FINISH DATE: 7/10/19 FINISH TIME: 8:09 AM

UPSTREAM NAME: Meramec River (LEGAL NAME) (GRAB SAMPLE)

COLLECTION DATA: DATE: 7/10/19 TIME: 8:45 AM

SAMPLER NAME: Joe Richardson (PRINT NAME) CARRIER: NPSD

Disclaimer: Environmental Analysis South, Inc. shall not be held financially liable for invalid whole effluent toxicity test (WET) or shipping charges resulting from the following reasons:

- Sampling & holding time errors (Will results in a setup charge of $100 to the client)
- Commercial carrier delivery problems or errors (Will results in a setup charge of $100 to the client)
- Problems with health or delivery of test organisms by vendor (No setup charge to client)

SAMPLER CHECK LIST

NO HEADSPACE IN BOTTLES ☐
SHIP SAMPLES BY NEXT DAY CARRIER OR DELIVER TO LAB ON 7/10/19 ☐
SAMPLES TO BE HAND DELIVERED TO LABORATORY SAME DAY AS TEST SETUP ☐
SUFFICIENT ICE TO COOL SAMPLES TO A RANGE OF 0 - 6° C WHEN SHIPPING OVERNIGHT ☐

RELINQUISHED BY: Joe Richardson DATE: 7/10/19 TIME: 11:20 AM

LABORATORY USE ONLY

EFFLUENT LOG NUMBER: 2403308

RECEIVED TEMPERATURE: ______ °C THERMOMETER ASSIGNED NUMBER: ______

HEADSPACE: YES or NO SAMPLES ICED or DELIVERED SAME DAY AS TEST

UPSTREAM LOG NUMBER: 2403308-A

RECEIVED TEMPERATURE: ______ °C THERMOMETER ASSIGNED NUMBER: ______

HEADSPACE: YES or NO SAMPLES ICED or DELIVERED SAME DAY AS TEST

RECEIVED BY: [signature] DATE: 7/10/19 TIME: 1120

PH - 8.23

Temp. 27.2°C

D.O. - 8.32

Northeast Public Sewer District

636 717-6523 · 636 717-6526

chain of custody

Location Collected : Saline Creek Regional EFFLUENT WWTF Chain of Custody #: 2637

Meramec River upstream

Tests To Be Performed	WET TEST		
Sample Date: 7/10/19	Start Time: 7/9/19 9:09AM	End Time: 7/10/19 8:09AM	
Sample Type: ☑ Grab ☐ Grab Composite ☐ Flow Proportional Comp ☑ Auto Composite		7/10/19 Meramec River upstream 8:20AM	
Meramec River upstream			
Method of Collection: ☑ Sampler ☑ Sample Stick & Bottle ☐ Other:			
Sample Preservation: ☑ <4°C ☐ H_2SO_4 ☐ HNO_3 ☐ NaOH ☐ $Na_2S_2O_3$ ☐ HCl ☐ Other:			
Signature(s) of Prepater(s) / Collector(s) / Distributor(s): (1) Joe Richardson		Date: 7/10/19	Time: 8:45AM
(2)		Date:	Time:

Sample Received Signature(s):

1st Release:		Date: 7/10/19	Time: 1120
2nd Release:		Date:	Time:
3rd Release:		Date:	Time:

MISSOURI DEPARTMENT OF NATURAL RESOURCES
NPDES MONITORING REPORT FOR WHOLE EFFLUENT TOXICITY TESTS

RETURN FORM TO: Southeast Regional Office
2155 N. Westwood Blvd. Poplar Bluff, MO 63901

Facility Name	NPSD, Interim Saline Creek Regional WWTF	Receiving Water	Meramec River
Permit Number	MO-0128490	Laboratory Name	Environmental Analysis South, Inc.
Outfall	001	Laboratory Report #	MO_2403308

SAMPLE INFORMATION

Sample Number	Sample Collection				Sample Temperature (°C)		pH (SU)	Hand delivered? (If yes, ≤ 4 hrs?	Hold Time ≤ 36 hours?	Sample Acceptable
	Effluent or Upstream	Sample Type	Beginning Date	End Date	At Collection	At Lab	At Lab			
1	Effluent	composite	07/09/19	07/10/19		10	7.77	■ Y ☐ N	■ Y ☐ N	■ Y ☐ N
2	Upstream	grab	07/10/19	07/10/19		10	7.91	■ Y ☐ N	■ Y ☐ N	■ Y ☐ N
3								☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
4								☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N

Describe any unusual conditions during sampling that might influence test results

TEST INFORMATION - ACUTE

Test Method:	*C. dubia* 2002.0		*P. promelas* 2000.0	
Date Test Initiated:	07/10/2019			
AEC/IWC Info:	AEC = 40%			
Dilution Series	90%	60%	40%	26.7%
	17.8%			
Dilution Water:	*C. dubia*	RW ■	LW ☐	
	P. promelas	RW ■	LW ☐	
	RW = Receiving Stream Control		LW = Lab Water Control	

Comments:

QA/QC CONDITIONS - ACUTE

	YES	NO
Did test conditions meet all test acceptability criterion required by the specified method?	✓	
Temperatures maintained during test (20 ± 1°C)		✓
Temperatures maintained during test (25 ± 1°C)	✓	
Dissolved oxygen ≥ 4.0 mg/L throughout test?	✓	
Effluent pH maintained within 6.0 - 9.0 SU throughout test?	✓	
Concurrent or monthly reference tests within acceptable limits?	✓	
Were effluent samples modified prior to testing? (ex. filtration, aeration, chemical addition including de-chlorination or pH adjustment)		✓

Comments:

WATER CHEMISTRY (All values reported in mg/L, except for pH and conductivity)

Sample Type	Sample Number	Conductivity (µmhos)	Unionized Ammonia	Hardness	Alkalinity	pH (SU) After Warming	Total Residual Chlorine	Other	Other	Other
Upstream	2403308A	362	<0.010	169	148	8.11	<0.04	DO=8.9		
Effluent	2403308	607	<0.010	169	131	7.92	<0.04	DO=9.2		
Lab Water	RC4234	169	<0.010	73.6	50.4	7.89	<0.04	DO=8.7		

Comments:

TU_a limit = Monitoring only.

Pimephales promelas Acute Results	LC_{50}=	>90%	Confidence Interval % =	N/A	TU_a=	<1.11
Ceriodaphnia dubia Acute Results	LC_{50}=	>90%	Confidence Interval % =	N/A	TU_a=	<1.11

Receiving Water Controls				Lab Water Controls			
Fathead Minnow		*Ceriodaphnia dubia*		Fathead Minnow		*Ceriodaphnia dubia*	
Survival ≥ 90%	■ Y ☐ N	Survival ≥ 90%	■ Y ☐ N	Survival ≥ 90%	■ Y ☐ N	Survival ≥ 90%	■ Y ☐ N

Comments:

SIGNATURE AND TITLE OF AUTHORIZED INDIVIDUAL, IN ACCORDANCE WITH 10 CSR 20-6.010	DATE	PHONE NUMBER

Version 1.0

Environmental Analysis South, Inc

4000 East Jackson Blvd. - Jackson MO 63755 - 573-204-8817 - Fax 573-204-8818

Client Invoice

Invoice Number 151980

Purchase Order # Verbal

Bill To:

Accounts Payable
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Report To:

Joe Richardson
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Invoice Date: 7/17/2019 Sent Via: US Mail Terms 30 Net

Analysis Charges:

Item	Description	Quantity	Unit Cost	Item Total
B5484A	48 Hour WET Test 5 dil/4 reps	1	$450.00	$450.00
		Analysis Charge Total		$450.00

Additonal Charges:

Item	Description	Quantity	Unit Cost	Item Total
SHIP	Shipping Charges	20	$1.00	$20.00
		Other Charge Total		$20.00
		Invoice Total		**$470.00**

Environmental Analysis South, Inc

4000 East Jackson Blvd. - Jackson MO 63755 - 573-204-8817 - Fax 573-204-8818

Joe Richardson
Northeast Public Sewer District
1041 Gravois Road
Fenton, MO 63026

Report Number: 151980

Report of Analysis

Reference: The evaluation of wastewater by acute whole effluent toxicity testing is conducted in accordance with Methods for Measuring the Acute toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. Fifth edition. USEPA, Office of Water, Washington D.C., EPA 821-R-02-012

Log Number: 2403308
Sample Description: Saline Creek
Sample Date: 7/10/2019
Sample Received Date: 7/10/2019

Whole Effluent Toxicity

Test Description	Result	Units	Method	Comment Code	Analysis Date	Analyst
48 Hour WET Test 5 dil/4 reps	1	test	EPA-2000/2002		07/10/19	133

Respectfully submitted,

David F. Warren

Wednesday, July 17, 2019

Northeast Public Sewer District

INTERIM SALINE CREEK REGIONAL WATER RESOURCE RECOVERY FACILITY
PERMIT #: MO - 0128490

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

Section 23.4 Industrial Waste Treatment
Industry: Aero Metal Finishing, Inc.

Effluent from Aero Metal Finishing, Inc. consists of domestic, categorical, and noncategorical wastewaters and must comply with the limitations listed in their permit. The District has imposed the combined waste stream formula to categorical effluent limitations in accordance with 40 CFR 403.6(e). **Standard Gravity Clarifier:** Rinse waters are collected in segregated collection tanks and transferred by pumps to either the Chrome Reduction or neutralization sections of the clarifier. Pertaining to which section the rinse waters are pumped to, the pH is adjusted, chrome reduction and coagulation is achieved, and polymer is added to the flash mixing section. After neutralization, settling and clarification occurs. Sludge is removed by means of a filter press and dewatering is returned to the neutralization section of the clarifier. Treated water is then discharged to drain which is connected to the District. **Ion Exchange Units:** Within the past six years Aero Metal Finishing has installed two (2) ion exchange units to reduce burden of the existing clarifier and to work towards zero discharge of wastewater effluents. The Ion Exchange Units have been installed on the cadmium plating line, conversion coating of aluminum, chromic anodize, and sulfuric anodize lines.

SEPT , 2020

AERO METAL FINISHING,INC.
DAILY RECORD OF V.O.C.

GREEN=2010 PURPLE = 2018 ORANGE = 09

BLUE=2012 Aerospace Line (Topcoat) MAGENTA = 2011

BROWN = 2013 RED=2014 OLIVE GREEN = 2015 TURQUOIS = 2016/2017

Kit Siz	Topcoat	OZ.	Topcoat Gallons	b. Voc/gal topcoat	Solvent	Solvent gallons	lb. VOC/gal solvent	lb. VOC	lb. VOC/gal Coating
2	BAC 702 521X315 702 WHITE		0	7.52	NONE	0	0	0	
1	TTE-527C-37038 BLACK		0	4.4	NONE	0	0	0	
1.5	F63EXA11211-4355 GRAY		0	2.8	NONE	0	0	0	
1.25	RANDOLPH 24084 GREEN		0	3.86	NONE	0	0	0	
1	DEXTER 446-21-7507		0	3.52	NONE	0	0	0	
2	DEFT 03GY363-26270		0	3.7	NONE	0	0	0	
1.25	F63TX-88850-4355 BLACK		0	2.8	NONE	0	0	0	
1.25	F63JX-E11746-4355 ORANGE		0	2.8	NONE	0	0	0	
1	RANDOLPH MIL-L-81352A 37038		0	5.01	NONE	0	0	0	
1.25	IMRON 3.5 HG		0	3.4	NONE	0	0	0	
1.5	PTI-426 RED		0	3	NONE	0	0	0	
0.25	PTI-785 GLOSS YELOW		0	1.17	NONE	0	0	0	
2	ANAC 646-58-7925 GLOSS WHITE		0	3.45	NONE	0	0	0	
2	AKZO NOBEL 646-58-7038 BLACK		0	3.5	NONE	0	0	0	
2	ANAC 646-58-5200 BLUE		0	3.5	NONE	0	0	0	
2	AKZO NOBEL 646-58-1105 RED		0	3.5	NONE	0	0	0	
2	AKZO 646-58-2197 ORANGE		0	3.49	NONE	0	0	0	
2	AKZO NOBEL 646-58-6473 GRAY		0	3.5	NONE	0	0	0	
2	AKZO NOBEL 646-58-6515 GRAY		0	3.5	NONE	0	0	0	
	AKZO NOBEL 656-58-4052 GREEN		0	3.55	NONE	0	0	0	
	AKZO NOBEL 656-58-4172		0	3.5	NONE	0	0	0	
1	AKZO 656-58-6295 GRAY		0	3.57	NONE	0	0	0	
2	ANAC 646-58-6251 GRAY		0	3.5	NONE	0	0	0	
1	AKZO 666-58-7925 WHITE		0	3.5	NONE	0	0	0	
1	ANAC 666-58-1136; FLAT RED		0	3.62	NONE	0	0	0	
1	AKZO 666-58-4227 GREEN TC		0	3.57	NONE	0	0	0	
1	AKZO 666-58-0475 BROWN		0	3.54	NONE	0	0	0	
1	AKZO 666-58-6176 CAMO GRAY		0	3.52	NONE	0	0	0	
1.375	MANKIEWICZ 404-74 SUEDE BLACK		0	4.8	T-62	0	0	0	
1	ANAC 666-58-7038 BLACK		0	3.58	NONE	0	0	0	
0.5	ANAC / BOEING 17-78-3-201		0	3.52	TR-112	0	7.5	0	
1	AKZO 666-58-4031 GREEN		0	3.58	NONE	0	0	0	
1	AKZO NOBEL ECL-G-16 WHITE		0	3.51	TR-109	0	0	0	
1	AKZO ECL-SG-1165		0	3.4	NONE	0	0	0	
0.75	AKZO ECL-G-303		0	3.5	TR-109	0	0	0	
1	AKZO EHS-60(3-715-3-201) ORANGE		0	3.48	NONE	0	0	0	
2	AKZO ECT4, H.S. WHITE BASE		0	3.53	TR-109	0	7.5	0	
2	AKZO ECT4, H.S. WHITE (17-78-3-7106)		0	3.51	TR-109	0	7.5	0	
1	AKZO 4222-T36231 GRAY		0	2.85	NONE	0	0	0	
1	WLS 413-26 GRAY		0	2.3	NONE	0	0	0	
1	WLS 413-27		0	2.3	NONE	0	0	0	
1	DYNASPEC N-8507 CARC BLACK		0	3.52	NONE	0	0	0	
0.953	SHERWIN N12T200 EPOXY		0	2.8	NONE	0	0	0	

1.25	SHERWIN F93A2034 POLY GRAY	0	3.45	NONE	0	0	0
3	SHERWIN H99NY11 BROWN	0	4.36	V66VC299	0	0	0
4.5 QT	SHERWIN M06025 METALLIC SILVER	0	3.5	CMO110944	0	0	0
2	SHERWIN CM0570566 SNOW WHITE	0	4.34	NONE	0	0	0
4	SHERWIN CM0840103 WHITE	0	3.5	CMO110701	0	0	0
1.5	SHERWIN 830-420 ACRY GLO BEIGE	0	3.5	NONE	0	0	0
1.25	SHERWIN F93SAR31136-4387 RED	0	2.37	NONE	0	0	0
1	SHERWIN F93BOS114 BLACK CARC	0	0.76	NONE	0	0	0
3.75	SHERWIN LO9003 WHITE	0	5.84	NONE	0	0	0
1.25	33446 TAN	0	3.38	NONE	0	0	0
1.25	PPG AMERCOAT 450H(AT45SGT1)	0	2.8	NONE	0	0	0
1	IMRON 5000 BLACK	0	3.42	NONE	0	0	0
2	INTREPID 700A071 GRAY LAQUER	0	2.54	FPL50-5	0	0	0
1	INTREDPID 700B04G ACRYLIC LACQUER	0	2.54	FT-220	0	0	0
1	INTREPID 111876 #37038 BLK LACQUER	0	2.52	NONE	0	0	0
2	DEFT 03-Y-91 YELLOW	0	3.52	NONE	0	0	0
1 QT.	DEFT 01BK038	0	3.5	NONE	0	0	0
1 QT.	DEFT 01Y048	0	3.5	NONE	0	0	0
2 QT.	DEFT 03R076 TI. CL.H	0	3.42	NONE	0	0	0
1 QT.	DEFT 01-R-051 RED	0	3.5	NONE	0	0	0
3 QT.	DEFT 03X096 CLEAR	0	3.5	NONE	0	0	0
1	PACIFIC RESINS & CTGS. 81-512	0	2.8	NONE	0	0	0
2.25	F63812 BLACK	0	5.39	NONE	0	0	0
1	DEFTHANE 99-GY-001 GRAY	0	3.44	NONE	0	0	0
1	DEFT 01X059 CLEAR EPOXY	0	3.4	NONE	0	0	0
2	DEFT 03R064 RED	0	3.37	NONE	0	0	0
1	DEFT 03GY292 GRAY	0	3.35	NONE	0	0	0
1	DEFT 03GY287 POLYURETHANE	0	3.47	NONE	0	0	0
1	DEFT 03GY310	0	3.5	NONE	0	0	0
2	DEFT 03GY315	0	3.44	NONE	0	0	0
1	DEFT 03GY330 GUN GRAY	0	3.44	NONE	0	0	0
1	DEFT 03GY332 GRAY	0	3.44	NONE	0	0	0
1	DEFT 03GY340 GRAY	0	3.44	NONE	0	0	0
2	PPG/DEFT 03GY363	0	3.5	NONE	0	0	0
2	DEFT 03GY444 POLYURETNANE	0	3.41	NONE	0	0	0
1	DEFT 01-GY-073	0	2.675	NONE	0	0	0
1	DEFT 01-GY-089 GRAY	0	2.85	NONE	0	0	0
1	DEFT 01GY095 GRAY	0	2.59	NONE	0	0	0
1	DEFT 01BK039	0	3.41	NONE	0	0	0
2	DEFT 03-BK-082 BLACK	0	3.5	NONE	0	0	0
1	DEFT 03GY310	0	3.45	NONE	0	0	0
1	DEFT 04-GY-112 GRAY	0	2.84	NONE	0	0	0
1	DEFT/PPG 18-GY-011	0	3.38	NONE	0	0	0
1	DEFT 55GY010 GRAY	0	0.123	NONE	0	0	0
1	DEFT 99-GY-013 GRAY	0	3.47	NONE	0	0	0
1	DEFT 03-BK-074 BLACK	0	3.43	NONE	0	0	0
1	DEFT 03-GN-209 GREEN	0	3.52	NONE	0	0	0
1	DEFT MIL-PRF-22750F (IS-237)	0	3.46	NONE	0	0	0
1.25	TRICOM TT-E-529 27038G BLACK	0	4.32	TT-T-306E	0	0	0
1.25	TRICOM A-A-3164 GRN LAQUER	0	4.835	4816	0	0	0
1	TRICOM 700B116 BLACK (Intrepid)	0	2.52	NONE	0	0	0
1	CARDINAL 8102-E00439 GRAY	0	1.8	NONE	0	0	0
2	DEFT 85785/16515 GRAY	0	3.52	NONE	0	0	0
2	DEFT 595-26307 GRAY	0	3.52	NONE	0	0	0
1.25	DEFT 595-36231 GRAY	0	2.85	NONE	0	0	0
4	DEFT 595-24052 GREEN	0	3.5	NONE	0	0	0

2	DEFT 1U515 GRAY	0	3.52	NONE	0	0	0
1	DEFT 01-BK-042A BLACK	0	2.85	NONE	0	0	0
1	PRC AMT1101 GRAY TOPCOAT	0	2.64	NONE	0	0	0
1.25	SHERWIN F93A501GRAY	0	2.1	NONE	0	0	0
1	SHERWIN F85B30 BLACK	0	3.28	NONE	0	0	0
1	SHERWIN F93B109 CARC BLACK	0	3.17	NONE	0	0	0
1.6	SHERWIN B65T304	0	2.35	NONE	0	0	0
1.25	SHERWIN F63TXA15931-4355	0	5.41	NONE	0	0	0
1	AKZO 4229T37038 BLACK	0	2.82	NONE	0	0	0
1	[redacted]	0	3.51	NONE	0	0	0
1	AKZO 446-21-7038 / 17038 BLACK	0	3.69	NONE	0	0	0
1	ANAC 446-21-7507 WHITE	0	3.45	NONE	0	0	0
1	ANAC 466-21-9710 FLAT GULL GRAY	0	3.47	NONE	0	0	0
1	ANAC 23-T3-106 GRAY	0	3.5	NONE	0	0	0
1	ANAC 656-58-6306 GRAY	0	3.53	NONE	0	0	0
1	DEFT 01-W-081 WHITE	0	3.25	NONE	0	0	0
2	DEFT 02-W-37 WHITE	0	3.52	NONE	0	0	0
2	PPG CA8100/F17925 WHITE	0	3.01	NONE	0	0	0
1	DEFT 03-GN-176 GREEN	0	3.48	NONE	0	0	0
1	TRANSCHEM MIL-PRF-81352 WHITE	0	2.8	EXEMPT	0	0	0
1	TRANS CHEM PU5500-G BLUE	0	2.85	NONE	0	0	0
1	TRANS CHEM PU5500-AG RED	0	2.8	NONE	0	0	0
1	F88HXL22-4386	0	3.44	NONE	0	0	0
1	NCP N8046 BLACK	0	3.43	NONE	0	0	0
2	DEFT 03X85 CLEAR	0	3.44	NONE	0	0	0
2	DEFT MIL-PFR-85285 26493	0	3.52	NONE	0	0	0
1.25	RANDOLPH 36622 GRAY	0	3.13	NONE	0	0	0
1	SHERWIN CMO830 IRON	0	3.3	EXEMPT	0	0	0
1.66	SHERWIN F63TXA9477-4355	0	5.82	R7K84	0	0	0
1	SHERWIN F93H115 TAN	0	1.5	NONE	0	0	0
1	SHERWIN F93H119 SAND	0	1.5	NONE	0	0	0
1.25	SHERWIN F93H504 TAN	0	1.06	WATER	0	0	0
1.5	SHERWIN F93G504 GREEN	0	1.43	WATER	0	0	0
1	SPECTRUM 038137UA-GD SAND	0	3.5	NONE	0	0	0
1	SPECTRUM WU2K-577 GREEN CARC	0	1.3	WATER	0	0	0
1	SPECTRUMWU2-K-619 383 GREEN	0	1.8	WATER	0	0	0
1	ACRYTHANE 584-623 GRAY	0	3.5	NONE	0	0	0
2	DEFT595-26493 GRAY	0	3.52	NONE	0	0	0
1	TRICOM 700L173 #15044 BLUE	0	2.5	NONE	0	0	0
1	INTREPID 700R152G RED ENAMEL	0	2.24	NONE	0	0	0
1	TRICOM 700Y134 #13538 YELLOW	0	2.5	NONE	0	0	0
1	HENTZEN 16633KEF-LVOC BLACK	0	1.74	NONE	0	0	0
1	HENTZEN16657GEF-LVOC GREEN	0	1.75	NONE	0	0	0
2	RUSTOLEUM 9400 BLUE URETHANE	0	4.56	NONE	0	0	0
1	HENTZEN 17169KLE BLACK ACRYLIC	0	2.8	NONE	0	0	0
1	HENTZEN 31106GPX-T1	0	2.8	NONE	0	0	0
1	HENTZEN 31111RPX-T1 RED	0	2.8	NONE	0	0	0
1	RANDOLPH TTE489J1358 YELLOW	0	2.78	NONE	0	0	0
	HENTZEN 08624AUZ-PA	0	1	NONE	0	0	0
1	HENTZEN 31134NPX-T1 ORANGE	0	2.8	NONE	0	0	0
1	HENTZEN 31136WPX-T1 WHITE	0	2.8	NONE	0	0	0
1	HENTZEN 31360WPX-T1 WHITE	0	2.31	NONE	0	0	0
1	HENTZEN 31429BPX-T1 BLUE	0	2.8	NONE	0	0	0
1	HENTZEN 31484WPX-T1 WHITE	0	2.8	NONE	0	0	0
1	HENTZEN 32205KPX-T2	0	3.5	NONE	0	0	0

1	HENTZEN 32243APX-T2 GRAY	0	2.8	NONE	0	0	0
	HENTZEN 32292APX-T2 GRAY	0	2.79	NONE	0	0	0
1	HENTZEN 32538TPX-T2 TAN	0	2.8	NONE	0	0	0
1	HENTZEN 32542APX-T2 GRAY	0	2.8	NONE	0	0	0
1	HENTZEN 32206GPX-T2 GREEN	0	2.8	NONE	0	0	0
1	HENTZEN 03813TUA-GD 33531 SAND)	0	3.11	NONE	0	0	0
1	HENTZEN 08611TUZ (30219) BROWN	0	3.47	NONE	0	0	0
1	HENTZEN 04628NUX-3 ORANGE	0	3.28	NONE	0	0	0
1	HENTZEN 32246GPX-T2 GREEN	0	2.77	NONE	0	0	0
3	HENTZEN 1710KWA BLACK	0	1.35	NONE	0	0	0
1	HENTZEN 17391NEF-LVOC ORANGE	0	1.8	NONE	0	0	0
1	HENTZEN 08628KUZ BLACK	0	3.32	NONE	0	0	0
1	HENTZEN 31148 APX-T1	0	2.8	NONE	0	0	0
1	HENTZEN 086244AUZPA GRAY	0	3.32	NONE	0	0	0
1	GRIGGS 100G78-24052	0	3.7	NONE	0	0	0
1.5	MIL-PFR-85285C 24084 GREEN	0	3.69	NONE	0	0	0
1.25	DEFT GMS 5006 01-W-074 WHITE	0	3.4	NONE	0	0	0
1.25 QT	DEFT 01W079 17925 WHITE	0	3.36	NONE	0	0	0
1	SPECTRUM #4038 YELLOW	0	2.81	NONE	0	0	0
1	SPECTRUM WU2K-631 BLACK	0	2.23	NONE	0	0	0
1	AKZO 422T17925	0	2.64	NONE	0	0	0
1	SPECTRUM 64159 (WU2K-629)	0	1.39	NONE	0	0	0
1.75	SHERWIN ACRYGLO HS M06025	0	3.46	NONE	0	0	0
1	SHERWIN N40W201 BLUE-WHITE	0	2.85	NONE	0	0	0
1	SHERWIN B34W201	0	4.02	NONE	0	0	0
	SHERWIN F63VXA2522-5210	0	5.17	RED. 84	0	7.25	0
2	SHERWIN N10A351 HAZE GRAY	0	2.83	NONE	0	0	0
1	F93B112 BLACK	0	3.42	NONE	0	0	0
1.25	SHERWIN PRF 22750/F925AA26373-43-87	0	2.8	NONE	0	0	0
2.25	SHERWIN F63TXH20572-4355 TAN	0	6	530-K84	0	0	0
1.75	SHERWIN F63TXB21408-4355 BLACK	0	6.6	530-K84	0	0	0
1	SHERWIN F93B506 BLACK	0	1.11	NONE	0	0	0
1	SHERWIN F09028 BLACK	0	1.9	NONE	0	0	0
1	SHERWIN MIL-DTL-64159/F93B505	0	1.45	NONE	0	0	0
1	SHERWIN F63TXB11990-4355	0	5.24	NONE	0	0	0
1	Dexter 446-21-7507 white	0	3.51	NONE	0	0	0
1	SHERWIN N40W100 WHITE	0	2.84	NONE	0	0	0
1.25	SHERWIN F92G227 SEAFOAM GREEN	0	2.8	NONE	0	0	0
1.5	852851-17925 WHITE	0	3.95	NONE	0	0	0
1	PPG CA8000/F16473	0	3.52	CA8000C	0	0	0
1.25	PPG CA8112/F36375	0	3.62	NONE	0	0	0
2	PPG 03W152 POLYURETHANE	0	3.51	NONE	0	0	0
2	PPG 03W160 POLYURETHANE	0	3.41	NONE	0	0	0
1.25	PPG CA 8112/F36173	0	4.62	NONE	0	0	0
3	PPG EC75801-KBHO BLACK	0	5.72	T17	0	0	0
2	PPG CA8201/F15056	0	3.47	NONE	0	0	0
1	CA8271/F36375 GRAY	0	3.52	NONE	0	0	0
1.25	CA8201/17038 BLACK	0	3.45	NONE	0	0	0
1.75	AKZO 24F40/DN9374 WHITE	0	3.52	NONE	0	0	0
1	HENTZEN 08625GUZ-B33	0	3.35	NONE	0	0	0
2	CA8201/F16440 GRAY	0	3.48	NONE	0	0	0
1	PRC DESOTO CA8211/F36320	0	3.48	NONE	0	0	0
1	PRC 8221/F26408 MINT GRAY	0	3.5	NONE	0	0	0
1.5 QT	CA8211/F36118 GRAY	0	3.3	NONE	0	0	0
3	DESOTO CA8000B707 GRAY	0	3.52	NONE	0	0	0
2	PRC CA8201/F16473 GRAY	0	3.52	NONE	0	0	0

4	PRC CA 8000/D3635 HS GRAY	0	3.49	CA8000C	0	0	0
4	PRC CA8000/B702 WHITE	0	3.52	CA8000C	0	0	0
4	PRC CA8200/D9374 WHITE	0	3.79	CA8000C	0	0	0
1	PRC CA3000/D7507 WHITE	0	3.34	NONE	0	0	0
1.5	PPG CA8110/F36251 ANTI -CHAFE	0	3.5	NONE	0	0	0
1.5	PPG CA8110/F36495 ANTI-CHAFE	0	3.5	NONE	0	0	0
1	PPG 03GY274	0	2.92	NONE	0	0	0
1.5	PPG CA 8111/F36118	0	3.51	NONE	0	0	0
2	PPG CA8201/F12197 ORANGE	0	3.47	NONE	0	0	0
1	SHERWIN F93B102 BLACK	0	3.42	NONE	0	0	0
1	PRC CA8221/F25177 BLUE	0	3.51	NONE	0	0	0
1	PRC CA8221/F26373 GRAY	0	3.51	NONE	0	0	0
1	CA8211/F30279 CAMO BROWN	0	3.47	NONE	0	0	0
1	CA8211/F34064 CAMO GREEN	0	3.52	NONE	0	0	0
2	CA8201/F17875 HS WHITE	0	3.49	NONE	0	0	0
1	CA8211/F36440 GRAY	0	3.52	NONE	0	0	0
1	CA8211/F36231 CAMO GRAY	0	3.51	NONE	0	0	0
1	PRC CA8211/F36495 HS CAMO GRAY	0	3.65	NONE	0	0	0
2	CA8201/F17925 WHITE	0	3.3	NONE	0	0	0
1	CA8112/F36375 GRAY	0	3.42	NONE	0	0	0
2	DEFT 03-W-127A WHITE	0	3.44	NONE	0	0	0
1.25	DEFT 03-GY-236 GRAY	0	4.07	NONE	0	0	0
1.25	SHERWIN F93H1 TAN	0	4.48	NONE	0	0	0
3.1	SHERWIN B65W311 WHITE	0	3.1	R7K58	0	7.25	0
2.13	Sherwin F91-W-26	0	3.96	NONE	0	0	0
4	AKZO ECL-G-10 WHITE	0	3.53	TR-109	0	7.5	0
4	AKZO ECL-G-101 GRAY	0	3.47	TR-109	0	7.5	0
4	AKZO ECL-G-16 715480 WHITE	0	3.3	R-113	0	7.5	0
4	AKZO ECL-G-46 WHITE	0	3.52	R-113	0	7.5	0
1	AKZO ECL9-1692 WHITE	0	3.52	R-113	0	0	0
1	AKZO ECM-F-6176 GRAY	0	3.48	NONE	0	0	0
1	CA8211/F37038 BLACK	0	3.32	NONE	0	0	0
1	AKZO 4229T37038 FLAT BLACK	0	2.5	NONE	0	0	0
1	AKZO 443-3-1000 WHITE	0	5	NONE	0	0	0
1.25	BAC 702 643-3-25 WHITE	0	3.65	NONE	0	0	0
1.25	BAC 707 643-3-9 GLASS GRAY	0	3.75	NONE	0	0	0
1.25	BAC 707 446-22-2000 GRAY	0	3.54	NONE	0	0	0
1.25	BAC 7106 446-22-1704 White	0	3.64	NONE	0	0	0
1.25	BMS 10-11 443-3-1000	0	3.4	NONE	0	0	0
1.25	BMS 10-11 446-22-1000	0	3.4	NONE	0	0	0
2	BMS 10-60 822K025 GRAY	0	3.5	NONE	0	0	0
1	BMS 10-86 23-T3-105	0	3.46	NONE	0	0	0
1	BMS 10-86 23-T3-106	0	3.36	NONE	0	0	0
1	ANAC 23-T3-109 GRAY	0	3.43	NONE	0	0	0
1	BMS 10-86 23-T3-10	0	3.44	NONE	0	0	0
1	F63B12 5208102 BLACK	0	5.38	NONE	0	0	0
1	F63W13 STROBE WHITE	0	4.75	NONE	0	0	0
2	FMS1027 18GY002 36320	0	3.6	NONE	0	0	0
1.25	FMS1027 18GY025 36270	0	3.03	NONE	0	0	0
2	656-58-4052 GREEN	0	3.5	NONE	0	0	0
2	822X385 MINT GRAY	0	3.49	NONE	0	0	0
2	831G057 420HS	0	3.4	NONE	0	0	0
1.25	832G030 DS 420HS	0	3.5	NONE	0	0	0
2	832G048 420HS Gloss Gray	0	3.49	NONE	0	0	0
2	838K005 Black	0	3.4	NONE	0	0	0
2	8721F63 8721-4355 406U	0	2.52	NONE	0	0	0

1	930G017 420 HS C/S	0	4.11	NONE	0	0	0	
2	461682-34031	0	4.32	none	0	0	0	
1.25	03-GN-236 34031 DEFT GREEN	0	4.38	VSC 494	0	2.6	0	
1	AKZO 666-58-6173 GRAY	0	3.52	NONE	0	0	0	
1.5	36320 GRAY TYPE I	0	3.46	NONE	0	0	0	
1	666-586231 GRAY	0	3.51	NONE	0	0	0	
1	DEFT 01-GY-85 GRAY	0	2.57	NONE	0	0	0	
1.25	32030 BLACK	0	4.55	NONE	0	0	0	
1.25	832G104 GRAY	0	3.51	NONE	0	0	0	
1.25	RANDOLPH 36440 GRAY	0	3.18	NONE	0	0	0	
1.25	SHERWIN F93G27 383	0	3.81	NONE	0	0	0	
1	AKZO 4222T36231	0	3.7	NONE	0	0	0	
1.25	GRIGGS 100A35	0	3.1	NONE	0	0	0	
1	SHERWIN MIL-DTL-15090D	0	2.83	NONE	0	0	0	
2	SW MIL-DTL-24441D (FORMULA 153)	0	2.72	NONE	0	0	0	
1	DEFT 01-X-060	0	2.9	NONE	0	0	0	
1	F78WX10503-4355	0	4.55	NONE	0	0	0	
2	34094 383 GREEN	0	3.781	NONE	0	0	0	
1.25	DESOTO CA8211/F37038	0	3.52	NONE	0	0	0	
1.25	EUAE189A GREEN	0	2.8	NONE	0	0	0	
1.25	666-58-7038 PRF85285 BLACK	0	3.41	NONE	0	0	0	
		0			0		0	NA

Aerospace Line (Primer)

	Primer	OZ.	Primer Gallons	lb. Voc/gal primer	Solvent	Solvent gallons	lb. VOC/gal solvent	lb. VOC	lb. VOC/gal Coating
2.25	BAC 5710 TYPE 51 825X009		0	3.17	O2O-O44	0	7.62	0	
2.25	SHERWIN E65A4		0	5.53	R84	0	7.25	0	
0.343Q	SANDSTROM 28A DRY FILM		0	5.25	NONE	0	0	0	
1	**SANDSTROM 099 DRY FILM LUBE**		0	0.6889	NONE	0	0	0	
2	EVERLUBE LUBE-LOK 2109 DRY FILM		0	5.82	MEK	0	0	0	
1	**EVERLUBE LUBRI-BOND 220**		0	6.24	NONE	0	0	0	
1	**EVERLUBE 620C DRY FILM LUBE**		0	6.71	NONE	0	0	0	
1	EVERLUBE 9002		0	2.1	NONE	0	0	0	
0.25	EVERLUBE PERMA-SLIK G		0	6.17	NONE	0	0	0	
0.75	**SANDSTROM 9A SOLID LUBRICANT**		0	5.6941	D106-C01	0	7.64	0	
1	TIODIZE 75/75 DRY FILM LUBE		0	0.737	NONE	0	0	0	
1	EWDG 155A GRAY		0	2.09	NONE	0	0	0	
1	DEFT 02GN084 GREEN PRIMER		0	3.06	NONE	0	0	0	
1	**DEFT 02GN083 PRIMER**		0	2.06	NONE	0	0	0	
1	DEFT 02GN070 A GREEN PRIMER		0	2.68	NONE	0	0	0	
1	DEFT 02GN070 B GREEN PRIMER		0	2.64	NONE	0	0	0	
1	DEFT 02-Y-040B GREEN PRIMER		0	2.89	NONE	0	0	0	
1.5	DEFT 44GN049 GREEN PRIMER		0	4.115	NONE	0	0	0	
1 QT.	**DEFT 44GN098 GREEN PRIMER**		0	2.83	NONE	0	0	0	
4.5	PPG PP404 EPOXIDE PRIMER		0	5.49	T193	0	0	0	
2.5	PPG 44Y022 PRIMER		0	2.8	DI H2O	0	0	0	
1.25	PPG 833K086		0	3.89	NONE	0	0	0	
3	DEFT/PPG 44W007 PRIMER		0	2.7	DI H2O	0	0	0	
1 QT.	DEFT 45GY005 PRIMER		0	2.83	NONE	0	0	0	

1	DEFT 09-Y-002 GREEN PRIMER	0	2.85	NONE	0	0	0
1	ANAC 463-6-4 ALUMINIZED PRIMER	0	5.7	NONE	0	0	0
2	BAC 5755 463-6-4	0	5.68	NONE	0	0	0
1.125	BMS 10-11 44-GN-11	0	2.83	NONE	0	0	0
1	TRANSCHEM PU5500A-G 14260	0	2.8	NONE	0	0	0
1	HENTZEN 53012YEP PRIMER	0	2.8	NONE	0	0	0
1.25	HENTZEN 03848WEP-HFX	0	2.5	NONE	0	0	0
2	BMS 10-11 463-6-27	0	4.2	NONE	0	0	0
2	BMS 10-11 515K011	0	5.35	NONE	0	0	0
0.75	DEFT 44-GN-54	0	2.92	NONE	0	0	0
2	BMS 10-79 513X384 YELLOW	0	5.37	NONE	0	0	0
2	SW MIL-DTL-24441 (FORMULA 150)	0	2.77	NONE	0	0	0
1	SHERWIN WILLIAMS N42Y100	0	2.85	NONE	0	0	0
2	BMS 10-79 515X349	0	5.51	NONE	0	0	0
1.5	DESOTO 519X303	0	5.75	020X324	0	0	0
1.25	DYNASPEC N-8460	0	2.8	NONE	0	0	0
1	HENTZEN 53055-GEP GREEN	0	2.8	NONE	0	0	0
1	HENTZEN AD9318-FD	0	2.8	NONE	0	0	0
1	HENTZEN AD9325 DARK BLUE	0	2.8	NONE	0	0	0
2	ANAC 463-12-8	0	5.3	NONE	0	0	0
2	DMS1786H 515-700 FR	0	5.32	NONE	0	0	0
2	EC-1945	0	5.4	NONE	0	0	0
1	E65A71 SEALER GRAY	0	2.71	NONE	0	0	0
2	MIL-C-46168 754-217 383 GR	0	4.6	020x422	0	7.5	0
2	MIL-P-23377 EECY001A YELL.	0	4.9	NONE	0	0	0
1	CA8221/F24052 GREEN	0	3.255	NONE	0	0	0
1	DEFT 02-Y-40 YELLOW	0	2.85	NONE	0	0	0
2	MIL-P-23377 02-Y-024	0	4.83	NONE	0	0	0
0.5	MACH-DYNAMICS #36375 GRAY	0	1.68	NONE	0	0	0
0.5	MACH-DYNAMICS #33105 TAN	0	1.68	NONE	0	0	0
1.25	PRC DESOTO EWDE141A	0	2.73	NONE	0	0	0
1.5	MANKIEWICZ 911-P4	0	6.23	MEK/TOL	0	0	0
2	SHERWIN P60G2 WASH PRIME	0	6.6	NONE	0	0	0
1	SHERWIN E90G203	0	2.8	NONE	0	0	0
1	SHERWIN E90G205	0	2.8	NONE	0	0	0
2	SHERWIN N10G350	0	2.83	NONE	0	0	0
1	MIL-P-23377 10-P20-13	0	2.84	NONE	0	0	0
2	MIL-P-23377 10-P4-2	0	5.45	NONE	0	0	0
2	AKZO NOBEL 10P4-2NF EPOXY PR.	0	5.45	NONE	0	0	0
2	AKZO 10P8-11 EPOXY PRIMER	0	2.8	NONE	0	0	0
1	AKZO 10P20-14 EPOXY PRIMER	0	2.88	NONE	0	0	0
1	AKZO 10P20-26 EPOXY PRIMER	0	3.25	NONE	0	0	0
1	PPG EEAY051 ECO-PRIME	0	2.8	NONE	0	0	0
1.75	ANAC 364-1-6 WASH PRIMER	0	5.92	T-31	0	0	0
1	SHERWIN E61G00520 WASH PR.	0	1.14	NONE	0	0	0
1.5	SHERWIN DOD-P-15328D E9OG4 WPR	0	6	R6K20 ALC	0	6.51	0
1	AKZO NOBEL 454-4-1 FUEL TK.	0	5.44	NONE	0	0	0
1.5	AKZO NOBEL 10P30-5 COR. RES.	0	1.93	EXEMPT	0	0	0
2	AKZO NOBEL 10P8-10FR EPOXY	0	3.35	NONE	0	0	0
2	201-A-2 PRIMER GRAY	0	4.02	XYLOL	0	7.2	0
1	AKZO 20P1-21 FUEL TANK HS	0	3.52	NONE	0	0	0
1.25	ANAC 20PI-10 FUEL TANK	0	3.32	TR-117	0	0	0
2.25	PRC 823-707 FUEL TANK	0	5.44	20707	0	0	0
2	AKZO 10P4-3NF EPOXY PRIMER	0	5.43	NONE	0	0	0
1.25	SPECTRUM WE2K-720 EPOXY PRIMER	0	1.4	DI H2O	0	0	0
2	MIL-P-23377 513x390	0	4.9	NONE	0	0	0

2	MIL-P-23377 724400	0	4.19	NONE	0	0	0
1.25	MIL-P-53022B 724-700	0	4.03	81772	0	7.4	0
1.25	SW E90G16	0	5.94	NONE	0	0	0
1.25	SW E90H226 53022B TYII B-WHITE	0	3.84	NONE	0	0	0
5	SW E9OHC227 BONE WHITE	0	2.8	NONE	0	0	0
1.25	SW AIP302 GRAY EPOXY	0	2.07	NONE	0	0	0
1.25	**SW E90W201 DTL-53022C TY.I WHITE**	0	4.3	NONE	0	0	0
2	MIL-P-53022B SHERWIN 609023	0	3.99	81772	0	7.4	0
1.25	NCP MIL-P-53022B WHITE PR.	0	5.5875	NONE	0	0	0
1.5	NCP N-3580 WHITE	0	2.8	NONE	0	0	0
1	MIL-P-53022 V93V202	0	5.81	NONE	0	0	0
1.25	MIL-P-85582 10-PW20-4	0	3.6	NONE	0	0	0
2	MIL-P-85582 513X408	0	2.75	NONE	0	0	0
2	MIL-P-85582 513X408B	0	2.8	NONE	0	0	0
1.5	MMS 425 519X303	0	5.92	020X324	0	0	0
2	TT-P-1757 723-400	0	4.51	NONE	0	0	0
2	TT-P-1757 723X404	0	4.41	NONE	0	0	0
2	515X333 2012 FR PRIMER	0	5.42	NONE	0	0	0
3	SPECTRUM PRF 233775 YELLOW	0	2.82	NONE	0	0	0
1.5	GAL-V-TAL 299	0	4.29	R-114	0	7.2	0
1.25	AKZO 10P20-44	0	2.32	R-114	0	0	0
1.5 QT.	44GN72	0	1.12	NONE	0	0	0
1 QT.	44GN060	0	1.13	NONE	0	0	0
1	44GN007	0	2.84	NONE	0	0	0
1	201-R-079 KS RED OXIDE	0	3.42	NONE	0	0	0
1.25	PPG EWDE102	0	2.55	NONE	0	0	0
2	E90Y203	0	5.05	NONE	0	0	0
1	SPECTRUM TT-P-1757 YELLOW	0	4.53	NONE	0	0	0
1.25	EWDEO72A	0	3.33	NONE	0	0	0
2	30-Y-94 PRIMER U.S. PAINT	0	5.71	NONE	0	0	0
	*						
	TOTAL	0			0		0 NA

Masking

Masking	OZ.	Masking Gallons	lb. Voc/gal masking	Solvent	Solvent gallons	lb. VOC/gal solvent	lb. VOC	lb. VOC/gal Coating
5	KLEAN-STRIP PAINT BOOTH COATING	0	0.54	NONE	0	0	0	
1	CHEMCO 791 WHITE BOOTH COATING	0	4.9	NONE	0	0	0	
1	ARDROX 305-N	0	2.02	NONE	0	0	0	
1	ARDROX 321-N	0	1.96	NONE	0	0	0	
1	ARDROX 306-N	0	0.943	NONE	0	0	0	
1	AC-818-C	0	0.01	NONE	0	0	0	
1	AZ6439C	0	1.675	NONE	0	0	0	
	*							
	TOTAL	0			0		0	NA

Miscellaneous metal parts (air dried Topcoat)

Topcoat	OZ.	Topcoat Gallons	lb. Voc/gal topcoat	Solvent	Solvent gallons	lb. VOC/gal solvent	lb. VOC	lb. VOC/gal Coating
1	SANDSTROM 099 DRY FILM LUBE	0	1.026	NONE	0	0	0	
1	TIOLUBE 75/75 DRY FILM LUBE	0	0.737	NONE	0	0	0	
2	SHERWIN N10G350	0	2.83	NONE	0	0	0	

1	125-B-11 BLACK ENAMEL	0	3.77	R-116	0	6.4	0	
1	AQUALON F-172 (377G-11)	0	1.75	NONE.	0	0	0	
1	SHERWIN 610-2909 SILVER	0	3.78	NONE	0	0	0	
1	aqualonsb-0687 silver	0	2.78	NONE	0	0	0	
1	1E1950G BLACK	0	3.5	NONE	0	0	0	
1	RUSTIC ORANGE 356-R-002DS	0	3.49	NONE	0	0	0	
1	MIDSTATES CLEAR 356-C-002	0	3.5	NONE	0	0	0	
1	MIDSTATES RED 377R10	0	1.38	NONE	0	0	0	
1	356A004 SILVER	0	3.49	NONE	0	0	0	
1	MIDSTATES SILVER 355 HS	0	3.45	NONE	0	0	0	
1	1E1950G MOJAVE BROWN	0	3.5	NONE	0	0	0	
1	377-G-003 DARK GREEN	0	2.47	NONE	0	0	0	
1	AZ 634-2	0	0	NONE	0	0	0	
1	FAST DRY 35 CAT YELLOW	0	3.5	NONE	0	0	0	
1	GLIDDEN 5205	0	3.5	NONE	0	0	0	
1	MINWAX	0	2.74	NONE	0	0	0	
	TOTAL	0			0		0	NA

INTERIM SALINE CREEK REGIONAL WRRF EFFLUENT PARAMETERS 07/01/2017 THROUGH 07/31/2021

MinOfEffluent 24 Hour Total Flow	0.044
MaxOfEffluent 24 Hour Total Flow	11.057
AvgOfEffluent 24 Hour Total Flow	2.44926890296636
CountOfEffluent 24 Hour Total Flow	1492
MinOfEffluent pH	6.39
MaxOfEffluent pH	8.04
AvgOfEffluent pH	7.29506692160612
CountOfEffluent pH	1046
MinOfEffluent Dissolved Oxygen	0.08
MaxOfEffluent Dissolved Oxygen	11.88
AvgOfEffluent Dissolved Oxygen	9.15174952198853
CountOfEffluent Dissolved Oxygen	1046
MinOfEFFluent BOD	1
MaxOfEFFluent BOD	15.75
AvgOfEFFluent BOD	4.55556206088994
CountOfEFFluent BOD	427
MinOfEffluent TSS	1
MaxOfEffluent TSS	15.62
AvgOfEffluent TSS	2.16544392523364
CountOfEffluent TSS	428
MinOfEffluent Ammonia as N	0.015
MaxOfEffluent Ammonia as N	8.04
AvgOfEffluent Ammonia as N	0.634373303167421
CountOfEffluent Ammonia as N	221
MinOfEffluent Total Nitrogen	1
MaxOfEffluent Total Nitrogen	11
AvgOfEffluent Total Nitrogen	3.94594594594595
CountOfEffluent Total Nitrogen	37
MinOfEffluent TKN	1
MaxOfEffluent TKN	8.4
AvgOfEffluent TKN	2.02162162162162

CountOfEffluent TKN	37
MinOfEffluent Phosphorus	0.104
MaxOfEffluent Phosphorus	8.2
AvgOfEffluent Phosphorus	2.15648648648649
CountOfEffluent Phosphorus	37
MinOfEffluent Nitrate Nitrite	0.81
MaxOfEffluent Nitrate Nitrite	6.5
AvgOfEffluent Nitrate Nitrite	2.23807692307692
CountOfEffluent Nitrate Nitrite	26
MinOfEffluent Oil Grease	1.3
MaxOfEffluent Oil Grease	5.1
AvgOfEffluent Oil Grease	2.14631578947368
CountOfEffluent Oil Grease	19
MinOfEffluent Ecoli	1
MaxOfEffluent Ecoli	325.5
AvgOfEffluent Ecoli	36.253125
CountOfEffluent Ecoli	128

NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF
PERMIT #: MO-0128490

EFFLUENT SEMIVOLATILE ORGANICS

Name of Facility	Collection Date	Analysis By	Analytical Method Used	Units	1,2,4-Trichlorobenzene	2,3,7,8-TCDD Screen	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene
Saline Creek Regional WWTF	10/11/2018	PDC Laboratories	EPA 625	ug/L	10	50	20	10	10	20	10	10
Saline Creek Regional WWTF	7/17/2019	PDC Laboratories	EPA 625	ug/L	0.99	50	1.04	1.53	1.54	9.29	1.28	0.956
Saline Creek Regional WWTF	2/19/2020	PDC Laboratories	EPA 625	ug/L	0.99	50	1.04	1.53	1.54	9.29	1.28	0.956
Saline Creek Regional WWTF	7/14/2021	PDC Laboratories	EPA 625	ug/L	10	50	20	10	10	20	10	10
				Min	0.99	50	1.04	1.53	1.54	9.29	1.28	0.956
				Max	10	50	20	10	10	20	10	10
				Average	5.495	50	10.52	5.765	5.77	14.645	5.64	5.478
Average Flow	2.45 MG		MASS	MAX	0.204	1.022	0.409	0.204	0.204	0.409	0.204	0.204
			MASS	AVG.	0.112	1.022	0.215	0.118	0.118	0.299	0.115	0.112
			# of Samples		4	4	4	4	4	4	4	4

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NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF

PERMIT #: MO-0128490

EFFLUENT SEMIVOLATILE ORGANICS

2-Chloronaphthalene	2-Chlorophenol	2-Nitrophenol	3,3'-Dichlorobenzidine	4,6-Dinitro-2-methyphenol 4,6-Dinitro-o-cresol	4-Bromophenyle phenyl ether	4-Chloro-3-methyphenol P-Chloro-m-cresol	4-Chlorophenylphenyl ether	4-Nitrophenol	Acenaphthene	Acenaphthylene
10	10	10	20	50	10	10	10	20	10	10
0.801	1.13	2.18	0.809	8.31	1.4	1.67	0.983	7.26	0.846	0.833
0.801	1.13	2.18	0.809	8.31	1.4	1.67	0.983	7.26	0.846	0.833
10	10	10	20	50	10	10	10	20	10	10
0.801	1.13	2.18	0.809	8.31	1.4	1.67	0.983	7.26	0.846	0.833
10	10	10	20	50	10	10	10	20	10	10
5.4005	5.565	6.09	10.4045	29.155	5.7	5.835	5.4915	13.63	5.423	5.4165
0.204	0.204	0.204	0.409	1.022	0.204	0.204	0.204	0.409	0.204	0.204
0.110	0.114	0.124	0.213	0.596	0.116	0.119	0.112	0.279	0.111	0.111
4	4	4	4	4	4	4	4	4	4	4

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NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF
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EFFLUENT SEMIVOLATILE ORGANICS

Anthracene	Azobenzene 1,2-Diphenylhydrazine	Benzidine	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene 3,4-Benzofluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-chloroisopropyl) ether
10	10	80	10	10	10	10	10	10	10	10
6.31	0.924	2.89	6.36	6.5	6.09	6.33	1.04	0.8	1.66	0.83
6.31	0.924	2.89	6.36	6.5	6.09	6.33	1.04	0.8	1.66	0.83
10	10	80	10	10	10	10	10	10	10	10
6.31	0.924	2.89	6.36	6.5	6.09	6.33	1.04	0.8	1.66	0.83
10	10	80	10	10	10	10	10	10	10	10
8.155	5.462	41.445	8.18	8.25	8.045	8.165	5.52	5.4	5.83	5.415
0.204	0.204	1.635	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204
0.167	0.112	0.847	0.167	0.169	0.164	0.167	0.113	0.110	0.119	0.111
4	4	4	4	4	4	4	4	4	4	4

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NORTHEAST PUBLIC SEWER DISTRICT

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EFFLUENT SEMIVOLATILE ORGANICS

Bis(2-ethylhexy) phthalate	Butyl benzyl phthalate	Chrysene	Dibenzo(a,h)anthracene	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Diphenylamine N-Nitrosodiphenylamine	Fluoranthene	Fluorene	Hexachlorobenzene
10	10	10	10	10	10	10	10	10	10	10	10
6.2	6.5	6.36	6.06	6.47	0.848	6.45	6.73	6.3	6.34	0.858	6.52
6.2	6.5	6.36	6.06	6.47	0.848	6.45	6.73	6.3	6.34	0.858	6.52
10	10	10	10	10	10	10	10	10	10	10	10
6.2	6.5	6.36	6.06	6.47	0.848	6.45	6.73	6.3	6.34	0.858	6.52
10	10	10	10	10	10	10	10	10	10	10	10
8.1	8.25	8.18	8.03	8.235	5.424	8.225	8.365	8.15	8.17	5.429	8.26
0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204
0.166	0.169	0.167	0.164	0.168	0.111	0.168	0.171	0.167	0.167	0.111	0.169
4	4	4	4	4	4	4	4	4	4	4	4

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NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF
PERMIT #: MO-0128490

EFFLUENT SEMIVOLATILE ORGANICS

Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachlorethane	Ideno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodi-n-propylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
10	20	10	10	10	10	10	10	10	50	10	10	10
1.22	1.17	1.05	6.32	0.964	0.987	1.06	0.95	1	0.842	6.39	0.82	6.3
1.22	1.17	1.05	6.32	0.964	0.987	1.06	0.95	1	0.842	6.39	0.82	6.3
10	20	10	10	10	10	10	10	10	50	10	10	10
1.22	1.17	1.05	6.32	0.964	0.987	1.06	0.95	1	0.842	6.39	0.82	6.3
10	20	10	10	10	10	10	10	10	50	10	10	10
5.61	10.585	5.525	8.16	5.482	5.4935	5.53	5.475	5.5	25.421	8.195	5.41	8.15
0.204	0.409	0.204	0.204	0.204	0.204	0.204	0.204	0.204	1.022	0.204	0.204	0.204
0.115	0.216	0.113	0.167	0.112	0.112	0.113	0.112	0.112	0.519	0.167	0.111	0.167
4	4	4	4	4	4	4	4	4	4	4	4	4

NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF

PERMIT #: MO-0128490

EFLUENT METALS

Date	Effluent Arsenic	Effluent Aluminum	Effluent Antimony	Effluent Beryllium	Effluent Cadmium	Effluent Chromium	Effluent Chromium III	Effluent Chromium VI	Effluent Copper	Effluent Cyanide	Effluent Iron	Effluent Lead
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
7/20/2017		22			1	2	5	5	3.1		43	
10/26/2017					1	2	5	5	2.1			
10/30/2017					5	5	10	10	10			
1/25/2018					1	2	5	5	2.9			
4/5/2018					1	2	5	5	2.2			
7/10/2018					1	2	5	5	3.8			
9/27/2018	7		4		0.21	2			4.1	3		3
10/11/2018	10		5	1	5	5			5	5		5
1/10/2019	7		4		0.21	2	5	5	1.4	3		3
5/30/2019	7		4		0.21	2	5	5	1.8	7.4		3
7/17/2019	7		4	1	0.21	2			1.5	6.9		3
10/16/2019	7				0.21	2			1.9	3		3
2/19/2020	14	50	6.9	0.19	0.37	5			2	3	30	5.1
5/12/2020	9.19				0.37	5			1.55	36		5.1
7/22/2020	9.19				0.37	5			1.55	3		5.1
10/27/2020	9.19				0.37	5			5.29	3		5.1
1/12/2021	9.19				0.37	5			2.1	3		5.1
4/14/2021	9.19				0.37	5			4.84	3		5.1
6/8/2021		21				5	5	5			26.9	
6/9/2021						5	5	5				
6/15/2021						5	5	5				
6/16/2021		21				5	5	5			25.3	
7/14/2021	25	50	50	1.5	1	5	5	5	5	5	30	40
Min	7	21	4	0.19	0.21	2	5	5	1.4	3	25.3	3
Max	25	50	50	1.5	5	5	10	10	10	36	43	40
Average	10.00	32.80	11.13	0.92	1.01	3.70	5.38	5.38	3.27	6.48	31.04	6.97
Flow 2.45 MGD												
Mass Max	0.511	1.022	1.022	0.031	0.102	0.102	0.204	0.204	0.204	0.736	0.879	0.817
Mass Avg.	0.204	0.670	0.227	0.019	0.021	0.076	0.110	0.110	0.067	0.133	0.634	0.142
# of Samples	13	5	7	4	19	23	13	13	19	13	5	13

NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF

PERMIT #: MO-0128490

EFLUENT METALS

Effluent Mercury	Effluent Molybdenum	Effluent Nickel	Effluent Phenolic Compounds	Effluent Selenium	Effluent Silver	Effluent Thallium	Effluent Zinc	Effluent Hardness
ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
							71	
							55	
							54.4	156
							69	
							39	
							73	
0.2	5	2.5		4	1		76	
0.2	5	5	50	1	0.1	1	62.5	
0.2	5	1		4	1		50	
0.2	5	2		4	1		21	
0.2	5	1.7		4	1	6	38	
0.2	5	1.8		6.4	1		53	
0.05	2.1	2.6	27	11	0.76	6.9	45	
0.05	2.1	2.6		11	0.76		30.5	
0.05	2.1	2.6		11	0.76		47.2	
0.05	2.1	2.6		11	0.76		50.9	
0.05	2.1	2.6		11	0.76		45.5	
0.05	2.1	2.6		11	0.76		32.6	215
0.2		5	50	40	5	40	49.8	124
0.05	2.1	1	27	1	0.1	1	21	124
0.2	5	5	50	40	5	40	76	215
0.13	3.55	2.66	42.33	9.95	1.13	13.48	50.71	165.00
0.004	0.102	0.102	1.022	0.817	0.102	0.817	1.553	4393.095
0.003	0.073	0.054	0.865	0.203	0.023	0.275	1.036	3371.445
13	12	13	3	13	13	4	19	3

NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF

PERMIT #: MO-0128490

EFFLUENT PESTICIDES

Name of Facility	Collection Date	Analysis By	Analytical Method Used	Units	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor - Total	Beta-BHC
Saline Creek Regional WWTF	10/11/2018	PDC Laboratories	EPA 608	ug/L	1	1	1	0.5	0.5	5	10	5	5	5	10	10	50	0.5
Saline Creek Regional WWTF	7/17/2019	PDC Laboratories	EPA 608	ug/L	0.21	0.23	0.42	0.25	0.25	4.4	4.4	4.4	4.4	4.4	4.4	4.4	5	0.28
Saline Creek Regional WWTF	2/19/2020	PDC Laboratories	EPA 608	ug/L	0.21	0.23	0.42	0.25	0.25	4.4	4.4	4.4	4.4	4.4	4.4	4.4	5	0.28
Saline Creek Regional WWTF	7/14/2021	PDC Laboratories	EPA 608	ug/L	0.1	0.1	0.1	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05
				Min	0.1	0.1	0.1	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05
				Max	1	1	1	0.5	0.5	5	10	5	5	5	10	10	50	0.5
				Average	0.38	0.39	0.485	0.2625	0.2625	3.575	4.825	3.575	3.575	3.575	4.825	4.825	15.125	0.2775
Average Flow	2.45 MGD			MASS MAX	0.020	0.020	0.020	0.010	0.010	0.102	0.204	0.102	0.102	0.102	0.204	0.204	1.022	0.010
				MASS AVG.	0.008	0.008	0.010	0.005	0.005	0.073	0.099	0.073	0.073	0.073	0.099	0.099	0.309	0.006
			# of Samples		4	4	4	4	4	4	4	4	4	4	4	4	4	4

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NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF

PERMIT #: MO-0128490

EFFLUENT PESTICIDES

Chlordane (technical)	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endin ketone	Endrin	Endrin aldehyde	gamma-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Alpha-Chlordane	gamma-Chlordane
5	0.5	1	0.5	1	1		1	1	0.5	0.5	0.5		
3.5	0.23	0.25	0.3	0.28	0.37		0.26	0.27	0.23	0.46	0.28		
3.5	0.23	0.25	0.3	0.28	0.37		0.26	0.27	0.23	0.46	0.28		
0.5	0.05	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05
0.5	0.05	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05
5	0.5	1	0.5	1	1	0.1	1	1	0.5	0.5	0.5	0.05	0.05
3.125	0.2525	0.4	0.2875	0.415	0.46	0.1	0.405	0.41	0.2525	0.3675	0.2775	0.05	0.05
0.102	0.010	0.020	0.010	0.020	0.020	0.002	0.020	0.020	0.010	0.010	0.010	0.001	0.001
0.064	0.005	0.008	0.006	0.008	0.009	0.002	0.008	0.008	0.005	0.008	0.006	0.001	0.001
4	4	4	4	4	4	1	4	4	4	4	4	1	1

8/24/2021

Methoxyclor	Toxaphene
5	5
2	2.5
2	2.5
0.5	2
0.5	2
5	5
2.375	3
0.102	0.102
0.049	0.061
4	4

NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF

PERMIT #: MO-0128490

EFFLUENT VOLATILE ORGANICS

Name of Facility	Collection Date	Anaylsis By	Anayltical Method	Units	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene 1,1-Dichloroethlyene	1,2-Dichlorobenzene	1,2-Dichloroethane
Saline Creek Regional WWTF	10/11/2018	PDC Laboratories	EPA 624	ug/L	5	5	5	5	5	5	5
Saline Creek Regional WWTF	7/17/2019	PDC Laboratories	EPA 624	ug/L	1.1	1.6	1.4	1.1	1	1.2	1.3
Saline Creek Regional WWTF	2/19/2020	PDC Laboratories	EPA 624	ug/L	5	5	5	5	5	5	5
Saline Creek Regional WWTF	6/8/2021	PDC Laboratories	EPA 624	ug/L							
Saline Creek Regional WWTF	7/14/2021	PDC Laboratories	EPA 624	ug/L	5	5	5	5	5	5	5
				Min	1.1	1.6	1.4	1.1	1	1.2	1.3
				Max	5	5	5	5	5	5	5
				Average	4.025	4.15	4.1	4.025	4	4.05	4.075
Average Flow	2.45 MGD		MASS	MAX	0.102	0.102	0.102	0.102	0.102	0.102	0.102
			MASS	AVG.	0.082	0.085	0.084	0.082	0.082	0.083	0.083
			# of Samples		4	4	4	4	4	4	4

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NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF
PERMIT #: MO-0128490

EFFLUENT VOLATILE ORGANICS

1,2-Dichloropropane	1,3-Dichlorobenzene	1,3-Dichloropropene - Total 1,3-Dichloropropylene	1,4-Dichlorobenzene	2-Chloroethylvinyl ether	Acrolein	Acrylonitrile	Benzene	Bromodichloromethane Dichlorobromomethane	Bromoform	Bromomethane Methylbromide	Carbon tetrachloride	Chlorobenzene
5	5	10	5	5	50	10	5	5	5	10	5	5
1.1	1.5	10	1.4	5	18	1.1	1.1	1.1	1.6	0.74	0.96	1.4
5	5	15	5	5	50	50	5	5	5	10	5	5
				5								
5	5	10	5	5	50	10	5	5	5	10	5	5
1.1	1.5	10	1.4	5	18	1.1	1.1	1.1	1.6	0.74	0.96	1.4
5	5	15	5	5	50	50	5	5	5	10	5	5
4.025	4.125	11.25	4.1	5	42	17.775	4.025	4.025	4.15	7.685	3.99	4.1
0.102	0.102	0.306	0.102	0.102	1.022	1.022	0.102	0.102	0.102	0.204	0.102	0.102
0.082	0.084	0.230	0.084	0.102	0.858	0.363	0.082	0.082	0.085	0.157	0.082	0.084
4	4	4	4	5	4	4	4	4	4	4	4	4

NORTHEAST PUBLIC SEWER DISTRICT

INTERIM SALINE CREEK REGIONAL WRRF
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EFFLUENT VOLATILE ORGANICS

Chloroethane	Chloroform	Chloromethane Methychloride	Dibromochloromethane Chlorodibromoethane	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene Trans 1, 2-Dichloroethyene	Trichloroethene Trichloroethylene	Vinyl chloride
10	5	10	5	5	5	5	5	10	5	5
0.91	1.1	0.72	1.4	1.3	3.4	1.6	1.3	1	1.1	0.86
10	5	10	5	5	5	5	5	20	5	5
10	5	10	5	5	5	5	5	10	5	5
0.91	1.1	0.72	1.4	1.3	3.4	1.6	1.3	1	1.1	0.86
10	5	10	5	5	5	5	5	20	5	5
7.7275	4.025	7.68	4.1	4.075	4.6	4.15	4.075	10.25	4.025	3.965
0.204	0.102	0.204	0.102	0.102	0.102	0.102	0.102	0.409	0.102	0.102
0.158	0.082	0.157	0.084	0.083	0.094	0.085	0.083	0.209	0.082	0.081
4	4	4	4	4	4	4	4	4	4	4