STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

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

Permit No.:	MO-0058629
Owner:	Little Blue Valley Sewer District, Middle Big Creek Subdistrict
Address:	21208 East Old Atherton Road, Independence, MO 64058
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Middle Big Creek Wastewater Treatment Facility
Facility Address:	1200 East State Route 58, Pleasant Hill, MO 64080
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.

November 1, 2021
Effective Date

October 1, 2023
Modification Date

March 31, 2026
Expiration Date

John Hoke, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Outfall #001 – POTW
The use or operation of this facility shall be by or under the supervision of a Certified "B" Operator.
Influent lift station / excess flow holding basin / manual bar screen / mechanical fine screen / vortex grit chamber / aeration basin / two final clarifiers / tertiary filters / UV disinfection / effluent reaeration / two sludge storage basins / sludge is hauled by contract hauler for final disposal at the Atherton WWTP / 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 22,500.
Design flow is 2.25 million gallons per day.
Actual flow is 2.66 gallons per day.
Design sludge production is 479 dry tons/year.

Legal Description:	Sec. 29, T46N, R30W, Cass County
UTM Coordinates:	X = 390338, Y = 4292741
Receiving Stream:	Tributary to Big Creek
First Classified Stream and ID:	Big Creek (P) (1250)
USGS Basin & Sub-watershed No.:	(10290108-0306)

Permitted Feature INF – Influent Monitoring Location

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

The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. The final effluent limitations in **Table A-1** shall become effective on **November 1, 2021** 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
Limit Set: M						
Flow	MGD	*		*	once/weekday***	24 hr. total
Biochemical Oxygen Demand$_5$	mg/L		15	10	once/week	composite**
Total Suspended Solids	mg/L		15	10	once/week	composite**
E. coli (**Note 1, Page 4**)	#/100mL		1,030	206	once/week	grab
Ammonia as N						
(January)	mg/L	29.5		5.4	once/month	composite**
(February)		29.5		5.4		
(March)		29.5		5.4		
(April)		29.0		4.5		
(May)		29.0		3.3		
(June)		29.0		1.1		
(July)		29.0		1.1		
(August)		29.0		1.1		
(September)		29.0		2.9		
(October)		29.5		4.4		
(November)		29.5		5.4		
(December)		29.5		5.4		
Total Phosphorus	mg/L	*		*	once/month	composite**
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	composite**
Nitrite + Nitrate	mg/L	*		*	once/month	composite**
EFFLUENT PARAMETER(S)	**UNITS**	**MINIMUM**		**MAXIMUM**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
pH – Units****	SU	6.0		9.0	once/week	grab
EFFLUENT PARAMETER(S)	**UNITS**	**DAILY MINIMUM**		**MONTHLY AVERAGE MINIMUM**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Dissolved Oxygen	mg/L	6.0		6.0	once/month	grab
EFFLUENT PARAMETER(S)			**UNITS**	**MONTHLY AVERAGE MINIMUM**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Biochemical Oxygen Demand$_5$ – Percent Removal (**Note 2, Page 4**)			%	85	once/month	calculated
Total Suspended Solids – Percent Removal (**Note 2, Page 4**)			%	85	once/month	calculated

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE DECEMBER 28, 2021. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

* 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.

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 – Calculate Percent Removal by using the following formula: [(Average Influent –Average Effluent) / Average Influent] x 100% = Percent Removal. Influent and effluent samples are to be taken during the same month. The Average Influent and Average Effluent values are to be calculated by adding the respective values together and dividing by the number of samples taken during the month.

OUTFALL #001	**TABLE A-2. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**					
The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. The final effluent limitations in **Table A-2** shall become effective on **November 1, 2021** 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**
Limit Set: Q						
Oil & Grease	mg/L	*		*	once/quarter***	grab
MONITORING REPORTS SHALL BE SUBMITTED **QUARTERLY**; THE FIRST REPORT IS DUE JANUARY 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.
*** See table below for quarterly sampling requirements.

Quarterly Minimum Sampling Requirements			
Quarter	**Months**	**Quarterly Effluent Parameters**	**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

OUTFALL #001	TABLE A-3. WHOLE EFFLUENT TOXICITY FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. The final effluent limitations in **Table A-3** shall become effective on **November 1, 2021** 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**
Limit Set: WA						
Acute Whole Effluent Toxicity (**Note 3**)	TU_a	*			once/year	composite**
ACUTE WET TEST MONITORING REPORTS SHALL BE SUBMITTED **ANNUALLY**; THE FIRST REPORT IS DUE SEPTEMBER 28, 2022.						
Limit Set: WC						
Chronic Whole Effluent Toxicity (**Note 4**)	TU_c	*			once/permit cycle	composite**
CHRONIC WET TEST REPORTS SHALL BE SUBMITTED **ONCE PER PERMIT CYCLE**; THE FIRST REPORT IS DUE SEPTEMBER 28, 2024.						

* 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 during the years 2021, 2022, 2023, and 2025. See Special Condition #17 for additional requirements.

Note 4 –The Chronic WET test shall be conducted once per permit cycle during the year 2024. An Acute WET test is not required during the year of the Chronic test. See Special Condition #18 for additional requirements.

PERMITTED FEATURE INF	TABLE B-1. INFLUENT MONITORING REQUIREMENTS					
The monitoring requirements in **Table B-1** shall become effective on **November 1, 2021** 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**
Limit Set: IM						
Biochemical Oxygen Demand$_5$ (**Note 5, Page 6**)	mg/L			*	once/week	composite**
Total Suspended Solids (**Note 5, Page 6**)	mg/L			*	once/week	composite**
Ammonia as N	mg/L	*		*	once/month	composite**
Total Phosphorus	mg/L	*		*	once/month	composite**
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	composite**
Nitrite + Nitrate	mg/L	*		*	once/month	composite**
MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE DECEMBER 28, 2021.						

* 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 5 – Influent sampling for BOD_5 and TSS are to be collected prior to any treatment process. 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.

C. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated August 1, 2014, May 1, 2013, and August 1, 2019, and hereby incorporated as though fully set forth herein.

D. SPECIAL CONDITIONS

1. Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit) shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data about the NPDES program.
   (a) eDMR Registration Requirements. The permittee must register with the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at https://dnr.mo.gov/mogem. Information about the eDMR system can be found at https://dnr.mo.gov/env/wpp/edmr.htm. The first user shall register as an Organization Official and the association to the facility must be approved by the Department. Regarding Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department. See paragraph (c) below.
   (b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://apps5.mo.gov/mogems/welcome.action. If you experience difficulties with using the eDMR system you may contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082 for assistance.
   (c) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. 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. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days.

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

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

4. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(2)(B) within the timeframe allotted by the continuing authority with its notice of its availability. The permittee shall obtain Department approval for closure according to section 10 CSR 20-6.010(12) or alternate use of these facilities.

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

D. SPECIAL CONDITIONS (continued)

6. 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 a parameter is not detected above ML, the permittee must report the data qualifier signifying less than ML for that parameter (e.g., < 50 µg/L, if the ML for the parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of "0" for all non-detects for that reporting period and report the average of all the results.

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

8. 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. Upon approval of the request, the Department will modify the permit. The facility is approved for the following modified operational control monitoring frequencies:
   (a) Settleability analyses of the mixed liquor shall be performed weekly.

9. The permittee shall develop and implement a program for maintenance and repair of its collection system. The permittee may compare collection system performance results and other data with the benchmarks used in the Departments' Capacity, Management, Operation, And Maintenance (CMOM) Model located at http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc. Additional information regarding the Departments' CMOM Model is available at http://dnr.mo.gov/pubs/pub2574.htm.

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

10. 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 Kansas City Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: https://dnr.mo.gov/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.

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

12. 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.

D. SPECIAL CONDITIONS (continued)

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

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

15. The storage basin shall be operated and maintained to ensure their structural integrity, which includes maintaining adequate freeboard and keeping the berms free of deep-rooted vegetation, animal dens, or other potential sources of damage.

16. The facility shall ensure that adequate provisions are provided to prevent or minimize surface water intrusion into the storage basin and to divert stormwater runoff around the storage basin and protect embankments from erosion.

17. Acute Whole Effluent Toxicity (WET) tests shall be conducted as follows:
    (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the acute toxicity of NPDES effluents are found in the most recent edition of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012; Table IA, 40 CFR Part 136). The permittee shall concurrently conduct 48-hour, static, non-renewal toxicity tests with the following species:
        i. The fathead minnow, *Pimephales promelas* (Acute Toxicity EPA Test Method 2000.0).
        ii. The daphnid, *Ceriodaphnia dubia* (Acute Toxicity EPA Test Method 2002.0).
    (b) Chemical and physical analysis of the upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
    (c) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
    (d) The laboratory shall not chemically dechlorinate the sample.
    (e) The Allowable Effluent Concentration (AEC) is 100%; the dilution series is: 6.25%, 12.5%, 25%, 50%, and 100%.
    (f) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
    (g) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of acute toxic units ($TU_a = 100/LC_{50}$) reported according to the test methods manual chapter on report preparation and test review. The Lethal Concentration 50 Percent (LC_{50}) is the effluent concentration that would cause death in 50 percent of the test organisms at a specific time.

18. 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:
        i. The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
        ii. 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 laboratory shall not chemically dechlorinate the sample.
    (e) The Allowable Effluent Concentration (AEC) is 100%, the dilution series is: 100%, 50%, 25%, 12.5%, and 6.25%.
    (f) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
    (g) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of 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.

D. SPECIAL CONDITIONS (continued)

19. Expanded Effluent Testing
Permittee must sample and analyze for the pollutants listed in Form B2 – Application for Operating Permit for Facilities That Receive Primarily Domestic Waste And Have A Design Flow More Than 100,000 Gallons Per Day (MO-780-1805 dated 02-19), Part D – Expanded Effluent Testing Data, #18. The permittee shall provide this data with the permit renewal application. A minimum of three samples taken within four and one-half years prior to the date of the permit application must be provided. Samples must be representative of the seasonal variation in the discharge from each outfall. Approved and sufficiently sensitive testing methods listed in 40 CFR 136.3 must be utilized. A method is "sufficiently sensitive" when; 1) The method minimum level is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter; or 2) the method minimum level is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or 3) the method has the lowest minimum level of the analytical methods approved under 40 CFR part 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established.

20. Pretreatment: The permittee shall follow the approved pretreatment program of the Little Blue Valley Sewer District in accordance with the requirements of 10 CSR 20-6.100. The reporting requirements for the Pretreatment Program can be found in the LBVSD, Atherton WWTP permit MO-0101087. The approved pretreatment program is hereby incorporated by reference.

E. NOTICE OF RIGHT TO APPEAL

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

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

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACTSHEET ADDENDUM
FOR PRETREATMENT PROGRAM MODIFICATION
MO-0058629
LBVSD, MIDDLE BIG CREEK WASTEWATER TREATMENT PLANT

This addendum gives pertinent information regarding minor/simple modification(s) to the above listed operating permit for a public comment process. An addendum is not an enforceable part of a Missouri State Operating Permit.

In accordance with the state Clean Water Law, Chapter 644, RSMo, and the Federal Clean Water Act, the Little Blue Valley Sewer District has an approved pretreatment program to meet the requirements of 40 CFR Part 403 and 10 CSR 20-6.100. The Department, as Approval Authority, reviewed the proposed program modifications and, by the issuance of this permit, grants its approval as required by 40 CFR 403.18 and 10 CSR 20-6.100.

Part I – Proposed Pretreatment Program Modification

☒ - The Department is required to Public Notice
The public notice of the Department of Natural Resources' intent to approve the Little Blue Valley Sewer District's pretreatment program modification has ended as of September 5, 2023. The pretreatment program is hereby approved pursuant to 40 CFR 403.18 (adopted in 10 CSR 20-6.100).

The district's modification to the Pretreatment Program includes a proposal that incorporates requirements of the EPA's Streamlining and Dental Amalgam Rules and includes updated forms and templates and Industrial Pretreatment Program staffing information. The revision removes the District's Local Limits table from the regulations and incorporates by reference standalone limit sets that have been included with this submission.

The district's modification also included "Little Blue Valley Sewer District regulation for use" modifications to communicate changes related to the program modifications. The district's Pretreatment Program changes were designated substantial modifications because the city modified its regulation to reflect local limit changes after conducting a detailed local limit analysis. These changes could have a significant impact on the operation of the program, pursuant to 40 CFR 403.18(b)(7).

Part II – Reason for the NPDES Permit Modification

In accordance with 40 CFR 403.18(e), "all modifications shall be incorporated into the POTW's NPDES permit upon approval. The permit will be modified to incorporate the approved modification in accordance with 40 CFR 122.63(g)." Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of part 124. Any permit modification not processed as a minor modification under this section must be made for cause, with part 124 draft permit, and public notice as required in § 122.62. Minor modifications include:

(g) Incorporate the conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR 403.18) as enforceable conditions of the POTW's permits.

Date of addendum: September 28, 2023

Completed by:
Brad Allen, State Industrial Pretreatment Coordinator
Water Protection Program
573-522-3454
Pretreatment@dnr.mo.gov

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0058629
LBVSD, MIDDLE BIG CREEK WASTEWATER TREATMENT PLANT

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

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

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

Part I – Facility Information

Application Date: 10/02/20
Expiration Date: 03/31/21

Facility Type and Description: POTW
Influent lift station / excess flow holding basin / manual bar screen / mechanical fine screen / vortex grit chamber / aeration basin / two final clarifiers / tertiary filters / UV disinfection / effluent reaeration / two sludge storage basins / sludge is hauled by contract hauler for final disposal at the Atherton WWTP

The interceptor sewer system tributary to Middle Big Creek (MBC) Plant includes pumping/force main systems which can send a portion of the flows to either the District's Atherton Plant or Middle Big Creek Plant. Flow measurement and flow control devices allow the Middle Big Creek Sewer Subdistrict operators to manage the amount of flow going to each treatment plant, thereby enabling maximum utilization of Middle Big Creek's capacity.

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	3.488	Secondary	Domestic

Comments:
Changes in this permit for Outfall #001 include the following:
- monthly average ammonia limits for June, July, and August, and DO limits derived from an Antidegradation Review completed prior to this facility's expansion in 2013 (Daily maximum ammonia limits for June, July, and August, and ammonia limits for all other months were derived following the Department's *Total Ammonia Nitrogen Criteria Implementation Guidance*)
- weekly influent monitoring for BOD and TSS in order to conduct percent removal efficiency calculations
- monthly influent and effluent monitoring for nutrients
- monitoring only for oil & grease instead of limits
- a modified operational control testing frequency for mixed liquor settleability of weekly instead of daily; and
- a pH limit of 6.0-9.0 SU instead of 6.5-9.0 SU.

See Part II of the Fact Sheet for further information regarding the addition, revision, and removal of effluent parameters.

Since 2015 LBVSD has accepted leachate from a closed landfill. The Lee's Summit Landfill has a direct sewer connection to the Lee's Summit sewer system whose flow eventually reaches the Raintree Pumping Station. Here, Lee's Summit flow is either pumped

to the north and into the interceptor serving the Atherton WWTP, or gravity fed to the MBC WWTP, or the flow is split between the two. Based on monitoring conducted by LBVSD of the landfill leachate and of MBC's effluent at times when leachate was being accepted at the plant, the leachate does not have potential to cause MBC's effluent to violate water quality standards.

Part II – Effluent Limitations and Monitoring Requirements

OUTFALL #001 – MAIN FACILITY OUTFALL

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

OUTFALL #001 - RECEIVING STREAM INFORMATION

RECEIVING STREAM(S) TABLE:

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Tributary to Big Creek	NA	NA	General Criteria	10290108-0306	0.74
Big Creek	P	1250	AQL-WWH, HHP, IRR, LWW, SCR, WBC-B		

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

Uses found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.:
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	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Tributary to Big Creek	0	0	0

MIXING CONSIDERATIONS
Mixing Zone: Not Allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)].
Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

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

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

- ✓ This facility discharges to a tributary which flows 0.73 miles to Big Creek (P) (1250). Big Creek has a 2006 TMDL for sediment. The source of impairment is agricultural nonpoint sources. The TMDL states that point sources do not contribute to water quality impairment relative to sediment impacts on stream biology; therefore, WLAs are set at current permit limits and conditions.

CHANGES TO EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ***
Ammonia as N (January) (February) (March) (April) (May) (June) (July) (August) (September) (October) (November) (December)	mg/L	2, 3	 29.5 29.5 29.5 29.0 29.0 29.0 29.0 29.0 29.0 29.5 29.5 29.5		 5.4 5.4 5.4 4.5 3.3 1.1 1.1 1.1 2.9 4.4 5.4 5.4	Apr – Sep: 5.8/1.2 Oct - Mar: 12.0/2.6	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	µg/L	1, 3	*		*	15/10	1/quarter	quarterly	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	weekly	G
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Avg. Min	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
Dissolved Oxygen (DO)	mg/L	4	6.0		6.0	***	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
10. Multiple Discharger Variance
11. Nutrient Criteria Implementation Plan

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

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

- **Biochemical Oxygen Demand (BOD_5)**. Operating permit retains 15 mg/L as a Weekly Average and 10 mg/L as a Monthly Average. Please see the attached Antidegradation Review Sheet.

- **Total Suspended Solids (TSS)**. Operating permit retains 15 mg/L as a Weekly Average and 10 mg/L as a Monthly Average. Please see the attached Antidegradation Review Sheet.

- **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. No mixing considerations allowed; therefore, WLA = appropriate criterion.

  The Department previously followed the 2007 Ammonia Guidance method for derivation of ammonia limits. However, the EPA's Technical Support Document for Water Quality-based Toxic Controls (TSD) establishes other alternatives to limit derivation. The Department has determined that the approach established in Section 5.4.2 of the TSD, which allows for direct application of both the acute and chronic wasteload allocations (WLA) as permit limits for toxic pollutants, is more appropriate limit derivation approach. Using this method for a discharge to a waterbody where mixing is not allowed, the criterion continuous concentration (CCC) and the criterion maximum concentration (CMC) will equal the chronic and acute WLA respectively. The WLAs are then applied as effluent limits, per Section 5.4.2 of the TSD, where the CMC is the Daily Maximum and the CCC is the Monthly Average. The direct application of both acute and chronic criteria as WLA is also applicable for facilities that discharge into receiving waterbodies with mixing considerations. The CCC and CMC will need to be calculated into WLA with mixing considerations (if present) using the mass-balance equation:

$$Ce = \frac{(Qe + Qs)C - (Qs \times Cs)}{(Qe)}$$

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

In the event that mixing considerations derive an AML less stringent than the MDL, the AML and MDL will be equal and based on the MDL.

Month	Temp (˚C)*	pH (SU)**	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
January	2.8	7.2	5.4	29.5
February	4.0	7.2	5.4	29.5
March	10.6	7.2	5.4	29.5
April	17.0	7.2	4.5	29.0
May	22.0	7.2	3.3	29.0
June	26.0	7.2	1.1***	29.0
July	28.9	7.2	1.1***	29.0
August	28.0	7.2	1.1***	29.0
September	24.1	7.2	2.9	29.0
October	17.5	7.2	4.4	29.5
November	11.6	7.2	5.4	29.5
December	4.9	7.2	5.4	29.5

* 75th percentile of Temperature from Ecoregion data (Central Irregular Plains)
** Median, seasonal (Apr - Sep & Oct - Mar) pH of site-specific data from LBVSD, Middle Big Creek WWTP's effluent.
*** CCC is set equal to the WLA of 1.1 mg/L for the critical months of June, July, and August to reflect the steady-state assumptions of the DO model performed at the time of Antidegradation Review to maintain a DO level above 5.0 mg/l in the receiving stream. Please see the attached Antidegradation Review Sheet.

January
CCC = Chronic WLA = AML = 5.4 mg/L
CMC = Acute WLA = MDL = 29.5 mg/L

February
CCC = Chronic WLA = AML = 5.4 mg/L
CMC = Acute WLA = MDL = 29.5 mg/L

March
CCC = Chronic WLA = AML = 5.4 mg/L
CMC = Acute WLA = MDL = 29.5 mg/L

April
CCC = Chronic WLA = AML = 4.5 mg/L
CMC = Acute WLA = MDL = 29.0 mg/L

May
CCC = Chronic WLA = AML = 3.3 mg/L
CMC = Acute WLA = MDL = 29.0 mg/L

June
CCC = Chronic WLA = AML = 1.1 mg/L
CMC = Acute WLA = MDL = 29.0 mg/L

July
CCC = Chronic WLA = AML = 1.1 mg/L
CMC = Acute WLA = MDL = 29.0 mg/L

August
CCC = Chronic WLA = AML = 1.1 mg/L
CMC = Acute WLA = MDL = 29.0 mg/L

September
CCC = Chronic WLA = AML = 2.9 mg/L
CMC = Acute WLA = MDL = 29.0 mg/L

October
CCC = Chronic WLA = AML = 4.4 mg/L
CMC = Acute WLA = MDL = 29.5 mg/L

November
CCC = Chronic WLA = AML = 5.4 mg/L
CMC = Acute WLA = MDL = 29.5 mg/L

December
CCC = Chronic WLA = AML = 3.7 mg/L
CMC = Acute WLA = MDL = 28.0 mg/L

- **Dissolved Oxygen**. 6.0 mg/L daily minimum and 6.0 mg/L monthly average minimum. Please see the attached Antidegradation Review Sheet.

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

- **Oil & Grease**. Conventional pollutant, monitoring requirements have been included in this permit to determine if the discharge has the reasonable potential to cause or contribute to an excursion of the narrative criterion that waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.

- **Total Phosphorus and Total Nitrogen (Speciated)**. Effluent monitoring for Total Phosphorus, Total Kjeldahl Nitrogen, and Nitrite + Nitrate are required per 10 CSR 20-7.015(9)(D)8.

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

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

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

Whole Effluent Toxicity

- **Acute Whole Effluent Toxicity**. Monitoring requirement only. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards.

  - ✓ Acute Allowable Effluent Concentrations (AECs) for facilities that discharge to Class C streams are 100%, 50%, 25%, 12.5%, & 6.25%.

- **Chronic Whole Effluent Toxicity**. Monitoring requirement only. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards.

  - Chronic Allowable Effluent Concentrations (AECs) for facilities that discharge to Class C streams are 100%, 50%, 25%, 12.5%, & 6.25%.

Sampling Frequency Justification: The Department has determined that previously established sampling and reporting frequency is sufficient to characterize the facility's effluent and be protective of water quality. Weekly sampling is required for *E. coli*, per 10 CSR 20-7.015(9)(D)7.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 continuously or routinely exceeds their design flow.
- Facility exceeds its design population equivalent (PE) for BOD_5 whether or not its design flow is being exceeded.
- 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. These minimum testing frequencies may be increased based on toxic parameters present in a facility's in the effluent, demonstrated toxicity in previous WET tests, or based on impacts to the receiving stream.

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

PERMITTED FEATURE INF – INFLUENT MONITORING

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

CHANGES TO INFLUENT MONITORING:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ***
BOD_5	mg/L	1			*	**	1/week	weekly	C
TSS	mg/L	1			*	**	1/week	weekly	C
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.
** - Parameter not previously established in previous state operating permit.
*** - C = 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
10. Multiple Discharger Variance
11. Nutrient Criteria Implementation Plan

Influent Parameters

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

- **Total Phosphorus, Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia**. Influent monitoring for Total Phosphorus, Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia required per 10 CSR 20-7.015(9)(D)8.

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

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

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

(A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses. The discharge from this facility is made up of treated domestic wastewater. 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 effluent limitations that are more stringent than the secondary treatment technology based effluent limits established in 40 CFR 133 and there has been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of this discharge. Based on the information reviewed during the drafting of this permit, these final effluent limitations appear to have protected against the excursion of this criterion in the past. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.
(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. This permit contains final effluent limitations which are protective of both acute and chronic toxicity for various pollutants that are either expected to be discharged by domestic wastewater facilities or that were disclosed by this facility on the application for permit coverage. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations established in this permit, there is no reasonable potential for the discharge to cause an excursion of this criterion.
(E) Waters shall provide for the attainment and maintenance of water quality standards downstream including waters of another state. Please see (D) above as justification is the same.
(F) There shall be no significant human health hazard from incidental contact with the water. Please see (D) above as justification is the same.
(G) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) above as justification is the same.
(H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.
(I) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

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

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

- ✓ The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)], 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 as N**. Effluent limitations were re-calculated for Ammonia. The Department previously followed the 2007 Ammonia Guidance method for derivation of ammonia limits. However, the EPA's Technical Support Document for Water Quality-based Toxic Controls (TSD) establishes other alternatives to limit derivation. The Department has determined that the approach established in Section 5.4.2 of the TSD, which allows for direct application of both the acute and chronic wasteload allocations (WLA) as permit limits for toxic pollutants, is more appropriate limit derivation approach. Using this method for a discharge to a waterbody where mixing is not allowed, the criterion continuous concentration (CCC) and the criterion maximum concentration (CMC) will equal the chronic and acute WLA respectively. The WLAs are then applied as effluent limits, per Section 5.4.2 of the TSD, where the CMC is the Daily Maximum and the CCC is the Monthly Average. The direct application of both acute and chronic criteria as WLA is also applicable for facilities that discharge into receiving waterbodies with mixing considerations. The CCC and CMC will need to be calculated into WLA with mixing considerations using the mass-balance equation. The newly established limitations are still protective of water quality.
    - **Oil and Grease**. The previous permit had final effluent limits of 15 mg/L as a daily maximum and 10 mg/L as a monthly average. During the drafting of this permit, the permit writer reviewed DMR data submitted by the permittee. Additionally, no evidence of an excursion of the water quality standard has been observed by the department in the past. As a result, monitoring requirements have been included in this permit to determine if the discharge has the reasonable potential to cause or contribute to an excursion of water quality criteria. Data will be reviewed at renewal to reassess this determination. The permit is still protective of water quality.
    - **pH**. The previous permit contained final effluent limits of 6.5-9.0 SU. During the drafting of this permit, the permit writer made a reasonable potential determination based on effluent data submitted to the department that the discharge will not cause or contribute to an excursion of the water quality standard for pH instream. As a result, final effluent limits of 6.0-9.0 SU as required by 10 CSR 20-7.015 are substituted for the pH water quality criteria of 6.5-9.0 SU. The permit remains protective of water quality and this determination will be reevaluated during the next permit renewal.
  - ✓ 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 http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm

- ✓ 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, when a higher level authority is available, must submit information to the Department for review and approval, provided it does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

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

- ✓ This permit does not authorize land application of biosolids. Sludge/biosolids are removed by contract hauler for disposal at the LBVSD, Atherton WWTP.

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

Facility Performance History:

- ✓ The facility is not currently under Water Protection Program enforcement action. This facility has not been inspected recently.

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

Operational Monitoring Lagoon: http://dnr.mo.gov/forms/780-2801-f.pdf
Operational Monitoring Mechanical: http://dnr.mo.gov/forms/780-2800-f.pdf
I&I Report: http://dnr.mo.gov/forms/780-2690-f.pdf

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: http://dnr.mo.gov/forms/780-2692-f.pdf. Each facility must make a request. If a single entity owns or operates more than one facility, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

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

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

NUMERIC LAKE NUTRIENT CRITERIA

✓ This facility discharges into a lake watershed (Harry S. Truman Lake) where numeric lake nutrient criteria are applicable, per 10 CSR 20-7.031(5)(N), and has a design flow greater than 0.1 MGD. Should the lake within this watershed be identified as impaired due to nutrient loading, the Department will conduct watershed modeling to determine if this facility has reasonable potential to cause or contribute to the impairment. Consequently, effluent limitations may be established at a later date based on the modeling results. For more information, please see the Department's Nutrient Criteria Implementation Plan at: https://dnr.mo.gov/env/wpp/rules/documents/nutrient-implementation-plan-final-072618.pdf See **Part VI. Effluent Limits Determination**, below for more information.

OPERATOR CERTIFICATION REQUIREMENTS

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

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

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

Operator's Name:	Barry Parks
Certification Number:	9412
Certification Level:	WW-A

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

OPERATIONAL CONTROL TESTING

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

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

✓ As per [10 CSR 20-9.010(4))], the facility is required to conduct operational monitoring. These operational monitoring reports are to be submitted to the Department along with the MSOP discharge monitoring reports.

  ✓ The Department has approved alternative monitoring frequencies to the Operational Monitoring testing requirements in 10 CSR 20-9.010(5)(B) for the facility:

Operational Monitoring Parameter	Frequency
Precipitation	Daily (M-F)
Flow – Influent or Effluent	Daily (M-F)
pH – Influent	Daily (M-F)
Temperature (Aeration basin)	Daily (M-F)
TSS – Influent	Weekly
TSS – Mixed Liquor	Weekly
Settleability – Mixed Liquor	Weekly
Dissolved Oxygen – Mixed Liquor	Daily (M-F)

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 http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc. For additional information regarding the Departments' CMOM Model, see the CMOM Plan Model Guidance document at http://dnr.mo.gov/pubs/pub2574.htm. 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), 10 CSR 20-7.031(11), and 10 CSR 20-7.015(9), 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 that may result in site-specific criteria or alternative effluent limits. 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.

✓ This permit does not contain an SOC.

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 http://dnr.mo.gov/env/wpp/permits/sewer-extension.htm.

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

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 June 2015], 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 (http://dnr.mo.gov/env/wpp/docs/AIP050212.pdf).

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: http://dnr.mo.gov/forms/index.html.

✓ 10 CSR 20-6.200 and 40 CFR 122.26(b)(14)(ix) 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 (http://dnr.mo.gov/forms/780-1805-f.pdf) 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/forms/780-2828-f.pdf) 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.

The Little Blue Valley Sewer District submitted a No Exposure Certification for Exclusion from NPDES Stormwater Permitting, which was approved by the Department on March 23, 2021. This exclusion 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.

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

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

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

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

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

✓ This facility does not anticipate bypassing.

Part IV – Cost Analysis for Compliance

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

- ✓ The Department is required to make a "finding of affordability" on the new environmental requirement(s) within the permit. However, the facility chose to waive the finding of affordability requirement; therefore, no Cost Analysis for Compliance was conducted.

Part V – Administrative Requirements

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

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

- ✓ While this permit does not establish final effluent limitations for nutrients, the increased monitoring of nutrients is the primary step in the implementation of the new numeric lake nutrient criteria. Nutrient criteria for lakes are environmentally necessary to ensure the beneficial uses of lakes (water supply, recreation in and on the water, and human health) are guarded from the effects of eutrophication and subsequent algal blooms.

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.

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 July 30, 2021 to August 30, 2021. No comments were received.

DATE OF FACT SHEET: APRIL 8, 2021

COMPLETED BY:

SAM BUCKLER, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(573) 526-0827
sam.buckler@dnr.mo.gov

Appendices

APPENDIX - CLASSIFICATION WORKSHEET:

Item	Points Possible	Points Assigned
Maximum Population Equivalent (P.E.) served , peak day	1 pt./10,000 PE or major fraction thereof. (Max 10 pts.)	2
Design Flow (avg. day) or peak month's flow (avg. day) whichever is larger	1 pt. / MGD or major fraction thereof. (Max 10 pts.)	2
Effluent Discharge		
Missouri or Mississippi River	0	
All other stream discharges except to losing streams and stream reaches supporting whole body contact recreation	1	
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	3
Direct reuse or recycle of effluent	6	
Land Application/Irrigation		
Drip Irrigation	3	
Land application/irrigation	5	
Overland flow	4	
Variation in Raw Wastes (highest level only)		
Variations do not exceed those normally or typically expected	0	
Reoccurring deviations or excessive variations of 100 to 200 percent in strength and/or flow	2	
Reoccurring deviations or excessive variations of more than 200 percent in strength and/or flow	4	4
Department-approved pretreatment program	6	
Preliminary Treatment		
STEP systems (operated by the permittee)	3	
Screening and/or comminution	3	3
Grit removal	3	3
Plant pumping of main flow	3	3
Flow equalization	5	
Primary Treatment		
Primary clarifiers	5	
Chemical addition (except chlorine, enzymes)	4	
Secondary Treatment		
Trickling filter and other fixed film media with or without secondary clarifiers	10	
Activated sludge (including aeration, oxidation ditches, sequencing batch reactors, membrane bioreactors, and contact stabilization)	15	15
Stabilization ponds without aeration	5	
Aerated lagoon	8	
Advanced Lagoon Treatment – Aerobic cells, anaerobic cells, covers, or fixed film	10	
Biological, physical, or chemical	12	
Carbon regeneration	4	
Total from page **ONE (1)**	----	35

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Solids Handling		
Sludge Holding	5	5
Anaerobic digestion	10	
Aerobic digestion	6	
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	
Disinfection		
Chlorination or comparable	5	
On-site generation of disinfectant (except UV light)	5	
Dechlorination	2	
UV light	4	4
Required Laboratory Control Performed by Plant Personnel (highest level only)		
Lab work done outside the plant	0	
Push – button or visual methods for simple test such as pH, settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	
More advanced determinations, such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	7
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
Total from page **TWO (2)**	----	16
Total from page **ONE (1)**	---	35
Grand Total	---	51

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

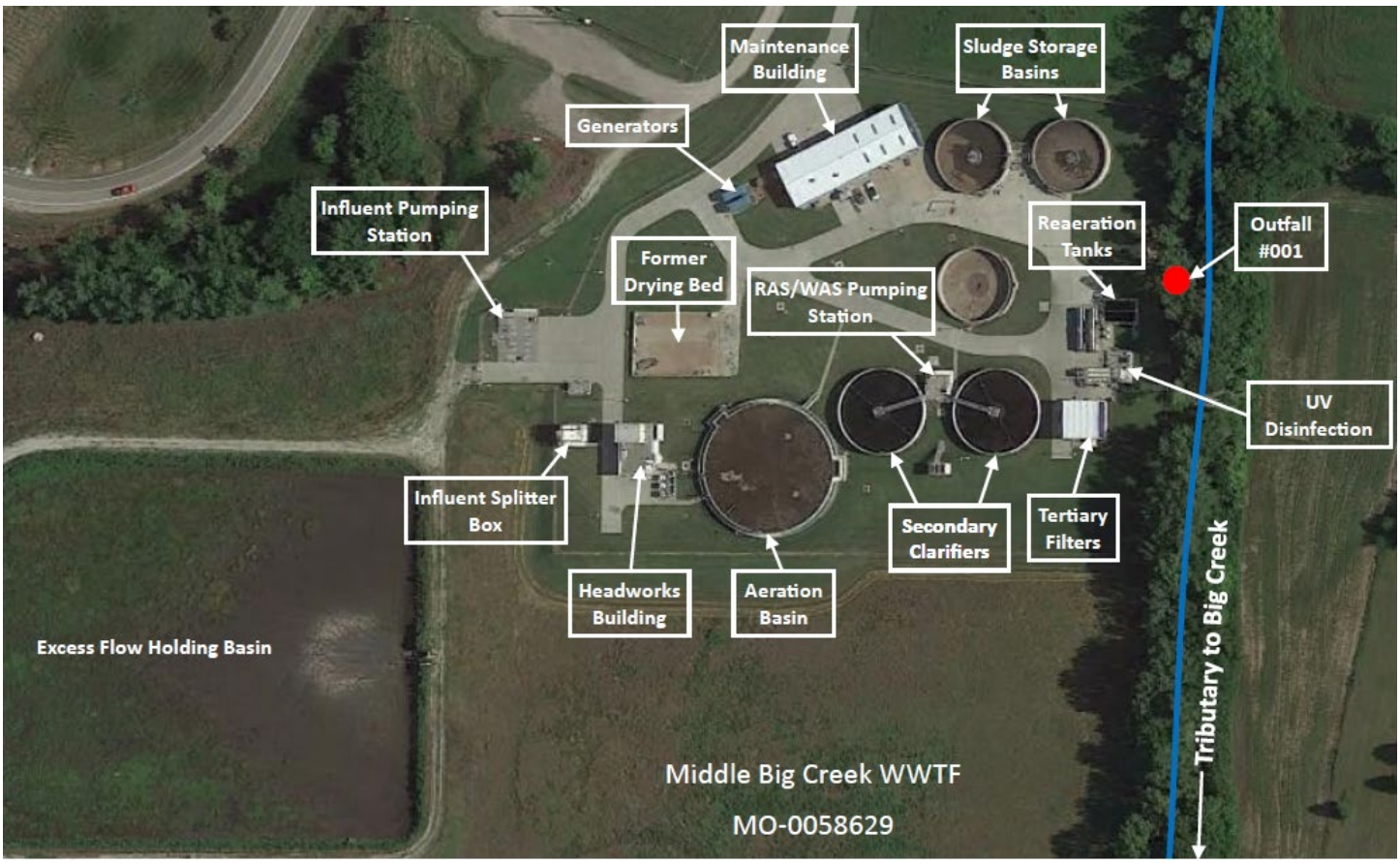
APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Ammonia as N – Summer (mg/L)	29.0	7.80	2.3	7.80	30.00	1.66/0.001	1.89	4.70	YES
Ammonia as N – Winter (mg/L)	29.5	15.75	5.4	15.75	31.00	2.9/0.005	2.35	5.43	YES

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:



APPENDIX – ANTIDEGRADATION ANALYSIS:

Missouri Department of Natural Resources
Water Protection Program
Water Pollution Control Branch
NPDES Permits and Engineering Section

Water Quality and Antidegradation Review

For the Protection of Water Quality
and Determination of Effluent Limits for Discharge to the
Unnamed Tributary of Big Creek
by

LBVSD, Middle Big Creek Wastewater Treatment Facility

September 2010

Table of Contents

1. Facility Information

FACILITY NAME: LBVSD, Middle Big Creek NPDES #: MO-0058629

FACILITY TYPE/DESCRIPTION: Activated sludge facility with peak flow holding basin, secondary clarification, tertiary filtration, ultraviolet disinfection, and a post aeration basin. Proposed facility upgrade and expansion to 2.25 MGD.

EDU:	Central Plains/Osage/South Grand	ECOREGION:	Plains
8-DIGIT HUC:	10290108	COUNTY:	Cass
LEGAL DESCRIPTION:	NE, NW, Sec. 29, T46N, R30W	UTM COORDINATES:	X: 390338 Y: 4292741

2. Water Quality Information

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the Missouri Department of Natural Resources (MDNR) developed a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body's available assimilative capacity is justified. Effective August 30, 2008, a facility is required to use *Missouri's Antidegradation Rule and Implementation Procedure (AIP)* for new and expanded wastewater discharges.

2.1 WATER QUALITY HISTORY:

In compliance with existing effluent limitations; one exceedance of each Oil and Grease, and ammonia as nitrogen monthly average effluent limits during current permit cycle. No recent stream surveys have been conducted for this facility.

3. Outfall Characteristics

OUTFALL	DESIGN FLOW (CFS)	TREATMENT TYPE	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT
001	3.48	Advanced	Unnamed Tributary to Big Creek	0.5

4. Receiving Waterbody Information

WATERBODY	CLASS	WBID	1Q10 (CFS)	7Q10 (CFS)	30Q10 (CFS)	*DESIGNATED USES
Unnamed Tributary to Big Creek	U	----	0.0	0.0	0.0	General Criteria
Big Creek	P	1250	0.1	0.1	1.0	LWW, AQL, WBC(B)

*Cool Water Fishery (CLF), Cold Water Fishery (CDF), Irrigation (IRR), Industrial (IND), Boating & Canoeing (BTG), Drinking Water Supply (DWS), Whole Body Contact Recreation (WBC), Protection of Warm water Aquatic Life and Human Health (AQL), Livestock & Wildlife Watering (LWW)

RECEIVING WATER BODY SEGMENT #1: Unclassified tributary to Big Creek
Upper end segment* UTM or Lat/Long coordinates: 38.46357/ - 94.15448 (Outfall)
Lower end segment* UTM or Lat/Long coordinates: 38.46088/ - 94.15458 (Confluence with Big Creek)

RECEIVING WATER BODY SEGMENT #2: Big Creek
Upper end segment* UTM or Lat/Long coordinates: 38.46088/ - 94.15458 (End of Segment #1)
Lower end segment* UTM or Lat/Long coordinates: 38.41036/ - 94.08489 (Confluence with Crawford Creek)

*Segment is the portion of the stream where discharge occurs. Segment is used to track changes in assimilative capacity and is bound at a minimum by existing sources and confluences with other significant water bodies.

5. General Comments

Geosyntec consultants prepared, on behalf of Little Blue Valley Sewer District (LBVSD), the *Middle Big Creek Antidegradation Review (MBCAR)* Report dated December 2008. No Geohydrological Evaluation was submitted with the request (Appendix A: Map). A Tier Analysis was submitted by the applicant. Dissolved oxygen modeling analysis was submitted for review (See Appendix B). This proposed expansion of the Pleasant Hill WWTP (0.73 MGD) to Little Blue Valley Sewer District, Middle Big Creek WWTF (2.25 MGD) is assumed to result in significant degradation for all pollutants of concern (POCs) in both the unclassified tributary of Big Creek and Big Creek with the exception that Total Suspended Solids is Tier 1 in Big Creek. Big Creek was on the 2002 303(d) list for sediment from agricultural non-point sources. A Big Creek Total Maximum Daily Load (TMDL) for sediment was established in September 2006 limiting the loading to the stream from point source discharges. Discharge from this facility is not expected to increase loading.

Staff from the Water Quality Standards and Assessment Section reviewed the draft TSS limits with regard to the TMDL (See Appendix F). The concentration limits for Total Suspended Solids (TSS) (10 mg/L average monthly limit and 15 mg/L maximum daily limit) are appropriate for Phase I (Design Flow = 2.25 MGD) and Phase II (Design Flow = 4.5 MGD) of the facility expansion. However, modifications to the TSS mass loading limits are recommended to reflect design flows for each phase of the facility expansion. Because the Big Creek TMDL states that, "point sources do not contribute to water quality impairment relative to sediment impacts on stream biology," staff concludes this modification will not cause or contribute to exceedances of the approved sediment TMDL.

The original Water Quality and Antidegradation Review, dated April 2009, is revised as noted below for Total Ammonia Nitrogen, pH, and E. Coli. A February 19, 2010 letter was submitted requesting changes for Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Ammonia Nitrogen, and Dissolved Oxygen. This addendum does not change the expected cost of the facility or the alternative facilities. The BOD and TSS daily maximum limits in the antidegradation review will be changed to weekly average limits. Seasonal limits for Total Ammonia Nitrogen will be added. Changes were made to pH and Bacteria (Fecal Coliform to E. Coli) due to changes in the regulations. Following discussions with Geosyntec, the request for seasonal dissolved oxygen limits was dropped.

The effluent limits in this review were developed to be protective of beneficial uses and to retain the remaining assimilative capacity. MDNR has determined that the submitted report is sufficient and meets the requirement of the AIP. Information found in the submitted report and in the summary forms provided by the applicant in Appendix C was used to develop this review document. A Missouri Department of Conservation Natural Heritage Review was obtained by the applicant; and no endangered species were found to be impacted by the discharge.

6. Antidegradation Review Information

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the department was to develop a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body's available assimilative capacity is justified. Effective August 30, 2008, a facility is required to use *Missouri's Antidegradation Rule and Implementation Procedure (AIP)*. This procedure is applicable to new and expanded wastewater facilities. The following is a review of the *MBCAR* Report.

6.1 Tier Determination

Below is a list of pollutants of concern reasonably expected to be in the discharge (see Appendix C: Tier Determination and Effluent Limit Summary). Pollutants of concern are defined as those pollutants "proposed for discharge that affects beneficial use(s) in waters of the state. POCs include pollutants that create conditions unfavorable to beneficial uses in the water body receiving the discharge or proposed to receive the discharge." (AIP, Page 7).

Table 1. Pollutants of Concern and Tier Determination

Pollutants of Concern	Tier	Degradation	Comment
Ammonia as Nitrogen	2	Significant	
Biochemical Oxygen Demand	2	Significant	*
Dissolved Oxygen	2	Significant	
Bacteria (E. Coli & Fecal Coliform)	2	Significant	
Oil and Grease	2	Significant	
pH	2	Significant	**
Total Suspended Solids (in unclassified tributary)	2	Significant	*
Total Suspended Solids (in Big Creek)	1		

* No in-stream standards for these parameters, therefore tier determination was not possible.
** Standards for these parameters are ranges and therefore tier determination was not possible.

The following Antidegradation Review Summary attachments in Appendix C were used by the applicant:

☒ Tier Determination and Effluent Summary
For pollutants of concern, the attachments are:
☒ Attachment A, Tier 2 with significant degradation.
☐ Attachment B, Tier 2 with minimal degradation.
☒ Attachment D, Tier 1 Review. Additionally, a Tier 2 review must be conducted for each pollutant of concern on the appropriate water body segment

6.2 Existing Water Quality

No existing water quality data was submitted. Big Creek is on the 2002 303(d) list for sediment and Total Suspended Solids was addressed in the updated *Big Creek Sediment Impact Evaluation for the Proposed Expansion of the Pleasant Hill Wastewater Treatment Facility* (December 2008).

6.3 Assimilative Capacity Calculations

This antidegradation review assumed significant degradation for all Pollutants of Concern with the exception that Total Suspended Solids is Tier 1 in Big Creek, so there is no need to calculate the assimilative capacity for this review. In the updated *Big Creek Sediment Impact Evaluation for the Proposed Expansion of the Pleasant Hill Wastewater Treatment Facility* (December 2008), it was noted that the proposed TSS concentration limits for the expanded facility (10 mg/L Average Monthly Limit, 15 mg/L Maximum Daily Limit) are significantly lower than the 25th percentile of TSS condition targeted by the TMDL. Concentration and load limits for TSS at these levels should be protective of water quality in Big Creek.

6.4 Alternative Analysis

The *MBCAR* Report (pages 13-18 – See Appendix D) included an analysis of ten alternatives ranging from non-degrading to less degrading to the degrading alternative (base case alternative). The non-degrading alternatives of effluent irrigation, subsurface irrigation, recycling or reuse, pumping option, improved operation and maintenance, alternative discharge location, and seasonal or controlled discharges were each determined to be not practicable. The less degrading alternatives of Membrane Bioreactor and Reverse Osmosis were considered practicable, but not economically efficient as the present worth costs were estimated at 134 and 162 percent of the base case. Cost estimate summaries for capital cost, replacement cost, and operation and maintenance cost are provided in Appendix – G of the *MBCAR* Report. Additionally according to the report, there were some practicability concerns about these less degrading alternatives as they are emerging technologies, staff does not have experience, would be the largest facility of that technology in the state, etc.

6.5 Demonstration of Necessity and Social and Economic Importance

This antidegradation review assumed significant degradation for all Pollutants of Concern with the exception that Total Suspended Solids is Tier 1 in Big Creek, so there is a demonstration of necessity (i.e., alternatives analysis) and a determination of social and economic importance was included in the *MBCAR* Report (pages 19-23 – See Appendix E). This expansion will provide the wastewater service to allow for economic growth for the affected community, which is the Middle Big Creek Sewer District communities of Greenwood, Lake Winnebago, Raymore, Lee's Summit, Mullendike, Dikeland, and Pleasant Hill. The expected commercial, industrial, and residential growth of 4% will increase the tax base. Loading concentrations from the proposed facility will be less than current concentrations from the existing facility for all POCs.

6.6 Preliminary Determination

The proposed expansion of the Pleasant Hill WWTP (0.73 MGD) to Little Blue Valley Sewer District, Middle Big Creek WWTF (2.25 MGD) is assumed to result in significant degradation for all POCs in both the unclassified tributary of Big Creek and Big Creek with the exception that Total Suspended Solids is Tier 1 in Big Creek. The effluent limits in this review were developed to be protective of beneficial uses and to retain the remaining assimilative capacity. MDNR has determined that the submitted report is sufficient and meets the requirement of the AIP. No further analysis is needed for this discharge.

7. General Assumptions of the Water Quality and Antidegradation Review

1. A Water Quality and Antidegradation Review (WQAR) assumes that [10 CSR 20-6.010(3) Continuing Authorities] has been or will be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQAR does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQAR may alter Water Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or Effluent Limit Guidelines (ELG).
5. WQBEL supercede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
6. A WQAR does not allow discharges to waters of the state, and shall not be construed as a National Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
7. Limitations and other requirements in a WQAR may change as Water Quality Standards, Methodology, and Implementation procedures change.
8. Nothing in this WQAR removes any obligations to comply with county or other local ordinances or restrictions.

8. Mixing Considerations

Mixing Zone (MZ): Not allowed, 7Q10 less than 0.1 cfs [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

Zone of Initial Dilution (ZID): Not allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

$$A.E.C.\% = \left(\frac{DesignFlow + ZIDFlow}{DesignFlow}\right)^{-1} \times 100$$

9. Permit Limits and Information

TMDL Watershed: (Y or N)	Y	W.L.A. Study Conducted: (Y or N)	Y	Disinfection Required: (Y or N)	Y	Use Attainability Analysis: (Y or N)	N

9.1 Outfall #001– Main Facility Outfall

Wet Test (Y or N): Y Frequency: once/year A.E.C. 100 % Method: Multiple

Parameter	Units	Daily Maximum	Weekly Average	Monthly Average	Monitoring Frequency
Flow	MGD	*		*	Once/Day
Biochemical Oxygen Demand (BOD_5)**	mg/L		15	10	Once/Week
Total Suspended Solids**	mg/L		15	10	Once/Week
Dissolved Oxygen	mg/L	6.0 (minimum)		6.0 (minimum)	Once/Week
pH	SU	6.5 – 9.0		6.5 – 9.0	Once/Week
Escherichia coliform (E. coli)	Note 1			206***	Once/Week
Oil & Grease	mg/L	15		10	Once/Week
Total Ammonia N (Oct 1 – March 31)	mg/L	5.0		2.0	Once/Week
Total Ammonia N (April 1 – Sept 30)	mg/L	2.6		1.0	Once/Week

* – Monitoring Requirement Only
** – This facility is required to meet a removal efficiency of 85% or more for BOD_5 and TSS. Influent BOD_5 and TSS data shall be reported to ensure removal efficiency requirements are met.
*** – The Monthly Average shall be reported as a Geometric Mean.

Note 1 – colonies/100 mL

10. Receiving Water Monitoring Requirements

No receiving water monitoring requirements recommended at this time.

11. Derivation and Discussion of Limits

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

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

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

11.1 Outfall #001 – MAIN FACILITY OUTFALL – LIMIT DERIVATION

- **Biochemical Oxygen Demand (BOD_5).** Technology based effluent limit proposed of 10 mg/L monthly average, 15 mg/L weekly average limit. 85% removal efficiency [40 CFR Part 133.102(a)(3) & (b)(3)]. Using the monthly average effluent limit, the modified Streeter-Phelps modeling shows that the dissolved oxygen sag maintains a level above 5.0 mg/l in the receiving stream.

- **Total Suspended Solids (TSS).** According to EPA, because TSS and BOD are closely correlated, we apply the same limits for TSS as BOD. Influent monitoring may be required for this facility in its Missouri State Operating Permit. Big Creek is on the 2002 303(d) list for sediment and was addressed in the updated *Big Creek Sediment Impact Evaluation for the Proposed Expansion of the Pleasant Hill Wastewater Treatment Facility* (December 2008).

- **Dissolved Oxygen.** Dissolved oxygen in the stream is dependent upon the wastewater treatment plant effluent concentration of dissolved oxygen (See Appendix B). Because the modified Streeter-Phelps water quality modeling used a minimum dissolved oxygen concentration for the effluent of 6.0 mg/L, the department is requiring this dissolved oxygen limit of 6.0 mg/L as a daily minimum and monthly average for the outfall to ensure water quality criteria in Big Creek is not violated. Water Quality Standards for dissolved oxygen is 5.0 mg/L [10 CSR 20-7.031, Table A].

- **pH.** pH shall be maintained in the range from six and one-half to nine (6.5–9.0) standard units [10 CSR 20-7.015(8)(A)2.]

- **Escherichia Coliform (E. Coli).** In accordance with 10 CSR 20-7.031 Table A, discharge shall not contain more than a monthly geometric mean of 206 colonies/100 mL during the recreational season (April 1 – October 31). Effective June 30, 2010, E. Coli replaced Fecal Coliform as the indicator bacteria criteria. In accordance with 10 CSR 20-7.015(8)(B)1.D., weekly monitoring is required during the recreational season with compliance to be determined by calculating the geometric mean of all samples collected each calendar month. The U.S. Environmental Protection Agency (EPA) requires effluent limits to be expressed as average weekly for Publicly-Owned Treatment Works that continuously discharge. The Department is currently working with EPA to develop appropriate shorter frequency limits. Also, please see **GENERAL ASSUMPTIONS OF THE WQRS #7.**

- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L maximum daily limit.

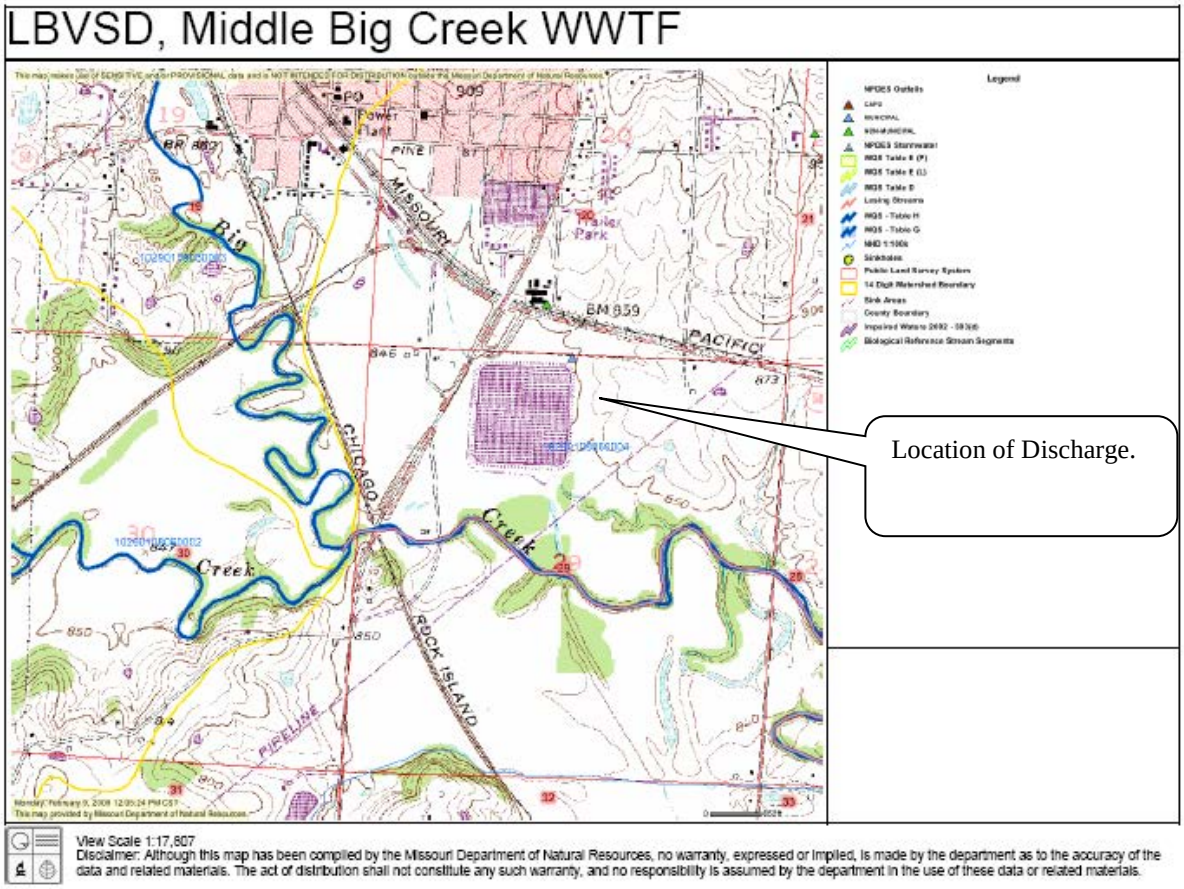
- **Total Ammonia Nitrogen.** In the summer, technology based effluent limit proposed of 1.0 mg/L monthly average, 2.6 mg/L maximum daily limit. Using the wasteload allocation of 1.08 mg/L, the modified Streeter-Phelps modeling shows that the dissolved oxygen sag maintains a level above 5.0 mg/l in the receiving stream.

  In the winter, technology based effluent limit proposed of 2.0 mg/L monthly average, 5.0 mg/L maximum daily limit. Using the wasteload allocation of 3.1 mg/L, the modified Streeter-Phelps modeling shows that the dissolved oxygen sag maintains a level above 5.0 mg/l in the classified stream.

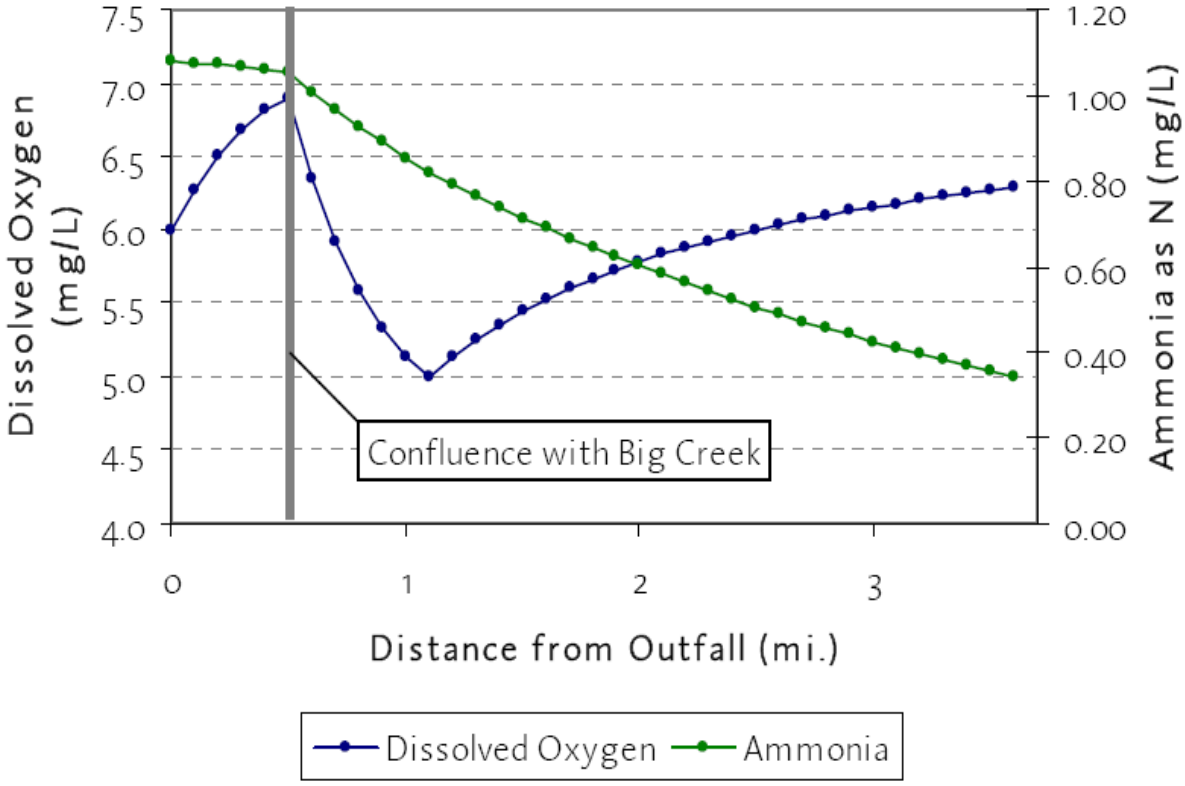
Reviewer: Keith Forck
Date: September 1, 2010
Unit Chief: John Rustige

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.

Appendix A: Map of Discharge Location



Appendix B: Modified Streeter-Phelps Water Quality Model Results



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

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

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

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

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

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

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

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

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

Section B – Reporting Requirements

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

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

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

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

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

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

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

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

Section C – Bypass/Upset Requirements

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

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

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

Section D – Administrative Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1. Definitions

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

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

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

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

2. Identification of Industrial Discharges

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

3. Application Information

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

4. Notice to the Department

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

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

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

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

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

PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

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

SECTION B – DEFINITIONS

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

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

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

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

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

SECTION E – INCINERATION OF SLUDGE

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

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

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

SECTION G – LAND APPLICATION OF BIOSOLIDS

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

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

TABLE 1

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

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

TABLE 2

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

e. Annual pollutant loading rate.

Table 3

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

f. Cumulative pollutant loading rates.

Table 4

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

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

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

i. PAN can be determined as follows:

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

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

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

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

d. Buffer zones are as follows:

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

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

iii. 150 feet of dwellings or public use areas;

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

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

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

e. Slope limitation for application sites are as follows:

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

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

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

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

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

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

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

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

iii. Other best management practices approved by the Department.

SECTION H – SEPTAGE

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

SECTION I– CLOSURE REQUIREMENTS

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

surface water drainage without creating erosion.

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

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

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

SECTION J – MONITORING FREQUENCY

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

TABLE 5

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

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

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

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

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

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

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

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

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

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

LITTLE BLUE VALLEY SEWER DISTRICT
Administration & Employee Services Bldg.
Atherton Wastewater Treatment Plant
21208 East Old Atherton Road
Independence, MO 64058
Phone: (816) 796-7660 or (816) 796-9191
Fax: (816) 656-2543

October 1, 2020

MDNR, WPP
Attn: NPDES Permits & Eng. Section
P.O. Box 176
Jefferson City, MO 65102

RE: NPDES Permit Renewal Application

Enclosed with this letter is a NPDES permit renewal application for the Middle Big Creek (MBC) WWTF, MSOP #MO-0058629. There are several items we request that you make note of as you review this application.

1. The Financial Questionnaire has not been included with this application at this time. Once a draft permit has been completed, we may opt to submit a completed questionnaire pending any determination of new permit requirements.
2. We have enclosed a completed "No Exposure Certification for Exclusion from NPDES Stormwater Permitting" form. We believe that the MBC WWTF qualifies for this exclusion and the removal of the Stormwater Pollution Prevention Plan requirement in the permit. We welcome any discussion related to this exclusion or a site visit by DNR staff to verify the no exposure condition.
3. Per 10 CSR 20-9.010(3) we formally request an alternate operational control monitoring frequency for mixed liquor settleability. The MBC WWTF utilizes tertiary filters following the final clarifiers. These filters, along with the facility staff's experience and diligence in operation have produced consistently excellent quality for many years. A reduction of mixed liquor settleability testing to the same frequency as mixed liquor suspended solids testing (once/week) would allow staff to spend significantly more time on necessary plant and pumping station maintenance. The proven efficacy of the tertiary filters to ensure effluent is well below permitted effluent limits for BOD and TSS justifies this reduction and the corresponding process control information.
4. We are currently in discussions with an industrial facility that wishes to discharge to the MBC WWTF via one of our customer cities. This facility is in the process of completing a treatability study to preliminarily determine of their discharge has the potential to cause pass through or interference. We will submit the report of this study once it is finalized for your review and consideration during the permit drafting process.
5. We have begun the initial planning and assessment phase for the next capacity expansion at the MBC WWTF. It is anticipated that this expansion will occur five to seven years from now.

If you have any immediate questions about this application or cover letter, please contact me at jcoles@lbvsd.org or by phone at (816) 200-4603. Once you have begun drafting the permit, please contact me so I can provide the most up to date data for reasonable potential analyses. Thank you and we look forward to working through this process with you.

Sincerely,

Jimmy Coles
Compliance Specialist

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	
Middle Big Creek WWTF	
PERMIT NO.	COUNTY
MO-0058629	Cass

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 five percent 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

rec'd 10/02/20 AP 35643

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

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

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED
JET PAY OONFIRMATION NUMBER	

PART A – BASIC APPLICATION INFORMATION

1. THIS APPLICATION IS FOR:

☐ An operating permit for a new or unpermitted facility. Construction Permit # _____
(Include completed Antidegradation Review or request to conduct an Antidegradation Review, see instructions)

☑ An operating permit renewal: Permit #MO- 0058629 Expiration Date 3/31/2021

☐ An operating permit modification: Permit #MO-_____ Reason: _____

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

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Middle Big Creek WWTF		816-299-4606	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
1200 East State Route 58	Pleasant Hill	MO	64080

2.1 LEGAL DESCRIPTION (Facility Site): Sec. 29 , T 46N , R 30W COUNTY Cass

2.2 UTM Coordinates Easting (X): 390338 Northing (Y): 4292741
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: Tributary to Big Creek

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

3. OWNER: 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.

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Little Blue Valley Sewer District, Middle Big Creek Subdistrict	shook@lbvsd.org	816-299-4603	
ADDRESS	CITY	STATE	ZIP CODE
21208 East Old Atherton Road	Independence	MO	64058

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

3.2 Are you a Publically Owned Treatment Works (POTW)? ☑ YES ☐ NO
If yes, is the Financial Questionnaire attached? ☐ YES ☑ NO 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: Permanent organization which will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Little Blue Valley Sewer District, Middle Big Creek Subdistrict	shook@lbvsd.org	816-796-7660	
ADDRESS	CITY	STATE	ZIP CODE
21208 East Old Atherton Road	Independence	MO	64058

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)
Barry Parks	Superintendent	9412
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
bparks@lbvsd.org	816-299-4606	

6. FACILITY CONTACT

NAME	TITLE		
Barry Parks	Superintendent		
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE		
bparks@lbvsd.org	816-813-9429		
ADDRESS	CITY	STATE	ZIP CODE
1200 East State Route 58	Pleasant Hill	MO	64080

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Middle Big Creek WWTF	MO- 0058629	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 Liquids and Solids Process Schematic Sheets, 009-00G008 and 010-00G009. Locations of sampling points are indicated on the sheets.

Facility Description - Influent lift station, excess flow holding basin, manual bar screen, mechanical fine screen, vortex grit chamber, aeration basin, two final clarifiers, tertiary filters, UV disinfection, effluent reaeration, two sludge storage basins, sludge is hauled by contract hauler for final disposal at the Atherton WWTP*.

*Note - Hauled sludge is discharged into the Raintree Pumping Station where it is pumped to the LBVSD interceptor. It flows into the Atherton WWTP where it is processed and disposed.

FACILITY NAME	PERMIT NO.	OUTFALL NO.
MIddle Big Creek WWTF	MO- 0058629	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 Facility SIC Code: 4952 | Discharge SIC Code: 4952

7.4 Number of people presently connected or population equivalent (P.E.): _____ Design P.E. 22,500

7.5 Connections to the facility:

Number of units presently connected:

Residential: _____ Commericial: _____ Industrial _____

See attached "Expanded Responses" for 7.4 & 7.5

7.6 Design Flow 2.25 average dry weather day | Actual Flow 2.66 average from current permit cycle

7.7 Will discharge be continuous through the year? Yes ☑ No ☐
Discharge will occur during the following months: all twelve
How many days of the week will discharge occur? seven days

7.8 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

One Part 433 metal finisher is located in Pleasant Hill. 100% of the wastewater discharge from that facility is treated at Middle Big Creek. One Part 433 metal finisher, one closed municipal landfill, and one Part 414 industrial user are located in a sewershed where flows may discharged 100% to Middle Big Creek, 100% to the Atherton WWTP, or split between the two plants.

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

7.9	Does the facility accept or process leachate from landfills?:	Yes ☑	No ☐
7.10	Is wastewater land applied? **If yes**, please attach Form I See: https://dnr.mo.gov/forms/780-1686-f.pdf	Yes ☐	No ☑
7.11	Does the facility discharge to a losing stream or sinkhole?	Yes ☐	No ☑
7.12	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.
Middle Big Creek WWTF	MO- 0058629	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 479 Actual Dry Tons/Year 367

9.3 Sludge storage provided: 127k Cubic feet; 75 Days of storage; 1.96 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:

☐ 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		
Kornukopia Farms, LLC			
ADDRESS	CITY	STATE	ZIP CODE
14371 NE State Route 18	Urich	MO	64788
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.	
Wayne Korn	816-668-3504	MO-	

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

NAME	EMAIL ADDRESS		
Little Blue Valley Sewer District Atherton WWTP	jcoles@lbvsd.org		
ADDRESS	CITY	STATE	ZIP CODE
21208 East Old Atherton Road	Independence	MO	64058
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.	
Jimmy Coles	816-299-4603	MO- 0101087	

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.
Middle Big Creek WWTF	MO- 0058629	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)
See "Expanded Responses" attachment		

10.2 Length of sanitary sewer collection system in miles (If available, include totals from satellite collection systems) _____ 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 collection systems are owned and maintained by our municipal customers. Our service agreements require customers to maintain their systems and minimize inflow and infiltration.

11. BYPASSING

Does any bypassing occur anywhere in the collection system or at the treatment facility? Yes ☐ No ☑
If yes, explain:

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.

There are currently no scheduled plant improvements; however, it is anticipated that a plant expansion will be initiated in the next 5 to 7 years.

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Middle Big Creek WWTF	MO- 0058629	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)	6.94	S.U.		S.U.	81
pH (Maximum)	7.61	S.U.		S.U.	81
Flow Rate	8.876	MGD	2.665	MGD	951

*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	11	mg/L	2.0	mg/L	138	SM 5210	2.0
	$CBOD_5$		mg/L		mg/L			
E. COLI		>2419.6	#/100 mL	2.9	#/100 mL	93	SM 9223-B	1
TOTAL SUSPENDED SOLIDS (TSS)		10	mg/L	1.6	mg/L	138	SM 2540-D	0.5
TOTAL PHOSPHORUS		2.58	mg/L	1.18	mg/L	20	Hach 10209/10210	0.5
TOTAL KJELDAHL NITROGEN		7.17	mg/L	1.87	mg/L	19	Hach 10242	0
NITRITES + NITRATES		11.2	mg/L	6.30	mg/L	19	Hach 10242	
AMMONIA AS N		1.66	mg/L	0.16	mg/L	52	Hach 10205	0.015
CHLORINE* (TOTAL RESIDUAL, TRC)			mg/L		mg/L			
DISSOLVED OXYGEN		7	mg/L	6.4	mg/L	20	SM 4500-O	0.20
OIL and GREASE		<6.0	mg/L	2.6	mg/L	10	EPA 1664a	5.0
OTHER: _____			mg/L		mg/L			

*Report only if facility chlorinates

END OF PART B

FACILITY NAME	PERMIT NO.	OUTFALL NO.
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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 timely, complete, accurate, and nationally-consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please visit https://dnr.mo.gov/forms/780-2204-f.pdf to access the eDMR application.

☐ - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.

☑ - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.

☐ - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

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)
Lisa O'Dell, P.E.	Assistant Director

SIGNATURE 10/2/2020

TELEPHONE NUMBER WITH AREA CODE
816-796-7660

DATE SIGNED
10/2/2020

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:

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

END OF PART C

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

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

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

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

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Middle Big Creek WWTF	MO- 0058629	#001

PART D – EXPANDED EFFLUENT TESTING DATA

18. EXPANDED EFFLUENT TESTING DATA

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

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

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

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

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Middle Big Creek WWTF	MO- 0058629	#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		
CHLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLORO-ETHANE											
1,2-DICHLORO-ETHANE											
TRANS-1,2-DICHLOROETHYLENE											
1,1-DICHLORO-ETHYLENE											
1,2-DICHLORO-PROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRA-CHLOROETHANE											
TETRACHLORO-ETHANE											
TOLUENE											
1,1,1-TRICHLORO-ETHANE											
1,1,2-TRICHLORO-ETHANE											
TRICHLOROETHYLENE											
VINYL CHLORIDE											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Middle Big Creek WWTF	MO- 0058629	#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		
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
BASE-NEUTRAL COMPOUNDS											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											
3,4-BENZO-FLUORANTHENE											
BENZO(GH) PHERYLENE											
BENZO(K) FLUORANTHENE											
BIS (2-CHLOROTHOXY) METHANE											
BIS (2-CHLOROETHYL) – ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPH-THALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO (A,H) ANTHRACENE											
1,2-DICHLORO-BENZENE											
1,3-DICHLORO-BENZENE											
1,4-DICHLORO-BENZENE											
3,3-DICHLORO-BENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											

FACILITY NAME	PERMIT NO.	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											
2,6-DINITRO-TOLUENE											
1,2-DIPHENYL-HYDRAZINE											
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO (1,2,3-CD) PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-PROPYLAMINE											
N-NITROSODI-METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											

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

END OF PART D

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

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL		
FACILITY NAME Middle Big Creek WWTF	PERMIT NO. MO- 0058629	OUTFALL NO. #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 4 acute

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

	Most Recent	2ND Most Recent	3RD Most Recent
A. Test Information			
Test Method Number	EPA 821-R-02-013	EPA 821-R-02-012	EPA 821-R-02-012
Final Report Number	Pace 60345669	Pace 60310205	Pace 60270885
Outfall Number	#001	#001	#001
Dates Sample Collected	8/17,19 & 21/2020	7/29/2019	5/21/2018
Date Test Started	8/18/2020	7/30/2019	5/22/2018
Duration	seven days	48 hours	48 hours
B. Toxicity Test Methods Followed			
Manual Title	* See below	** See below	** See below
Edition Number and Year of Publication	4th Edition, 2002	5th Edition, 2002	5th Edition, 2002
Page Number(s)	53-106 & 141-189	41-50	41-50
C. Sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used			
24-Hour Composite	48 aliquots @ 30 min each	48 aliquots @ 30 min each	48 aliquots @ 30 min each
Grab			
D. Indicate where the sample was taken in relation to disinfection (Check all that apply for each)			
Before Disinfection	☐	☐	☐
After Disinfection	☑	☑	☑
After Dechlorination	☐	☐	☐
E. Describe the point in the treatment process at which the sample was collected			
Sample Was Collected:	UV Effluent Structure	UV Effluent Structure	UV Effluent Structure
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	☐	☑	☑

* "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms"
** "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms"

FACILITY NAME	PERMIT NO.	OUTFALL NO.
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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	Moderately hard synthetic	Upstream natural	Upstream natural
Salt Water	n/a	n/a	n/a
J. Percentage of effluent used for all concentrations in the test series			
	6.25%, 12.5%, 25%,	6.25%, 12.5%, 25%,	6.25%, 12.5%, 25%,
	50%, 100%	50%, 100%	50%, 100%
K. Parameters measured during the test (State whether parameter meets test method specifications)			
pH	7.76 - acceptable	7.75 - acceptable	7.67 - acceptable
Salinity			
Temperature	25.0 deg C - acceptable	25.0 deg C - acceptable	25.0 deg C - acceptable
Ammonia	2.3 mg/L - acceptable	<0.10 mg/L - acceptable	<0.10 mg/L - acceptable
Dissolved Oxygen	8.30 mg/L - acceptable	8.40 mg/L - acceptable	8.70 mg/L - acceptable
L. Test Results			
Acute:			
Percent Survival in 100% Effluent		100%	100%
LC_{50}		>100%	>100%
95% C.I.		yes	yes
Control Percent Survival		100%	100%
Other (Describe)			
Chronic:			
NOEC	100%		
IC_{25}	>100		
Control Percent Survival	100%		
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)?	7/21-28/2020	not indicated on report	not indicated on report
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) n/a

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.
Middle Big Creek WWTF	MO- 0058629	#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 1 ____

Number of CIUs 3 ____

See expanded responses for further details

21. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT 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
not applicable

MAILING ADDRESS	CITY	STATE	ZIP CODE

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

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

Principal Product(s):

Raw Material(s):

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.

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.

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

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL		
FACILITY NAME Middle Big Creek WWTF	PERMIT NO. MO- 0058629	OUTFALL NO. #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

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).

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)

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):

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

If intermittent, describe the discharge schedule:

END OF PART F

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 Middle Big Creek WWTF	PERMIT NO. MO- 0058629	OUTFALL NO. #001

PART G – COMBINED SEWER SYSTEMS

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 0%

24.4 Population served by combined sewer collection system zero

24.5 Name of any satellite community with combined sewer collection system not applicable

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

25.1 Description of Outfall

a. Outfall Number
b. Location

Not applicable

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.

Middle Big Creek WWTF, MO-0058629
2021 NPDES Permit Renewal Application
Form B2 – Expanded Responses

Part A

7.4 & 7.5

The Middle Big Creek Subdistrict currently has 12,934 connections and, based on a recent preliminary capacity assessment, there are an average of 32,700 residents within the entire service area. Because of the capability of the Raintree Pumping Station to send a large portion of the flows from the District's northern service area to the Atherton WWTP, however, there is no way to accurately state what population or number of connections is being served by the MBC WWTF on any given day. Of that total, flows from approximately 5,300 connections (9,800 residents) in Pleasant Hill and Lake Winnebago can flow only to the MBC WWTF. The remaining flows are either sent entirely to the Atherton WWTF or split between the two plants. Land use in the entire District area is approximately 25% commercial and 75% residential.

Part B

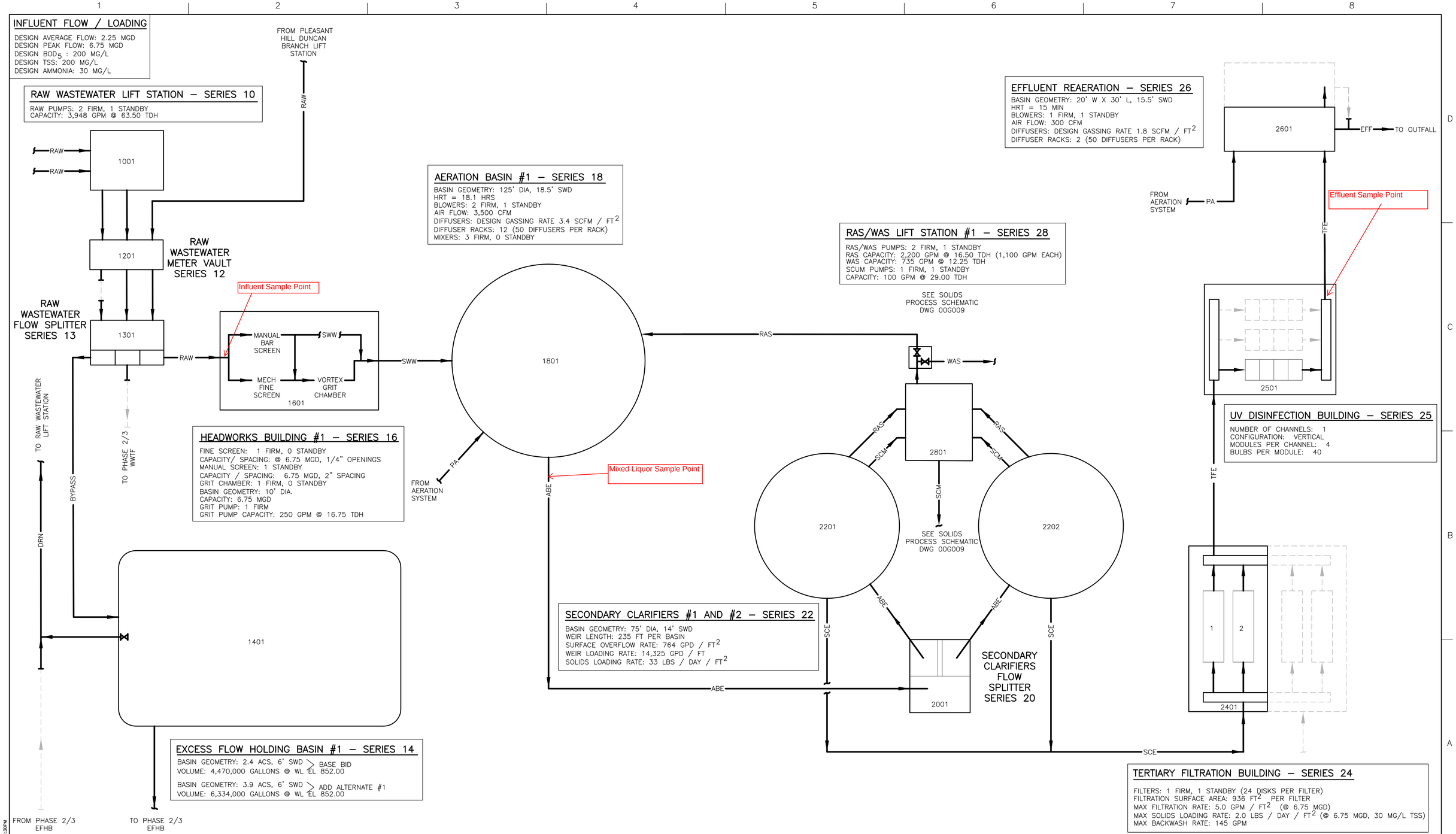
10.1 – The Middle Big Creek Subdistrict is a wholesale wastewater treatment district. All wastewater flows originate from municipal and county collections systems. The District has no association with these collection systems and has no accurate information regarding the length of the systems.

Middle Big Creek Subdistrict Customers	**Contact Phone Number**
Greenwood	816-537-6975 ext. 112
Raymore	816-331-8067
Lake Winnebago	816-537-6778
Cass County	
Mullendike Sewer District	816-322-1833
Dikeland Sewer District	816-331-6717
Lee's Summit	816-969-1935

10.2 – See response to 10.1 above. The Middle Big Creek Subdistrict does not own or operate municipal collection systems; only sewer interceptors to which these systems discharge. The length of the District's interceptors is 7.9 miles.

Part F

20.2 – There is one categorical industrial user in the City of Pleasant Hill. 100% of this facility's effluent is received and treated at the Middle Big Creek WWTF at all times. There is an area to the at the north of the Middle Big Creek service area where flows may be sent exclusively to the Middle Big Creek WWTF, exclusively to the Little Blue Valley Sewer District's Atherton WWTP, or flows may be split between the two plants depending on the operation of a pumping station. Within this area there are two categorical industrial users and one non-categorical significant industrial user. All of these users are permitted under the Little Blue Valley Sewer District's approved pretreatment program.



Middle Big Creek Consultant Alliance

HDR

Burns & McDonnell SINCE 1898

HDR

HDR ENGINEERING, INC.
MO. STATE CERTIFICATE OF AUTHORITY #000856
3741 NE TROON DRIVE
LEE'S SUMMIT, MO. 64064

ISSUE	DATE	DESCRIPTION
0	04/29/11	CONFORMED DRAWINGS

PROJECT MANAGER	STAN CHRISTOPHER
CIVIL	B. COLEMAN
STRUCTURAL	J. MCMILLEN
ARCHITECTURAL	C. MOODY
PROCESS	B. COLEMAN
MECHANICAL	J. LEWIS
ELECTRICAL	T. BOYD
INSTRUMENTATION	T. BOYD
PROJECT NUMBER	124835-119

STATE OF MISSOURI
BRANDON J. COLEMAN
NUMBER PE-2005000969
PROFESSIONAL ENGINEER
142944

LICENSEE:
BRANDON J. COLEMAN
CIVIL
MO PE-2005000969

LITTLE BLUE VALLEY SEWER DISTRICT

Little Blue Valley Sewer District
Middle Big Creek Sewer Subdistrict
Phase 1 Improvements - WWTF

PROCESS SCHEMATIC LIQUIDS

0 1" 2"

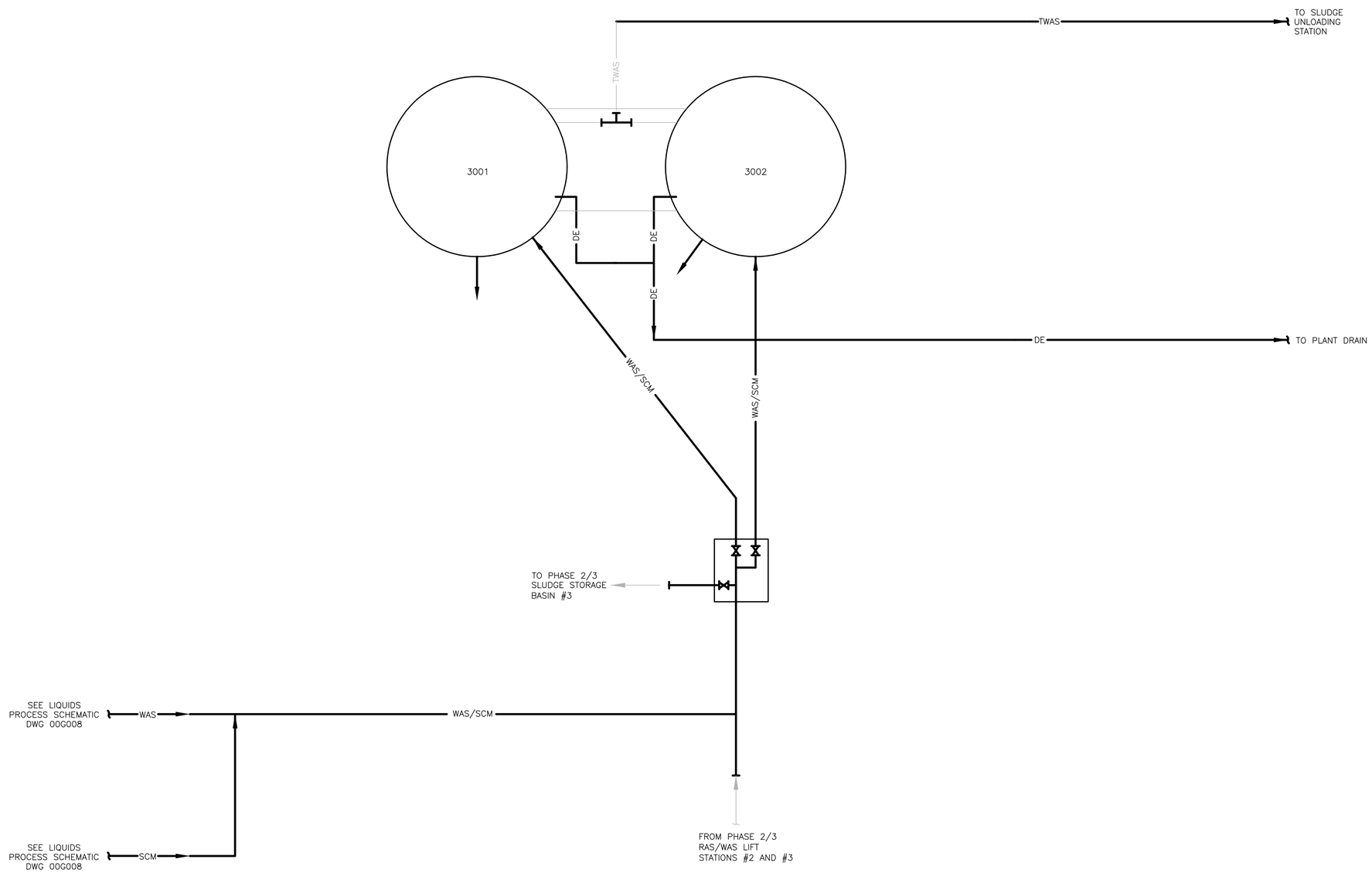
FILENAME	00G008.dwg
SCALE	NONE

SHEET **00G008**

DRAWING: 00G008.dwg DATE: May 02, 2011 – 1:30PM

SLUDGE STORAGE BASINS #1 AND #2 – SERIES 30

BASIN GEOMETRY: 70' DIA, 16.5' SWD
DESIGN SOLIDS CONCENTRATION: 2.5%
FLOATING AERATORS: 2 FIRM (1 PER BASIN)
STORAGE / DIGESTION DURATION: 75 DAYS



Middle Big Creek Consultant Alliance

HDR

Burns & McDonnell SINCE 1898

HDR

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PROJECT NUMBER	124835-119

STATE OF MISSOURI
BRANDON J. COLEMAN
NUMBER
PE-2005000969
PROFESSIONAL ENGINEER
#147844

LICENSEE:
BRANDON J. COLEMAN
CIVIL
MO PE-2005000969

LITTLE BLUE VALLEY SEWER DISTRICT

Little Blue Valley Sewer District
Middle Big Creek Sewer Subdistrict
Phase 1 Improvements - WWTF

PROCESS SCHEMATIC
SOLIDS

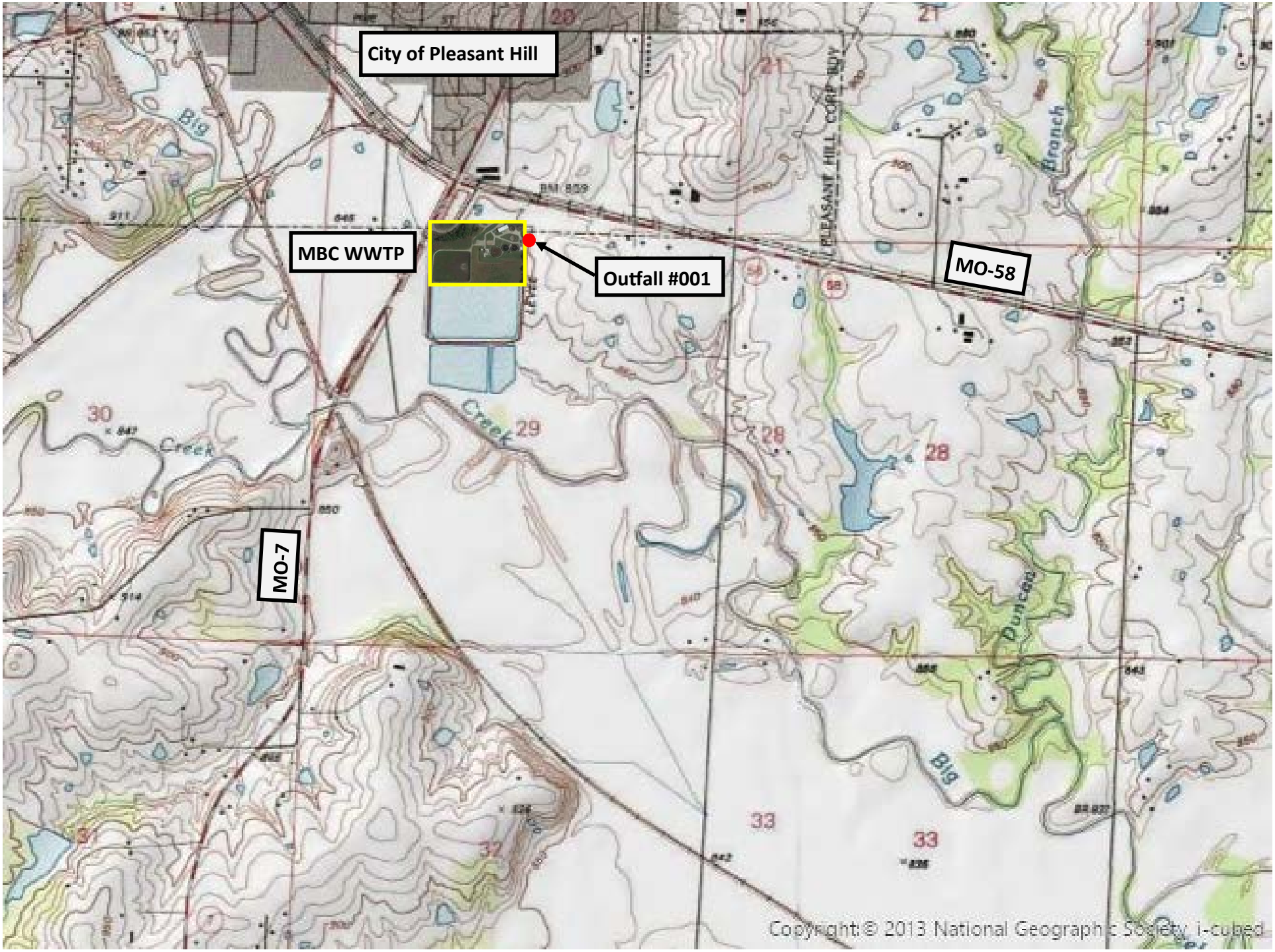
0 1" 2"

FILENAME	00G009.dwg
SCALE	NONE

SHEET
00G009

DRAWING: 00G009.dwg DATE: May 02, 2011 – 1:31PM


Maintenance Building
Sludge Storage Basins
Generators
Influent Pumping Station
Reaeration Tanks
Outfall #001
Former Drying Bed
RAS/WAS Pumping Station
UV Disinfection
Influent Splitter Box
Secondary Clarifiers
Tertiary Filters
Headworks Building
Aeration Basin
Excess Flow Holding Basin
Tributary to Big Creek
Middle Big Creek WWTF
MO-0058629


City of Pleasant Hill
MBC WWTP
Outfall #001
MO-58
MO-7
Big
Creek
Branch
Duncan
PLEASANT HILL CORP BDY
Copyright:© 2013 National Geographic Society, i-cubed

			6/18/2020	10/1/2018	9/11/2017	8/21/2017	8/14/2017
ALUMINUM	EPA 200.7	mg/L	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
ANTIMONY	EPA 200.7	mg/L	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
ARSENIC	EPA 200.7	mg/L	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
BERYLLIUM	EPA 200.7	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
CADMIUM	EPA 200.7	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
CHROMIUM III	SM 3500-CR B	mg/L	<0.0005	<0.010	<0.010	<0.010	<0.010
CHROMIUM VI	SM 3500-CR B	mg/L	<0.0010	<0.005			
COPPER	EPA 200.7	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
IRON	EPA 200.7	mg/L	<0.0400	0.0501	0.0357	0.0447	0.0379
LEAD	EPA 200.7	mg/L	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150
MERCURY	EPA 245.1	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
NICKEL	EPA 200.7	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SELENIUM	EPA 200.7	mg/L	<0.0400	<0.0400	<0.0400	<0.0400	<0.0400
SILVER	EPA 200.7	mg/L	<0.0070	<0.0070	<0.0050	<0.0050	<0.0050
THALLIUM	EPA 200.7	mg/L	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
ZINC	EPA 200.7	mg/L	0.028	0.041	0.0275	0.02	0.0173
CYANIDE	EPA 335.4	mg/L	<0.0005	<0.005	<0.005	<0.005	<0.005
TOTAL PHENOLIC COMPOUNDS	EPA 420.4	mg/L	<0.0005	<0.005	<0.005	0.006	0.007
HARDNESS (as CaCO3)	SM 2340 B	mg/L	226	206	228	229	249
VOLATILE ORGANIC COMPOUNDS							
ACROLEIN	EPA 624.1	ug/L	<20.0	<20.0	<100	<100	<100
ACRYLONITRILE	EPA 624.1	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0
BENZENE	EPA 624.1	ug/L	<0.5	<0.5	<2.0	<2.0	<2.0
BROMOFORM	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
CARBON TETRACHLORIDE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
CHLOROBENZENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
CHLORODIBROMO-METHANE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
CHLOROETHANE	EPA 624.1	ug/L	<2.0	<2.0	<10.0	<10.0	<10.0
2-CHLORO-ETHYLVINYL ETHER	EPA 624.1	ug/L	<5.0	<5.0	<20.0	<20.0	<20.0
CHLOROFORM	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
DICHLOROBROMO-METHANE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,1-DICHLORO-ETHANE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,2-DICHLORO-ETHANE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
TRANS-1,2-DICHLOROETHYLENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,1-DICHLORO-ETHYLENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,2-DICHLORO-PROPANE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,3-DICHLORO-PROPYLENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
ETHYLBENZENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
METHYL BROMIDE	EPA 624.1	ug/L	<5.0	<5.0	<10.0	<10.0	<10.0
METHYL CHLORIDE	EPA 624.1	ug/L	<5.0	<5.0	<10.0	<10.0	<10.0
METHYLENE CHLORIDE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,1,2,2-TETRA-CHLOROETHANE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
TETRACHLORO-ETHENE	EPA 624.1	ug/L	<0.5	<0.5	<5.0	<5.0	<5.0
TOLUENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,1,1-TRICHLORO-ETHANE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,1,2-TRICHLORO-ETHANE	EPA 624.1	ug/L	<0.5	<0.5	<5.0	<5.0	<5.0
TRICHLOROETHYLENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
VINYL CHLORIDE	EPA 624.1	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0

			6/18/2020	10/1/2018	9/11/2017	8/21/2017	8/14/2017
ACID-EXTRACTABLE COMPOUNDS							
P-CHLORO-M-CRESOL	EPA 625.1	mg/L	<0.038	<0.008	<0.042	<0.010	<0.008
2-CHLOROPHENOL	EPA 625.1	mg/L	<0.042	<0.008	<0.042	<0.010	<0.008
2,4-DICHLOROPHENOL	EPA 625.1	mg/L	<0.034	<0.007	<0.042	<0.010	<0.008
2,4-DIMETHYLPHENOL	EPA 625.1	mg/L	<0.034	<0.007	<0.042	<0.010	<0.008
4,6-DINITRO-O-CRESOL	EPA 625.1	mg/L	<0.303	<0.060	<0.083	<0.020	<0.017
2,4-DINITROPHENOL	EPA 625.1	mg/L	<0.529	<0.105	<0.083	<0.020	<0.017
2-NITROPHENOL	EPA 625.1	mg/L	<0.045	<0.009	<0.083	<0.020	<0.017
4-NITROPHENOL	EPA 625.1	mg/L	<0.030	<0.006	<0.083	<0.020	<0.017
PENTACHLOROPHENOL	EPA 625.1	mg/L	<0.045	<0.009	<0.083	<0.020	<0.017
PHENOL	EPA 625.1	mg/L	<0.019	<0.004	<0.021	<0.005	<0.004
2,4,6-TRICHLOROPHENOL	EPA 625.1	mg/L	<0.034	<0.007	<0.042	<0.010	<0.008
BASE-NEUTRAL COMPOUNDS							
ACENAPHTHENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
ACENAPHTHYLENE	EPA 625.1	mg/L	<0.044	<0.009	<0.042	<0.010	<0.008
ANTHRACENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
BENZIDINE	EPA 625.1	mg/L	<0.168	<0.033	<0.167	<0.040	<0.033
BENZO(A)ANTHRACENE	EPA 625.1	mg/L	<0.098	<0.020	<0.042	<0.010	<0.008
BENZO(A)PYRENE	EPA 625.1	mg/L	<0.032	<0.006	<0.042	<0.010	<0.008
3,4-BENZO-FLUORANTHENE	EPA 625.1	mg/L	<0.061	<0.012	<0.042	<0.010	<0.008
BENZO(GH) PHERYLENE	EPA 625.1	mg/L	<0.052	<0.010	<0.042	<0.010	<0.008
BENZO(K) FLUORANTHENE	EPA 625.1	mg/L	<0.032	<0.006	<0.042	<0.010	<0.008
BIS (2-CHLOROTHOXY) METHANE	EPA 625.1	mg/L	<0.067	<0.013	<0.042	<0.010	<0.008
BIS (2-CHLOROETHYL) – ETHER	EPA 625.1	mg/L	<0.072	<0.014	<0.042	<0.010	<0.008
BIS (2-CHLOROISO-PROPYL) ETHER	EPA 625.1	mg/L	<0.072	<0.014	<0.042	<0.010	<0.008
BIS (2-ETHYLHEXYL) PHTHALATE	EPA 625.1	mg/L	<0.032	<0.006	<0.025	<0.006	<0.005
4-BROMOPHENYL PHENYL ETHER	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
BUTYL BENZYL PHTHALATE	EPA 625.1	mg/L	<0.032	<0.006	<0.042	<0.010	<0.008
2-CHLORONAPHTHALENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
4-CHLORPHENYL PHENYL ETHER	EPA 625.1	mg/L	<0.053	<0.010	<0.042	<0.010	<0.008
CHRYSENE	EPA 625.1	mg/L	<0.032	<0.006	<0.042	<0.010	<0.008
DI-N-BUTYL PHTHALATE	EPA 625.1	mg/L	<0.032	<0.006	<0.042	<0.010	<0.008
DI-N-OCTYL PHTHALATE	EPA 625.1	mg/L	<0.032	<0.006	<0.042	<0.010	<0.008
DIBENZO (A,H) ANTHRACENE	EPA 625.1	mg/L	<0.032	<0.006	<0.042	<0.010	<0.008
1,2-DICHLORO-BENZENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,3-DICHLORO-BENZENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
1,4-DICHLORO-BENZENE	EPA 624.1	ug/L	<2.0	<2.0	<5.0	<5.0	<5.0
3,3-DICHLORO-BENZIDINE	EPA 625.1	mg/L	<0.208	<0.041	<0.042	<0.010	<0.008
DIETHYL PHTHALATE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
DIMETHYL PHTHALATE	EPA 625.1	mg/L	<0.020	<0.004	<0.042	<0.010	<0.008
2,4-DINITRO-TOLUENE	EPA 625.1	mg/L	<0.072	<0.014	<0.042	<0.010	<0.008
2,6-DINITRO-TOLUENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
1,2-DIPHENYL-HYDRAZINE	EPA 625.1	mg/L	<0.042	<0.008	<0.042	<0.010	<0.008
FLUORANTHENE	EPA 625.1	mg/L	<0.028	<0.006	<0.042	<0.010	<0.008
FLUORENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
HEXACHLOROBENZENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
HEXACHLOROBUTADIENE	EPA 625.1	mg/L	<0.011	<0.002	<0.042	<0.010	<0.008
HEXACHLOROCYCLO-PENTADIENE	EPA 625.1	mg/L	<0.084	<0.017	<0.083	<0.020	<0.017
HEXACHLOROETHANE	EPA 625.1	mg/L	<0.020	<0.004	<0.042	<0.010	<0.008
INDENO (1,2,3-CD) PYRENE	EPA 625.1	mg/L	<0.047	<0.009	<0.042	<0.010	<0.008
ISOPHORONE	EPA 625.1	mg/L	<0.028	<0.006	<0.042	<0.010	<0.008

			6/18/2020	10/1/2018	9/11/2017	8/21/2017	8/14/2017
NAPHTHALENE	EPA 625.1	mg/L	<0.020	<0.004	<0.042	<0.010	<0.008
NITROBENZENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
N-NITROSODI-PROPYLAMINE	EPA 625.1	mg/L	<0.042	<0.008	<0.042	<0.010	<0.008
N-NITROSODI-METHYLAMINE	EPA 625.1	mg/L	<0.084	<0.017	<0.083	<0.020	<0.017
N-NITROSODI-PHENYLAMINE	EPA 625.1	mg/L	<0.042	<0.008	<0.042	<0.010	<0.008
PHENANTHRENE	EPA 625.1	mg/L	<0.068	<0.014	<0.042	<0.010	<0.008
PYRENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008
1,2,4-TRICHLOROBENZENE	EPA 625.1	mg/L	<0.024	<0.005	<0.042	<0.010	<0.008

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

NO EXPOSURE CERTIFICATION FOR EXCLUSION FROM NPDES STORMWATER PERMITTING UNDER MISSOURI CLEAN WATER LAW

PLEASE READ ALL THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM. SUBMITTAL OF AN INCOMPLETE FORM MAY RESULT IN THE FORM BEING RETURNED UNPROCESSED.

Submission of this No Exposure Certification (NEC) constitutes notice by the facility representative identified in Section 7 of this form that there is no exposure of the facility's industrial activities, equipment and materials to stormwater in accordance with the requirements of 10 CSR 20-6.200 Stormwater Regulations.

A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt and runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products or waste (including recyclable) products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm-resistant shelter is not required for the following industrial materials and activities:

- Storage of drums, barrels, tanks and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves.
- Adequately maintained vehicles used in material handling.
- Final products, other than products that would be mobilized in stormwater discharges (e.g., rock salt).

A NEC must be provided for each facility qualifying for the no exposure exclusion. In addition, the certification of exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, or if the facility discharges any effluent other than stormwater to waters of the state, the facility is not eligible for the no exposure exclusion.

By signing and submitting this NEC, the facility representative in Section 7 certifies that a condition of no exposure exists at their facility or site, and is obligated to comply with the terms and conditions of 40 CFR 122.26(g).

1. FACILITY

FACILITY NAME			TELEPHONE NUMBER WITH AREA CODE	
Middle Big Creek WWTF			816-987-3701	
ADDRESS (PHYSICAL LOCATION)	CITY	COUNTY	STATE	ZIP CODE
1200 East State Route 58	Pleasant Hill	Cass	MO	64080

1.2 PLEASE SELECT ONE:

☐ a. This facility is now in operation under No Exposure Certification MO – NX_____and is submitting a certification. for renewal

☐ b. This is a facility submitting a request for a new No Exposure Certification (for a new facility).

☐ c. This facility is now in operation under Missouri State Operating Permit MO –_____, is requesting a new NEC, and wishes to terminate existing operating permit.

☑ d. This facility is a wastewater treatment plant with a design flow equal to or greater than 1.0 million gallons per day or a treatment plant required to have an approved pretreatment system and is requesting a NEC.

2. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
LBVSD, Middle Big Creek Subdistrict	shook@lbvsd.org	816-796-7660	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
21208 East Old Atherton Road	Independence	MO	64058

3. CONTINUING AUTHORITY

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
LBVSD, Middle Big Creek Subdistrict	shook@lbvsd.org	816-796-7660	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
21208 East Old Atherton Road	Independence	MO	64058

4. FACILITY CONTACT

NAME		TELEPHONE NUMBER WITH AREA CODE
Barry Parks		816-987-3701
TITLE	EMAIL ADDRESS	
Superintendent	bparks@lbvsd.org	

5. ADDITIONAL INFORMATION

5.1 Does the discharge(s) for which you are seeking an exclusion discharge to a combined sewer system? ☐ Yes ☑ No

If yes, provide the name of the combined sewer system entity _____

5.2 Does the discharge(s) for which you are seeking an exclusion discharge through a Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☑ No

If yes, provide the name of the MS4 entity _____

5.3 Primary SIC Code of Facility 4952 Other SIC Codes _____ (Optional) Primary NAICS Code of Facility _____

5.4 Provide an attached list of **any** materials that are stored outside and exposed to stormwater including wood pallets, empty storage barrels, waste disposal containers (except for a secured covered dumpster). Materials other than final product such as raw material or by-product of your industrial activities that can be mobilized by stormwater do not qualify for no exposure exclusion.

5.5 Attach a 1:1,000 aerial photograph (preferred) or USGS topographic map showing the location of the facility. Indicate on the map the facility, the property boundaries of the facility, the receiving water body, any septic tanks/lateral lines, stormwater basins, the location of items stored outside and all outfall locations.

5.6 Is the facility causing an adverse impact on water quality due to major changes at the site to achieve no exposure? For example, constructing new buildings/shelters or constructing structures to prevent run-on in a formerly vegetated area.

☐ Yes ☑ No

If yes, please indicate approximately how much area was paved or roofed over. The department may use this information in considering whether stormwater discharges from your site are likely to have an adverse impact on water quality, in which you could be required to obtain permit coverage for land disturbance activities.

☐ Less than 1 acre ☐ 1 to 5 acres ☐ More than 5 acres

6. NO EXPOSURE CERTIFICATION CHECKLIST

The purpose of this checklist is to 1) help you determine whether the exposure of industrial activities, materials, or equipment to stormwater has been eliminated at the facility, and 2) help department staff evaluate the adequacy of your compliance activities and NEC. For the purpose of this checklist, "outdoors" are areas of the facility that are not beneath permanent roofed structures where stormwater cannot run into or out of.

Are any of the following materials or activities exposed to precipitation or occurring on-site, now or in the foreseeable future? Please answer all questions by checking "Yes" or "No."

Using, storing, or cleaning industrial machinery or equipment, and areas where residuals from using, storing, or cleaning industrial machinery or equipment remain and are exposed to stormwater.	☐ Yes	☑ No
Materials or residuals on the ground or in stormwater inlets from spills or leaks.	☐ Yes	☑ No
Materials or products from past industrial activity.	☐ Yes	☑ No
Material handling equipment (except adequately maintained vehicles).	☐ Yes	☑ No
Materials or products during loading/unloading or transporting activities.	☐ Yes	☑ No
Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to stormwater does not result in the discharge of pollutants).	☐ Yes	☑ No
Materials contained in open, deteriorated, or leaking storage drums, barrels, tanks, or similar containers.	☐ Yes	☑ No
Materials or products handled/stored on roads or railways owned or maintained by the facility.	☐ Yes	☑ No
Waste Material (except waste in covered, non-leaking containers [e.g., dumpsters]).	☐ Yes	☑ No
On-site land application or discharge of wastewater.	☐ Yes	☑ No
Particulate matter or visible deposits or residuals from roof stacks or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater outflow.	☐ Yes	☑ No

If you answered "Yes" to any of these questions, you are not eligible for the no exposure exclusion.

7. CERTIFICATION

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES stormwater permitting.

I certify under penalty of law that there are no discharges of stormwater contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document [except as allowed under 40 CFR 122.26(g)(2)].

I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of stormwater from the facility.

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

NAME (TYPE OR PRINT) Barry E Parks	OFFICIAL TITLE superintendent
EMAIL bparks@lbusd	TELEPHONE NUMBER WITH AREA CODE 816 813 9429
SIGNATURE Barry E Parks	DATE SIGNED 9 30 2020

780-2828 (08-19)