

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, 92<sup>nd</sup> Congress) as amended,

Permit No.: MO-0099198

Owner: Judith M. Richards Family Trust  
Address: 1212 Saint Christopher Street, Columbia, MO 65203

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Mathis Mobile Home Park  
Facility Address: Brown School Road and Kirsten Lane intersection, Columbia, MO 65202

Legal Description: Sec. 25, T49N, R13W, Boone County  
UTM Coordinates: X=557947, Y=4317132

Receiving Stream: Tributary to Cow Branch  
First Classified Stream and ID: 100K Extent-Remaining Streams (C) (3960)  
USGS Basin & Sub-watershed No.: (10300102-0706)

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

**FACILITY DESCRIPTION**

Outfall #001 – Non-POTW  
Single-cell lagoon / sludge retained in lagoon.  
Design population equivalent is 20.  
Design flow is 2,000 gallons per day.  
Actual flow is estimated to be 400 gallons per day.  
Design sludge production is 0.3 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas.

April 1, 2023  
Effective Date

March 31, 2028  
Expiration Date

John Hoke, Director, Water Protection Program

OUTFALL #001	TABLE A-1. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. In accordance with 10 CSR 20-7.031, the final effluent limitations outlined in <b>Table A-2</b> must be achieved as soon as possible but no later than <b>April 1, 2025</b> . These interim effluent limitations in <b>Table A-1</b> are effective beginning <b>April 1, 2023</b> and remain in effect through <b>March 31, 2025</b> or as soon as possible. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: M						
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		65	45	once/month	grab
Total Suspended Solids	mg/L		120	80	once/month	grab
Ammonia as N (January)	mg/L	12.1		3.1	once/month	grab
Ammonia as N (February)	mg/L	10.1		2.7	once/month	grab
Ammonia as N (March)	mg/L	10.1		2.7	once/month	grab
Ammonia as N (April)	mg/L	10.1		2.3	once/month	grab
Ammonia as N (May)	mg/L	12.1		1.9	once/month	grab
Ammonia as N (June)	mg/L	12.1		1.5	once/month	grab
Ammonia as N (July)	mg/L	10.1		1.1	once/month	grab
Ammonia as N (August)	mg/L	12.1		1.3	once/month	grab
Ammonia as N (September)	mg/L	12.1		1.7	once/month	grab
Ammonia as N (October)	mg/L	12.1		2.6	once/month	grab
Ammonia as N (November)	mg/L	12.1		3.1	once/month	grab
Ammonia as N (December)	mg/L	10.1		2.7	once/month	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.5		9.0	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <b>MONTHLY</b> ; THE FIRST REPORT IS DUE <b>MAY 28, 2023</b> .						

\* Monitoring requirement only.

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

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 <b>Table A-2</b> shall become effective on <b>April 1, 2025</b> and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: M						
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		65	45	once/month	grab
Total Suspended Solids	mg/L		120	80	once/month	grab
<i>E. coli</i> ( <b>Note 1</b> )	#/100mL	1,030		206	once/month	grab
Ammonia as N (January)	mg/L	12.1		3.1	once/month	grab
Ammonia as N (February)	mg/L	10.1		2.7	once/month	grab
Ammonia as N (March)	mg/L	10.1		2.7	once/month	grab
Ammonia as N (April)	mg/L	10.1		2.3	once/month	grab
Ammonia as N (May)	mg/L	12.1		1.9	once/month	grab
Ammonia as N (June)	mg/L	12.1		1.5	once/month	grab
Ammonia as N (July)	mg/L	10.1		1.1	once/month	grab
Ammonia as N (August)	mg/L	12.1		1.3	once/month	grab
Ammonia as N (September)	mg/L	12.1		1.7	once/month	grab
Ammonia as N (October)	mg/L	12.1		2.6	once/month	grab
Ammonia as N (November)	mg/L	12.1		3.1	once/month	grab
Ammonia as N (December)	mg/L	10.1		2.7	once/month	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.5		9.0	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <b>MONTHLY</b> ; THE FIRST REPORT IS DUE <u>MAY 28, 2025</u> .						

\* Monitoring requirement only.

\*\* 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.

## **B. SCHEDULE OF COMPLIANCE**

The facility shall attain compliance with final effluent limitations as soon as possible but in no case later than **two (2) years** of the effective date of this permit.

1. Within six months of the effective date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits for *E. coli*.
2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from the effective date of this permit.
3. Within **two (2) years** of the effective date of this permit, the permittee shall attain compliance with the final effluent limits for *E. coli*.

Please submit progress reports to the Missouri Department of Natural Resources via the Electronic Discharge Monitoring Report (eDMR) Submission System.

## **C. STANDARD CONDITIONS**

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

## **D. SPECIAL CONDITIONS**

1. Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit) shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data about the NPDES program. All reports uploaded into the system shall be reasonably named so they are easily identifiable, such as "WET Test Chronic Outfall 002 Jan 2023," or "Outfall 004 Daily Data Mar 2025."
  - (a) eDMR Registration Requirements. The permittee must register with the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. Information about the eDMR system can be found at <https://dnr.mo.gov/water/business-industry-other-entities/reporting/electronic-discharge-monitoring-reporting-system-edmr>. The first user shall register as an Organization Official and the association to the facility must be approved by the Department. Regarding Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department. See paragraph (c) below.
  - (b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: <https://apps5.mo.gov/mogems/welcome.action>. If you experience difficulties with using the eDMR system you may contact [edmr@dnr.mo.gov](mailto:edmr@dnr.mo.gov) or call 855-789-3889 or 573-526-2082 for assistance.
  - (c) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692>. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days.
2. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:
  - (a) To comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.

3. All outfalls must be clearly marked in the field.
4. Report as no-discharge when a discharge does not occur during the report period.
5. Reporting of Non-Detects:
  - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
  - (b) See sufficiently sensitive test method requirements in Standard Conditions Part I, Section A, No. 4 regarding proper testing and method minimum levels used for sample analysis.
  - (c) The permittee shall not report a sample result as "Non-Detect" without also reporting the method minimum level of the test. Reporting as "Non Detect" without also including the method minimum level, will be considered failure to report, which is a violation of this permit.
  - (d) The permittee shall provide the "Non-Detect" sample result using the less than symbol and the method minimum level (e.g., <50 µg/L, if the method minimum level for the parameter is 50 µg/L).
  - (e) Where the permit contains a Department determined Minimum Quantification Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
  - (f) For the daily maximum, the facility shall report the highest value. If the highest value was a non-detect, use the less than "<" symbol and the laboratory's highest method minimum level.
  - (g) For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.
  - (h) For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of "0" for all non-detects for that reporting period and report the average of all the results.
  - (i) When *E. coli* is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means.
  - (j) See the Fact Sheet Appendix - Non-Detect Example Calculations for further guidance.
6. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
7. 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 Northeast Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem> or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours. Once an electronic reporting system compliant with 40 CFR Part 127, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, is available all bypasses must be reported electronically via the new system. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.
8. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.
9. 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.
10. An all-weather access road to the treatment facility shall be maintained.
11. The outfall sewer shall be protected and maintained against the effects of floodwater, ice, or other hazards as to reasonably ensure its structural stability, freedom from stoppage, and that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.
12. The lagoon(s) 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.
13. The facility shall ensure that adequate provisions are provided to prevent or minimize surface water intrusion into the lagoon and to divert stormwater runoff around the lagoon and protect embankments from erosion.

14. This facility is located within the jurisdiction of a higher continuing authority. Boone County Regional Sewer District and the City of Columbia are a joint level two continuing authority approved by the Missouri Clean Water Commission in 2010. 10 CSR 20-6.010(2) requires the higher preference level continuing authority (City of Columbia) be utilized, if available. While the City of Columbia facility has notified this facility of service availability, this facility has demonstrated use of a lower continuing authority by meeting one or more of the requirements listed in 10 CSR 20-6.010(2) paragraphs (C)1.-7. This lower continuing authority, as listed on the certificate page of this permit, is the valid continuing authority for this facility until permit expiration or modification (ex. ownership transfer). Permittee must provide a new demonstration for use of a lower continuing authority at permit renewal or upon modification while the higher authority retains availability. Failure to provide an acceptable demonstration for a valid lower continuing authority will result in permit application denial, and facility shall either provide a new application with a valid demonstration or connect to the City of Columbia sewer collection system within the timeframe agreed upon by this facility and City of Columbia.

#### **E. NOTICE OF RIGHT TO APPEAL**

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

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

**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**FACT SHEET**  
**FOR THE PURPOSE OF RENEWAL**  
**OF**  
**MO-0099198**  
**MATHIS MOBILE HOME PARK**

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: 10/27/14  
Expiration Date: 03/21/15

Facility Type and Description: Non - POTW – Single-cell lagoon / sludge retained in lagoon.

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.003	Equivalent to Secondary	Domestic

**Comments:**

Changes in this permit include the transfer of ownership and continuing authority from Judith Mathis Richards to the Judith M. Richards Family Trust. Additional changes for this permit include the updated versions of Standard Conditions Part I and III and updated appeals language.

Changes in this permit for Outfall #001 include the revision of pH limits to include a maximum, the revision of Ammonia as N effluent limits, and the addition of final effluent limits for *E. coli*. *E. coli* limits were added because the effluent reaches a stream extent within two miles of the outfall that has been designated with Whole-Body Contact (B) use since previous permit issuance. No interim monitoring for *E. coli* is included as reasonable potential for the presence of *E. coli* in the discharge is assumed and interim *E. coli* sampling is an unnecessary cost burden on the facility. See Part II of the Fact Sheet for further information regarding the addition, revision, and removal of effluent parameters.

Special conditions were updated to include the addition of the Electronic Discharge Monitoring Report (eDMR) Submission System, the addition of reporting Non-Detects, the revision of bypass reporting, and the revision of the special condition to reopen, modify, revoke, or reissue the permit. Changes to special conditions also include the removal of changes in discharges of toxic substances, the removal of general criteria as a special condition as the permit writer evaluated each narrative statement in Part II – Effluent Limitations and Monitoring Requirements for reasonable potential to cause or contribute to an excursion of the criteria and established numeric effluent limitations where necessary, and the removal of special conditions requiring gates and warning signs, but the facility must remain secure to restrict unauthorized access per special condition 8.

Additionally, the special condition requiring the facility to cease discharge and connect to a facility with an area-wide management plan was removed. While this facility is located within the jurisdiction of a higher continuing authority with available connection, this facility has demonstrated use of a lower continuing authority per 10 CSR 20-6.010(2)(C)7., as the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area. Connection to the higher continuing authority is not economically feasible for this facility. The continuing authority listed on the certificate page of this permit is the valid continuing authority for this facility until modification or permit renewal, at which times the facility must provide a new demonstration for use of a lower continuing authority while the higher continuing authority retains availability per special condition 14.

## **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 Cow Branch	--	--	General Criteria	10300102-0706	0.25
100K Extent-Remaining Streams	C	3960	AHP (WWH), LWP, IRR, HHP, 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 1<sup>st</sup> classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses found in the receiving streams table, above:

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

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

**WWH** = Warm Water Habitat;

**CLH** = Cool Water Habitat;

**CDH** = Cold Water Habitat;

**EAH** = Ephemeral Aquatic Habitat;

**MAH** = Modified Aquatic Habitat;

**LAH** = Limited Aquatic Habitat.

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

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

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

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

**WBC-B** = Whole body contact recreation that supports swimming;

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

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

**HHP** = Human Health Protection as it relates to the consumption of fish;

**IRR** = Irrigation - Application of water to cropland or directly to cultivated plants that may be used for human or livestock consumption;

**LWP** = Livestock and wildlife protection - Maintenance of conditions in waters to support health in livestock and wildlife;

**DWS** = Drinking water supply;

**IND** = Industrial water supply

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

**WSA** = Storm- and flood-water storage and attenuation;

**WHP** = Habitat for resident and migratory wildlife species;

**WRC** = Recreational, cultural, educational, scientific, and natural aesthetic values and uses;

**WHC** = Hydrologic cycle maintenance.

10 CSR 20-7.031(6):

**GRW** = Groundwater

#### **RECEIVING STREAM(S) LOW-FLOW VALUES:**

RECEIVING STREAM	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Tributary to Cow Branch	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 stream with an EPA approved TMDL. This facility is within the watershed for the Missouri River which has a TMDL for Chlordane and Polychlorinated Biphenyls (PCB) that was approved in 2006.
  - This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment of the Missouri River. This facility is not considered to be a source of the above impairment because these chemicals have been banned from use in 1988 and 1977, respectively. Additionally, the TMDL lists many point and nonpoint sources as the pollutant source, however as this facility receives only a small amount of domestic wastewater with no nonpoint sources, it is not expected to contribute Chlordane and PCB to the watershed.
- ✓ The Department conducted a stream survey on August 15, 2012 at two locations near this facility: in Stream approximately 10 yards downstream from Outfall #001 and at Outfall #001. No use designations of the receiving stream were impaired.

**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 ****
<i>Escherichia coli</i> **	#/100mL	1, 3	1,030		206	***	1/month	monthly	G
Ammonia as N (January)	mg/L	2, 3	12.1		3.1	7.5/2.9	1/month	monthly	G
Ammonia as N (February)	mg/L	2, 3	10.1		2.7	7.5/2.9	1/month	monthly	G
Ammonia as N (March)	mg/L	2, 3	10.1		2.7	7.5/2.9	1/month	monthly	G
Ammonia as N (April)	mg/L	2, 3	10.1		2.3	3.6/1.4	1/month	monthly	G
Ammonia as N (May)	mg/L	2, 3	12.1		1.9	3.6/1.4	1/month	monthly	G
Ammonia as N (June)	mg/L	2, 3	12.1		1.5	3.6/1.4	1/month	monthly	G
Ammonia as N (July)	mg/L	2, 3	10.1		1.1	3.6/1.4	1/month	monthly	G
Ammonia as N (August)	mg/L	2, 3	12.1		1.3	3.6/1.4	1/month	monthly	G
Ammonia as N (September)	mg/L	2, 3	12.1		1.7	3.6/1.4	1/month	monthly	G
Ammonia as N (October)	mg/L	2, 3	12.1		2.6	7.5/2.9	1/month	monthly	G
Ammonia as N (November)	mg/L	2, 3	12.1		3.1	7.5/2.9	1/month	monthly	G
Ammonia as N (December)	mg/L	2, 3	10.1		2.7	7.5/2.9	1/month	monthly	G
PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
pH	SU	1	6.5		9.0	≥6.5	1/month	monthly	G

\* - Monitoring requirement only.

\*\* - #/100mL; the Monthly Average for *E. coli* is a geometric mean.

\*\*\* - Parameter not previously established in previous state operating permit.

\*\*\*\* - C = 24-hour composite

G = Grab

T = 24-hr. total

E = 24-hr. estimate

M = Measured/calculated

**Basis for Limitations Codes:**

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

## **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<sub>5</sub>)**. Operating permit retains 65 mg/L as a Weekly Average and 45 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(8) for discharges to All Other Waters.
- **Total Suspended Solids (TSS)**. Operating permit retains 120 mg/L as a Weekly Average and 80 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(8) for discharges to All Other Waters.

Please note that the final effluent limits for BOD and TSS contained in the permit are Equivalent to Secondary limits as per 10 CSR 20-7.015. Any changes made to the lagoon system that modifies it such that it no longer functions as a typical lagoon will result in the facility no longer qualifying for Equivalent to Secondary limitations. The facility may be required to also follow the Missouri Antidegradation Rule and Implementation Procedure if the discharge is expanded.

- **Escherichia coli (E. coli)**. Monthly average of 206 per 100 mL as a geometric mean and Daily Maximum 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 daily maximum is required by 40 CFR 122.45(d). The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected. For example: Five *E. coli* samples were collected with results of 1, 4, 6, 10, and 5 (#/100mL). Geometric Mean = 5<sup>th</sup> root of (1)(4)(6)(10)(5) = 5<sup>th</sup> root of 1,200 = 4.1 #/100mL.
- **Total Ammonia Nitrogen**. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L. 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 using the mass-balance equation:

$$C_e = \frac{(Q_e + Q_s)C - (Q_s \times C_s)}{(Q_e)}$$

Where C = downstream concentration      C<sub>e</sub> = effluent concentration  
Cs = upstream concentration              Q<sub>e</sub> = effluent flow  
Q<sub>s</sub> = 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	7.8	3.1	12.1
February	4.0	7.9	2.7	10.1
March	10.6	7.9	2.7	10.1
April	17.0	7.9	2.3	10.1
May	22.0	7.8	1.9	12.1
June	26.0	7.8	1.5	12.1
July	28.9	7.9	1.1	10.1
August	28.0	7.8	1.3	12.1
September	24.1	7.8	1.7	12.1
October	17.5	7.8	2.6	12.1
November	11.6	7.8	3.1	12.1
December	4.9	7.9	2.7	10.1

\* Ecoregion data (Central Irregular Plains)

### January

Chronic WLA:

$$C_e = ((0.003 + 0.0)3.1 - (0.0 * 0.01))/0.003 = 3.1 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)12.1 - (0.0 * 0.01))/0.003 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **3.1** mg/L

Acute WLA = MDL = **12.1** mg/L

### March

Chronic WLA:

$$C_e = ((0.003 + 0.0)2.7 - (0.0 * 0.01))/0.003 = 2.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)10.1 - (0.0 * 0.01))/0.003 = 10.1 \text{ mg/L}$$

Chronic WLA = AML = **2.7** mg/L

Acute WLA = MDL = **10.1** mg/L

### May

Chronic WLA:

$$C_e = ((0.003 + 0.0)1.9 - (0.0 * 0.01))/0.003 = 1.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)12.1 - (0.0 * 0.01))/0.003 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **1.9** mg/L

Acute WLA = MDL = **12.1** mg/L

### July

Chronic WLA:

$$C_e = ((0.003 + 0.0)1.1 - (0.0 * 0.01))/0.003 = 1.1 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)10.1 - (0.0 * 0.01))/0.003 = 10.1 \text{ mg/L}$$

Chronic WLA = AML = **1.1** mg/L

Acute WLA = MDL = **10.1** mg/L

### February

Chronic WLA:

$$C_e = ((0.003 + 0.0)2.7 - (0.0 * 0.01))/0.003 = 2.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)10.1 - (0.0 * 0.01))/0.003 = 10.1 \text{ mg/L}$$

Chronic WLA = AML = **2.7** mg/L

Acute WLA = MDL = **10.1** mg/L

### April

Chronic WLA:

$$C_e = ((0.003 + 0.0)2.3 - (0.0 * 0.01))/0.003 = 2.3 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)10.1 - (0.0 * 0.01))/0.003 = 10.1 \text{ mg/L}$$

Chronic WLA = AML = **2.3** mg/L

Acute WLA = MDL = **10.1** mg/L

### June

Chronic WLA:

$$C_e = ((0.003 + 0.0)1.5 - (0.0 * 0.01))/0.003 = 1.5 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)12.1 - (0.0 * 0.01))/0.003 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **1.5** mg/L

Acute WLA = MDL = **12.1** mg/L

### August

Chronic WLA:

$$C_e = ((0.003 + 0.0)1.3 - (0.0 * 0.01))/0.003 = 1.3 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)12.1 - (0.0 * 0.01))/0.003 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **1.3** mg/L

Acute WLA = MDL = **12.1** mg/L

### September

Chronic WLA:

$$C_e = ((0.003 + 0.0)1.7 - (0.0 * 0.01))/0.003 = 1.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)12.1 - (0.0 * 0.01))/0.003 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **1.7 mg/L**

Acute WLA = MDL = **12.1 mg/L**

### November

Chronic WLA:

$$C_e = ((0.003 + 0.0)3.1 - (0.0 * 0.01))/0.003 = 3.1 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)12.1 - (0.0 * 0.01))/0.003 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **3.1 mg/L**

Acute WLA = MDL = **12.1 mg/L**

### October

Chronic WLA:

$$C_e = ((0.003 + 0.0)2.6 - (0.0 * 0.01))/0.003 = 2.6 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)12.1 - (0.0 * 0.01))/0.003 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **2.6 mg/L**

Acute WLA = MDL = **12.1 mg/L**

### December

Chronic WLA:

$$C_e = ((0.003 + 0.0)2.7 - (0.0 * 0.01))/0.003 = 2.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.003 + 0.0)10.1 - (0.0 * 0.01))/0.003 = 10.1 \text{ mg/L}$$

Chronic WLA = AML = **2.7 mg/L**

Acute WLA = MDL = **10.1 mg/L**

- **pH.** 6.5-9.0 SU. pH limitations of 6.0-9.0 SU [10 CSR 20-7.015] are not protective of the in-stream Water Quality Standard, which states that water contaminants shall not cause pH to be outside the range of 6.5-9.0 SU. 10 CSR 20-7.015 allows pH for lagoons to be maintained above 6.0 SU. Due to the classification of the receiving stream, the Department has determined that there is no assimilative capacity during critical low flow periods, therefore the water quality standard must be met at the outfall.

**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. Sampling for *E. coli* is set at monthly per 10 CSR 20-7.015(9)(D)7.C.

**Sampling Type Justification:** As per 10 CSR 20-7.015, BOD<sub>5</sub> and TSS samples collected for lagoons may be grab samples. Grab samples must be collected for pH and *E. coli* in accordance with recommended analytical methods. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D) 2.

### **OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS:**

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

- (A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses. The discharge from this facility is made up of treated domestic wastewater. Based upon review of the Report of Compliance Inspection for the inspection conducted on January 24, 2019, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, this facility utilizes equivalent to secondary treatment technology and is currently in compliance with the equivalent to secondary treatment technology based effluent limits established in this permit and there has been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of this discharge. Based on the information reviewed during the drafting of this permit, these final effluent limitations appear to have protected against the excursion of this criterion in the past. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.
- (B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.

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

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

#### **ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

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

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

#### **ANTI-BACKSLIDING:**

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

- ✓ Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
  - Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.
  - **Ammonia as N.** Effluent limitations were re-calculated for Ammonia using new DMR data and new ecoregional pH and Temperature data. 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.
  - 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 II – Effluent Limitations and Monitoring Requirements for more information regarding the reasonable potential determinations for each general criterion related to this facility.
- The previous permit indicated “There Shall Be No Discharge of Floating Solids or Visible Foam in Other Than Trace Amounts” under each table. The statement was not evaluated against actual site conditions therefore, this general criteria was re-assessed. It was determined that this facility does not discharge solids or foam in amounts which would indicate reasonable potential, therefore the statement was removed. Each general criteria was assessed for this facility.

#### **ANTIDEGRADATION:**

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

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

#### **AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**

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

#### **BIOSOLIDS & SEWAGE SLUDGE:**

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

- ✓ Permittee is not authorized to land apply biosolids. Sludge/biosolids are stored in the lagoon. The permittee must receive approval for any treatment, removal, and disposal of sludge or biosolids that not identified in the facility description of the operating permit.

#### **COMPLIANCE AND ENFORCEMENT:**

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

#### **Facility Performance History:**

- ✓ The facility is currently under enforcement action. The enforcement action is due to failure to submit DMRs and failure to comply with permit conditions.

#### **CONTINUING AUTHORITY:**

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

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

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

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

- No higher level authorities are available to the facility;
- No higher level authorities have jurisdiction;
- Higher level authorities are forbidden by state statute or local ordinance from providing service to the person;
- The existing higher level authority is available to the facility, however the facility has proposed the use of a lower preference continuing authority and has submitted one of the following as part of their application provided it does not conflict with any area-wide management plan approved under section 208 of the Clean Water Act or by the Missouri Clean Water Commission. (See Fact Sheet Appendix - Continuing Authority for more information on these options):
  - A waiver from the existing higher authority;
  - A written statement or a demonstration of non-response from the higher authority;
  - A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
  - Documentation that the proposed connection or adoption charge by the higher authority would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;
  - Documentation that the proposed service fee on the users of the system by the higher authority is above what is affordable for existing homeowners in that area;
  - Documentation that the terms for connection or adoption by the higher authority would require more than two (2) years to achieve full sewer service;
  - A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area;
- ✓ The continuing authority listed on the application is a person, and therefore a Level 4 Authority. There is a Level 2 Authority approved by the Missouri Clean Water Commission in Boone County. The applicant has shown that:
  - A higher level authority is available to the facility, however the facility has proposed the use of a lower preference continuing authority. The facility has submitted as part of their application, the following information:
    - A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area (See Fact Sheet Appendix - Continuing Authority).

**ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:**

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

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

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

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

**NUMERIC LAKE NUTRIENT CRITERIA:**

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

**OPERATOR CERTIFICATION REQUIREMENTS:**

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

- ✓ This facility is not required to have a certified operator as it doesn't have a PE greater than 200 and is not 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.

**OPERATIONAL CONTROL TESTING:**

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

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

- ✓ As per [10 CSR 20-9.010(4)], the facility is not required to conduct operational monitoring.

**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.

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



**REASONABLE POTENTIAL (RP):**

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

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

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

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

- ✓ An RPA was not conducted for this facility. Ammonia is a constituent of domestic wastewater. A RPD was made, that a potential to violate water quality standards exists. Please see Derivation and Discussion of Limits.

**REMOVAL EFFICIENCY:**

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

- ✓ Influent monitoring is not being required to determine percent removal.

**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.

- ✓ This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

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

- ✓ The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(11)]. The facility has been given a schedule of compliance to meet final effluent limits for *E. coli*. The two year schedule of compliance allowed for this facility should provide adequate time to evaluate operations, obtain an engineering report, obtain a construction permit and implement upgrades required to meet effluent limits.

The following suggested milestones can be used by the permittee as a timeline toward compliance with new permit requirements. Once the permit holder's engineer has completed facility design with actual costs associated with permit compliance, it may be necessary for the permit holder to request additional time within the schedule of compliance. The Department is committed to review all requests for additional time in the schedule of compliance where adequate justification is provided.

### **Suggested Milestones during the 2 Year Schedule of Compliance**

Year	Milestone(s)
1	<b>Identify funding source and hire engineer. Submit plans and specifications to the Department. Apply for construction permit if applicable</b>
2	<b>Complete construction</b>

### **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:

$$C_e = \frac{(Q_e + Q_s)C - (Q_s \times C_s)}{(Q_e)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration      C<sub>e</sub> = effluent concentration  
Cs = upstream concentration              Q<sub>e</sub> = effluent flow  
Q<sub>s</sub> = 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<sub>5</sub> 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<sub>3</sub>)
- ☐ Facility is a municipality with a Design Flow ≥ 22,500 gpd.
- ☐ Other – please justify.

✓ At this time, the permittee is not required to conduct WET test for this facility.

#### 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 not required to complete a cost analysis for compliance because the facility is not a combined or separate sanitary sewer system for a publicly-owned treatment works.

## **Part V – Administrative Requirements**

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

### **WATER QUALITY STANDARD REVISION:**

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

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

### **PUBLIC NOTICE:**

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

- ✓ The Public Notice period for this operating permit was from January 13, 2023 to February 13, 2023. Responses to the Public Notice of this operating permit did not warrant the modification of effluent limits of this permit. Special Condition 14 was updated to reflect the City of Columbia as the Level 2 authority. The Continuing Authority Appendix in the Fact Sheet was updated in consideration of comments received.

**DATE OF FACT SHEET:** NOVEMBER 9, 2022

### **COMPLETED BY:**

**ASHLEY KNEEMUELLER, ENVIRONMENTAL PROGRAM ASSISTANT**  
**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**WATER PROTECTION PROGRAM**  
**OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT**  
**(573) 526-1503**  
**Ashley.Kneemueller@dnr.mo.gov**

## Appendices

APPENDIX – ALTERNATIVE: Facility location and direction of effluent flow.



#### APPENDIX – Non-Detect Example Calculations:

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

Week 1 = 11.4 mg/L

Week 2 = Non-Detect or <5.0 mg/L

Week 3 = 7.1 mg/L

Week 4 = Non-Detect or <5.0 mg/L

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

$$11.4 + 0 + 7.1 + 0 = 18.5 \div 4 \text{ (number of samples)} = 4.63 \text{ mg/L.}$$

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

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

Day 1 = Non-Detect or <9.0 µg/L

Day 2 = Non-Detect or <9.0 µg/L

Day 3 = Non-Detect or <9.0 µg/L

Day 4 = Non-Detect or <9.0 µg/L

Day 5 = Non-Detect or <9.0 µg/L

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

$$(9 + 9 + 9 + 9 + 9) \div 5 \text{ (number of samples)} = <9 \text{ µg/L.}$$

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

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

Week 1 = Non-Detect or <4.0 µg/L

Week 2 = Non-Detect or <4.0 µg/L

Week 3 = Non-Detect or <6.0 µg/L

Week 4 = Non-Detect or <6.0 µg/L

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

$$(4 + 4 + 6 + 6) \div 4 \text{ (number of samples)} = <5 \text{ µg/L. (Monthly)}$$

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

#### APPENDIX – Non-Detect Example Calculations (Continued):

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

Week 1 = Non-Detect or <4.0 µg/L

Week 2 = Non-Detect or <4.0 µg/L

Week 2 = Non-Detect or <6.0 µg/L

Week 3 = Non-Detect or <6.0 µg/L

Week 4 = Non-Detect or <6.0 µg/L

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

$(4 + 4 + 6 + 6 + 6) \div 5$  (number of samples) = <5.2 µg/L. (Monthly)

$(4 + 6) \div 2$  (number of samples) = <5 µg/L. (Week 2)

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

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

Week 1 = 12 µg/L

Week 2 = 52 µg/L

Week 3 = Non-Detect or <10 µg/L

Week 4 = 133 µg/L

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

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

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

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

Week 1 = 102 #/100mL

Week 2 (Monday) = 400 #/100mL

Week 2 (Friday) = Non-Detect or <1 #/100mL

Week 3 = 15 #/100mL

Week 4 = Non-Detect or <1 #/100mL

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

The Monthly Average (30 day Geometric Mean) = 5th root of  $(102)(400)(0.5)(15)(0.5) = 5\text{th root of } 153,000 = 10.9$  #/100mL.

The 7 day Geometric Mean = 2nd root of  $(400)(0.5) = 2\text{nd root of } 200 = 14.1$  #/100mL. (Week 2)

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



## **APPENDIX – ALTERNATIVE: Continuing Authority.**

### **Affordability calculations:**

This facility is located within the jurisdiction of a higher continuing authority. Boone County Regional Sewer District (BCRSD) and City of Columbia are a joint level two (2) continuing authority approved by the Missouri Clean Water Commission in 2010. 10 CSR 20-6.010(2) requires the preferential level continuing authority (City of Columbia) be utilized, if available. While a City of Columbia facility has stated it has available connection for this facility, this facility has demonstrated use of a lower continuing authority by meeting one or more of the requirements listed in paragraphs (2)(C)1.-7. of 10 CSR 20-6.010(2). This lower authority, as listed on the certificate page of this permit, is the valid continuing authority until permit expiration or modification (ex. ownership transfer). Permittee must provide a new demonstration for use of a lower continuing authority at permit renewal or upon modification.

The documentation provided by this facility constitutes a demonstration for use of a lower continuing authority as the valid authority on this permit by satisfying the requirement of 10 CSR 20-6.010(2)(C)7. The documentation below illustrates the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area.

If the facility connects to the City collection system, this facility would be required to annex to the City prior to connection and to pay the City's connection fee. This facility would be responsible for funding any of the requirements of annexation, which is likely to be cost prohibitive. As flow from this facility would go to the City, analysis of connection charge by BCRSD is not relevant. The recommendation in BCRSD's regional plan approved by the Missouri Clean Water Commission does not include this facility as directing flows to any BCRSD owned facilities. BCRSD's recommendation for this facility in its approved plan is that this facility shall work with the City for connection and sewer service.

The connection charge by the City for a 5/8 inch water meter is \$2,400.00 and \$3,600.00 for a 3/4 inch meter per Section 22-264 of the City of Columbia Code of Ordinances. The total connection charge by City of Columbia for this facility is \$8,400 as this facility serves two single family residential structures with 5/8 inch meters and a mobile home park with a 3/4 inch meter. The City of Columbia Code of Ordinances outlining sewer fees and rates may be viewed here:

[https://library.municode.com/mo/columbia/codes/code\\_of\\_ordinances?nodeId=COORCOMI\\_CH22PUWOIM\\_ARTVISESEDI\\_DIV6RACH](https://library.municode.com/mo/columbia/codes/code_of_ordinances?nodeId=COORCOMI_CH22PUWOIM_ARTVISESEDI_DIV6RACH)

This facility reported an annual operating cost of \$3,900. As permits may be issued for up to a five year effective period, the operating cost for the facility is multiplied by five to represent the maximum possible length of a permit cycle, resulting in a total operating cost of \$19,500, which is used to compare the options below to the current cost of operations for economic feasibility.

This facility provided cost estimates for conversion to an irrigation system utilizing the existing lagoon, closure of the existing lagoon and conversion to an onsite waste water system with subsurface absorption, connection to the City sewer collection system to the south of the property with closure of the existing facility, and vacating the structures served by the facility and conducting lagoon closure. Below are calculations determining these options are not affordable for this applicant, beginning with connection to the City for clarity of this demonstration.

Option 3: Connection to City sewer and closure of lagoon.

Cost estimate = \$67,000\* + \$8,400

Facility's annual operating costs = \$19,500

120% of \$19,500 = \$23,400

\$67,000\* + \$8,400 > \$23,400

\$67,000\* + \$8,400 = 387% the cost of operating the current facility.\*\*

\*The engineering report includes an estimate of the connection charge by the city that is no longer accurate as one of the connections was removed after this engineering report was written, so the cost estimate evaluated above was corrected.

\*\* Cost estimate provided is shown as a percentage of facility's five year operating cost for reference of economic feasibility.

The engineering report listed an actual population served of 4 persons, however, the current number is less. The actual population served at this time is unknown, but the Department notes that one of the single family homes used in the report is no longer connected, and, per email correspondence from the facility on August 23, 2022, one of the two remaining houses is occupied and the trailer park no longer has any connections. This leaves a single connection currently being served, and thus a single homeowner in the area that would bear the cost of connection and closure.

The terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area as the cost from these terms would be the burden of a single home. This facility meets the demonstration for use of a lower continuing authority as the valid authority on this permit via 10 CSR 20-6.010(2)(C)7.



Option 1: Conversion to no discharge system

Cost estimate = \$46,000.00  
Facility's annual operating costs = \$19,500  
120% of \$19,500 = \$23,400  
\$46,000.00 > \$23,400  
\$46,000.00 = 236% the cost of operating the current facility.

Conversion to an irrigation system would address effluent violation concerns, but the proposed irrigation system would require a permit from the Department, and the higher authority would still be preferred per 10 CSR 20-6.010(2)(B). Conversion to an irrigation system is not financially feasible, nor would it resolve the continuing authority issue.

Option 2: Conversion to onsite system and closure of lagoon.

Cost estimate = \$38,000.00  
Facility's annual operating costs = \$19,500  
120% of \$19,500 = \$23,400  
\$38,000.00 > \$23,400  
\$38,000.00 = 195% the cost of operating the current facility.

Estimate for conversion to an onsite system only includes the two houses on the property the facility is located. In the time since this cost estimate was provided, one of the houses (located on the adjacent property) has been disconnected from the lagoon and is now served by an onsite system. This estimate does not include the trailer park which would need a separate resolution for wastewater flows. If the applicant pursued this option, this facility would no longer be under the jurisdiction of the Department. The onsite system would be under the jurisdiction of the local authority, Columbia/Boone County Public Health & Human Services, as Boone County is an ordinance county regarding onsite wastewater authority. This permit with the Department would be terminated, and continuing authority analysis would no longer be relevant. This option is not financially feasible, and proposes further issues for the connection not included in the estimate.

The engineering report listed a fourth option of vacating all structures connected to the lagoon and conducting lagoon closure, eliminating flows and any need for conversion or connection to the higher authority. This option is not likely to be pursued by the facility.

Below is the engineering report, provided by the applicant, which shows the costs of the options outlined above.

## ENGINEERING REPORT FOR MATHIS MOBILE HOME PARK WASTEWATER TREATMENT

System Owner: Judith Richards

Contact Information:  
Judith Richards  
915 West Broadway  
Columbia, Missouri 65203  
Richards.judy@gmail.com

Date: January 15, 2020



Christina L. Luebbert  
1-15-2020

Prepared by: Christina L. Luebbert, P.E., LEED AP  
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E-2000150050

## INTRODUCTION

Starting in the mid 1960's, Ms. Judith Richards father had two homes built and moved mobile homes onto a property on Kirsten Lane just off Brown School Road near Columbia, Boone County, Missouri (location map attached). This site became known as the Mathis trailer court. Aerial photography from 1962 shows the land vacant and aerial photography from 1968 shows the two homes and about 10 mobile homes. The lagoon that was originally dug in the 1960's for these structures is located just northeast of the Kirsten Lane and Brown School Road intersection on the southeast corner of the site. The lagoon was later permitted by the Missouri Department of Natural Resources for a total population equivalent of 20 people or 2000 gpd.

The most recent permit (MO-0099198) was issued August 1, 2013 and expired March 31, 2015. In this permit, the interim effluent limitations and monitoring requirements (until July 31, 2016) required that Ammonia levels of the effluent be monitored. After August 1, 2016, the final effluent limit for Ammonia during the recreational season must be at or below 3.6 mg/L/day and 1.4 mg/L/monthly average. The limits from October through March are 7.5 mg/L/day and 2.9 mg/L/monthly average.

The permit also had a schedule of compliance where the owner was expected to submit progress reports related to how the facility would work towards attaining compliance with the final effluent limits. It is my understanding this was not completed. However, Ms. Richards worked to reduce the flow to the lagoon by moving out tenants (mobile homes) and adjusting the outlet pipe structure to slightly increase the storage. This allowed for the lagoon to have no discharge reported most months. However, a wet spring caused discharge a couple of times in the last year and has pushed this issue into enforcement action.

The purpose of this report is to review the various alternatives for Ms. Richards to bring her property into compliance with clean water regulations.

## PLANNING AND SERVICE AREA

The lagoon serves the 9.7 acres owned by Ms. Richards as well as the adjacent 9.6 acre tract owned by Darren Pemberton. There are currently 2 single family residential structures and one mobile home on Ms. Richards property and 1 single family residential structure on Mr. Pemberton's property. At this time, the former connections of an additional 13 mobile homes will not be considered.

A map of the approximate location of the existing collection system is attached.

## POPULATION PROJECTION AND PLANNING PERIOD

The existing system serves 3 single family homes and one mobile home with a total population of 4 people. This report will only give limited consideration to the various possibilities for future development of the site and the tract to the east.

## HYDRAULIC CAPACITY DETERMINATION

Existing System: The calculated average daily flow would be 400 gpd for the the four people currently using the system. The design peak hourly flow has been calculated to be 56 gph based on the Ten States Standards peaking factor method.

## PROJECT AREA DESCRIPTION

The existing site (Ms. Richards tract) has rolling topography with a range of ground elevations from 716 at the lagoon on the southeast corner of the site to 754 at the highest ridge of the and back over to 726 in the woods on the northwest corner of the site. Topographic maps of the site and the area around the site are attached (source: Boone County GIS). The soils are all silt loam varieties with flat to moderate slopes. A soils map is attached (source: USDA-NRCS Web Soil Survey).

No information about bedrock or groundwater table is readily available on this site. The soil survey indicates the depth to a restrictive feature is greater than 80 inches on the majority of the site with the water table likely well above that.

The Flood Insurance Rate Map Community Number 290019C0165D, dated 3/17/11, shows that there is no FEMA-designated floodway or floodplain on the site. A copy of the FIRMette from the area is attached (source: FEMA Map Service Center).

This area is served by Consolidated Water of Boone County and the City of Columbia. No water supply structures are in the immediate vicinity of this project to my knowledge. The site is accessed from East Brown School Road from the south.

As mentioned above, the design flow for the existing collection system is 400 gpd, but the actual flow is likely less. The design velocity is at least 2 fps though tree root issues likely prevent this from being achieved in the current collection system. The pipe size of the existing collection system on the site is assumed to be 4".

## ALTERNATIVES REVIEW

### *Option 1: Convert lagoon to non-discharging permit*

Because of the age of the lagoon and the minimal maintenance it has received over the last 25-30 years, this option would require the lagoon to be cleaned out (sludge removed), sealed (clay liner restored to new or better condition) and likely increased in size to provide sufficient storage during times where land application is not feasible (wet or frozen conditions). However, given the reduced hydraulic load on the facility, and the amount of land relatively available for land application, this is option must be considered.

Non-discharging permits require sufficient storage for 105 days plus the volume of the 10 year, 24-hour rain event. At a design flow of 400 gpd, this results in storage of 42,000 gallons plus 26 gallons for the rain. The existing lagoon is approximate 4350 square feet with a depth of



approximately 5 feet. Because a two-foot freeboard is required, the storage volume of the lagoon is approximately 13,050 cubic feet or 97,620 gallons.

Once the lagoon was suitable to be used for pretreatment and effluent storage, the effluent would be land applied on the property. This would require that irrigation equipment be installed in order to pump the effluent and land apply at an agronomic rate. The land application area would likely be north of the existing (mostly empty) trailer park. Some land clearing may be necessary though a path for the travel irrigation gun could possibly be found between the trees. A center pivot is not recommended due the slope of the site. The land application area must be 50 feet from the property lines and 150' from any dwelling and 100' from any stream. It is recommended that a vegetated buffer remain in that setback. A sketch of the land application area is attached.

Approximate associated costs with this option include:

Sludge removal and disposal	\$15,000
Sealing the bottom of the lagoon	\$10,000
Purchase of irrigation equipment	\$15,000
Engineering/Permitting	\$6,000
Total	\$46,000

*Option 2: Close lagoon and install Department of Health regulated subsurface wastewater treatment system*

Because this system would have a relatively small design flow and there is sufficient land available, the owner could install a subsurface wastewater treatment system that would fall under the Department of Health regulations.

If the soil percolation rate would allow, one possible option would be to install a large centralized septic tank and lateral field. The tank would likely be just northwest of the existing lagoon and the lateral field would likely be across Kirsten Lane in a currently open area on the southwest corner of the site.

The septic tank and lateral field would have to meet the setback requirements of the Boone County Health Department:

- 10 feet from any property line
- 50 feet from any stream, lake or pond
- 5 feet from building foundation (tank)
- 15 feet from building foundation (disposal area)
- 15 feet from any basement (tank)
- 25 feet from any basement (disposal area)
- 10 feet from any water line under pressure
- 25 feet from any roadway ditch
- 10 feet from any uninhabited building

The Type D soils present at this site may preclude traditional septic tank effluent infiltration. In such a case, the owner would have to install an aerated treatment unit with drip irrigation. These systems typically cost quite a bit more, but the sizing of either system would require a soils study performed by a qualified soil scientist.

A lagoon closure plan would need to be developed while the plans were being prepared for the new treatment system. In order to prepare this plan, the sludge in the existing lagoon would need to be measured and sampled. This information would then be used to calculate the land area needed to incorporate the sludge into the surrounding soil at an agronomic rate. Because the existing lagoon is closer to the property lines than the closure standards allow (75' setback required), additional area for the sludge incorporation (outside of the existing lagoon area) on site will likely be needed. If the land disturbance for the closure exceeds one acre, a land disturbance permit will be required which will require the preparation of a Stormwater Pollution Prevention Plan (SWPPP).

Approximate associated costs with this option include:

Soil Scientist Evaluation	\$2,000
Engineering/Permitting of new system	\$5,000
Construction of new system	\$20,000
Closure Engineering/Sampling/Lab Test	\$3,000
Lagoon Closure	\$8,000
Total	\$38,000

### *Option 3: Close lagoon and build sewer main extension from trunk main near Cow Branch*

The City of Columbia has a trunk sewer approximately 1100' to the south of this site along Cow Branch. This is a 24" sewer main with more than sufficient capacity to take this minimal additional flow. Would likely propose to extend a new 8" main from City Manhole #15M46, up the draw in the western portion of the land owned by Greg and Kelly Deline, connect to the existing pipe sleeved under Brown School Road (installed during previous street improvements) and turn the main to the east to extend 10' onto the property to the east. A sketch of this proposed system is located in the appendix.

In order to develop the plans, a topographic survey of the approximate sewer corridor would have to be developed along with collecting enough property boundary data to write the easements for all three properties. Then the sewer plan and profile and associated detail sheets could be prepared and submitted to the City of Columbia for review.

In order to connect to the City of Columbia system, both sites would have to be annexed into the City of Columbia. This would require that an annexation package be prepared and submitted by the engineer. It is unknown at this time, if there would be additional requirements. It is possible other planning documents (such as a platting the property, a RMH development plan, etc.) or infrastructure upgrades would be required (such as sidewalk, waterlines and fire hydrants).



It is expected that the existing collection system would need to be replaced due to high inflow and infiltration and root intrusion issues. This would require a City plumbing permit which might trigger some of the other unintended consequences described above. The City also requires payment of a \$2400/unit connection fee into their system. Additionally, the lagoon closure would proceed following construction of the new system as described in Option 2.

Approximate associated costs with this option include:

Surveying (topo, esmt descriptions)	\$3,000
Engineering/Permitting of new system	\$5,000
Construction of new sewer main	\$40,000
Replacement of collection system/plumbing	\$5,000
Annexation	\$3,000
Connection fees	\$9,600
Closure Engineering/Sampling/Lab Test	\$3,000
Lagoon Closure	\$8,000
<b>Total</b>	<b>\$76,600 (minimum)</b>

*Option 4: Vacate the structures on site and disconnect from water service, close lagoon and notify adjacent owner that he will need to find alternative sanitary sewer service*

The final option would be to simply close the lagoon and terminate the MDNR discharge permit. This would require vacating the three structures on the site and notifying the adjacent property owner of the intent to close the lagoon which would require them to find alternative sanitary sewer service or vacate their property as well. This would displace the residents currently being served by this lagoon, but is likely the most financially feasible option for eliminating the environmental violations.

It is recommended that the houses be secured from intruders and vandals. The water should be disconnected to ensure that no sewage is created that would go down the collection system to the dead end.

Like with the other options, a lagoon closure plan will need to be developed as described in Option 2.

Approximate associated costs with this option include:

Engineering/Sampling/Lab Test	\$3,000
Lagoon Closure	\$5,000
Securing site and disconnecting water	\$3,000
<b>Total</b>	<b>\$8,000</b>

## RECOMMENDATION

Option 4 is the best shorter-term solution for this property due to the limited financial resources of the owner. Longer term, it is expected that this property (and possibly the property to the east) might be acquired by a developer that would be able to plat the property into some form of single-family housing comparable in nature to the surrounding developments. They would have to invest a significant amount of resources into providing all of the necessary planning and infrastructure for such a development including providing sanitary sewer.



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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.





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- 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 28<sup>th</sup> day of the month following the end of the reporting period.
- 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 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.

## 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



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- 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 permittee 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.



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

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**  
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**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 limited 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.
- 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.
  - Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
  - 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<sup>1</sup>).  
<sup>1</sup> Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization 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 outstanding state 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 methods or technology reflective 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 include the use of methods or technology reflective 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:
$$(\text{Nitrate} + \text{nitrite nitrogen}) + (\text{organic nitrogen} \times 0.2) + (\text{ammonia nitrogen} \times \text{volatilization factor}^1).$$
<sup>1</sup> Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization 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  $\geq 70\%$  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  $\geq 70\%$  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 <sup>1</sup>	Priority Pollutants <sup>2</sup>
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

<sup>1</sup> 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.

<sup>2</sup> 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 19<sup>th</sup> 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.

# RECEIVED

OCT 27 2014

AP19930



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE  
PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR  
EQUAL TO 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY

CHECK NUMBER

DATE RECEIVED

FEE SUBMITTED

10/27/14

285

PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:

- ☐ An operating permit for a new or unpermitted facility. Construction Permit # \_\_\_\_\_  
(Please include completed antidegradation review or request for antidegradation review, see instructions)
- ☒ A site-specific operating permit renewal: Permit #MO-0099198 Expiration Date 3/31/2015
- ☐ A site-specific operating permit modification: Permit #MO- Reason: \_\_\_\_\_
- ☐ General permit (MOGD - Non POTWs discharging < 50,000 GPD): Permit #MO- Expiration Date \_\_\_\_\_

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

2. FACILITY

NAME Mathis Trailer Court		TELEPHONE NUMBER WITH AREA CODE 573-442-8282	
ADDRESS (PHYSICAL) 4700 N. Kirsten Lane	CITY Columbia	STATE MO	ZIP CODE 65202
2.1 Legal description: TR 15 1/4 1/4 1/4 Sec 25, T 49, R 13 County Boone			
2.2 UTM Coordinates Easting (X): GPS Northing (Y): N-39° 0.076 min W-092° 19.861 min For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)			
2.3 Name of receiving stream: Tributary to Cow Branch (Perche Creek Basin)			
2.4 Number of outfalls: 1 Wastewater outfalls: 1 Stormwater outfalls: Instream monitoring sites:			

3. OWNER

NAME Judith Mathis Richards		EMAIL ADDRESS judy@44acres.com		TELEPHONE NUMBER WITH AREA CODE 573-442-8282	
ADDRESS 915 West Broadway	CITY Columbia	STATE MO	ZIP CODE 65203		
3.1 Request review of draft permit prior to public notice? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
3.2 Are you a publicly owned treatment works? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
3.3 Are you a privately owned treatment works? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
3.4 Are you a privately owned treatment facility regulated by the Public Service Commission? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					

4. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME Judith M. Richards		EMAIL ADDRESS judy@44acres.com		TELEPHONE NUMBER WITH AREA CODE 573-442-8282	
ADDRESS 915 West Broadway	CITY Columbia	STATE MO	ZIP CODE 65203		

If the continuing authority is different than the owner, please 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 Virgil Farnen		TITLE Operator		CERTIFICATE NUMBER 4667	
EMAIL ADDRESS VFARNEN@Gmail.com		TELEPHONE NUMBER WITH AREA CODE 573-443-5255			

6. FACILITY CONTACT

NAME Judith M. Richards		TITLE Owner		TELEPHONE NUMBER WITH AREA CODE 573-442-8282	
EMAIL ADDRESS judy@44acres.com					
ADDRESS 915 West Broadway	CITY Columbia	STATE MO	ZIP CODE 65203		

MO780-1512 (08-14)

NE  
Boone

## 7. DESCRIPTION OF FACILITY

**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. 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.



**7.2** Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.



**8. ADDITIONAL FACILITY INFORMATION**8.1 Facility SIC code: 651 Discharge SIC code: 6518.2 Number of people presently connected or population equivalent (P.E.) 15 Design P.E. 20

8.3 Connections to the facility:

Number of units presently connected:

Homes 3 Trailers 14 Apartments \_\_\_\_\_ Other (including industrial) \_\_\_\_\_Number of commercial establishments: 08.4 Design flow: 2000Actual flow: 1041 gpd

8.5 Will discharge be continuous through the year?

Yes ☒ No (If yes, explain.)

Discharge will occur during the following months:

How many days of the week will discharge occur?

8.6 Is industrial waste discharged to the facility?

Yes ☐ No ☒

8.7 Does the facility accept or process leachate from landfills?

Yes ☐ No ☒

8.8 Is wastewater land applied?

Yes ☐ No ☒

If yes, is Form I attached?

Yes ☐ No ☒

8.9 Does the facility discharge to a losing stream or sinkhole?

Yes ☐ No ☒

8.10 Has a wasteload allocation study been completed for this facility?

Yes ☐ No ☒**9. 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 ☒

Testing is  
completed by  
Engineering  
services.  
500-145-1

**10. COLLECTION SYSTEM**10.1 Length of pipe in the sewer collection system? 1200 Feet, or \_\_\_\_\_ Miles (either unit is appropriate)

10.2 Does significant infiltration occur in the collection system?

Yes ☐ No ☒

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

**11. BYPASSING**

Does any bypassing occur in the collection system or at the treatment facility?

Yes ☐ No ☒

If yes, explain:

**12. SLUDGE HANDLING, USE AND DISPOSAL**12.1 Is the sludge a hazardous waste as defined by 10 CSR 25? ☐ Yes ☒ No12.2 Sludge production, including sludge received from others: 0.3 Design dry tons/year \_\_\_\_\_ Actual dry tons/year

12.3 Capacity of sludge holding structures:

Sludge storage provided: \_\_\_\_\_ cubic feet; \_\_\_\_\_ days of storage; \_\_\_\_\_ average percent solids of sludge;

☒ No sludge storage is provided. ☒ Sludge is stored in lagoon.12.4 Type of Storage: ☐ Holding tank ☐ Building  
☐ Basin ☒ Lagoon  
☐ Concrete Pad ☐ Other (Please describe) \_\_\_\_\_12.5 Sludge Treatment:  
☐ Anaerobic Digester ☒ Lagoon ☐ Composting  
☐ Storage Tank ☐ Aerobic Digester ☐ Other (Attach description)  
☐ Lime Stabilization ☐ Air or Heat Drying12.6 Sludge Use or Disposal:  
☐ Land Application ☐ Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)  
☐ Contract Hauler ☐ Hauled to Another treatment facility  
☐ Incineration ☒ Sludge Retained in Wastewater treatment lagoon  
☐ Solid waste landfill

12.7 Person responsible for hauling sludge to disposal facility:

☐ By applicant ☒ By others (complete below)

NAME <u>Apollo Pumping</u>		EMAIL ADDRESS	
ADDRESS	CITY <u>Mexico</u>	STATE <u>MO</u>	ZIP CODE
CONTACT PERSON		TELEPHONE NUMBER WITH AREA CODE <u>573-581-6306</u>	PERMIT NO. <u>MO-2519</u>

12.8 Sludge use or disposal facility  
☐ By applicant ☒ By others (Please complete below.)

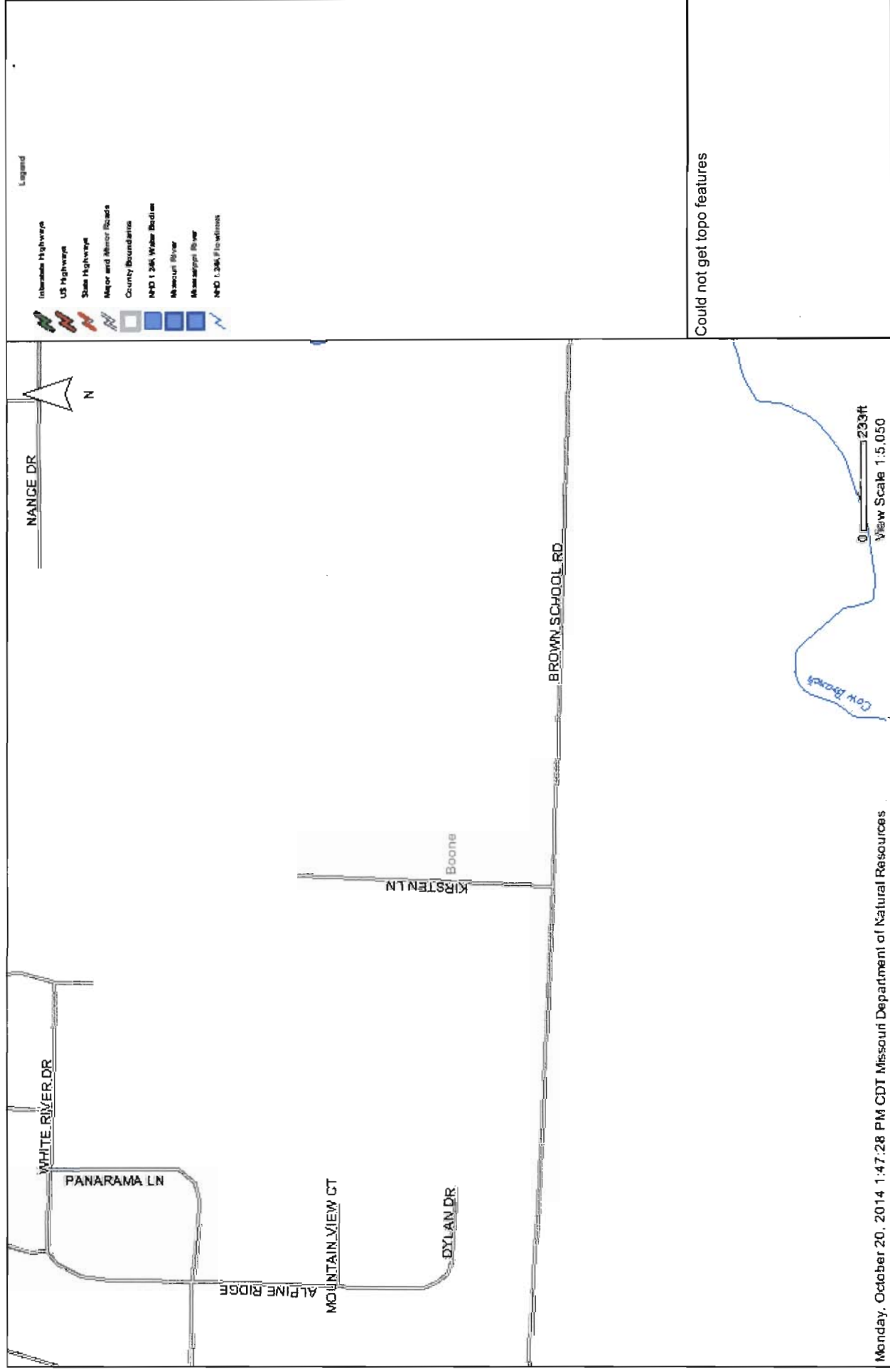
NAME <u>City of Columbia</u>		EMAIL ADDRESS	
ADDRESS <u>POB 2</u>	CITY <u>Columbia</u>	STATE <u>MO</u>	ZIP CODE <u>65201</u>
CONTACT PERSON <u>David Savel</u>		TELEPHONE NUMBER WITH AREA CODE <u>874-6286</u>	PERMIT NO. <u>MO-9900101</u>

12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?  
☒ Yes ☐ No (Please explain)**13. CERTIFICATION**

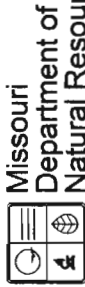
I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law.

NAME (TYPE OR PRINT) <u>Judith Mathis Richards</u>	OFFICIAL TITLE <u>Owner</u>	TELEPHONE NUMBER WITH AREA CODE <u>573-442-8282</u>
SIGNATURE <u>Judith Mathis Richards</u>		DATE SIGNED <u>10/20/2014</u>

# Mathis Trailer Court location



Monday, October 20, 2014 1:47:28 PM CDT Missouri Department of Natural Resources



This timestamp indicates the date and time the map was generated. Data layers in the map are updated at a variety of intervals and may not reflect current conditions. Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.



# Boone County Internet Parcel Map

Prepared by the Boone County Assessor's Office, (573) 886-4262



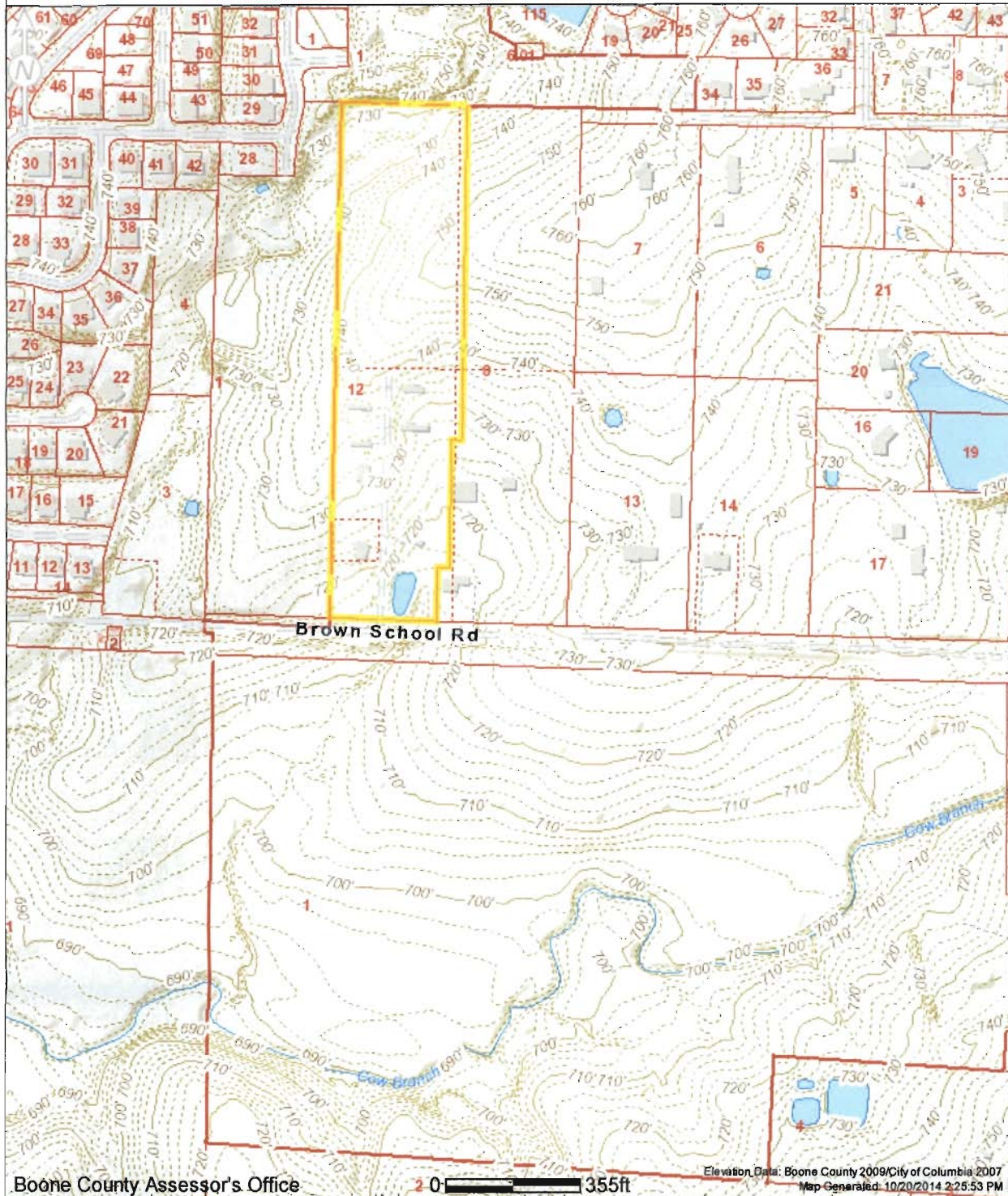
#### ATTENTION!!

DISCLAIMER; READ CAREFULLY: These maps were prepared for the inventory of real property based on the utilization of deeds, plans, and/or supportive data. In addition, map files are frequently changed to reflect changes in boundaries, lot lines and other geographic features resulting from changes in ownership, development and other causes. The existence, dimension, and location of features, as well as other information, should not be relied upon for any purpose without actual field verification. The County of Boone makes no warranty of any kind concerning the completeness or accuracy of information contained on these maps and assumes no liability or responsibility for the use or reuse of these maps by persons not affiliated with Boone County. Use of these maps by any person not affiliated with Boone County constitutes agreement by the user to assume full liability and responsibility for the verification of the accuracy of information shown on these maps.



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