

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

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

Permit No. MO-0035742

Owner: Lake Forest Estates Community Association
Address: 13765 Lakewood Drive, Ste. Genevieve, MO 63670

Continuing Authority: Same as above
Address: Same as above

Facility Name: Lake Forest Estates Subdivision WWTF
Facility Address: 0.6 miles northeast of Hwy O and Lakewood Dr. intersection, Ste. Genevieve, MO 63670

Legal Description: See Page 2
UTM Coordinates: See Page 2

Receiving Stream: See Page 2
First Classified Stream and ID: See Page 2
USGS Basin & Sub-watershed No.: See Page 2

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

FACILITY DESCRIPTION

See Page 2

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

February 1, 2016
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

January 31, 2021
Expiration Date

John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Outfall #001 – Residential Subdivision – SIC #8641

Three-cell lagoon with baffled and aerated 1st and 2nd cells / three cell flow equalization basin / sludge retained in lagoon

Design population equivalent is 1,040.

Design flow is 118,300 gallons per day.

Actual flow is 99,300 gallons per day.

Design sludge production is 15.6 dry tons/year.

Legal Description: Landgrant 2046, Ste. Genevieve County
UTM Coordinates: X=745263, Y=4204623
Receiving Stream: Big Bottom Creek (C)
First Classified Stream and ID: Big Bottom Creek (C) (1746)
USGS Basin & Sub-watershed No.: (07140101-0907)

Permitted Feature #SM1 – Instream Monitoring

Instream monitoring location – Upstream – See Special Condition #20

Receiving Stream: Big Bottom Creek (C)
First Classified Stream and ID: Big Bottom Creek (C) (1746)
USGS Basin & Sub-watershed No.: (07140101-0907)

Permitted Feature #SM2 – Instream Monitoring

Instream monitoring location – Downstream – approximately 75 meters downstream from Outfall #001 – See Special Condition #20

Legal Description: Landgrant 2046, Ste. Genevieve County
UTM Coordinates: X=745257, Y=4204686
Receiving Stream: Big Bottom Creek (C)
First Classified Stream and ID: Big Bottom Creek (C) (1746)
USGS Basin & Sub-watershed No.: (07140101-0907)

OUTFALL #001	TABLE A-1. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PAGE NUMBER 3 of 9
		PERMIT NUMBER MO-0035742

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective on **February 1, 2016**, and remain in effect through **January 31, 2022**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	twice/week	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		60	30	once/month	grab
Total Suspended Solids	mg/L		60	30	once/month	grab
Ammonia as N (Apr 1 – Sep 30) (Oct 1 – Mar 31)	mg/L	3.7 7.5		1.9 3.7	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2016. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

EFFLUENT PARAMETER(S)	UNITS	MONTHLY AVERAGE		QUARTERLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Total Phosphorus	mg/L	*		*	once/quarter	grab
Total Nitrogen	mg/L	*		*	once/quarter	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2016.

EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units **	SU	6.5			once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2016.

OUTFALL #001	TABLE A-2. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PAGE NUMBER 4 of 9
		PERMIT NUMBER MO-0035742

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective on **February 1, 2022**, and remain in effect through **January 31, 2029**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	twice/week	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		15	10	once/month	grab
Carbonaceous Biochemical Oxygen Demand ₅	mg/L		*	*	once/month	grab
Nitrogenous Biochemical Oxygen Demand ₅ (Note 1, Page 5)	mg/L		*	*	once/month	calculated
Total Suspended Solids (Final)	mg/L		15	10	once/month	grab
<i>E. coli</i> (Note 2, Page 5)	#/100mL	1030		206	once/week	grab
Ammonia as N (Apr 1 – Sep 30) (Oct 1 – Mar 31)	mg/L	2.4 6.9		0.6 2.1	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

EFFLUENT PARAMETER(S)	UNITS	MONTHLY AVERAGE		QUARTERLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Total Phosphorus	mg/L	*		*	once/month	grab
Total Nitrogen	mg/L	*		*	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2022.

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 MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2022.

EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM		MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Dissolved Oxygen	mg/L	*		*	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2022.

OUTFALL #001	TABLE A-3. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				PAGE NUMBER 5 of 9	
					PERMIT NUMBER MO-0035742	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on February 1, 2029 , and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	twice/week	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		*	*	once/month	grab
Carbonaceous Biochemical Oxygen Demand ₅	mg/L		7.56	5.04	once/month	grab
Nitrogenous Biochemical Oxygen Demand ₅ (Note 1, Page 5)	mg/L		2.19	1.46	once/month	calculated
Total Suspended Solids	mg/L		15	10	once/month	grab
<i>E. coli</i> (Note 2, Page 5)	#/100mL	1030		206	once/week	grab
Ammonia as N	mg/L	1.0		0.3	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MARCH 28, 2029</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
EFFLUENT PARAMETER(S)	UNITS	MONTHLY AVERAGE		QUARTERLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Total Phosphorus	mg/L	*		0.007	once/month	grab
Total Nitrogen	mg/L	*		0.289	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>APRIL 28, 2029</u> .						
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 <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MARCH 28, 2029</u> .						
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM		MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Dissolved Oxygen	mg/L	8.0		8.0	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MARCH 28, 2029</u> .						

PERMITTED FEATURES #SM1 & #SM2	TABLE B-1. INSTREAM MONITORING REQUIREMENTS				PAGE NUMBER 6 of 9	
					PERMIT NUMBER MO-0035742	
The monitoring requirements shall become effective on February 28, 2016 , and remain in effect until expiration of the permit.						
PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM		MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Temperature	°C	*		*	once/month	measured
Ammonia as N	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MARCH 28, 2016</u> .						
PARAMETER(S)	UNITS	DAILY MINIMUM		MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Dissolved Oxygen	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MARCH 28, 2016</u> .						
PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units	SU	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MARCH 28, 2016</u> .						

* Monitoring requirement only.

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

Note 1 - Nitrogenous Biochemical Oxygen Demand₅ is calculated as the difference between BOD₅ and CBOD₅.
 $NBOD_5 = BOD_5 - CBOD_5$

Note 2 - 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.

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

D. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) 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 Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri’s Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri’s list of waters of the state not fully achieving the state’s water quality standards, also called the 303(d) list.
 - (d) Incorporate the requirement to develop a pretreatment program pursuant to 40 CFR 403.8(a) when the Director of the Water Protection Program determines that a pretreatment program is necessary due to any new introduction of pollutants into the Publicly Owned Treatment Works or any substantial change in the volume or character of pollutants being introduced.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.

D. SPECIAL CONDITIONS (continued)

5. Water Quality Standards

- (a) To the extent required by law, discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) 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;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) 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.

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

8. Reporting of Non-Detects:

- (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
- (b) The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
- (c) The permittee shall provide the "Non-Detect" sample result using the less than sign and the minimum detection limit (e.g. <10).
- (d) The permittee shall use one-half of the detection limit for the non-detect result when calculating monthly averages.
- (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.

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

10. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3)(i), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Southeast Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.

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

12. At least one gate must be provided to access the wastewater treatment facility and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform operational monitoring, sampling, maintenance, mowing, or for inspections by the Department.

13. At least one (1) warning sign shall be placed on each side of the facility enclosure in such positions as to be clearly visible from all directions of approach. There shall also be one (1) sign placed for every five hundred feet (500') (150 m) of the perimeter fence. A sign shall also be placed on each gate. Minimum wording shall be SEWAGE TREATMENT FACILITY—KEEP OUT. Signs shall be made of durable materials with characters at least two inches (2") high and shall be securely fastened to the fence, equipment or other suitable locations.

D. SPECIAL CONDITIONS (continued)

14. 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.
15. An all-weather access road shall be provided to the treatment facility.
16. The discharge from the wastewater treatment facility shall be conveyed to the receiving stream via a closed pipe or a paved or riprapped open channel. Sheet or meandering drainage is not acceptable. The outfall sewer shall be protected against the effects of floodwater, ice or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.
17. A minimum of two (2) feet freeboard must be maintained in each lagoon cell. A lagoon level gauge, which clearly marks the minimum freeboard level, shall be provided in each lagoon cell.
18. The berms of the lagoons shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.
19. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the lagoons and to divert stormwater runoff around the lagoons and protect embankments from erosion.
20. Receiving Water Monitoring Conditions
 - (a) Downstream receiving water samples should be taken at the location(s) specified on Page 2 of this permit. In the event that a safe, accessible location is not present at the location listed, a suitable location can be negotiated with the Department. Samples should be taken at least four feet from the bank or from the middle of the stream (whichever is less) and 6-inches below the surface. The upstream receiving water sample should be collected at a point upstream from any influence of the effluent, where the water is visibly flowing down stream.
 - (b) When conducting in-stream monitoring, the permittee shall record observations that include: the time of day, weather conditions, unusual stream characteristics (e.g., septic conditions, algae growth, etc.), the stream segment (e.g., riffle, pool or run) from where the sample was collected. These observations shall be submitted with the sample results.
 - (c) Samples shall not be collected from areas with especially turbulent flow, still water or from the stream bank, unless these conditions are representative of the stream reach or no other areas are available for sample collection. Sampling should not be made when significant precipitation has occurred recently. The sampling event should be terminated and rescheduled if any of the following conditions occur:
 - If turbidity in the stream increases notably; or
 - If rainfall over the past two weeks exceeds 2.5 inches or exceeds 1 inch in the last 24 hours
 - (d) Always use the correct sampling technique and handling procedure specified for the parameter of interest. Please refer to the latest edition of Standard Methods for the Examination of Water and Wastewater for further discussion of proper sampling techniques. All analyses must be conducted in accordance with an approved EPA method. Meters shall be calibrated immediately (within 1 hour) prior to the sampling event.
 - (e) To obtain accurate measurements, Dissolved Oxygen and pH analyses should be performed on-site in the receiving stream where possible. However, due to high flow conditions, access, etc., it may be necessary to collect a sample in a bucket or other container. When this is necessary, care must be taken not to aerate the sample upon collection. If for any reason samples must be collected from an alternate site from the one listed in the permit, the permittee shall report the location with the sample results.
 - (f) Dissolved Oxygen measurements are to be taken during the period from one hour prior to sunrise to one and one-half hour after sunrise.
 - (g) Please contact the Department if you need additional instructions or assistance.

E. SCHEDULE OF COMPLIANCE

The facility shall attain compliance with interim effluent limitations for Biochemical Oxygen Demand₅ and Ammonia as soon as reasonably achievable or no later than **6 years** of the effective date of this permit.

The facility shall attain compliance with final effluent limitations for Total Suspended Solids and E. coli as soon as reasonably achievable or no later than **6 years** of the effective date of this permit.

The facility shall attain compliance with final effluent limitations for Carbonaceous Biochemical Oxygen Demand₅, Nitrogenous Biochemical Oxygen Demand₅, Total Nitrogen, Total Phosphorus, Ammonia, Total Suspended Solids, and Dissolved Oxygen as soon as reasonably achievable or no later than **13 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.
2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from effective date.
3. Within **6 years** of the effective date of this permit, the permittee shall attain compliance with the interim effluent limits for Biochemical Oxygen Demand₅ and Ammonia, and the final effluent limits for E. coli, and Total Suspended Solids.
4. Within **13 years** of the effective date of this permit, the permittee shall attain compliance with the final effluent limits, for Carbonaceous Biochemical Oxygen Demand₅, Nitrogenous Biochemical Oxygen Demand₅, Total Nitrogen, Total Phosphorus, Ammonia, Total Suspended Solids, and Dissolved Oxygen.

Please submit progress reports to the Missouri Department of Natural Resources, Southeast Regional Office, 2155 North Westwood Boulevard, Poplar Bluff, MO 63901.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0035742
LAKE FOREST ESTATES SUBDIVISION WWTF**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution 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)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

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

This Factsheet is for a Minor.

Part I – Facility Information

Facility Type: NON-POTW – Residential Subdivision – SIC #8641

Facility Description:

Three-cell lagoon with baffled and aerated 1st and 2nd cells / three cell flow equalization basin / sludge retained in lagoon

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?

- Yes; A TMDL was completed by the EPA in 2010 which requires implementation of new effluent limits. Also, the outfall is less than 2 miles from Indian Creek, which is designated as a Whole Body Contact - B stream. Therefore, effluent limits for *E. coli* for WBC-B streams were added to the permit.

- No

Application Date: 05/28/2009

Expiration Date: 11/30/2009

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.15	Equivalent to Secondary	Domestic

Facility Performance History:

The facility failed to meet Ammonia as N limits on the January, April, May, June, July, and December 2010, February, March, April, May, June, October, and December 2011, January, February, March, April, May, September, October, November, and December 2012, January, February, May, June, and September 2013, January, February, March, April, May, June, November, and December 2014 Discharge Monitoring Reports (DMR). The facility also failed to meet BOD limits on the April 2011, October 2012, October 2013, April and May 2014 DMRs. The facility failed to meet TSS limits on the February 2010 and March 2013 DMRs. The facility failed to submit the March 2010 DMR. This facility was last inspected on May 30, 2013. The inspection showed the following unsatisfactory features; the facility failed to meet effluent limitations on DMRs.

Comments:

Changes in this permit include the addition of CBOD₅, NBOD₅, Total Nitrogen, Total Phosphorus, and *E. coli*, and the removal of Temperature. See Part VII of the Fact Sheet for further information regarding the addition and removal of effluent parameters. Special conditions were updated to include the reporting of Non-detects, bypass reporting requirements, lagoon cell depth gauges, and the addition of instream monitoring requirements.

Part II – Operator Certification Requirements

- This facility is required to have a certified operator.
- This facility is not required to have a certified operator.

Part III– Operational Monitoring

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

Part IV – Receiving Stream Information

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained, are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(4)].

RECEIVING STREAM(S) TABLE: OUTFALL #001

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Big Bottom Creek	C	1746	IRR, LWW, AQL, HHP, SCR	07140101-0907	0
Indian Creek	C	1747	IRR, LWW, AQL, HHP, WBC-B, SCR		1.1

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life (AQL), Human Health Protection (HHP), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation – Category A (WBC-A), Whole Body Contact Recreation – Category B (WBC-B), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM (C, E, P, P1)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Big Bottom Creek (C)	0	0	0

MIXING CONSIDERATIONS

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) [10 CSR 20-7.031(5)(A)...]			ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(5)(A)...]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
0	0	0	0	0	N/A

RECEIVING STREAM MONITORING REQUIREMENTS:

Permitted Feature SM1. (Upstream)

Permitted Feature SM2. (Downstream)

Receiving Water Body's Water Quality

No low flow surveys have been conducted on the receiving stream. Big Bottom Creek is an impaired stream and in 2010 EPA approved a TMDL for the stream.

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

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

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

- The facility discharges to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)].
- The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:

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

- All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply.

ANTIDegradation:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.
- This permit contains new and/or expanded discharge; please see **APPENDIX FOR ANTIDegradation ANALYSIS**.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://extension.missouri.edu/main/DisplayCategory.aspx?C=74>, items WQ422 through WQ449.

- Permittee land applies biosolids in accordance with Standard Conditions III and a Department approved biosolids management plan.
- Permittee is not authorized to land apply biosolids. Sludge/biosolids are stored in the lagoon. The permittee must submit a sludge management plan for approval that details removal and disposal plans when sludge is to be removed from lagoons.

COMPLIANCE AND ENFORCEMENT:

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

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

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 ANALYSIS (RPA):

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

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

- A RPA was conducted on Ammonia as N.

- A RPA was not conducted for this facility.

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 (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

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

- Equivalent to Secondary Treatment is 65% removal [40 CFR Part 133.105(a)(3) & (b)(3)].

- 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(11)] 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 includes interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:

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

In order to provide guidance to Permit Writers in developing SOCs, and attain a greater level of consistency, on October 25, 2012 the Department issued a policy on development of SOCs. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as an affordability analysis.

- 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 Ammonia as N, CBOD₅, NBOD₅, TSS, E. coli, Total Nitrogen, Total Phosphorus, and Dissolved Oxygen. Due to the current limitations of technology, achieving compliance with the final effluent limitations will be difficult and will have a high cost, the facility is being provided a 2-phased schedule of compliance.

The first phase will allow a six (6) year schedule of compliance for the facility to meet the 2nd interim limits for BOD, TSS, E. coli, and Ammonia. The six year schedule of compliance allowed for this facility should provide adequate time to evaluate operations, obtain an engineering report, obtain funding, obtain a construction permit and implement upgrades required to meet the interim effluent limits. The facility should consider alternative solutions when evaluating how to meet the final effluent limitations. In addition to upgrading the facility, the facility should consider whether relocating the outfall location to a different receiving stream, such as Indian Creek, approximately 0.7 miles northeast of the facility, or Lake Forest, which is located approximately 0.2 miles south of the facility, would be financially feasible. Indian Creek and Lake Forest are not impaired waterways, and the facility would be required to upgrade to meet the applicable BOD₅, TSS, Ammonia and E. coli effluent limitations, but not to meet the TMDL requirements. After the upgrades are installed during the first phase and a recovery period for the stream, the Department will review the receiving stream to determine if the upgrades have allowed the stream to regain its designated uses.

After completion of the first phase of the schedule of compliance and if the streams designated uses have not been re-attained, the second phase of the schedule of compliance will allow seven (7) years for the facility to meet final limits for Ammonia as N, CBOD₅, NBOD₅, TSS, Total Nitrogen, Total Phosphorus, and Dissolved Oxygen. The seven year schedule of compliance should; provide adequate time for stream recovery after the facility has upgraded to meet the 2nd interim effluent limits, time for the Department to conduct a re-evaluation of the stream regarding use attainment, allow the Department to re-categorize the stream on the 305b report for approval by the EPA in 2026 if the stream has re-attained uses, allow the facility to evaluate operations, obtain an engineering report, obtain funding, obtain a construction permit and implement any further upgrades required to meet the final effluent limits if it is determined that the stream did not re-attain uses.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

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

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

Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of stormwater discharges.

- At this time, the permittee is not required to develop and implement a SWPPP.

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 drafted under premises of a petition for variance. Please provide a brief summary of the variance as provided in the variance application. Also include if the variance was approved or denied and date of either the approval or denial. Staff can also give reason for the denial if applicable.

- 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(78)], 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:

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

Where C = downstream concentration C_e = effluent concentration
Cs = upstream concentration Q_e = effluent flow
Q_s = 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 including model was submitted to the Department.

- WLA's were provided in the EPA approved TMDL.

WATER QUALITY STANDARDS:

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

WHOLE EFFLUENT TOXICITY (WET) TEST:

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

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

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], 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 BOD₅ 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 NH₃)
- Facility is a municipality with a Design Flow \geq 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(1)(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.

- Bypasses occur or have occurred at this facility.

- This facility does not anticipate bypassing.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

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

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

- This facility discharges to a 303(d) listed stream.
- This facility does not discharge to a 303(d) listed stream.
- This facility discharges to a stream with an EPA approved TMDL.

Part VI –2013 Water Quality Criteria for Ammonia

On August 22, 2013, the U.S. Environmental Protection Agency (EPA) finalized new water quality criteria for ammonia, based on toxicity studies of mussels and gill breathing snails. Missouri is home to 69 of North America’s mussel species, which are spread across the state. According to the Missouri Department of Conservation nearly two-thirds of the mussel species in Missouri are considered to be “of conservation concern”. Nine species are listed as federally endangered, with an additional species currently proposed as endangered and another species proposed as threatened.

The adult forms of mussels that are seen in rivers, lakes, and streams are sensitive to pollutants because they are sedentary filter feeders. They vacuum up many pollutants with the food they bring in and cannot escape to new habitats, so they can accumulate toxins in their bodies and die. But very young mussels, called glochidia, are exceptionally sensitive to ammonia in water. As a result of a citizen suit, the EPA was compelled to conduct toxicity testing and develop ammonia water quality criteria that would be protective if young mussels may be present in a waterbody. The 2nd interim Ammonia limits are based upon this new criteria for ammonia.

Part VII – Effluent Limits Determination

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

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

- Missouri or Mississippi River [10 CSR 20-7.015(2)]
- Lake or Reservoir [10 CSR 20-7.015(3)]
- Losing [10 CSR 20-7.015(4)]
- Subsurface Water [10 CSR 20-7.015(7)]
- All Other Waters [10 CSR 20-7.015(8)]
- Metropolitan No-Discharge [10 CSR 20-7.015(5)]

OUTFALL #001 – MAIN FACILITY OUTFALL

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

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Modified	Previous Permit Limitations
Flow	MGD	1	*		*	No	*/*
BOD ₅ (Interim)	mg/L	1		60	30	No	60/30
BOD ₅ (Interim)	mg/L	7		15	10	Yes	60/30
BOD ₅ (Final)	mg/L	8		*	*	Yes	15/10
CBOD ₅	mg/L	8		7.56	5.04	Yes	***
NBOD ₅	mg/L	8		2.19	1.46	Yes	***
TSS (Interim)	mg/L	1		60	30	No	60/30
TSS (Final)	mg/L	8		15	10	Yes	60/30
Ammonia as N (Apr 1 – Sep 30) (Interim)	mg/L	1, 3	3.7		1.9	No	3.7/1.9
Ammonia as N (Oct 1 – Mar 31) (Interim)	mg/L	1, 3	7.5		3.7	No	7.5/3.7
Ammonia as N (Apr 1 – Sep 30) (Interim)	mg/L	7	1.7		0.6	Yes	3.7/1.9
Ammonia as N (Oct 1 – Mar 31) (Interim)	mg/L	7	5.6		2.1	Yes	7.5/3.7
Ammonia as N (Final)	mg/L	8	1.0		0.3	Yes	2.4/0.6 6.9/2.1
Escherichia coli **	#/100mL	1, 3	1030		206	Yes	***
PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Modified	Previous Permit Limitations
pH	SU	1	6.5			Yes	≥ 6.0
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Avg. Min	Modified	Previous Permit Limitations
Dissolved Oxygen (Interim)	mg/L	7	*		*	Yes	***
Dissolved Oxygen (Final)	mg/L	8	8		8	Yes	*/*
PARAMETER	Unit	Basis for Limits	Monthly Average		Quarterly Average	Modified	Previous Permit Limitations
Total Nitrogen (Interim)	mg/L	1	*		*	Yes	***
Total Nitrogen (Final)	mg/L	8	*		0.289	Yes	*/*
Total Phosphorus (Interim)	mg/L	1	*		*	Yes	***
Total Phosphorus (Final)	mg/L	8	*		0.007	Yes	*/*

* - Monitoring requirement only.
 ** - The Monthly Average for *E. coli* is a geometric mean.
 *** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

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

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.

Carbonaceous Biological Oxygen Demand₅, Nitrogenous Biological Oxygen Demand₅, Total Nitrogen, Total Phosphorus, Ammonia, and Total Suspended Solids (TSS). A Total Maximum Daily Load (TMDL) for Big Bottom Creek was approved in October 2010. This TMDL provided concentration wasteload allocations (WLAs) for CBOD₅, NBOD₅, Total Nitrogen, Total Phosphorus, Ammonia, and TSS nitrogen. Concentration-based limits have been calculated from the TMDL WLAs and compared to applicable technology (TBEL) and water quality (WQBEL) based effluent limits for these parameters (see chart below). The limits included in the permit are those that are most protective. Mass loading parameters were not included in the permit as the mass and concentration limits are both protective of the DO criteria and are duplicative. In addition, the modeling was run utilizing the design flow of the facility, 0.1183 MGD. A review of the DMRs show a majority of the actual flows reported on the Discharge Monitoring Reports were below the design flow. Since the actual flow is less, the concentration based limits will be more protective than the mass based limits.

Effluent Parameter	TMDL (mg/L)			TBEL / WQBEL (mg/L)	
	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	WEEKLY AVERAGE	MONTHLY AVERAGE
CBOD ₅	No Limit	7.56	5.04	NA (BOD 60)	NA (BOD 30)
NBOD ₅	No Limit	2.19	1.46	NA	NA
NH ₃	1.0	No Limit	0.3	No Limit	1.3
TSS	No Limit	15.0	10.0	60	30
Effluent Parameter	DAILY MAXIMUM	MONTHLY AVERAGE	QUARTERLY AVERAGE	WEEKLY AVERAGE	MONTHLY AVERAGE
TN	No Limit	*	0.289	NA	NA
TP	No Limit	*	0.007	NA	NA

* Monitoring requirement only

- **Carbonaceous Biochemical Oxygen Demand (CBOD₅).**

Per the Department’s 2010 Guidance for Water Quality and Antidegradation Review Assistance, for conventional pollutants, and the Department’s 2009 Dissolved Oxygen Modeling and Biochemical Oxygen Demand Effluent Limit Development Administrative Guidance document, the WLA is used as the Average Monthly Limit (AML). The Average Weekly Limit is calculated by multiplying the AML by 1.5.

WLA = AML = 5.04 mg/L
AML = 5.04 mg/L

AWL = AML * 1.5 = 5.04 * 1.5 = 7.56 mg/L
AWL = 7.56 mg/L

- **Biochemical Oxygen Demand (BOD₅).** (Interim)

Per the Department’s 2010 Guidance for Water Quality and Antidegradation Review Assistance, for conventional pollutants, and the Department’s 2009 Dissolved Oxygen Modeling and Biochemical Oxygen Demand Effluent Limit Development Administrative Guidance document, the WLA is used as the Average Monthly Limit (AML). The Average Weekly Limit is calculated by multiplying the AML by 1.5. Per 10 CSR 20-7.015(8)(A)5., CBOD = BOD – 5 mg/L.

CBOD WLA = AML = 5.04 mg/L
 CBOD AML = 5.04 mg/L
BOD AML = CBOD AML + 5 mg/L = 10 mg/L

BOD AWL = BOD AML * 1.5 = 10 * 1.5 = 15 mg/L
BOD AWL = 15 mg/L

- **Biochemical Oxygen Demand (BOD₅)**. (Final)

- Monitoring only. This will allow the facility to calculate both mass-based and concentration-based NBOD₅. $NBOD_5 = BOD_5 - CBOD_5$

- **Nitrogenous Biochemical Oxygen Demand (NBOD₅)**.

Nitrogenous Biochemical Oxygen Demand is the difference between BOD₅ and CBOD₅. $NBOD_5 = BOD_5 - CBOD_5$

Per the Department's 2010 Guidance for Water Quality and Antidegradation Review Assistance, for conventional pollutants, and the Department's 2009 Dissolved Oxygen Modeling and Biochemical Oxygen Demand Effluent Limit Development Administrative Guidance document, the WLA is used as the Average Monthly Limit (AML). The Average Weekly Limit (AWL) is calculated by multiplying the AML by 1.5.

$$WLA = AML = 1.46 \text{ mg/L}$$

$$AML = 1.46 \text{ mg/L}$$

$$AWL = AML * 1.5 = 1.46 * 1.5 = 2.19 \text{ mg/L}$$

- **Total Suspended Solids (TSS)**.

Per the Department's 2010 Guidance for Water Quality and Antidegradation Review Assistance, for conventional pollutants, the average weekly limit is calculated by multiplying the AML by 1.5.

$$WLA = AML = 10 \text{ mg/L}$$

$$AML = 10 \text{ mg/L}$$

$$AWL = AML * 1.5 = 10 * 1.5 = 15 \text{ mg/L}$$

- **Total Nitrogen (Interim)**. Monitoring required for facilities greater than 100,000 gpd design flow per 10 CSR 20-7.015(9)(D)7. Total Nitrogen shall be determined by testing for Total Kjeldahl Nitrogen (TKN) and Nitrate + Nitrite and reporting the sum of the results (reported as N). Nitrate + Nitrite can be analyzed together or separately.
- **Total Nitrogen (Final)**. The NPDES regulations at 40 CFR 122.45(d) require that all permit limits be expressed, unless impracticable, as both average monthly limits and maximum daily limits for all dischargers other than publicly owned treatment works (POTWs), and as average weekly limits and average monthly limits for POTWs.

In the March 3, 2004 EPA Memorandum with the subject of; Annual Permit Limits for Nitrogen and Phosphorus for Permits Designed to Protect Chesapeake Bay and its tidal tributaries from Excess Nutrient Loading under the National Pollutant Discharge Elimination System, the Office of Wastewater Management cautioned that the steady-state statistical procedures described in EPA's Technical Support Document for Water Quality-based Toxics Control (TSD) were not applicable or appropriate for developing nutrient limits for the main stem of Chesapeake Bay and its tidal tributaries. The memo stated that developing permit limits for nutrients affecting Chesapeake Bay and its tidal tributaries is different from setting limits for toxic pollutants because the exposure period of concern for nutrients is longer than one month, and can be up to a few years, and the average exposure rather than the maximum exposure is of concern. The statistical derivation procedure described in the TSD for acute and chronic aquatic life protection is not applicable to exposure periods more than 30 days (see TSD page 105). The Office of Wastewater Management concluded that due to the characteristics of nutrient loading and its effects on the water quality in Chesapeake Bay and its tidal tributaries and because the derivation of appropriate daily, weekly or monthly limits is not possible for the reasons described above, that it is therefore "impracticable" to express permit effluent limitations as daily maximum, weekly average, or monthly average effluent limitations. Therefore the Department has determined that the WLA provided in the TMDL will be applied as a Quarterly Average Limit (QAL), as an average monthly limit is not practicable due to the long term effects of nutrients on streams.

$$WLA = QAL = 0.289 \text{ mg/L}$$

$$QAL = 0.289 \text{ mg/L}$$

In addition to the Quarterly Average Limit, the facility will be required to monitor Total Nitrogen monthly as a monitoring only requirement.

- **Total Phosphorus (Interim)**. Monitoring required for facilities greater than 100,000 gpd design flow per 10 CSR 20-7.015(9)(D)7
- **Total Phosphorus (Final)**. The NPDES regulations at 40 CFR 122.45(d) require that all permit limits be expressed, unless impracticable, as both average monthly limits and maximum daily limits for all dischargers other than publicly owned treatment works (POTWs), and as average weekly limits and average monthly limits for POTWs.

In the March 3, 2004 EPA Memorandum with the subject of; Annual Permit Limits for Nitrogen and Phosphorus for Permits Designed to Protect Chesapeake Bay and its tidal tributaries from Excess Nutrient Loading under the National Pollutant Discharge Elimination System, the Office of Wastewater Management cautioned that the steady-state statistical procedures described in EPA's Technical Support Document for Water Quality-based Toxics Control (TSD) were not applicable or appropriate for developing nutrient limits for the main stem of Chesapeake Bay and its tidal tributaries. The memo stated that developing permit limits for nutrients affecting Chesapeake Bay and its tidal tributaries is different from setting limits for toxic pollutants because the exposure period of concern for nutrients is longer than one month, and can be up to a few years, and the average exposure rather than the maximum exposure is of concern. The statistical derivation procedure described in the TSD for acute and chronic aquatic life protection is not applicable to exposure periods more than 30 days (see TSD page 105). The Office of Wastewater Management concluded that due to the characteristics of nutrient loading and its effects on the water quality in Chesapeake Bay and its tidal tributaries and because the derivation of appropriate daily, weekly or monthly limits is not possible for the reasons described above, that it is therefore "impracticable" to express permit effluent limitations as daily maximum, weekly average, or monthly average effluent limitations. Therefore the Department has determined that the WLA provided in the TMDL will be applied as a Quarterly Average Limit (QAL), as an average monthly limit is not practicable due to the long term effects of nutrients on streams.

WLA = QAL = **0.007 mg/L**
QAL = **0.007 mg/L**

In addition to the Average Annual Limit, the facility will be required to monitor Total Phosphorus monthly as a monitoring only requirement.

- **Total Ammonia Nitrogen (Interim).** The 2nd interim Ammonia limits are based upon the EPA's 2013 finalized new water quality criteria for ammonia, based on toxicity studies of mussels and gill breathing snails. Background total ammonia nitrogen = 0.01 mg/L. No mixing considerations allowed; therefore, WLA = appropriate criterion.

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	0.7	3.4
Winter	6	7.8	2.3	13

Summer: April 1 – September 30

Chronic WLA: $C_e = ((0.2 + 0.0)0.7 - (0.0 * 0.01))/0.2$
 $C_e = 0.7 \text{ mg/L}$

Acute WLA: $C_e = ((0.2 + 0.0)3.4 - (0.0 * 0.01))/0.2$
 $C_e = 3.4 \text{ mg/L}$

$LTA_c = 0.7 \text{ mg/L (0.780)} = 0.55 \text{ mg/L}$
 $LTA_a = 3.4 \text{ mg/L (0.321)} = 1.09 \text{ mg/L}$

[CV = 0.6, 99th Percentile, 30 day avg.]
[CV = 0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_a .

MDL = 0.55 mg/L (3.11) = 1.7 mg/L
AML = 0.55 mg/L (1.19) = 0.6 mg/L

[CV = 0.6, 99th Percentile]
[CV = 0.6, 95th Percentile, n=30]

Winter: October 1 – March 31

Chronic WLA: $C_e = ((0.2 + 0.0)2.3 - (0.0 * 0.01))/0.2$
 $C_e = 2.3 \text{ mg/L}$

Acute WLA: $C_e = ((0.2 + 0.0)13 - (0.0 * 0.01))/0.2$
 $C_e = 13 \text{ mg/L}$

$LTA_c = 2.3 \text{ mg/L (0.780)} = 1.79 \text{ mg/L}$
 $LTA_a = 13 \text{ mg/L (0.321)} = 4.14 \text{ mg/L}$

[CV = 0.6, 99th Percentile, 30 day avg.]
[CV = 0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_a .

MDL = 1.79 mg/L (3.11) = 5.6 mg/L
AML = 1.79 mg/L (1.19) = 2.1 mg/L

[CV = 0.6, 99th Percentile]
[CV = 0.6, 95th Percentile, n=30]

- **Total Ammonia Nitrogen (Final).** $WLA_c = 0.3 \text{ mg/L}$ per the 2010 EPA approved TMDL. The TMDL discusses that seasonal variation is addressed by the TMDL identifying a Loading Capacity that is protective of the Dissolved Oxygen target during the 7Q10 low flow period. Therefore the WLA_c will be used for the limit calculation. As the Ammonia limit is set to be protective of the Dissolved Oxygen target, seasonal limits are not applicable. The WLA_c for the TMDL is more protective than the WLA_a and WLA_c for protection of aquatic life, therefore the TMDL limits will apply. Effluent Limits were determined using the US EPA's Technical Support Document For Water Quality-based Toxics Control (EPA/505/2-90-001) Permit Limit Derivation from Single, Steady-State Model Output. The single WLA as provided in the TMDL was considered the chronic WLA.

Chronic WLA: $C_c = 0.3 \text{ mg/L}$
 $LTA_c = 0.3 \text{ mg/L} (0.67) = 0.2 \text{ mg/L}$ [CV = 0.97, 99th Percentile, 30 day avg.]

MDL = 0.2 mg/L (4.79) = 1.0 mg/L [CV = 0.97, 99th Percentile]
AML = 0.2 mg/L (1.32) = 0.3 mg/L [CV = 0.97, 95th Percentile, n =30]

- **Escherichia coli (E. coli).** Monthly average of 206 per 100 mL as a geometric mean and Daily Maximum of 1030 per 100 mL during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (B) designated use of the receiving stream, as per 10 CSR 20-7.031(5)(C). 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 = 5th root of (1)(4)(6)(10)(5) = 5th root of 1,200 = 4.1 #/100mL.
- **pH.** $\geq 6.5 \text{ SU}$. Technology based effluent limitations of 6.0-9.0 SU [10 CSR 20-7.015] are not protective of the 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. With no mixing zone, the water quality standard, $\geq 6.5 \text{ SU}$, must be met at the outfall.
- **Dissolved Oxygen.** The 2010 EPA approved TMDL requires a minimum Dissolved Oxygen limit of 8.0 mg/L.
- **Parameters Removed.** Temperature was removed as it did not show a reasonable potential to violate Water Quality Standards.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	twice/week	once/month
BOD ₅	once/month	once/month
CBOD ₅	once/month	once/month
NBOD ₅	once/month	once/month
TSS	once/month	once/month
Ammonia as N	once/month	once/month
pH	once/month	once/month
Total Nitrogen (Interim)	once/quarter	once/quarter
Total Phosphorus (Interim)	once/quarter	once/quarter
Total Nitrogen (Final)	once/month	once/quarter
Total Phosphorus (Final)	once/month	once/quarter
E. coli	once/month	once/month
pH	once/month	once/month
Dissolved Oxygen	once/month	once/month

Sampling Frequency Justification:

Sampling and Reporting Frequency was retained from previous permit, except for flow, which was increased to twice per week. This increase was to capture additional flow data as this facility has previously been reported as having hydraulic overloading. Weekly sampling is required for E. coli, per 10 CSR 20-7.015(9)(D)6.A. The interim Total Nitrogen and Total Phosphorus are to be collected quarterly per 10 CSR 20-7.015(9)(D)7.

Sampling Type Justification

As per 10 CSR 20-7.015, BOD₅, including CBOD₅ and NBOD₅ and TSS collected for lagoons may be grab samples. Grab samples must be collected for pH, Ammonia as N, E. coli, Dissolved Oxygen and Total Phosphorus. This is due to the holding time restriction for E. coli, the volatility of Ammonia, and the fact that pH and DO cannot be preserved and must be sampled in the field. As Ammonia and Total Phosphorus samples must be immediately preserved with acid, these samples are to be collected as a grab. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D) 2.

PERMITTED FEATURE #SM1 & #SM2 – INSTREAM MONITORING (UPSTREAM AND DOWNSTREAM)

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

MONITORING REQUIREMENTS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Modified	Previous Permit Limitations
Temperature	° C	8	*		*	No	*/*
Ammonia as N	mg/L	8	*		*	No	*/*
PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Modified	Previous Permit Limitations
pH	SU	8	*		*	No	*/*
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Avg. Min	Modified	Previous Permit Limitations
Dissolved Oxygen (DO)	mg/L	8	*		*	No	*/*

* - Monitoring requirement only.

Basis for Limitations Codes:

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

PERMITTED FEATURE #SM1 & #SM2 – DERIVATION AND DISCUSSION OF MONITORING REQUIREMENTS:

- **Temperature**. Monitoring requirement only. This parameter is required to be collected instream by the 2010 EPA approved TMDL.
- **Ammonia as N**. Monitoring requirement only. This parameter is required to be collected instream by the 2010 EPA approved TMDL.
- **pH**. Monitoring requirement only. This parameter is required to be collected instream by the 2010 EPA approved TMDL.
- **Dissolved Oxygen**. Monitoring requirement only. This parameter is required to be collected instream by the 2010 EPA approved TMDL.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Temperature	once/month	once/month
Ammonia as N	once/month	once/month
pH	once/month	once/month
Dissolved Oxygen	once/month	once/month

Sampling Frequency Justification:

The sampling and reporting frequency for instream monitoring has been established to match the sampling frequency of the effluent parameters.

Sampling Type Justification

As Ammonia as N samples must be immediately preserved; these samples are to be collected as a grab. Temperature, pH, and Dissolved Oxygen must be collected as grab as these parameters cannot be preserved and must be sampled in the field.

Part VIII – Cost Analysis for Compliance

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and makes a “finding of affordability” for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

- 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 publically-owned treatment works.

Part IX – 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.

PERMIT SYNCHRONIZATION:

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

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 September 25, 2015 to October 26, 2015. Responses to the Public Notice of this operating permit did not warrant the modification of effluent limits and/or the terms and conditions of this permit. Mass loading parameters were removed from the permit.

DATE OF FACT SHEET: DECEMBER 16, 2015

COMPLETED BY:

BRANT FARRIS, ENVIRONMENTAL SPECIALIST III
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
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APPENDIX – TMDL TABLE 14:

Table 14. WLAs for Lake Forest Estates Subdivision WWTP (MO0035742) in the Big Bottom Creek Watershed

Effluent Parameter	Design Flow (MGD)	Existing Permit Limit (mg/L)		WLA at Design Flow based on QUAL2K and LDC modeling (mg/L)		Percent Reduction
		Concentration (mg/L)	Load (lbs/day)	Concentration (mg/L)	Load (lbs/day)	
CBOD ₅	0.1183	No limit	No limit	5.04	4.99	Not applicable
NBOD ₅	0.1183	No limit	No limit	1.46	1.45	Not applicable
TN	0.1183	No limit	No limit	0.289	0.29	Not applicable
TP	0.1183	No limit	No limit	0.007	0.01	Not applicable
NH ₃	0.1183	Daily Maximum = 3.7 ¹² - 7.5 ¹³ Monthly Average = 1.9 ¹⁴ - 3.7 ¹⁵	3.7 - 7.4 1.9 - 3.7	0.3	0.9	50
TSS	0.1183	Weekly Average = 60 Monthly Average = 30	= 59.2 = 29.6	10.0	9.9	67

Notes: CBOD₅ is calculated using simulated BOD₅ divided by 1.29, based on 1998 EPA modeling guidance for NH₃ toxicity and DO modeling. NBOD₅ is the difference between BOD₅ and CBOD₅. TN target loading for point sources was based on 289 µgN/L, Ecoregion 39 TN value. TP target loading for point sources was based on 7 µgP/L, Ecoregion 39 TP value. Existing permit limit loads (lbs/day) are based on existing design flow and monthly average limits.



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

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

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
2. **Monitoring Requirements.**
 - a. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
 - b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.
3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.
4. **Test Procedures.** The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.
5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee’s sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

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

Section B – Reporting Requirements

1. **Planned Changes.**
 - a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1);
 - 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.



STANDARD CONDITIONS FOR NPDES PERMITS
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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 28th 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.



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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.

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

SECTION A – GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation for domestic wastewater and industrial process wastewater. This permit also incorporates applicable federal sludge disposal requirements under 40 CFR 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR 503 for domestic wastewater. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address the federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW), privately owned facilities and sludge or biosolids generated at industrial facilities.
3. Sludge and Biosolids Use and Disposal Practices:
 - a. The permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
 - b. The permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
 - c. The permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
4. Sludge Received from other Facilities:
 - a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
 - b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act under Chapter 644 RSMo.
8. In addition to STANDARD CONDITIONS, the Department may include sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Alternate Limits in the Site Specific Permit.

Where deemed appropriate, the Department may require an individual site specific permit in order to authorize alternate limitations:

 - a. A site specific permit must be obtained for each operating location, including application sites.
 - b. To request a site specific permit, an individual permit application, permit fee, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the Department, as follows:
 - a. The Department will prepare a permit modification and follow permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owner of the property located adjacent to each land application site, where appropriate.
 - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.

SECTION B – DEFINITIONS

1. Best Management Practices include agronomic loading rates, soil conservation practices and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Industrial wastewater means any wastewater, also known as process water, not defined as domestic wastewater. Per 40 CFR Part 122, process water means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.
8. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include wastewater treatment lagoons and constructed wetlands for wastewater treatment.
9. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
10. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the growing seasons after biosolids application.
11. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
12. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs)
13. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
14. Septage is the material pumped from residential septic tanks and similar treatment works (with a design population of less than 150 people). The standard for biosolids from septage is different from other sludges.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

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

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

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

SECTION E – INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored, and ash used or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.

SECTION F – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

1. Surface disposal sites of domestic facilities shall comply with the requirements in 40 CFR 503 Subpart C; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain sludge storage lagoons as storage facilities, accumulated sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of sludge removed will be dependent on sludge generation and accumulation in the facility. Enough sludge must be removed to maintain adequate storage capacity in the facility.
 - a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the Department; or
 - b. Permittee shall close the lagoon in accordance with Section H.

SECTION G – LAND APPLICATION

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

Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the Department after two years of proper operation with acceptable testing documentation that shows the biosolids meet Class A criteria. A shorter length of testing will be allowed with prior approval from the Department. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site specific permit.

 - a. After Class B biosolids have been land applied, public access must be restricted for 12 months.
 - b. Class B biosolids are only land applied to root crops, home gardens or vegetable crops whose edible parts will not be for human consumption.
6. Agricultural and Silvicultural Sites:

Septage – Based on Water Quality guide 422 (WQ422) published by the University of Missouri

 - a. Haulers that land apply septage must obtain a state permit
 - b. Do not apply more than 30,000 gallons of septage per acre per year.
 - c. Septage tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to other mechanical type treatment facilities.
 - d. To meet Class B sludge requirements, maintain septage at 12 pH for at least thirty (30) minutes before land application. 50 pounds of hydrated lime shall be added to each 1,000 gallons of septage in order to meet pathogen and vector stabilization for septage biosolids applied to crops, pastures or timberland.
 - e. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.

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

- a. Biosolids shall be monitored to determine the quality for regulated pollutants
- b. The number of samples taken is directly related to the amount of sludge produced by the facility (See Section I of these Standard Conditions). Report as dry weight unless otherwise specified in the site specific permit. Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to reach the maximum concentration of pollutants allowed.
- c. Table 1 gives the maximum concentration allowable to protect water quality standards

TABLE 1

Biosolids ceiling concentration ¹	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

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

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

TABLE 2

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

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

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

TABLE 3

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

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

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

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

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

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

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

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

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

- a. Use best management practices when applying biosolids.
- b. Biosolids cannot discharge from the land application site
- c. Biosolid application is subject to the Missouri Department of Agriculture State Milk Board concerning grazing restrictions of lactating dairy cattle.
- d. Biosolid application must be in accordance with section 4 of the Endangered Species Act.
- e. Do not apply more than the agronomic rate of nitrogen needed.
- f. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.
 - i. PAN can be determined as follows and is in accordance with WQ426
(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor¹).
¹Volatilization factor is 0.7 for surface application and 1 for subsurface application.
- g. Buffer zones are as follows:
 - i. 300 feet of a water supply well, sinkhole, lake, pond, water supply reservoir or water supply intake in a stream;
 - ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
 - iii. 150 feet if dwellings;
 - iv. 100 feet of wetlands or permanent flowing streams;
 - v. 50 feet of a property line or other waters of the state, including intermittent flowing streams.
- h. Slope limitation for application sites are as follows;
 - i. A slope 0 to 6 percent has no rate limitation
 - ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels
 - iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.
- i. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
- j. Do not apply biosolids to sites with soil that is snow covered, frozen or saturated with liquid without prior approval by the Department.
- k. Biosolids / sludge applicators must keep detailed records up to five years.

SECTION H – CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical, industrial, and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids. Mechanical plants, sludge lagoons, ash ponds and other storage structures must obtain approval of a closure plan from the Department. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
 - a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
 - b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
 - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre.
 - i. PAN can be determined as follows:
$$(\text{Nitrate} + \text{nitrite nitrogen}) + (\text{organic nitrogen} \times 0.2) + (\text{ammonia nitrogen} \times \text{volatilization factor}^1).$$

¹ Volatilization factor is 0.7 for surface application and 1 for subsurface application.
4. When closing a domestic wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered “septage” under the similar treatment works definition. See Section B of these standard conditions. Under the septage category, residuals may be left in place as follows:
 - a. Testing for metals or fecal coliform is not required
 - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
 - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berm shall be demolished, and the site shall be graded and contain $\geq 70\%$ vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoons and/or earthen structure and/or ash pond closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200
7. When closing a mechanical wastewater and/or industrial process wastewater plant; all sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
 - a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain $\geq 70\%$ 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. Per 10 CSR 20-6.015(4)(B)6, Hazardous Waste shall not be land applied or disposed during industrial and mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations under 10 CSR 25.
 - c. After demolition of the mechanical plant / industrial plant, the site must only contain clean fill defined in RSMo 260.200 (5) as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill or other beneficial use. Other solid wastes must be removed.
8. If sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or H, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

SECTION I – MONITORING FREQUENCY

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

TABLE 5

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

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

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

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

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

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids.

This data shall be used to calculate the dry tons of sludge applied per acre.

Note 2: Total Phosphorus: Total phosphorus and total potassium shall be tested at the same monitoring frequency as metals.

Note 3: Table 5 is not applicable for incineration

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

SECTION J – RECORD KEEPING AND REPORTING REQUIREMENTS

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

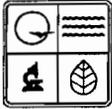
Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the Department and EPA. Other facilities need to report only to the Department. Reports shall be submitted to the addresses listed as follows:

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

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

5. Annual report contents. The annual report shall include the following:
- a. Sludge and biosolids testing performed. Include a copy or summary of all test results, even if not required by the permit.
 - b. Sludge or biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at the end of the year, and the quantity used or disposed.
 - c. Gallons and % solids data used to calculate the dry ton amounts.
 - d. Description of any unusual operating conditions.
 - e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
 - i. This must include the name, address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
 - ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
 - f. Contract Hauler Activities:

If contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge or biosolids use permit.
 - g. Land Application Sites:
 - i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
 - ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
 - iii. Report the method used for compliance with pathogen and vector attraction requirements.
 - iv. Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FACILITY NAME <i>Lake Forest Estates Subdivision</i>	
PERMIT NO. <i>MO-0035742</i>	COUNTY <i>Ste. Genevieve</i>

APPLICATION OVERVIEW

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

BASIC APPLICATION INFORMATION

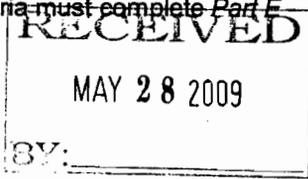
- A. Basic Application Information for all Applicants. All applicants must complete Part A.
- B. Additional Application Information for all Applicants. All applicants must complete Part B.
- C. Certification. All applicants must complete Part C.

SUPPLEMENTAL APPLICATION INFORMATION

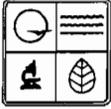
- D. Expanded Effluent Testing Data. A treatment works that discharges effluent to surface water of the United States and meets one or more of the following criteria must complete *Part D - Expanded Effluent Testing Data*:
 1. Has a design flow rate greater than or equal to 1 million gallons per day.
 2. Is required to have or currently has a pretreatment program.
 3. Is otherwise required by the permitting authority to provide the information.
- E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete *Part E - Toxicity Testing Data*:
 1. Has a design flow rate greater than or equal to 1 million gallons per day.
 2. Is required to have or currently has a pretreatment program.
 3. Is otherwise required by the permitting authority to provide the information.
- F. Industrial User Discharges and Resource Conservation and Recovery Act / Comprehensive Environmental Response, Compensation and Liability Act Wastes. A treatment works that accepts process wastewater from any significant industrial users, also known as SIUs, or receives a Resource Conservation and Recovery Act or CERCLA wastes must complete *Part F - Industrial User Discharges and Resource Conservation and Recovery Act / CERCLA Wastes*.

SIUs are defined as:

 1. All Categorical Industrial Users, or CIUs, subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations 403.6 and 40 Code of Federal Regulations 403.6 and 40 CFR Chapter 1, Subchapter N.
 2. Any other industrial user that meets one or more of the following:
 - i. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
 - ii. Contributes a process waste stream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant.
 - iii. Is designated as an SIU by the control authority.
- G. Combined Sewer Systems. A treatment works that has a combined sewer system must complete *Part G - Combined Sewer Systems*.



ALL APPLICANTS MUST COMPLETE PARTS A, B and C



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED

PART A – BASIC APPLICATION INFORMATION

1. This application is for:

An operating permit and antidegradation review public notice.

A construction permit following an appropriate operating permit and antidegradation review public notice.

A construction permit, a concurrent operating permit and antidegradation review public notice.

A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).

An operating permit for a new or unpermitted facility. Construction Permit # _____

An operating permit renewal: Permit # MO-0035742 Expiration Date 11-30-09

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

1.1 Is this a Federal/State Funded Project? Yes No Funding Agency/Project #: _____

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? Yes No

2. FACILITY LAKE FOREST COMMUNITY ASSOCIATION

NAME LAKE FOREST ESTATES TELEPHONE NUMBER WITH AREA CODE 573 483 9861

ADDRESS (PHYSICAL) 13765 LAKEWOOD DR. CITY ST. GENEVIEVE STATE MO ZIP 63670

2.1 LEGAL DESCRIPTION (Plant Site): SW 1/4, SW 1/4, Section 1, T37N, R 7E County ST. GEN.

2.2 UTM Coordinates Easting (X): _____ Northing (Y): _____ LATITUDE/LONGITUDE N 32° 15' 7.223" / 09012300
 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3. OWNER LAKE FOREST COMMUNITY ASSOCIATION

NAME ALLEN E. GRASS TITLE COMMUNITY MANAGER TELEPHONE NUMBER WITH AREA CODE 573 883 0224

ADDRESS 13765 LAKEWOOD DR. CITY ST. GEN. STATE MO ZIP 63670

3.1 Request review of draft permit prior to Public Notice? Yes No

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

NAME LAKE FOREST COMMUNITY ASSOCIATION CITY ST. GEN.

ADDRESS 13765 LAKEWOOD DR. CERTIFICATE NUMBER (IF APPLICABLE) 0035742 STATE _____ ZIP _____

5. OPERATOR

NAME JEREMY MEYER TITLE WASTE WATER OPER. TELEPHONE NUMBER WITH AREA CODE 573 517 1453

6. FACILITY CONTACT

NAME ALLEN E. GRASS TITLE COMMUNITY MANAGER

FACILITY NAME		PERMIT NO. MO- 003572	OUTFALL NO. 001 SIC # 4952	
PART A - BASIC APPLICATION INFORMATION				
7. ADDITIONAL FACILITY INFORMATION				
7.1 BRIEF DESCRIPTION OF FACILITIES TWO CELL AERATED LAGOON / THREE CELL EQUALIZATION LAGOON SLUDGE IS RETAINED IN LAGOON				
7.2 TOPOGRAPHIC MAP. ATTACH TO THIS APPLICATION A TOPOGRAPHIC MAP OF THE AREA EXTENDING AT LEAST ONE MILE BEYOND FACILITY PROPERTY BOUNDARIES. THIS MAP MUST SHOW THE OUTLINE OF THE FACILITY AND THE FOLLOWING INFORMATION. (YOU MAY SUBMIT MORE THAN ONE MAP IF ONE MAP DOES NOT SHOW THE ENTIRE AREA.) a. The area surrounding the treatment plant, including all unit processes. b. The location of the downstream landowner(s). (See Item 10.) c. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable. d. The actual point of discharge. e. Wells, springs, other surface water bodies and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant. f. Any areas where the sewage sludge produced by the treatment works is stored, treated or disposed. g. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act, or RCRA, by truck, rail or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored or disposed.				
7.3 PROCESS FLOW DIAGRAM OR SCHEMATIC. PROVIDE A DIAGRAM SHOWING THE PROCESSES OF THE TREATMENT PLANT. ALSO, PROVIDE A WATER BALANCE SHOWING ALL TREATMENT UNITS, INCLUDING DISINFECTION (E.G. CHLORINATION AND DECHLORINATION). THE WATER BALANCE MUST SHOW DAILY AVERAGE FLOW RATES AT INFLUENT AND DISCHARGE POINTS AND APPROXIMATE DAILY FLOW RATES BETWEEN TREATMENT UNITS. INCLUDE A BRIEF NARRATIVE DESCRIPTION OF THE DIAGRAM.				
7.4 FACILITY SIC CODE # 4952	DISCHARGE SIC CODE:	FACILITY NAICS CODE:	DISCHARGE NAICS CODE:	
7.5 NUMBER OF SEPARATE DISCHARGE POINTS 1				
7.6 NUMBER OF PEOPLE PRESENTLY CONNECTED OR POPULATION EQUIVALENT 645			DESIGN POPULATION EQUIVALENT 1040	
NUMBER OF UNITS PRESENTLY CONNECTED HOMES 277 APARTMENTS 0 TRAILERS 0 OTHER -				
TOTAL DESIGN FLOW (ALL OUTFALLS) 376,700 GALLONS PER DAY			ACTUAL FLOW 73,564 GALLONS PER DAY	
7.7 DOES ANY BYPASSING OCCUR ANYWHERE IN THE COLLECTION SYSTEM OR AT THE TREATMENT FACILITY? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (If Yes, attach an explanation.)				
7.8 LENGTH OF THE SANITARY SEWER COLLECTION SYSTEM IN MILES 11 miles				
7.9 IS INDUSTRIAL WASTE DISCHARGED TO THE FACILITY IDENTIFIED IN ITEM 2? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
7.10 WILL THE DISCHARGE BE CONTINUOUS THROUGH THE YEAR? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
A. DISCHARGE WILL OCCUR DURING THE FOLLOWING MONTHS All months.		B. HOW MANY DAYS OF THE WEEK WILL THE DISCHARGE OCCUR? 7 days		
7.11 IS WASTEWATER LAND APPLIED? (If Yes, Attach Form I) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		7.12 DOES THIS FACILITY DISCHARGE TO A LOSING STREAM OR SINKHOLE? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
7.13 HAS A WASTE LOAD ALLOCATION STUDY BEEN COMPLETED FOR THIS FACILITY? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
7.14 LIST ALL PERMIT VIOLATIONS, INCLUDING EFFLUENT LIMIT EXCEEDANCES IN THE LAST FIVE YEARS. ATTACH A SEPARATE SHEET IF NECESSARY. IF NONE, WRITE NONE. 2001 WATERS ENGINEERING 1 on 8-24-99 see attach				
8. LABORATORY CONTROL INFORMATION				
8.1 LABORATORY WORK CONDUCTED BY PLANT PERSONNEL				
Lab work conducted outside of plant.			Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
Push-button or visual methods for simple test such as pH, settleable solids.			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Additional procedures such as Dissolved Oxygen, Chemical Oxygen Demand, Biological Oxygen Demand, titrations, solids, volatile content.			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.	
PART A - BASIC APPLICATION INFORMATION			
9. SLUDGE HANDLING, USE AND DISPOSAL			
9.1 IS THE SLUDGE A HAZARDOUS WASTE AS DEFINED BY 10 CSR 25? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
9.2 SLUDGE PRODUCTION, INCLUDING SLUDGE RECEIVED FROM OTHERS Design Dry Tons/Year <u>15.6</u>		Actual Dry Tons/Year	
9.3 CAPACITY OF SLUDGE HOLDING STRUCTURES			
9.4 SLUDGE STORAGE PROVIDED <u>in lagoon</u> Cubic Feet Days of Storage Average Percent Solids of Sludge <input type="checkbox"/> No Sludge Storage is Provided			
9.5 TYPE OF STORAGE <input type="checkbox"/> Holding Tank <input checked="" type="checkbox"/> Basin <input type="checkbox"/> Building <input type="checkbox"/> Concrete Pad <input type="checkbox"/> Other (Describe) _____			
9.6 SLUDGE TREATMENT <input type="checkbox"/> Anaerobic Digester <input type="checkbox"/> Storage Tank <input type="checkbox"/> Lime Stabilization <input checked="" type="checkbox"/> Lagoon <input type="checkbox"/> Aerobic Digester <input type="checkbox"/> Air or Heat Drying <input type="checkbox"/> Composting <input type="checkbox"/> Other (Attach Description)			
9.7 SLUDGE USE OR DISPOSAL <input type="checkbox"/> Land Application <input type="checkbox"/> Contract Hauler <input type="checkbox"/> Hauled to Another Treatment Facility <input type="checkbox"/> Solid Waste Landfill <input checked="" type="checkbox"/> Surface Disposal (Sludge Disposal Lagoon, Sludge Held For More Than Two Years) <input type="checkbox"/> Incineration <input type="checkbox"/> Other (Attach Explanation Sheet) <u>Held in lagoon</u>			
9.8 PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY			
NAME			
ADDRESS		CITY	STATE ZIP
CONTACT PERSON		TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-
9.9 SLUDGE USE OR DISPOSAL FACILITY <input type="checkbox"/> By Applicant <input type="checkbox"/> By Others (Complete Below)			
NAME			
ADDRESS		CITY	STATE ZIP
CONTACT PERSON		TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-
9.10 DOES THE SLUDGE OR BIOSOLIDS DISPOSAL COMPLY WITH FEDERAL SLUDGE REGULATIONS UNDER 40 CFR 503? <input type="checkbox"/> Yes <input type="checkbox"/> No (Attach Explanation)			
10. DOWNSTREAM LANDOWNER(S). (ATTACH ADDITIONAL SHEETS AS NECESSARY.)			
NAME <u>ARTHUR M. & ADRIAN L. BAUMAN</u>			
ADDRESS <u>11687 ZELL RD.</u>		CITY <u>STE GENEVIEVE</u>	STATE ZIP <u>MO 63670</u>
11. DRINKING WATER SUPPLY INFORMATION			
11.1 SOURCE OF YOUR DRINKING WATER SUPPLY			
A. PUBLIC SUPPLY (MUNICIPAL OR WATER DISTRICT WATER) (IF PUBLIC, PLEASE GIVE NAME OF PUBLIC SUPPLY) <u>Lake Forest Estates Subdivision</u>			
B. PRIVATE WELL <u>2 wells</u>			
C. SURFACE WATER (LAKE, POND OR STREAM)			
11.2 DOES YOUR DRINKING WATER SOURCE SERVE AT LEAST 25 PEOPLE AT LEAST 60 DAYS PER YEAR (NOT NECESSARILY CONSECUTIVE DAYS)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
11.3 DOES YOUR SUPPLY SERVE HOUSING THAT IS OCCUPIED YEAR ROUND BY THE SAME PEOPLE? THIS DOES NOT INCLUDE HOUSING THAT IS OCCUPIED SEASONALLY? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
END OF PART A			

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL			
FACILITY NAME <u>Lake Forest Estate</u>		PERMIT NO. <u>MO-MO-0035742</u>	OUTFALL NO. <u>001</u>
PART B - ADDITIONAL APPLICATION INFORMATION			
20. INFLOW AND INFILTRATION			
ESTIMATE THE AVERAGE NUMBER OF GALLONS PER DAY THAT FLOW INTO THE TREATMENT WORKS FROM INFLOW AND INFILTRATION. Gallons Per Day 0 <u>376,000 wet weather Flow</u>			
BRIEFLY EXPLAIN ANY STEPS UNDERWAY OR PLANNED TO MINIMIZE INFLOW AND INFILTRATION. <u>Monitor flow and make improvements to collection system as needed without flows increase</u>			
20.1 OPERATION AND MAINTENANCE PERFORMED BY CONTRACTOR(S)			
ARE ANY OPERATIONAL OR MAINTENANCE ASPECTS (RELATED TO WASTEWATER TREATMENT AND EFFLUENT QUALITY) OF THE TREATMENT WORKS THE RESPONSIBILITY OF A CONTRACTOR? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If Yes, list the name, address, telephone number and status of each contractor and describe the contractor's responsibilities. (Attach additional pages if necessary.)			
NAME <u>Jeremy Meyer</u>			
MAILING ADDRESS <u>30 Dreamz Lane</u>			
TELEPHONE NUMBER WITH AREA CODE <u>573 517 1453</u>			
RESPONSIBILITIES OF CONTRACTOR <u>Water system / Wastewater system</u>			
20.2 SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION. PROVIDE INFORMATION ABOUT ANY UNCOMPLETED IMPLEMENTATION SCHEDULE OR UNCOMPLETED PLANS FOR IMPROVEMENTS THAT WILL AFFECT THE WASTEWATER TREATMENT, EFFLUENT QUALITY OR DESIGN CAPACITY OF THE TREATMENT WORKS. IF THE TREATMENT WORKS HAS SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES OR IS PLANNING SEVERAL IMPROVEMENTS, SUBMIT SEPARATE RESPONSES FOR EACH. (IF NONE, GO TO QUESTION B-20.3.)			
A. List the outfall number that is covered by this implementation schedule Outfall No. _____		B. Indicate whether the planned improvements or implementation schedule are required by local, state or federal agencies. Yes <input type="checkbox"/> No <input type="checkbox"/>	
20.3 WASTEWATER DISCHARGES: COMPLETE QUESTIONS 20.4 THROUGH 20.7 ONCE FOR EACH OUTFALL (INCLUDING BYPASS POINTS) THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION.			
20.4 DESCRIPTION OF OUTFALL			
OUTFALL NUMBER <u>1</u>			
A. LOCATION 1/4 _____ 1/4 _____ 1/4 _____ Section _____ Township <u>S6N</u> Range <u>7E</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W <u>N90° 12.5'</u> UTM Coordinates Easting (X): _____ Northing (Y): _____ <u>N37° 57.3'</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)			
B. Distance from Shore (If Applicable) _____ ft.		C. Depth Below Surface (If Applicable) _____ ft.	D. Average Daily Flow Rate <u>.73</u> mgd
E. Does this outfall have either an intermittent or periodic discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Provide the following information:			
Number of Days Per Year Discharge Occurs: <u>365</u>	Average Duration of Each Discharge: <u>24 hrs</u>	Average Flow Per Discharge: mgd <u>.073</u>	Months in Which Discharge Occurs: <u>12</u>
Is Outfall Equipped with a Diffuser? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
20.5 DESCRIPTION OF RECEIVING WATER			
B. Name of Receiving Water <u>Big Bottom Creek</u>			
B. Name of Watershed (If Known)		U.S. Soil Conservation Service 14-Digit Watershed Code (If Known)	
B. Name of State Management/River Basin (If Known)		U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (If Known)	
B. Critical Flow of Receiving Stream (If Applicable) Acute _____ cfs Chronic _____ cfs		B. Total Hardness of Receiving Stream at Critical Low Flow (If Applicable) mg/L of CaCO ₃	

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.					
PART B - ADDITIONAL APPLICATION INFORMATION (CONTINUED)							
20.6 DESCRIPTION OF TREATMENT							
A. What Levels of Treatment are Provided? Check All That Apply <input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary <input type="checkbox"/> Advanced <input type="checkbox"/> Other (Describe)							
B. INDICATE THE FOLLOWING REMOVAL RATES (AS APPLICABLE) Design BOD ₅ Removal Or Design CBOD ₅ Removal 85% Design SS Removal ____% Design P Removal ____% Design N Removal ____% Other ____%							
C. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe: <i>None</i>							
If disinfection is by chlorination, is dechlorination used for this outfall? <input type="checkbox"/> Yes <input type="checkbox"/> No							
Does the treatment plant have post aeration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
20.7 EFFLUENT TESTING DATA. ALL APPLICANTS THAT DISCHARGE TO WATERS OF THE U.S. MUST PROVIDE EFFLUENT TESTING DATA FOR THE FOLLOWING PARAMETERS. PROVIDE THE INDICATED EFFLUENT DATA FOR EACH OUTFALL THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION OF COMBINED SEWER OVERFLOWS IN THIS SECTION. ALL INFORMATION REPORTED MUST BE BASED ON DATA COLLECTED THROUGH ANALYSIS CONDUCTED USING 40 CFR PART 136 METHODS. IN ADDITION, THIS DATA MUST COMPLY WITH QA/QC REQUIREMENTS OF 40 CFR PART 136 AND OTHER APPROPRIATE QA/QC REQUIREMENTS FOR STANDARD METHODS FOR ANALYTES NOT ADDRESSED BY 40 CFR PART 136.							
OUTFALL NUMBER							
PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE				
	VALUE	UNITS	VALUE	UNITS	NO. OF SAMPLES		
pH (Minimum)		S.U.		S.U.			
pH (Maximum)		S.U.		S.U.			
FLOW RATE		MGD		MGD			
TEMPERATURE (Winter)		°C		°C			
TEMPERATURE (Summer)		°C		°C			
*For pH report a minimum and a maximum daily value.							
POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
	CONC.	UNITS	CONC.	UNITS	NO. OF SAMPLES		
Conventional and Nonconventional Compounds							
BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD ₅		mg/L		mg/L		
	CBOD ₅		mg/L		mg/L		
FECAL COLIFORM			#/100 mL		#/100 mL		
TOTAL SUSPENDED SOLIDS (TSS)			mg/L		mg/L		
AMMONIA (AS N)			mg/L		mg/L		
CHLORINE (TOTAL RESIDUAL, TRC)			mg/L		mg/L		
DISSOLVED OXYGEN			mg/L		mg/L		
TOTAL KJELDAHL NITROGEN (TKN)			mg/L		mg/L		
NITRATE PLUS NITRITE NITROGEN			mg/L		mg/L		
OIL AND GREASE			mg/L		mg/L		
PHOSPHORUS (TOTAL)			mg/L		mg/L		
TOTAL DISSOLVE SOLIDS (TDS)			mg/L		mg/L		
OTHER			mg/L		mg/L		
END OF PART B							

PART C - CERTIFICATION

30. CERTIFICATION

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

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

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

PRINTED NAME AND OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL)

ALLEN GRASS COMMUNITY MANAGER

SIGNATURE

Allen Grass

TELEPHONE NUMBER WITH AREA CODE

573-883-0884 573 483 9861

DATE SIGNED

5-27-09

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

For Design Flows Less than 1 Million Gallons Per Day, Send Completed Form to:

Appropriate Regional Office

Map of regional offices with addresses and phone numbers is available on the Web at www.dnr.mo.gov/regions/ro-map.pdf.

For Design Flows of 1 Million Gallons Per Day or Greater, Send Completed Form to:

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

END OF PART C.

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

Do not complete the remainder of this application, unless:

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

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

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.
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PART D – EXPANDED EFFLUENT TESTING DATA

40. EXPANDED EFFLUENT TESTING DATA

Refer to the supplemental application information to determine whether Part D applies to the treatment works.

40.1 EFFLUENT TESTING: IF THE TREATMENT WORKS HAS A DESIGN FLOW GREATER THAN OR EQUAL TO 1 MILLION GALLONS PER DAY OR IT HAS (OR IS REQUIRED TO HAVE) A PRETREATMENT PROGRAM, OR IS OTHERWISE REQUIRED BY THE PERMITTING AUTHORITY TO PROVIDE THE DATA, THEN PROVIDE EFFLUENT TESTING DATA FOR THE FOLLOWING POLLUTANTS. PROVIDE THE INDICATED EFFLUENT TESTING INFORMATION FOR EACH OUTFALL THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION. ALL INFORMATION REPORTED MUST BE BASED ON DATA COLLECTED THROUGH ANALYSIS CONDUCTED USING 40 CFR PART 136 METHODS. IN ADDITION, THIS DATA MUST COMPLY WITH QA/QC REQUIREMENTS OF 40 CFR PART 136 AND OTHER APPROPRIATE QA/QC REQUIREMENTS FOR STANDARD METHODS FOR ANALYTES NOT ADDRESSED BY 40 CFR PART 136. INDICATE IN THE BLANK ROWS PROVIDED BELOW ANY DATA YOU MAY HAVE ON POLLUTANTS NOT SPECIFICALLY LISTED IN THIS FORM. EFFLUENT TESTING MUST NOT BE MORE THAN FOUR AND ONE-HALF YEARS OLD.

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

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	CONC	UNITS	MASS	UNITS	CONC	UNITS	MASS	UNITS	NO. OF SAMPLES		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS AND HARDNESS											
ANTIMONY											
ARSENIC											
BERYLLIUM											
CADMIUM											
CHROMIUM											
COPPER											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (as CaCO ₃)											

USE THIS SPACE (OR A SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER METALS REQUESTED BY THE PERMIT WRITER.

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.
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PART D – EXPANDED EFFLUENT TESTING DATA (CONTINUED)

40.1 EXPANDED EFFLUENT TESTING DATA (CONTINUED)

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

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	CONC	UNITS	MASS	UNITS	CONC	UNITS	MASS	UNITS	NO. OF SAMPLES		
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											
CHLOROBENZENE											
CHLORODIBROMOMETHANE											
CHLOROETHANE											
2-CHLOROETHYLVINYL ETHER											
CHLOROFORM											
DICHLOROBROMOMETHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLOROETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLOROPROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLOROETHANE											
TETRACHLOROETHANE											
TOLUENE											
3,4-BENZOFLUORANTHENE											
BENZO(GH)PHERYLENE											
BENZO(K)FLUORANTHENE											

MO 780-1805 (08-08)

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.
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PART D - EXPANDED EFFLUENT TESTING DATA (CONTINUED)

40.1 EXPANDED EFFLUENT TESTING DATA (CONTINUED)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	CONC	UNITS	MASS	UNITS	CONC	UNITS	MASS	UNITS	NO. OF SAMPLES		
BASE-NEUTRAL COMPOUNDS											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											
FLUORANTHENE											
FLUORENE											
HEXACHLOROENZENE											
HEXACHLOROCCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO (1,2,3-CD) PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-PROPYLAMINE											
N-NITROSODI-METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROENZENE											

USE THIS SPACE (OR SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER BASE-NEUTRAL COMPOUNDS REQUESTED BY THE PERMIT WRITER.

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

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.			
FACILITY NAME		PERMIT NO. MO-	OUTFALL NO.
PART E – TOXICITY TESTING DATA			
50. TOXICITY TESTING DATA			
Refer to the Supplemental Application Information to determine whether Part E applies to the treatment works.			
Publicly owned treatment works, or POTWS, meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points.			
<ul style="list-style-type: none"> A. POTWs with a design flow rate greater than or equal to 1 million gallons per day. B. POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403). C. POTWs required by the permitting authority to submit data for these parameters <ul style="list-style-type: none"> ◆ At a minimum, these results must include quarterly testing for a 12-month period within the past one year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute or chronic toxicity, depending on the range of receiving water dilution. Do not include information about combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. ◆ If EPA methods were not used, report the reason for using alternative methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E. If no biomonitoring data is required, do not complete Part E. Refer to the application overview for directions on which other sections of the form to complete. 			
50.1 REQUIRED TESTS. INDICATE THE NUMBER OF WHOLE EFFLUENT TOXICITY TESTS CONDUCTED IN THE PAST FOUR AND ONE-HALF YEARS.			
CHRONIC		ACUTE	
INDIVIDUAL TEST DATA. Complete the following chart for the last three whole effluent toxicity tests. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.			
	MOST RECENT	2 ND MOST RECENT	3 RD MOST RECENT
A. TEST INFORMATION			
TEST NUMBER			
TEST SPECIES AND TEST METHOD NUMBER			
AGE AT INITIATION OF TEST			
OUTFALL NUMBER			
DATES SAMPLE COLLECTED			
DATE TEST STARTED			
DURATION			
B. GIVE TOXICITY TEST METHODS FOLLOWED			
MANUAL TITLE			
EDITION NUMBER AND YEAR OF PUBLICATION			
PAGE NUMBER(S)			
C. GIVE THE SAMPLE COLLECTION METHOD(S) USED. FOR MULTIPLE GRAB SAMPLES, INDICATE THE NUMBER OF GRAB SAMPLES USED.			
24-HOUR COMPOSITE			
GRAB			
D. INDICATE WHERE THE SAMPLE WAS TAKEN IN RELATION TO DISINFECTION. (CHECK ALL THAT APPLY FOR EACH)			
BEFORE DISINFECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AFTER DISINFECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AFTER DECHLORINATION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. DESCRIBE THE POINT IN THE TREATMENT PROCESS AT WHICH THE SAMPLE WAS COLLECTED			
SAMPLE WAS COLLECTED			
F. FOR EACH TEST, INCLUDE WHETHER THE TEST WAS INTENDED TO ASSESS CHRONIC TOXICITY, ACUTE TOXICITY OR BOTH.			
CHRONIC TOXICITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ACUTE TOXICITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. PROVIDE THE TYPE OF TEST PERFORMED			
STATIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STATIC STATIC-RENEWAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FLOW-THROUGH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. SOURCE OF DILUTION WATER. IF LABORATORY WATER, SPECIFY TYPE; IF RECEIVING WATER, SPECIFY SOURCE			
LABORATORY WATER			
RECEIVING WATER			

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.
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PART E -- TOXICITY TESTING DATA (CONTINUED)

50.1 WHOLE EFFLUENT TOXICITY TESTS DATA (CONTINUED)

	MOST RECENT	2 ND MOST RECENT	3 RD MOST RECENT
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I. TYPE OF DILUTION WATER, IF SALT WATER, SPECIFY "NATURAL" OR TYPE OF ARTIFICIAL SEA SALTS OR BRINE USED.

FRESH WATER			
SALT WATER			

J. GIVE THE PERCENTAGE EFFLUENT USED FOR ALL CONCENTRATIONS IN THE TEST SERIES.

K. PARAMETERS MEASURED DURING THE TEST. (STATE WHETHER PARAMETER MEETS TEST METHOD SPECIFICATIONS)

pH			
SALINITY			
TEMPERATURE			
AMMONIA			
DISSOLVED OXYGEN			

L. TEST RESULTS

ACUTE:

PERCENT IN SURVIVAL IN 100% EFFLUENT			
LC ₅₀			
95% C.I.			
CONTROL PERCENT SURVIVAL			
OTHER (DESCRIBE)			

CHRONIC:

NOEC			
IC ₂₅			
CONTROL PERCENT SURVIVAL			
OTHER (DESCRIBE)			

M. QUALITY CONTROL ASSURANCE

IS REFERENCE TOXICANT DATA AVAILABLE?			
WAS REFERENCE TOXICANT TEST WITHIN ACCEPTABLE BOUNDS?			
WHAT DATE WAS REFERENCED TOXICANT TEST RUN (MM/DD/YYYY)?			
OTHER (DESCRIBE)			

50.2 TOXICITY REDUCTION EVALUATION

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

If yes, describe:

50.3 SUMMARY OF SUBMITTED BIOMONITORING TEST INFORMATION

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

Date Submitted (MM/DD/YYYY)

Summary of Results (See Instructions)

END OF PART E

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

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.			
FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.	
PART F -- INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES			
60. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES			
Refer to the Supplemental Application Information to determine whether Part F applies to the treatment works.			
All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete this form.			
GENERAL INFORMATION			
60.1 PRETREATMENT PROGRAM			
Does the treatment works have, or is it subject to, an approved pretreatment program?			
<input type="checkbox"/> Yes <input type="checkbox"/> No			
60.2 NUMBER OF NON-CATEGORICAL SIGNIFICANT INDUSTRIAL USERS, or SIUs AND CATEGORICAL INDUSTRIAL USERS, or CIUs. PROVIDE THE NUMBER OF EACH OF THE FOLLOWING TYPES OF INDUSTRIAL USERS THAT DISCHARGE TO THE TREATMENT WORKS.			
A. Number of Non-Categorical SIUs	B. Number of CIUs		
60.3 SIGNIFICANT INDUSTRIAL USER INFORMATION			
Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.			
NAME			
MAILING ADDRESS		CITY	STATE ZIP
60.4 INDUSTRIAL PROCESSES			
DESCRIBE ALL OF THE INDUSTRIAL PROCESSES THAT AFFECT OR CONTRIBUTE TO THE SIU'S DISCHARGE.			
60.5 PRINCIPAL PRODUCT(S) AND RAW MATERIAL (S)			
Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.			
PRINCIPAL PRODUCT(S)			
RAW MATERIAL(S)			
60.6 FLOW RATE			
A. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.			
gpd <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent			
B. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.			
C.			
gpd <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent			
60.7 PRETREATMENT STANDARDS			
Indicate whether the SIU is subject to the following			
A. Local Limits	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
B. Categorical Pretreatment Standards	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If subject to categorical pretreatment standards, which category and subcategory?			
60.8 PROBLEMS AT THE TREATMENT WORKS ATTRIBUTED TO WASTE DISCHARGED BY THE SIU			
Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?			
<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, describe each episode			

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.

FACILITY NAME	PERMIT NO. MO-	OUTFALL NO.
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PART G – COMBINED SEWER SYSTEMS

70. COMBINED SEWER SYSTEMS (COMPLETE THIS PART IF THE TREATMENT WORKS HAS A COMBINED SEWER SYSTEM.)

Refer to the Supplemental Application Information to determine whether Part G applies to the treatment works.

70.1 SYSTEM MAP

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

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

70.2 SYSTEM DIAGRAM

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

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

70.3 PERCENT OF COLLECTION SYSTEM THAT IS COMBINED SEWER

70.4 POPULATION SERVED BY COMBINED SEWER COLLECTION SYSTEM

70.5 NAME OF ANY SATELLITE COMMUNITY WITH COMBINED SEWER COLLECTION SYSTEM

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

70.7 DESCRIPTION OF OUTFALL

A. Outfall Number

B. Location

C. Distance from Shore (if applicable)
_____ ft

D. Depth Below Surface (if applicable)
_____ ft

E. Which of the following were monitored during the last year for this CSO?

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

F. How many storm events were monitored last year?

70.8 CSO EVENTS

A. Give the Number of CSO Events in the Last Year
_____ Events Actual Approximate

B. Give the Average Duration Per CSO Event
_____ Hours Actual Approximate

C. Give the Average Volume Per CSO Event
_____ Million Gallons Actual Approximate

D. GIVE THE MINIMUM RAINFALL THAT CAUSED A CSO EVENT IN THE LAST YEAR _____ INCHES OF RAINFALL

70.9 DESCRIPTION OF RECEIVING WATERS

A. Name of Receiving Water

B. Name of Watershed/River/Stream System

U.S. Soil Conservation Service 14-Digit Watershed Code (If Known)

Name of State Management/River Basin

U.S. Geological Survey 8- Digit Hydrologic Cataloging Unit Code (If Known)

70.10 CSO OPERATIONS

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

END OF PART G.

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

INSTRUCTIONS FOR COMPLETING FORM B2
APPLICATION FOR CONSTRUCTION OR OPERATING PERMITS FOR FACILITIES WHICH RECEIVE
BASICALLY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY
(Facilities less than or equal to 100,000 gallons per day of domestic waste must use FORM B.)
(Facilities that receive wastes other than domestic must fill out FORM A and other forms as appropriate.)

PART A – BASIC APPLICATION INFORMATION

1. Check which parameter is applicable. **Do not check more than one item.** Construction and operating permit refer to permits issued by the Department of Natural Resources, Water Protection Program, Water Pollution Branch.

Effective Sept. 1, 2008, a facility will be required to use **MISSOURI'S ANTIDegradation Rule and Implementation Procedure**. For more information, this document is available at www.dnr.mo.gov/env/wpp/docs/aip-cwc-appr-050708.pdf. This procedure will be applicable to new and expanded wastewater facilities and requires the proposed discharge to a water body to undergo a level of Antidegradation Review that documents the use of a water body's available assimilative capacity is justified.

1.1 Self – explanatory.

- 1.2 An operating permit and antidegradation review public notice requires a Water Quality/Antidegradation Review Sheet to be submitted with the application (No fee required).

CONSTRUCTION PERMIT FEES (Include fee with application.)

\$750 for a sewage treatment facility with a design flow of less than 500,000 gallons per day.

\$2,200 for sewage treatment facility with a design flow of 500,000 gallons per day or more.

DOMESTIC OPERATING PERMIT FEES (Annual operating permit fees are based on flow.)

Annual fee/Design flow

\$3,000.....30,000 gpd to 1 mgd

Annual fee/Design flow

\$3,500.....>1 million gallons per day

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

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

PUBLIC SEWER SYSTEM OPERATING PERMIT FEES (City, Public Sewer District, Public Water District, or other publicly owned treatment works). Annual fee is based on number of service connections. The table of fees is in 10 CSR 20-6.011 and is available at www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf. New Public Sewer System facilities should not submit any fee as the department will invoice the permittee.

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

a. Municipals - \$200 each.

b. All others – 25 percent of annual fee.

Note: Facility name or address changes where owner, operator and continuing authority remain the same are not considered transfers.

2. Name of Facility – Include the name by which this facility is locally known. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the names of the closest intersection, highway, country road, etc.
 - 2.1 Self – explanatory.
 - 2.2 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at www.dnr.mo.gov/internetmapviewer/.
3. Owner – Provide the legal name and address of the owner.
 - 3.1 Prior to submitting a permit to public notice, the Department of Natural Resources shall provide the permit applicant 10 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice. Check Yes to review the draft permit prior to public notice. Check No to waive the process and expedite the permit.
4. Continuing Authority – Provide the permanent organization, which will serve as the continuing authority for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf or contact the appropriate Department of Natural Resources Regional Office.
5. Operator – Provide the name, certificate number and telephone number of the operator of the facility.
6. Provide the name, title and work telephone number of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department, if necessary.
 - 7.1 Provide a brief description of the wastewater treatment facilities.
 - 7.2 A topographic map is available on the Web at www.dnr.mo.gov/internetmapviewer/ or from the Department of Natural Resources' Division of Geology and Land Survey in Rolla, Missouri at 573-368-2125.
 - 7.3 Self – explanatory.
 - 7.4 For Standard Industrial Codes, visit www.osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System, visit www.census.gov/naics or contact the appropriate Department of Natural Resources Regional Office.
- 7.5 – 8.1 Self – explanatory.
 - 9.1 A copy of 10 CSR 25 is available at www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-25.
 - 9.2 – 9.9 Self – explanatory.