

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

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

Permit No.: **MO0099830**

Owner: Village of Leasburg
Owner's Address: PO Box 95, Leasburg, MO 65535

Continuing Authority: Same as above
Continuing Authority's Address: Same as above

Facility Name: Village of Leasburg WWTF
Facility Address: West Springfield Ave., Leasburg, MO 65535

Legal Description: SW ¼, NE ¼, Sec. 24, T39N, R4W, Crawford County
UTM Coordinates: (X = 0648538, Y = 4216708)

Receiving Stream: Little Bourbeuse River (U)
First Classified Stream and ID: Little Bourbeuse River (C) (2063)
USGS Basin & Sub-watershed No.: (07140103-090003)

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

FACILITY DESCRIPTION

Outfall # 001 – Publicly Owned Treatment Works (POTW) – Standard Industrial Classification Code(s): # 4952 (Sewerage systems–domestic) – **Certified Class D Wastewater Operator Required**

Three (3) cell lagoon/Sludge retained in lagoon
Design population equivalent = 641
Design flow = 64,100 gallons per day
Actual flow = 27,800 gallons per day
Design sludge production = 4.49 dry tons year

This operating permit authorizes only wastewater, including stormwater, discharges under the Law and the National Pollutant Discharge Elimination System. This operating permit does not apply to other regulated areas. This operating permit may be appealed in accordance with the Law, Section 644.051.6., RSMo, and Section 621.250, RSMo, and Missouri Clean Water Commission regulations [10 CSR 20-6.020], Permits, Public Participation, Hearings and Notice to Governmental Agencies and [10 CSR 20-1.020], Organizations, Clean Water Commission Appeals and Requests for Hearings.

August 23, 2010
Effective Date

August 23, 2010
Renewal Date


Mark N. Templeton, Director, Department of Natural Resources

August 22, 2015
Expiration Date

Gary L. Gaines, P.E., Director, Southeast Regional Office

A. <u>EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</u>					PAGE 2 of 9	
					PERMIT NUMBER: MO0099830	
Permittee authorized to discharge from outfall(s) with serial number(s) as specified in the application for this operating permit. Final effluent limitations shall become effective upon issuance (renewal) date of this operating permit and shall remain in effect until expiration of this operating permit. Such discharges shall be controlled, limited and monitored by permittee as specified below:						
OUTFALL NUMBER and EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall # 001</u>						
Flow	MGD	*		*	Once per weekday**	24 hr. estimate
Biochemical Oxygen Demand ₅ ***	mg/L		65	45	Once per month	grab
Total Suspended Solids***	mg/L		110	70	Once per month	grab
pH – Units	SU	****		****	Once per month	grab
Ammonia as N	mg/L	*		*	Once per month	grab
Temperature	°C	*		*	Once per month	grab
Oil and Grease	mg/L	15		10	Once per month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>Monthly</u> . FIRST REPORT DUE: <u>September 28, 2010</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Whole Effluent Toxicity (WET) testing	% Survival		See Special Conditions		Once per permit cycle	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>Once per permit cycle</u> . FIRST REPORT DUE: <u>January 28, 2014</u> .						
B. <u>STANDARD CONDITIONS</u>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS OPERATING PERMIT SUBJECT TO ATTACHED <u>Part I, Part II and Part III</u> STANDARD CONDITIONS DATED <u>October 1, 1980, and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						
C. <u>INFLUENT MONITORING REQUIREMENTS</u>						
Facility required to meet a removal efficiency of 65% or more. Monitoring requirements shall become effective upon issuance (renewal) date of this operating permit and shall remain in effect until expiration of this operating permit. To determine removal efficiencies, influent wastewater shall be monitored by permittee as specified below:						
SAMPLING LOCATION and INFLUENT PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		MEASUREMENT FREQUENCY			SAMPLE TYPE	
<u>Influent</u>						
Biochemical Oxygen Demand ₅ ***	mg/L		Once per month			grab***
Total Suspended Solids***	mg/L		Once per month			grab***
MONITORING REPORTS SHALL BE SUBMITTED <u>Monthly</u> . FIRST REPORT DUE: <u>September 28, 2010</u> .						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only

** Once per (each) weekday means: Monday, Tuesday, Wednesday, Thursday and Friday

*** Facility required to meet a removal efficiency of 65% or more. Influent and effluent samples used to determine percent removal shall be taken the same day. Final effluent limitations may be modified based on a Department geohydrologic evaluation and a Department Water Quality Review Analysis to be requested and submitted by permittee as part of a preliminary engineering report to be reviewed by the Department

**** pH measured in pH standard units (SUs) and is not to be averaged. pH is to be maintained at or above 6.5 pH SUs

C. INFLUENT MONITORING REQUIREMENTS (continued)

*** Facility required to meet a removal efficiency of 65% or more. Influent and effluent samples used to determine percent removal shall be taken the same day

D. SPECIAL CONDITIONS

1. This operating 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 operating permit; or
 - (2) Controls any pollutant not limited in the operating 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.

The operating 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 area wide wastewater treatment system within ninety (90) calendar days of notice of its availability.
4. Changes in Discharges of Toxic Substances

Permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the operating permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the operating permit application; or
 - (4) The level established in Part A of the operating permit by the Director.
 - (b) That permittee has begun or expects to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the operating permit application.
5. Report as no-discharge when a discharge does not occur during the reporting period.
 6. Water Quality Standards
 - (a) Discharges to waters of the state shall not cause a violation of Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(3) and (4)], Water Quality, Water Quality Standards, General Criteria and Specific Criteria.

D. SPECIAL CONDITIONS (continued)

6. Water Quality Standards (continued)

- (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; and
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in the Missouri Solid Waste Management Law, Section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to Sections 260.200-260.247, RSMo.

7. Permittee shall comply with any applicable requirements listed in Missouri Clean Water Commission (MCWC) regulations [10 CSR 20-8], Design Guides, and [10 CSR 20-9], Treatment Plant Operations, unless facility has received written notification that the Department has approved a modification to the requirements. Monitoring frequencies contained in this operating permit shall not be construed by permittee as a modification of monitoring frequencies listed in MCWC regulation [10 CSR 20-9], Treatment Plant Operations. If a modification of monitoring frequencies listed in MCWC regulation [10 CSR 20-9], Treatment Plant Operations, is needed, permittee shall submit a written request to the Department for review and, if deemed necessary, approval.
8. Permittee shall develop and implement a program for maintenance and repair of the collection system. Permittee shall submit a report annually in November, to the Department’s Southeast Regional Office with the required Discharge Monitoring Report, which addresses measures taken to locate and eliminate sources of infiltration and inflow into the collection system serving the wastewater treatment facility.
9. This wastewater treatment facility required to have an operator that is certified by the Department and shall possess, at a minimum, a wastewater certification level of “D” or higher.
10. Whole Effluent Toxicity (WET) Testing. WET testing shall be conducted as follows:

SUMMARY OF ACUTE WHOLE EFFLUENT TOXICITY (WET) TESTING FOR THIS OPERATING PERMIT					
OUTFALL	AEC*	LC ₅₀ **	FREQUENCY	SAMPLE TYPE	MONTH
001	100%	100%	Once per permit cycle	grab	Any Month in 2013 (Report by January 28, 2014)

Dilution Series*					
100%	50%	25%	12.5%	6.25%	(Control) 100% upstream, if available
					(Control) 100% laboratory water, also called synthetic water

10. Whole Effluent Toxicity (WET) Testing (continued)

* Run samples at Allowable Effluent Concentration (AEC) of 100%, 50%, 25%, 12.5% and 6.25% effluent (unless AEC is less than (<) 25%, then dilutions will be four (4) times the AEC, two (2) times the AEC, AEC, ½ the AEC and ¼ the AEC, respectively). AEC % = outfall design flow in cubic feet per second / (zone of initial dilution in cubic feet per second + outfall design flow in cubic feet per second)

** $LC_{50} = AEC / 0.3$

(a) WET Test Schedule and Follow-Up Requirements

(1) Permittee shall perform a MULTIPLE-DILUTION WET test in the months and at the frequency specified above. For WET tests which are successfully passed, permittee shall submit test results using the Department's WET TEST REPORT FORM # MO-780-1899, along with complete copies of the WET test reports as received from the laboratory, including copies of chain-of-custody forms within thirty (30) calendar days of availability, to the Department's Division of Environmental Quality's Water Protection Program, PO Box 176, Jefferson City, MO 65102-0176. If effluent passes the WET test, do not repeat the WET test until the next WET testing period.

- (a) For stormwater discharges, samples shall be collected within three (3) hours from when discharge first occurs.
- (b) Samples submitted for stormwater discharges analysis shall be collected as a grab.
- (c) For non-stormwater discharges, samples shall be collected only when precipitation has not occurred for a period of forty-eight (48) hours prior to sample collection. In no event shall sample collection occur simultaneously with the precipitation occurrence excepting for stormwater samples.
- (d) A twenty-four (24) hour composite sample shall be submitted non-stormwater discharges analysis.
- (e) Upstream receiving water samples, where required, shall be collected upstream from any influence of the effluent where downstream flow is clearly evident.
- (f) Samples submitted for analysis of upstream receiving water may be collected as either a grab or twenty-four (24)-hour composite as appropriate to the nature of the discharge.
- (g) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
- (h) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration in addition to analyses performed upon any other effluent concentration.
- (i) All chemical analyses included in the Department's WET TEST REPORT FORM # MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
- (j) Where flow-weighted composite sample is required for analysis, samples shall be composited at the laboratory where the WET test is to be performed.
- (k) Where in stream WET testing is required downstream from the discharge, sample collection shall occur immediately below the established Zone of Initial Dilution in conjunction with or immediately following a release or discharge.
- (l) Samples submitted for analysis of downstream receiving water may be collected as either a grab or twenty-four (24)-hour composite as appropriate to the nature of the discharge.
- (m) All instream samples, including downstream samples, shall be tested for toxicity at the 100% concentration in addition to any other assigned Allowable Effluent Concentration (AEC) for in-stream samples.

10. Whole Effluent Toxicity (WET) Testing (continued)

(a) WET Test Schedule and Follow-Up Requirements (continued)

- (2) All failing WET test results along with complete copies of the WET test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the Department's Division of Environmental Quality's Water Protection Program, PO Box 176, Jefferson City, MO 65102-0176, within fourteen (14) calendar days of the availability of the results.
- (3) If the effluent fails the WET test, a MULTIPLE-DILUTION WET test shall be performed for BOTH species within thirty (30) calendar days and biweekly thereafter (for stormwater, WET tests shall be performed on the next and subsequent stormwater discharges as they occur, but not less than seven (7) calendar days apart), until one (1) of the following conditions are met:
 - (a) THREE (3) CONSECUTIVE MULTIPLE-DILUTION WET TESTS PASS. No further WET tests need to be performed until next regularly scheduled WET testing period; or
 - (b) A TOTAL OF THREE (3) MULTIPLE-DILUTION WET TESTS FAIL.
- (4) Failure of a MULTIPLE-DILUTION WET test is a violation of this operating permit.
- (5) Permittee shall submit a CONCISE summary of WET test results for the WET testing series along with complete copies of the WET test reports received from the laboratory to the Department's Division of Environmental Quality's Water Protection Program, PO Box 176, Jefferson City, MO 65102-0176, within fourteen (14) calendar days of the failed WET test.
- (6) Additionally, the following shall apply upon failure of the MULTIPLE-DILUTION WET test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. Permittee shall contact the Department's Division of Environmental Quality's Water Protection Program, PO Box 176, Jefferson City, MO 65102-0176, within fourteen (14) calendar days from availability of the WET test results to ascertain as to whether a TIE or TRE is appropriate. Permittee shall submit a plan for conducting a TIE or TRE to the Department's Division of Environmental Quality's Water Protection Program, PO Box 176, Jefferson City, MO 65102-0176, within sixty (60) calendar days of the date of the Department's direction to perform either a TIE or TRE. This plan must be approved by the Department before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (7) Upon the Department's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET testing schedule may be established by the Department for this period.
- (8) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and permittee is proceeding according to a Department approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the operating permit, without the follow-up requirements, will be required during this period.
- (9) Permittee shall submit a CONCISE summary in tabular format to the Department of all WET testing results with the annual report.

(b) PASS/FAIL procedure and effluent limitations:

- (1) To pass a MULTIPLE-DILUTION WET test:
 - (a) For facilities with a computed percent effluent at the edge of the Zone of Initial Dilution (ZID), Allowable Effluent Concentration (AEC) OF 30% OR LESS, the AEC must be less than three-tenths (0.3) of the LC₅₀ concentration for the most sensitive of the test organisms; **OR**
 - (b) For facilities with an AEC greater than 30%, the LC₅₀ concentration must be greater than 100%; **AND**

10. Whole Effluent Toxicity (WET) Testing (continued)

(b) PASS/FAIL procedure and effluent limitations (continued):

(1) To pass a MULTIPLE-DILUTION WET test (continued):

- (c) All effluent concentrations less than or equal to (\leq) the AEC must be nontoxic. Mortality observed in all effluent concentrations less than or equal to (\leq) the AEC shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the laboratory control. Appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other Federal guidelines as appropriate or required. Failure of one (1) MULTIPLE-DILUTION WET test may be considered a final effluent limitation violation.

(c) WET Test Conditions

- (1) WET test type: Acute Static non-renewal
- (2) All WET tests, including repeat WET tests for previous failures, shall include both WET testing species listed below:
- (3) WET testing species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current United States Environmental Protection Agency (US EPA) guidelines. All test animals shall be cultured as described in the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS.
- (4) WET testing period: Forty-eight (48) hours at the "Acceptable Effluent Concentration" (AEC) specified above.
- (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the Department upon request.
- (6) MULTIPLE-DILUTION WET tests will be run with:
- (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than ($<$) 25% effluent, then dilutions will be four (4) times the AEC, two (2) times the AEC, AEC, $\frac{1}{2}$ the AEC and $\frac{1}{4}$ the AEC, respectively;
- (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
- (c) Reconstituted water.
- (7) If reconstituted-water control mortality for a WET test species exceeds 10%, the entire WET test will be rerun.
- (8) If upstream control mortality exceeds 10%, the entire WET test will be rerun using reconstituted water as the dilutant.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity (WET) testing required in National Pollutant Discharge Elimination System (NPDES) operating permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to permittee by the Department. Unless more stringent methods are specified by the Department, procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C temperatures shall not deviate by more than 3°C during the test
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	< 24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 1°C temperatures shall not deviate by more than 3°C during the test
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness
Endpoint:	Pass/Fail (Statistically significant mortality when compared to upstream receiving water control or synthetic control if upstream water was <u>not</u> available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

E. SCHEDULE OF COMPLIANCE

1. Within one (1) calendar year from the issuance (renewal) date of this operating permit, on or before August 22, 2011, permittee shall submit, to the Department at the address listed on the cover letter that accompanies this operating permit, a preliminary engineering report (PER) prepared by a licensed professional engineer registered in the State of Missouri. Said PER shall:
 - (a) Evaluate existing wastewater treatment facility and its ability to meet current and future final effluent limitations, and make recommendations and/or propose modifications and/or upgrades if necessary;
 - (b) Include a geohydrologic evaluation and a Water Quality Review Analysis (WQRA) requested by permittee, and completed and provided by the Department, to determine expected performance standards for subject wastewater treatment system as required by Missouri Clean Water Commission regulations; and
 - (c) Give consideration to perform a leakage test, perform wastewater treatment facility modifications and/or conversion to a “no-discharge” facility with land application system, and provide, if applicable, other wastewater treatment alternatives and/or options to include onsite replacement of existing wastewater treatment facility.

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF RENEWING
MISSOURI STATE OPERATING PERMIT # MO0099830
VILLAGE OF LEASBURG WASTEWATER TREATMENT FACILITY
CRAWFORD COUNTY

The Federal Water Pollution Control Act ("Clean Water Act", Section 402, Public Law 92-500, as amended) established the National Pollutant Discharge Elimination System (NPDES) operating permit program. This program regulates pollutant(s) discharges from point sources into the waters of the United States, and stormwater releases from certain point sources. All such discharges are unlawful without an operating permit ("Clean Water Act", Section 301). After an operating permit is obtained, a discharge not in compliance with all operating 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 the "Missouri Clean Water Law", Section 644, as amended). MSOPs (operating permits) are issued for a period of five (5) calendar years unless otherwise specified.

As per [40 CFR Part 124.8(a)], Protection of Environment, Environmental Protection Agency, Water Programs, Procedures for Decisionmaking, General Program Requirements, Fact sheet, and Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-6.020(1)(A)2.], Permits, Public Participation, Hearings and Notice to Governmental Agencies, Public Participation, a Fact Sheet shall be prepared to give pertinent information regarding the applicable regulations, development rationale of effluent limitations and conditions, and the public participation process for the MSOP (operating permit) listed below.

A Factsheet is not an enforceable part of MSOP.

This Fact Sheet is for a(n):

Major ; Minor ; Industrial Facility ; Variance ; Master General Permit ;
General Permit Covered Facility ; Operating permit with widespread public interest

Part I – Facility Information

Facility Type: Publicly Owned Treatment Works

Facility Standard Industrial Classification (SIC) Code(s): # 4952 (Sewerage Systems–domestic)

Facility Description:

Outfall # 001

Three (3) cell lagoon/Sludge retained in lagoon

Design population equivalent = 641

Design flow = 64,100 gallons per day

Actual flow = 27,800 gallons per day

Design sludge production = 4.49 dry tons per year

Have any changes occurred at this facility or in the receiving water body that effects interim and/or final effluent limitations derivation? Yes ; Subject wastewater treatment facility, when discharging, discharges wastewater effluent to an unclassified water body (stream) that is greater than two (2) upstream miles from a water body (stream) classified as Class "C" (stream that may cease flow in dry periods but maintain permanent pools which support aquatic life) with a Whole Body Contact Recreation (WBC) use designation per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031, Table H], Water Quality, Stream Classifications and Use Designations. The Department has revised (lowered) final effluent limitations for the Total Suspended Solids (TSS) effluent parameter in subject Missouri State Operating Permit (MSOP) renewal in accordance with MCWC regulation [10 CSR 20-7.015(8)(B)3.D(II)(a)], Water Quality, Effluent Regulations, Effluent Limitations for All Waters; No

Application Date: November 16, 2009

Expiration Date: May 26, 2010

Last Inspection: January 15, 2009

In Compliance ; From March 4, 2009, environmental compliance inspection report narrative: "Observations and Recommendations: (1) At the time of inspection, facility operator did not possess a State of Missouri wastewater operator

certification. Per Missouri Clean Water Commission [MCWC] regulation [10 CSR 20-9.020(2)(A)], Treatment Plant Operations, Classification of Wastewater Treatment Systems, Wastewater Treatment Systems Requirements: ‘Requirements for operation by certified personnel shall apply to all wastewater treatment systems, servicing population equivalents greater than two hundred (200) or with fifty (50) or more connections, owned or operated by or for municipalities, public sewer districts, counties, public water supply districts, private sewer companies regulated by the Public Service Commission and the state or federal agencies’. The minimum certificate of competency required by the Department is a level D certification. Operator informed inspector that he was studying for the wastewater exam and was planning to take it early spring 2009; (2) Laboratory Equipment and Maintenance. At this time, only semi-weekly operational control testing of wastewater treatment facility (lagoon cells) is conducted onsite. All other testing is sent to contract laboratory for analysis. However, facility does not have a formal Quality Assurance/Quality Control (QA/QC) program; (a) pH meters. Facility should calibrate their pH meter(s) with buffer solutions before each use. Facility should also check their pH meters against a certified (known) standard to ensure pH meters have been calibrated effectively; (b) Dissolved Oxygen (DO) meter. Facility utilizing new *Hach* meter for taking/reading DO measurements. Facility should follow manufacturers’ recommendations on pre-sample calibrations. The Department recommends that facility also check DO meters against the Winkler titration test; (c) Thermometers. Facility does not have a National Institute of Science and Technology (NIST) traceable thermometer. This thermometer is necessary to ensure the accuracy of meter/laboratory thermometers. The Department recommends that facility purchase a certified thermometer. As part of facility’s QA/QC program, facility should be calibrating their laboratory equipment on a daily basis and testing equipment against a known, or in the case of a DO meter, the Winkler titration test, at least once a quarter and preferably monthly. All laboratory equipment calibration and maintenance events should be documented and records kept onsite. The Department recommends that facility begin said documentation and recordkeeping; (3) Due to lagoon system size, facility does not have a continuous year round discharge. As a result, facility has placed their effluent flow meter on effluent structure and records required flow data for monthly reporting during discharge periods. Because of effluent flow meter location, facility has not been collecting actual flow data coming into lagoon system. The Department recommends that facility place an influent flow meter at the influent structure and begin collecting influent flow data. This data will help facility determine extent of inflow and infiltration (I&I) coming into the lagoon system. I&I is unwanted rainwater (stormwater) that enters the collection system through a variety of ways. The most common way is through old or deteriorated sewer lines and manholes. Excessive I&I can negatively effect wastewater treatment facility operations and equipment as well as increase utility expenses. Inspector gave operator a copy of the United States Environmental Protection Agency’s (US EPA’s) Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs. The Department recommends that facility review this document. Said guidance can be a useful tool in developing a formal I&I reduction program and can assist the Village with assessing their current I&I reduction program; (4) Lift Station. The Village has only one (1) lift station that serves the wastewater treatment facility. Said lift station appeared to be clean and operating normally. Said lift station has two (2) pumps that are fitted with hour meters. Said lift station is inspected by Village personnel several times a week to ensure proper operation. During these inspections, hour meter readings are recorded. The Department recommends, however, that said lift station should be inspected daily and hour meter readings recorded. Daily inspection frequency ensures proper operation of said lift station and will allow the Village to collect more flow data (especially for identifying sources of I&I) and monitor pump efficiency; (5) Grab samples were taken from Outfall # 001 by inspector during inspection. Effluent observed from this outfall appeared clear and free from any visible solids. At the time of inspection, facility was meeting required [final] effluent limitations as required by facility’s [Missouri State Operating Permit] (MSOP); Closing Remarks: Overall, facility appears to be in compliance with its MSOP and associated [MCWC] regulations.”; Non-compliance

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.0992	Equivalent to Secondary	Treated Domestic Sewage	> 5.0

Outfall # 001

Legal Description: SW ¼, NE ¼, Sec. 24, T39N, R4W, Crawford County

UTM Coordinates: (X = 0648538, Y = 4216708)

Receiving Stream: Little Bourbeuse River (U)

First Classified Stream and ID: Little Bourbeuse River (C) (2063)

USGS Basin & Sub-watershed No.: (07140103-090003)

Receiving Water Body’s Water Quality and Facility Performance History: No impacts noted.

Comments: Subject wastewater treatment facility, when discharging, discharges wastewater effluent to an unclassified water body (stream) that is greater than two (2) upstream miles from a water body (stream) classified as Class “C” (stream that may cease flow in dry periods but maintain permanent pools which support aquatic life) with a Whole Body Contact Recreation (WBC) use designation per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031, Table H], Water Quality, Stream Classifications and Use Designations. The Department has revised (lowered) final effluent limitations for the Total Suspended Solids (TSS) effluent

parameter in subject Missouri State Operating Permit (MSOP) renewal in accordance with MCWC regulation [10 CSR 20-7.015(8)(B)3.D(II)(a)], Water Quality, Effluent Regulations, Effluent Limitations for All Waters.

Part II – Operator Certification Requirements

Please see **Part VII – Appendices – APPENDIX A – CLASSIFICATION WORKSHEET** below.

As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-6.010(8)], Permits, Construction and Operating Permits, Terms and Conditions of a Permit, permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law (MCWL) and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with MCWC regulation [10 CSR 20-9.020(2)], Treatment Plant Operations, Classification of Wastewater Treatment Systems, Wastewater Treatment Systems Requirements, and any other applicable state law or regulation. As per MCWC regulation [10 CSR 20-9.010(2)(A)], Treatment Plant Operations, Classification of Wastewater Treatment Systems, Wastewater Treatment Systems Requirements, requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Owned or operated by or for:

Municipalities ; Public Sewer District ; County ; Public Water Supply Districts ;
Private sewer company regulated by the Public Service Commission ; State of Federal Agencies

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200) and/or fifty (50) or more service connections.

Department required: Yes ; Facility is a Publicly Owned Treatment Works. The Department requires facility to retain the services of a certified wastewater operator. City contracts Mr. Jared Boast, Boast Enterprises, Sullivan, # 10711 (Wastewater Treatment – D). Please see **Part VII – Appendices – APPENDIX A – CLASSIFICATION WORKSHEET** below; No

– Facility does not currently retain an operator with the correct level of certification required to operate the wastewater treatment facility. The Missouri Clean Water Law (MCWL) and its implementing Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-9.020(2)(F)], Treatment Plant Operations, Classification of Wastewater Treatment Systems, Wastewater Treatment Systems Requirements, allows the Department to develop a schedule of activities including the date by which compliance shall be obtained. This schedule of activities may be established in this operating permit as a Schedule of Compliance (SOC) or following Department consultation with permittee

– Facility not required to retain a certified operator

Part III – Receiving Water Body Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE: As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.015], Water Quality, Effluent Regulations, 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 TABLE** listed in **Part V – Interim and/or Final Effluent Limits Determination** below and further discussed in the **DERIVATION AND DISCUSSIONS OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS** in **Part V – Interim and/or Final Effluent Limits Determination** section below.

Missouri or Mississippi River [10 CSR 20-7.015(2)]	<input type="checkbox"/>
Lake or Reservoir [10 CSR 20-7.015(3)]	<input type="checkbox"/>
Losing [10 CSR 20-7.015(4)]	<input type="checkbox"/>
Metropolitan No-Discharge [10 CSR 20-7.015(5)]	<input type="checkbox"/>
Special Stream [10 CSR 20-7.015(6)]	<input type="checkbox"/>
Subsurface Water [10 CSR 20-7.015(7)]	<input type="checkbox"/>
All Other Waters [10 CSR 20-7.015(8)]	<input checked="" type="checkbox"/>

As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031], Water Quality, Water Quality Standards, the Department defines the MCWC water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses". The receiving stream and/or first classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with MCWC regulation [10 CSR 20-7.031(3)], Water Quality, Water Quality Standards, General Criteria.

RECEIVING WATER BODY TABLE:

WATER BODY NAME	CLASS	WBID*	DESIGNATED USES**	8-DIGIT HUC***	EDU***
Little Bourbeuse River	U	---	General Criteria	07140103	Bourbeuse–Middle Bourbeuse River–Little Bourbeuse River
Little Bourbeuse River	C	02063	LWW; AQL; WBC (B)****		

* - Water Body Identification (WBID) Number

** - Irrigation (IRR); Livestock and Wildlife Watering (LWW); Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL); Cool Water Fishery (CLF); Cold Water Fishery (CDF); Whole Body Contact Recreation (WBC); Secondary Contact Recreation (SCR); Drinking Water Supply (DWS); Industrial (IND); Groundwater (GRW)

*** - Hydrologic Unit Code (HUC); Ecological Drainage Unit (EDU)

**** - Use Attainability Analysis (UAA), for above stated water body, conducted [DATE], supporting Whole Body Contact (WBC) Recreation use designation retention

***** - Use Attainability Analysis (UAA) has not been conducted for above stated water body

RECEIVING WATER BODY LOW-FLOW VALUES TABLE: Not applicable. Facility does not qualify for dilution credit.

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS*)		
	1Q ₁₀ **	7Q ₁₀ **	30Q ₁₀ **
Little Bourbeuse River (U)	---	---	---
Little Bourbeuse River (C) (02063)	n/a	n/a	n/a

* - Cubic feet per second (CFS)

** - Average minimum flow for one (1) consecutive calendar day that has a probable recurrence interval of once-in-ten (10) calendar years (1Q₁₀); Average minimum flow for seven (7) consecutive calendar days that has a probable recurrence interval of once-in-ten (10) calendar years (7Q₁₀); Average minimum flow for 30 (30) consecutive calendar days that has a probable recurrence interval of once-in-ten (10) calendar years (30Q₁₀)

MIXING CONSIDERATIONS: Not Allowed per MCWC regulation [10 CSR 20-7.031(4)(A)4.B.(I)(a)], Water Quality, Water Quality Standards, Specific Criteria, For mixing zones, Streams with seven (7)-day Q₁₀ low flows of less than 0.1 cfs, Mixing zone, the allowable mixing zone is one-quarter (1/4) of the stream width, cross-sectional area or volume of flow; length of one-quarter (1/4) mile; Zone of Initial Dilution: Not Allowed MCWC regulation [10 CSR 20-7.031(4)(A)4.B.(I)(b)], Water Quality, Water Quality Standards, Specific Criteria, For mixing zones, Streams with seven (7)-day Q₁₀ low flows of less than 0.1 cfs, Zone of initial dilution

RECEIVING WATER BODY MONITORING REQUIREMENTS: No receiving water monitoring requirements recommended at this time.

Part IV – Rationale and Derivation of Interim and/or Final Effluent Limitations, and Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES: As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.015(4)(A)], Water Quality, Effluent Regulations, Effluent Limitations for Losing Steams, 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.

Applicable ; Facility discharges to a Losing Stream as defined by Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-2.010(36)], Definitions, Definitions, Losing stream, and [10 CSR 20-7.031(1)(N)], Water Quality, Water Quality Standards, Definitions, Losing Stream, and has submitted alternative evaluation(s)

Not applicable ; Facility does not discharge to a Losing Stream as defined by Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-2.010(36)], Definitions, Definitions, Losing Streams, and [10 CSR 20-7.031(1)(N)], Water Quality, Water Quality Standards, Definitions, Losing stream

ANTI-BACKSLIDING: A provision in the Federal Regulations, {Clean Water Act (CWA) [§ 303(d)(4)]}, Water Quality Standards and Implementation Plans, Limitations on Revision of Certain Effluent Limitations; the CWA [§ 402(c)], National Pollutant Discharge Elimination System (NPDES), Suspension of Federal program upon submission of State program; withdrawal of approval of State program; return of State program to Administrator}; and [40 CFR Part 122.44(I)], Protection of Environment, Establishing limitations, requires a that a reissued operating permit to be as stringent as the previous operating permit with some exceptions:

New facility ; Backsliding does not apply

– All interim and/or final effluent limitations in this Fact sheet are at least as protective as those established in the previous operating permit; therefore, backsliding does not apply

– Interim and/or final effluent limitations in this operating permit for the issuance (renewal) of this operating permit conform to anti-backsliding provisions of Section 402(o) of the Clean Water Act, and [40 CFR Part 122.44], Protection of Environment, Establishing limitations, standards, and other permit conditions (applicable to State National Pollutant Discharge Elimination System programs)

ANTIDEGRADATION: In accordance with Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(2)], Water Quality, Water Quality Standards, Antidegradation, the Department shall 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.

Renewal and/or modification ; No degradation proposed and no further review necessary

New and/or expanded discharge ; As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(2)(D)], Water Quality, Water Quality Standards, Antidegradation, the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B) and (C) of this section shall be implemented according to procedures developed by the Department. On April 20, 2007, the MCWC approved the *Missouri Antidegradation Rule and Implementation Procedure* (Antidegradation Rule), which is applicable to new or upgraded/expanded facilities. The implementation of the Antidegradation Rule occurred on August 31, 2008. Any construction permit application or other applicable permit applications submitted prior to August 31, 2008, will not be required to have an Antidegradation Review.

– Master General Permit Antidegradation Review conducted during template development.

APPLICABLE PERMIT PARAMETERS: Interim and/or final effluent parameters contained in a Fact Sheet and Missouri State Operating Permits (MSOPs) are obtained from a Technology Based Effluent Limit (TBEL), Missouri Clean Water Commission (MCWC) regulations [10 CSR 20-7.015], Water Quality, Effluent Regulations, and [10 CSR 20-7.031], Water Quality, Water Quality Standards, previous Missouri State Operating Permits (MSOPs) and from operating permit applications.

AREA-WIDE WASTE TREATMENT MANAGEMENT AND CONTINUING AUTHORITY: As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-6.010(3)(B)], Permits, Construction and Operating Permits, Continuing Authorities: "... 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."

BIO-SOLIDS, SLUDGE AND SEWAGE SLUDGE: Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e., fertilizer). Sludge is any solid, semi-solid or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant; water supply treatment plant; air pollution control facility; or any other such waste having similar characteristics and effect. 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(es); 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.

Applicable (renewal and/or modification to existing operating permit ; Permittee has proposed to land apply sludge and bio-solids. Facility approved to land apply per MSOP, Part B., Standard Conditions, Part III, Sludge and Biosolids from Domestic Wastewater Treatment Facilities, and a Department-approved bio-solids management plan

Applicable (renewal and/or modification to existing operating permit ; Permittee has proposed that sludge and bio-solids are to be removed by a contract hauler for this facility

Applicable (renewal and/or modification to existing operating permit ; Permittee has proposed that sludge and bio-solids are to be retained and not to be removed by contract hauler for this facility

Applicable (new operating permit) ; Permittee has proposed that sludge and bio-solids are not to be removed by a contract hauler for this facility. Permittee has proposed to land apply the sludge and bio-solids as per MSOP, Part B., Standard Conditions, Part III, Sludge and Biosolids from Domestic Wastewater Treatment Facilities. The Department has reviewed and approved permittee's bio-solids management plan, and therefore, permittee and/ or facility is approved to land apply said sludge and bio-solids as a means of treatment or disposal.

Not applicable ; This term and/or condition not applicable to permittee for this specific facility

COMPLIANCE AND ENFORCEMENT: Enforcement is the action taken by the Department's Division of Environmental Quality's Water Protection Program's Water Pollution Control Branch's Compliance and Enforcement Section to bring an entity into compliance with the Missouri Clean Water Law (MCWL); it's implementing Missouri Clean Water Commission (MCWC) regulations; and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the Department's Division of Environmental Quality's Water Protection Program's Water Pollution Control Branch's Compliance and Enforcement Section is to resolve violations and return the entity to compliance.

Applicable ; Not applicable ; Permittee and/or facility not currently under the Department's Division of Environmental Quality's Water Protection Program's Water Control Pollution Branch's Compliance and Enforcement Section 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)], Protection of Environment, General Pretreatment Regulations for Existing and New Sources of Pollution, Definitions. Pretreatment programs are required at any Publicly Owned Treatment Works (POTW), or combination of POTW, operated by the same authority and/or municipality, with a total design flow greater than (>) five-point-zero (5.0) million gallons per day (MGD) and receiving industrial wastes that interfere with or pass through the POTW or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at a POTW/municipality with a design flow less than (<) 5.0 MGD if needed to prevent interference with operations or pass through. Several special conditions pertaining to permittee's and/or facility's pretreatment program may be included in an operating permit, and are as follows:

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

Applicable ; This permittee and/or facility have an approved pretreatment program in accordance with the requirements of [40 CSR Part 403], Protection of Environment, General Pretreatment Regulations for Existing and New Sources of Pollution, and Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-6.100], Permits, General Pretreatment Regulation, and said permittee and/or facility is expected to implement and enforce its approved pretreatment program

Not applicable ; Permittee and/or facility, at this time, not required to have a pretreatment program or do not have a Department-approved pretreatment program

REASONABLE POTENTIAL ANALYSIS (RPA): Federal regulation [40 CFR Part 122.44(d)(1)(i)], Protection of Environment, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, Permit Conditions, Establishing limitations, standards, and other permit conditions, Water quality standards and State requirements, 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)(iii)], referenced above, if the Department permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the Water Quality Standard, the operating permit must contain effluent limitations for that pollutant.

Applicable ; A Reasonable Potential Analysis (RPA) conducted on appropriate parameters

Not applicable ; A Reasonable Potential Analysis (RPA) not conducted for this facility. Data not available to conduct RPA for the Ammonia parameter (no monitoring required by previous operating permit)

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-Five (5)-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTW)/municipalities (see the United States Environmental Protection Agency's (EPA's) Web site for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage at: www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm.

Applicable ; Secondary Treatment (85% removal) per [40 CFR Part 133.102(a)(3) and (b)(3)], Protection of Environment, Secondary Treatment Regulation, Secondary treatment, BOD₅ and SS. Facility is a Publicly Owned Treatment Works (POTW)

Applicable ; Equivalent to Secondary Treatment (65% removal) per [40 CFR Part 133.105(a)(3) and (b)(3)], Protection of Environment, Secondary Treatment Regulation Treatment equivalent to secondary treatment, BOD₅ and SS

Applicable ; Facility not a Publicly Owned Treatment Works (POTW); however, influent monitoring is being required to determine percent removal

Not applicable ; Influent monitoring not being required for this facility to determine percent removal

SANITARY SEWER OVERFLOWS (SSOs), BYPASSES, INFLOW AND INFILTRATION (I&I) – PREVENTION/REDUCTION: Sanitary Sewer Systems (SSSs) are municipal wastewater collection systems that convey domestic, commercial and industrial wastewater, and limited amounts of infiltrated groundwater and stormwater (i.e., inflow and infiltration (I&I)) to a Publicly Owned Treatment Works. SSSs are not designed to collect large amounts of stormwater runoff from precipitation events. Untreated or partially treated discharges from SSSs are commonly referred to as Sanitary Sewer Overflows (SSOs). SSOs have a variety of causes including: blockages; line breaks; sewer defects that allow excess stormwater and ground water to overload SSS; lapses in sewer system operation and maintenance; inadequate sewer design and construction; power failures; and vandalism. A SSO is defined as an untreated or partially treated sewage release from a SSS. SSOs can occur at any point in an SSS, during dry weather or wet weather. SSOs include overflows that reach waters of the state. SSOs also include overflows out of manholes and onto city streets, sidewalks and other terrestrial locations. SSSs can back up into buildings including private residences. When sewage backups are caused by problems in the publicly-owned portion of an SSS, said sewage backups are considered SSOs.

Applicable ; Permittee and/or facility required to develop or implement a program for maintenance and repair of the collection system and shall be required in this Missouri State Operating Permit (MSOP) by either means of a Special Condition or Schedule of Compliance (SOC). In addition, the Department considers the development of this program as an implementation of this condition. At this time, the Department recommends the United States Environmental Protection Agency's (US EPA's) *Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems* (Document # EPA 305-B-05-002). The *CMOM* identifies some of the criteria used by the US EPA to evaluate a collection system's management, operation and maintenance, and was intended for use by the US EPA, state, regulated community and/or third party entities. The *CMOM* is applicable to small, medium and large systems; both public and privately owned; and both regional and satellite collection systems. The *CMOM* does not substitute for the Federal Clean Water Act, the Missouri Clean Water Law (MCWL), Missouri Clean Water Commission (MCWC) regulations, and both federal and state regulations, as said *CMOM* is not a regulation

Not applicable ; Permittee and/or facility not required to develop and/or implement a program for maintenance and repair of the collection system; however, it is a violation of the Missouri Clean Water Law (MCWL) and associated Missouri Clean Water Commission (MCWC) regulations to allow untreated wastewater to discharge to waters of the state

SCHEDULE OF COMPLIANCE (SOC): A schedule of remedial measures included in an operating permit, including an enforceable sequence of interim requirements (actions, operations or milestone events) leading to compliance with the MCWL, and implementing Missouri Clean Water Commission (MCWC) regulations, and/or the terms and conditions of an operating permit.

Applicable ; The time given for effluent limitations of this operating permit listed under Paragraph A., Effluent Limitations and Monitoring Requirements, via Interim and/or Final Effluent Limitations, were established in accordance with Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(10)], Water Quality, Water Quality Standards

Not applicable ; This operating permit does not contain a Schedule of Compliance (SOC)

STORMWATER POLLUTION PREVENTION PLAN (SWPPP): In accordance with [40 CFR 122.44(k)], Protection of Environment, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System [NPDES], Permit Conditions, Establishing limitations, standards, and other permit conditions, Best Management Practices [BMPs], BMPs are required 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 United States Environmental Protection Agency's (US EPA's) *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* [EPA 832-R-92-006] (Storm Water Management), Best Management Practices (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(es), activity(ies), or physical structure(s). Additionally, in accordance with the Storm Water Management document reference above, a Stormwater Pollution Prevention Plan (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.

Applicable ; A Stormwater Pollution Prevention Plan (SWPPP) shall be developed and implemented for each site, and shall incorporate required practices identified by the Department with jurisdiction; incorporate erosion control practices specific to site conditions; and provide for maintenance and adherence to the SWPPP

Not applicable ; At this time, permittee and/or facility not required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP)

VARIANCE: As per the Missouri Clean Water Law (MCWL), Section 644.061.4, RSMo, variances shall be granted for such period of time and under such terms and/or conditions as shall be specified by the Missouri Clean Water Commission (MCWC) in its order. Said variance(s) may be extended by affirmative action of the MCWC. In no event shall the variance(s) be granted for a period of time greater than is reasonably necessary for complying with the MCWL, Sections 644.006-644.141, RSMo, or any standard, rule or MCWC regulation promulgated pursuant to the MCWL, Sections 644.006-644.141, RSMo.

Applicable ; Not applicable ; This operating permit not drafted under premises of a petition for variance(s).

WASTELOAD ALLOCATIONS (WLA) FOR INTERIM AND/OR FINAL EFFLUENT LIMITATIONS: As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-2.010(78)], Definitions, Waste load allocation, 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.

Applicable ; Wasteload allocations (WLAs) calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

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

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

Chronic wasteload allocations (WLAs) 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 WLAs 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 interim and/or final effluent limitations were calculated using methods and procedures outlined in the United States Environmental Protection Agency's (US EPA's) "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Not applicable ; Wasteload allocations (WLAs) not calculated

WASTELOAD ALLOCATIONS (WLA) MODELING: There are two (2) 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 WQBELs must be used.

Applicable ; A wasteload allocations (WLA) study including modeling was submitted to the Department by _____. The wasteload allocations (WLA) study determined that the (parameter) for _____.

Not applicable ; A wasteload allocations (WLA) study was either not submitted or determined not applicable by Department staff

WATER QUALITY STANDARDS: Per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(3)], Water Quality, Water Quality Standards, General Criteria, shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR Part 122.44(d)(1)], Protection of Environment, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System [NPDES], Permit Conditions, Establishing limitations, standards, and other permit conditions, Water quality standards and State requirements, directs the Department to establish, in each NPDES operating permit, conditions to achieve water quality established under the Clean Water Act (CWA) [§ 303], Water Quality Standards and Implementation Plans, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TESTING: A Whole Effluent Toxicity (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.

Applicable ; In accordance with the Clean Water Act (CWA) [§101(a)(3)], requiring Whole Effluent Toxicity (WET) testing is reasonably appropriate for site-specific Missouri State Operating Permits (MSOPs) for discharges to waters of the state issued

under the National Pollutant Discharge Elimination System (NPDES). Furthermore, WET testing is a means by which the Department determines that Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(3)(D), (F) and (G)], Water Quality, Water Quality Standards, General Criteria, are being met by the permitted facility. In addition to justification for WET testing, WET tests are required under MCWC regulation [10 CSR 20-6.010(8)(A)4.], Construction and Operating Permits, Terms and Conditions of Permits, to be performed by specialists who are properly trained in conducting WET testing according to the methods prescribed by the Federal Government as referenced in [40 CFR Part 136], Protection of Environment, Water Programs, Guidelines Establishing Test Procedures for the Analysis of Pollutants.. WET testing shall be required by all facilities meeting the following criteria:

- Facility designated Major
- Facility continuously or routinely exceeds its design flow
- Industrial facility that alters production process throughout the year
- Facility handles large quantities of toxic substances, or substances that are toxic in large amounts
- Facility has interim and/or final effluent Water Quality-based Effluent Limitations (WQBELs) for toxic substances (Total Residual Chlorine) [other than ammonia (NH₃)]
- Facility is a Public Owned Treatment Works (POTW), municipality or domestic discharger with a design flow greater than or equal to (≥) twenty-two-thousand-five-hundred (22,500) gallons per day (gpd)
- Facility is a Public Owned Treatment Works (POTW), municipality or domestic discharger with a design flow less than (<) (≥) twenty-two-thousand-five-hundred (22,500) gallons per day (gpd)
- Other

Not applicable ; At this time, permittee and/or facility not required to conduct Whole Effluent Toxicity (WET) testing for this facility

303(d) LIST AND 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 (WBC) (such as swimming), maintaining fish and other aquatic life (AQL), and providing drinking water for people (DWS), livestock and wildlife watering (LWW). 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 Total Maximum Daily Load (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.

Applicable ; (Receiving water body's name) or (1st classified water body's name) is listed on the (YEAR) Missouri 303(d) List for (pollutant): (source)

– Facility not considered to be a source of the above listed pollutant(s) or not considered to contribute to the impairment of the above referenced water body

– Facility considered to be a source of the above listed pollutant(s), considered to contribute to the above listed pollutant(s), considered to contribute or has the potential to contribute to the impairment of the above referenced water body

Not applicable ; Facility does not discharge to a 303(d) listed stream

Part V – Interim and/or Final Effluent Limitations Determination

Outfall # 001 – Main Facility Outfall

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNITS	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS OPERATING PERMIT EFFLUENT LIMITATIONS
FLOW	MGD	1	*	N/A	*	NO	S
BIOCHEMICAL OXYGEN DEMAND-FIVE (5) DAY (BOD ₅)	MG/L	1	N/A	65	45	NO	S
TOTAL SUSPENDED SOLIDS	MG/L	1	N/A	110	70	YES	120/80
PH	SU	1	6.5-9.0	N/A	6.5-9.0	YES	6.0-9.0
AMMONIA AS N	N/A	2/3/5	*	N/A	*	YES	***
TEMPERATURE	°C	1/5/8	*	N/A	*	YES	***

OIL AND GREASE	MG/L	1	15	N/A	10	YES	***
WHOLE EFFLUENT TOXICITY (WET) TESTING	Please see Whole Effluent Toxicity (WET) Testing in the DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS section below.						
MONITORING FREQUENCY	Please see Minimum Measurement (Sampling), Monitoring and Reporting Frequency Requirements in the DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS section below.						

* - Monitoring requirement only

** - number of colonies/100 mL; the maximum monthly average effluent limitation for the Fecal Coliform [and/or Escherichia Coliform (E. coli)] effluent parameter(s) is a geometric mean

*** - Parameter not previously established in previous operating permit

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

- | | |
|--|--|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes Reasonable Potential Analysis (RPA)) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. Total Maximum Daily Load (TMDL) or MSOP lieu of a TMDL |
| 5. Ammonia Policy | 11. WET Testing Policy |
| 6. Dissolved Oxygen Policy | |

OUTFALL # 001 – DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL LIMITATIONS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)], Protection of Environment, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System [NPDES], Permit Conditions, Establishing limitations, standards, and other permit conditions (applicable to state NPDES programs), Monitoring requirements, volume of effluent discharged from each outfall required to assure compliance with Missouri State Operating Permit (MSOP) interim and/or final limitations. If permittee is unable to obtain effluent flow, then it is permittee’s responsibility to inform the Department, which may require an operating permit modification submittal.
- **Biochemical Oxygen Demand (BOD₅).** Final effluent limitations reassessed, verified to still be protective of receiving water body’s water quality and retained from previous Missouri State Operating Permit (MSOP) per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.015(8)(A)3.D.(II)(a).], Water Quality, Water Quality Standards, Effluent Limitations for All Waters, (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).
- **Total Suspended Solids (TSS).** Final effluent limitations reassessed. Subject wastewater treatment facility, when discharging, discharges wastewater effluent to an unclassified water body (stream) that is greater than two (2) upstream miles from a water body (stream) classified as Class “C” (stream that may cease flow in dry periods but maintain permanent pools which support aquatic life) with a Whole Body Contact Recreation (WBC) use designation per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031, Table H], Water Quality, Stream Classifications and Use Designations. The Department has revised (lowered) final effluent limitations for the Total Suspended Solids (TSS) effluent parameter in subject Missouri State Operating Permit (MSOP) renewal in accordance with MCWC regulation [10 CSR 20-7.015(8)(A)3.D.(II)(a)], Water Quality, Effluent Regulations, Effluent Limitations for All Waters (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).
- **pH.** Final effluent limitations reassessed, verified to still be protective of receiving water body’s water quality, and minimum limitation revised to 6.5 per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.015(8)(A)3.A.], referenced above (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).
- **Total Ammonia Nitrogen.** Subject wastewater treatment facility, when discharging, discharges wastewater effluent to an unclassified water body (stream) that is greater than two (2) upstream miles from a water body (stream) classified as Class “C” (stream that may cease flow in dry periods but maintain permanent pools which support aquatic life) with a Whole Body Contact Recreation (WBC) use designation per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031, Table H], Water Quality, Stream Classifications and Use Designations. Monitoring requirement only. Monitoring for the Ammonia effluent parameter included in subject Missouri State Operating Permit (MSOP) to determine whether “reasonable potential” to exceed water quality standards exists.
- **Temperature.** Monitoring requirement only. Monitoring for the Temperature effluent parameter included in subject Missouri State Operating Permit (MSOP) due to toxicity of Ammonia varies by temperature.
- **Escherichia Coliform (E. coli).** Subject wastewater treatment facility, when discharging, discharges wastewater effluent to an unclassified water body (stream) that is greater than two (2) upstream miles from a water body (stream) classified as Class “C”

(stream that may cease flow in dry periods but maintain permanent pools which support aquatic life) with a Whole Body Contact Recreation (WBC) use designation per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031, Table H], Water Quality, Stream Classifications and Use Designations. In accordance with MCWC regulation [10 CSR 20-7.015(8)(A)4.A.], Water Quality, Effluent Regulations, Effluent Limitations for All Waters, *E. coli*, standard final effluent limitations for the *E. coli* effluent parameter not required.

- **Oil and Grease.** Federal regulations require control of conventional pollutants via operating permits. Oil and Grease defined as a conventional pollutant in [40 CFR 401], Protection of Environment, Environmental Protection Agency, General Provisions. Final effluent limitations for the Oil and Grease effluent parameter have been included in this MSOP (10 mg/L maximum monthly average; 15 mg/L daily maximum).
- **Influent Monitoring Table:** Influent monitoring required for the Biochemical Oxygen Demand–Five (5) Day (BOD₅) and Total Suspended Solids (TSS) influent parameters. The United States Environmental Protection Agency (US EPA) has requested that the Department present percent removal requirements in all Missouri State Operating Permits (MSOPs) in a different manner by utilizing an influent monitoring table. Since subject wastewater treatment facility meets the definition of a Publicly Owned Treatment Works (POTW) utilizing equivalent to secondary wastewater treatment, subject facility must meet a removal efficiency of sixty-five-percent (65%) or more for the BOD₅ and TSS effluent parameters. Influent and effluent samples used to determine percent removal shall be taken the same day. The measurement (sampling) frequency for said parameters is monthly and the sampling type is a grab sample. Influent monitoring necessary to determine compliance with effluent percent (%) removal requirements. Influent and effluent samples used to determine percent removal shall be taken the same day.

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS OPERATING PERMIT LIMITATIONS
BOD ₅ **	MG/L	1	*	N/A	*	YES	S
TSS**	MG/L	1	*	N/A	*	YES	S

* - Monitoring requirement only

** - Facility required to meet a removal efficiency of 85% or more

*** - Parameter not previously established in previous operating permit

S – Same as previous operating permit

- **Minimum Measurement (Sampling), Monitoring and Reporting Frequency Requirements.** Measurement, monitoring and reporting frequency requirements retained from previous Missouri State Operating Permit (MSOP). Once per month is the measurement, monitoring and reporting frequency requirement in subject MSOP per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.015(8)(B)], Water Quality, Effluent Regulations, Effluent Limitations for All Waters, Monitoring Requirements. All sampling data taken must be submitted even if sampling occurs more frequently than monthly. Permittee may collect samples on a more frequent basis than monthly and averaged (except for the pH effluent parameter) to show compliance with the monthly averages or maximum monthly averages listed in the MSOP. Discharge Monitoring Reports (DMRs) are to be submitted to the Department by the 28th day of the following month.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/MONTH	ONCE/MONTH
BOD ₅	ONCE/MONTH	ONCE/MONTH
TSS	ONCE/MONTH	ONCE/MONTH
pH	ONCE/MONTH	ONCE/MONTH
AMMONIA AS N	ONCE/MONTH	ONCE/MONTH
TEMPERATURE	ONCE/MONTH	ONCE/MONTH
OIL AND GREASE	ONCE/MONTH	ONCE/MONTH

- **Whole Effluent Toxicity (WET) Testing.** Whole Effluent Toxicity (WET) testing schedules and intervals established in accordance with the Department’s Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. The Department recommends that WET testing be conducted during the period of lowest stream flow.

SUMMARY OF ACUTE WHOLE EFFLUENT TOXICITY (WET) TESTING FOR THIS OPERATING PERMIT					
OUTFALL	AEC*	LC ₅₀ **	FREQUENCY	SAMPLE TYPE	MONTH
001	100%	100%	Once per permit cycle	Grab	Any Month in 2013 (Report by January 28, 2014)

Dilution Series*						
100%	50%	25%	12.5%	6.25%	(Control) 100% upstream, if available	(Control) 100% laboratory water, also called synthetic water

* Run samples at Allowable Effluent Concentration (AEC) of 100%, 50%, 25%, 12.5% and 6.25% effluent (unless AEC is less than (<) 25%, then dilutions will be four (4) times the AEC, two (2) times the AEC, AEC, ½ the AEC and ¼ the AEC, respectively). AEC % = outfall design flow in cubic feet per second / (zone of initial dilution in cubic feet per second + outfall design flow in cubic feet per second)

** $LC_{50} = AEC / 0.3$

; Chronic; ; Acute

; No less than **ONCE/PERMIT CYCLE:**

; Municipality or domestic facility with a design flow greater than or equal to (\geq) 22,500 gallons per day (GPD), but less than (<) one-point-zero (1.0) million gallons per day (MGD)

; Other. Municipality or domestic facility with a design flow less than (<) 22,500 gallons per day (GPD)

; No less than **ONCE/YEAR:**

; Facility designated as a Major facility or has a design flow greater than or equal to (\geq) one-point-zero (1.0) million gallons per day (MGD)

; Facility continuously or routinely exceeds their design flow

; Facility exceeds design population equivalent (PE) for Biochemical Oxygen Demand (BOD₅) whether or not design flow being exceeded

; Facility has Water Quality-Based Effluent Limitations (WQBELs) for toxic substances (other than ammonia (NH₃))

; No less than **TWICE/YEAR:**

; Facility subject to production processes alterations throughout the year

; Facility handles large quantities of toxic substances, or substances that are toxic in large amounts

; Facility has been granted seasonal relief of numeric limitations by the Department

Allowable Effluent Concentration (AEC) calculations determine which type of WET testing facility should conduct (either SINGLE-DILUTION or MULTIPLE-DILUTION WET testing). Facilities discharging to unclassified (U) or Class C receiving streams, the AEC % is 100%. Facilities with less than (<) 100% for an AEC % will have MULTIPLE-DILUTION WET testing. Facilities that discharge to Lakes and have Acute WET testing, the AEC % is 100% due to Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(4)(A)4.B.(IV)(b)], Water Quality, Water Quality Standards, Specific Criteria, For mixing zones, Lakes, Zone of Initial Dilution (ZID), not allowed for Lakes.

$$\text{Acute AEC \%} = ((\text{design flow}_{\text{cfs}} + \text{ZID}_{7\text{Q}10}) / \text{design flow}_{\text{cfs}})^{-1} \times 100$$

Part VI – 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 (MCWC), proposes to issue an operating permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. Proposed determinations are tentative pending public comment.

PUBLIC NOTICE: As per the Missouri Clean Water Law, Missouri Clean Water Commission (MCWC) regulations, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits (MSOPs) are directed to do so by a department-approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

; The Public Notice period for this operating permit is tentatively scheduled to begin on July 16, 2010, or is in process.

; The Public Notice period for this operating permit was from July 16, 2010, through August 15, 2010. No responses received or responses to the Public Notice of this operating permit do not warrant the modification of interim and/or final effluent limitations and/or major modifications to the terms and conditions of this operating permit.

DATE OF INITIAL FACT SHEET: JUNE 25, 2010

DATE OF REVISED FACT SHEET: AUGUST 23, 2010

COMPLETED BY:

Bruce D. Volner
Environmental Engineer
Southeast Regional Office
Rolla Satellite Office
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Part VII – Appendices

APPENDIX A – CLASSIFICATION WORKSHEET

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Maximum Population Equivalent (P.E.) served (Max 10 pts.)	1 pt. / 10,000 PE or major fraction thereof	0.0641
Maximum: 10 pt Design Flow (avg. day) or peak month ; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof	0.0072
EFFLUENT DISCHARGE RECEIVING WATER SENSITIVITY		
Missouri or Mississippi River	0	
All other stream discharges except to losing streams and stream reaches supporting whole body contact	1	1
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	
PRELIMINARY TREATMENT – Headworks		
Screening and/or comminution	3	
Grit removal	3	
Plant pumping of main flow (lift station at the headworks)	3	
PRIMARY TREATMENT		
Primary clarifiers	5	
Combined sedimentation/digestion/recirculating sand filter	5	
Chemical addition (except chlorine, enzymes)	4	
REQUIRED LABORATORY CONTROL – performed by plant personnel (highest level only)		
Lab work conducted outside of plant	0	
Push – button or visual methods for simple test such as pH, settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	5
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
ALTERNATIVE FATE OF EFFLUENT		
Direct reuse or recycle of effluent	6	
Land Disposal – low rate	3	
High rate	5	
Overland flow	4	
Total from page PAGE ONE (1)	----	6.0713

APPENDIX A – CLASSIFICATION WORKSHEET (CONTINUED)

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
VARIATION IN RAW WASTE (highest level only) (DMR exceedances and Design Flow exceedances)		
Variation do not exceed those normally or typically expected	0	0
Recurring deviations or excessive variations of 100 to 200 % in strength and/or flow	2	
Recurring deviations or excessive variations of more than 200 % in strength and/or flow	4	
Raw wastes subject to toxic waste discharge	6	
SECONDARY TREATMENT		
Trickling filter and other fixed film media with secondary clarifiers	10	
Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15	
Stabilization ponds without aeration	5	5
Aerated lagoon	8	
Advanced Waste Treatment Polishing Pond	2	2
Chemical/physical – without secondary	15	
Chemical/physical – following secondary	10	
Biological or chemical/biological	12	
Carbon regeneration	4	
DISINFECTION		
Chlorination or comparable	5	
De-chlorination	2	
On-site generation of disinfectant [except ultraviolet (UV) light]	5	
Ultraviolet (UV) light	4	
SOLIDS HANDLING – SLUDGE		
Solids handling thickening	5	
Anaerobic digestion	10	
Aerobic digestion	6	
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	
Total from page PAGE TWO (2)	---	7
Total from page PAGE ONE (1)	---	6.0713
GRAND TOTAL	---	13.0713

; A: 71 points and greater

; B: 51 points – 70 points

; C: 26 points – 50 points

; D: 0 points – 25 points