

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

Permit No.: **MO0088064**

Owner: Mary V. Hutchison  
Owner's Address: 35422 Maries County Rd. 612, Vienna, MO 65582

Continuing Authority: Country Valley Home  
Continuing Authority's Address: 15750 County Rd. 2430, St. James, MO 65559

Facility Name: Country Valley Home WWTF  
Facility Address: 15750 County Rd. 2430, St. James, MO 65559

Legal Description: NW ¼, NW ¼, Sec. 10, T38N, R7W, Phelps County  
UTM Coordinates: (X = 0615560, Y = 4210420)

Receiving Stream: Unnamed tributary to Cox Branch (U)  
First Classified Stream and ID: Cox Branch (C) (03559)  
USGS Basin & Sub-watershed No.: (07140103-0201)

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

**FACILITY DESCRIPTION**

Outfall # 001 – Non-Publicly Owned Treatment Works – Assisted Living Facility – Standard Industrial Classification (SIC) Code(s): # 8059 (Nursing and Personal Care Facilities, Not Otherwise Classified) and # 4952 (Sewerage Systems – domestic)

The use or operation of this facility does not require a Certified Wastewater Operator

Single cell lagoon/Sludge retained in lagoon

Design population equivalent = 44

Design flow = 3,300 gallons per day

Design sludge production = 0.66 dry tons per 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.

October 24, 2011  
Effective Date

October 24, 2011  
Renewal Date

  
\_\_\_\_\_  
Sara Parker Pauley, Director, Department of Natural Resources

October 23, 2016  
Expiration Date

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

Permittee authorized to discharge from outfall(s) with serial number(s) as specified in the application for this operating permit. **Interim effluent limitations** shall become effective upon issuance (renewal) date of this operating permit and shall remain in effect for three (3) calendar years, or until October 23, 2014. Such discharges shall be controlled, limited and monitored by permittee as specified below:

OUTFALL NUMBER and EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall # 001</u>						
Flow	MGD	*		*	Once per quarter***	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		65	45	Once per quarter***	grab
Total Suspended Solids	mg/L		120	80	Once per quarter***	grab
pH – Units	SU	**		**	Once per quarter***	grab
Ammonia as N	mg/L	*		*	Once per quarter***	grab
Temperature	°C	*		*	Once per quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED Quarterly\*\*\*. FIRST REPORT DUE: January 28, 2012. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

**B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS OPERATING PERMIT SUBJECT TO ATTACHED Part I and Part III STANDARD CONDITIONS DATED October 1, 1980, and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only
- \*\* pH measured in pH standard units (SUs) and is not to be averaged. pH limited to the range of 6.0-9.0 pH SUs
- \*\*\* See table below for quarterly sampling reporting:

Sample effluent discharge at least once for the months of:	Report due:
January, February, March (1 <sup>st</sup> Quarter)	April 28
April, May, June (2 <sup>nd</sup> Quarter)	July 28
July, August, September (3 <sup>rd</sup> Quarter)	October 28
October, November, December (4 <sup>th</sup> Quarter)	January 28

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 three (3) calendar years from issuance (renewal) date of this operating permit, or on October 24, 2014, and shall and 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 quarter***	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		65	45	Once per quarter***	grab
Total Suspended Solids	mg/L		110	70	Once per quarter***	grab
pH – Units	SU	**		**	Once per quarter***	grab
Ammonia as N						
(April 1 – September 30)	mg/L	9.2		3.5	Once per quarter***	grab
(October 1 – March 31)	mg/L	13.8		5.3	Once per quarter***	grab
Temperature	°C	*		*	Once per quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED Quarterly\*\*\*. FIRST REPORT DUE: January 28, 2015. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

**B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS OPERATING PERMIT SUBJECT TO ATTACHED Part I and Part III STANDARD CONDITIONS DATED October 1, 1980, and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only
- \*\* pH measured in pH standard units (SUs) and is not to be averaged. pH limited to the range of 6.5-9.0 pH SUs
- \*\*\* See table below for quarterly sampling reporting:

Sample effluent discharge at least once for the months of:	Report due:
January, February, March (1 <sup>st</sup> Quarter)	April 28
April, May, June (2 <sup>nd</sup> Quarter)	July 28
July, August, September (3 <sup>rd</sup> Quarter)	October 28
October, November, December (4 <sup>th</sup> Quarter)	January 28

C. 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. SPECIAL CONDITIONS (continued)

1. (continued)

- (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 regulation [10 CSR 20-7.031(3) and (4)], Water Quality, Water Quality Standards, General Criteria and Specific 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;

C. SPECIAL CONDITIONS (continued)

6. Water Quality Standards (continued)

(b) General Criteria (continued)

- (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 Section 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. Bypasses are not authorized at this wastewater treatment facility and are subject to [40 CFR 122.41(m)], Protection of Environment, Environmental Protection Agency [EPA], Water Programs, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, Permit Conditions, Conditions applicable to all permits (applicable to State programs), Bypass. If a bypass occurs, permittee shall report in accordance with [40 CFR 122.41(m)(3)(i)], and with Standard Conditions–Part I, General Conditions, Section B, Management Requirements, subsection 2.b., Noncompliance Notification, Twenty-four hour reporting. Bypasses are to be reported to the Department’s Division of Environmental Quality’s Southeast Regional Office.

D. SCHEDULE OF COMPLIANCE

The Department implemented policy to address the discharge of ammonia and the final effluent limitations in this operating permit contains final effluent limitations for the ammonia effluent parameter. The treatment system serving this facility may or may not be capable of consistently meeting the final effluent limitations for the ammonia effluent parameter listed in the final effluent limitations table of this operating permit. An interim effluent limitations table that contains monitoring for the ammonia and temperature effluent parameters for three (3) calendar years has been included in this operating permit. Missouri Clean Water Commission regulation [10 CSR 20-7.031(10)], Water Quality, Water Quality Standards, Compliance with Water Quality Based Limitations, allows permittee up to three (3) calendar years from the issuance (renewal) date of this operating permit to comply with the final effluent limitations listed in this operating permit.

1. Within one (1) calendar year from issuance (renewal) date of this operating permit, on or before October 23, 2012, permittee shall submit, to the Department at the address listed in 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 be prepared in accordance with Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-8.020(3)], Design Guides, Design of Small Sewage Works, Engineer’s Report, describe current wastewater treatment system and list alternatives for wastewater treatment or show that existing wastewater treatment system will meet current National Pollutant Discharge Elimination System design and performance standards required by MCWC regulations. Said alternatives listed in said PER should include connection to an area wide collection system (if available), non-discharging modifications (if feasible) and non-discharging land application systems (if feasible). Said PER shall also 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 said wastewater treatment system as required by MCWC regulations. Said PER shall make recommendations to upgrade said wastewater treatment system to include equipment that will meet new (revised) final effluent limitations for the Total Suspended Solids effluent parameter and for the Ammonia effluent parameters (determined by a reasonable potential analysis referenced in fact sheet that accompanies this operating permit) and other effluent parameters that may be determined from the Department-provided WQRA.

D. SCHEDULE OF COMPLIANCE (continued)

2. Within two (2) calendar years from issuance (renewal) date of this operating permit, on or before October 23, 2013, and after Department approval in writing of the above mentioned PER, permittee shall submit, to the Department at the address listed in the cover letter that accompanies this operating permit, a construction permit application, if applicable, to include applicable fees, construction activity schedule, and plans and specifications in accordance with the Department approved PER.
3. Within three (3) calendar years from issuance (renewal) date of this operating permit, on or before October 23, 2014, facility should have completed any upgrades and/or improvements necessary to comply with new final effluent limitations. Upon completion of construction (if applicable), permittee shall submit, to the Department at the address listed in the cover letter that accompanies this operating permit, a letter of authorization or statement of work complete signed by the owner and a licensed professional engineer registered in the State of Missouri.
4. If permittee fails to meet any of the interim dates above, permittee shall notify the Department, in writing at the address listed in the cover letter that accompanies this operating permit, of the reason(s) for non-compliance, no later than 14 calendar days following each interim date above.

**Missouri Department of Natural Resources**  
**FACT SHEET**  
**FOR THE PURPOSE OF RENEWING**  
**MISSOURI STATE OPERATING PERMIT # MO0088064**  
**COUNTRY VALLEY HOME WASTEWATER TREATMENT FACILITY**  
**ST. JAMES, PHELPS 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: Non-Publicly Owned Treatment Works – Assisted Living Facility  
Facility Standard Industrial Classification (SIC) Code(s): # 8059 (Nursing and Personal Care Facilities, Not Otherwise Classified) and # 4952 (Sewerage Systems – domestic)

#### Facility Description:

##### Outfall # 001

Single cell lagoon/Sludge retained in lagoon  
Design population equivalent = 44  
Design flow = 3,300 gallons per day  
Design sludge production = 0.66 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 ; Single cell facultative lagoon technology (equivalent to secondary wastewater treatment technology) does not meet current National Pollutant Discharge Elimination System (NPDES) design standards unless said single cell lagoon utilizes or employs land application irrigation as a non-discharge system. Said wastewater treatment system (lagoon) is approaching its design life [typical design (useful) life of a wastewater treatment facility (WWTF) is 20 years]. In addition, Missouri Clean Water Commission (MCWC) water quality standards have changed for the Ammonia effluent parameter and said WWTF must meet new discharge standards; No ; Said wastewater treatment facility discharges effluent to an unclassified water body that eventually flows into a classified water body identified and designated as Class C (water body that may cease flow in dry periods but maintain permanent pools which support aquatic life) per MCWC regulation [10 CSR 20-7.031(1)(F)6.], Water Quality, Water Quality Standards, Definitions, Classified waters, Class C. Said first classified water body does not possess a Whole Body Contact Recreation (WBC) or Secondary Contact Recreation (SCR) use designation per MCWC regulation [10 CSR 20-7.031, Table H], Water Quality, Effluent Regulations, Stream Classifications and Use Designations. Said effluent outfall is located less than two (2) upstream miles from this first classified water body

Application Date: February 17, 2011

Expiration Date: May 25, 2011

Last Inspection: September 29, 2010

In Compliance ; Non-compliance ; From the October 22, 2010, report of compliance inspection narrative: "Facility failed to meet final permitted effluent limitations [for the] Biochemical Oxygen Demand (BOD<sub>5</sub>) [effluent parameter] for a sample collected at the time of inspection. As a result, the Department has no choice but to issue [a] Letter of Warning. Facility must take appropriate steps to ensure [final] effluent limitations are consistently met in the future. Failure to return to compliance may result in the issuance of a Notice of Violation [NOV]. Country Valley Home was last inspected on January 6, 2009. In an inspection report dated February 3, 2009, facility was issued [NOV] # 18528 SE for failure to meet permitted effluent limitations for [the] BOD<sub>5</sub> [effluent parameter] for a sample collected during the January 6, 2009 inspection. In addition, [said] inspection report recommended that the effluent pipe be replaced and a splash pad be installed to prevent erosion of the lagoon dam. Since that time, facility has been submitting discharge monitoring reports (DMRs) to the Department in a timely manner as required by facility's [Missouri State Operating Permit] (MSOP). A review of these DMRs show facility failed to meet permitted effluent limitations for [the] BOD<sub>5</sub> [effluent parameter] during the second quarter [of the] calendar year 2009 reporting period. Analytical results for [the daily maximum] BOD<sub>5</sub> [effluent parameter] during this reporting period were 45.10 mg/L. Compliance Determination: Facility was found to be in non-compliance with [its] MSOP based upon effluent samples taken at the time of the inspection. Unsatisfactory Features: Effluent Limitations. Facility failed to meet [final] effluent limitations for [the] BOD<sub>5</sub> [effluent parameter] with a sample collected at the time of inspection. This is a violation of Part A., Effluent Limitations and Monitoring Requirements section of facility's MSOP. Facility must take appropriate steps to ensure effluent limitations are being met in the future. Facility's outfall was not posted with a sign as required by Part C., [Special Conditions] section of facility's MSOP. A sign must be posted identifying facility's outfall as soon as possible. [Said] outfall sign[age] should include facility's MSOP number and outfall number ("Outfall 001", e.g.). Recommendations: At the time of inspection, the surface of the lagoon was completely covered with duckweed. To ensure adequate and efficient treatment of sewage within [said] lagoon system, the Department recommends that at least 50% of [said] lagoon's surface be kept open to allow aeration of [said lagoon] system through wind action and to allow sunlight penetration. It is recommended that facility utilize mechanical methods to remove duckweed, whereas appropriate chemicals can be costly and if applied improperly, can negatively affect the treatment capabilities of [said] lagoon. Comments: Facility is in violation of Part A., Effluent Limitations and Monitoring Requirements section of their MSOP. It should be noted that when an effluent [parameter] exceedance occurs that is near [its final] effluent limitations, a second and/or multiple [effluent] sample(s) may be taken in an effort to achieve monthly or weekly average [final effluent] limitations. However, subsequent sample(s) must be taken within the same month as the original sample to be counted toward the monthly average [final effluent limitation]. The same process applies to weekly averages. Permit Exemption. Facility's MSOP indicates that actual flows to the facility are approximately 2,600 gallons per day. Permittee may make appropriate no-discharge modifications to the facility that would make it possible to receive a MSOP exemption if sufficient evidence shows that facility is receiving less than 3,000 gallons per day. If facility would like to pursue this option, please contact the Department's Southeast Regional Office's Rolla Satellite Office at (573) 368-7322. Closing Remarks: Due to the final permitted effluent limitation exceedance, facility cannot be considered in compliance at this time. Please take the appropriate steps to ensure compliance with facility's MSOP in the future."

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.0051	Equivalent to Secondary	Treated Domestic Sewage	~ 0.9

Outfall # 001

Legal Description: NW ¼, NW ¼, Sec. 10, T38N, R7W, Phelps County

UTM Coordinates: (X = 0615560, Y = 4210420)

Receiving Stream: Unnamed tributary to Cox Branch (U)

First Classified Stream and ID: Cox Branch (C) (03559)

USGS Basin & Sub-watershed No.: (07140103-0201)

Receiving Water Body's Water Quality and Facility Performance History: Said wastewater treatment facility discharges effluent to an unclassified water body that eventually flows into a classified water body identified and designated as Class C (water body that may cease flow in dry periods but maintain permanent pools which support aquatic life) per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(1)(F)6.], Water Quality, Water Quality Standards, Definitions, Classified waters, Class C. Said first classified water body does not possess a Whole Body Contact Recreation (WBC) or Secondary Contact Recreation (SCR) use designation Said first classified water body does not possess a Whole Body Contact Recreation (WBC) or Secondary Contact Recreation (SCR) use designation per MCWC regulation [10 CSR 20-7.031, Table H], Water Quality, Effluent Regulations, Stream Classifications and Use Designations. Said effluent outfall is located less than two (2) upstream miles from this first classified water body. Said effluent outfall is located less than two (2) upstream miles from this first classified water body.

Comments: On June 30, 2010, 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, revisions became effective. Said revisions included

changing the minimum value of the effluent limitation for the pH effluent parameter to six-point-five (6.5) pH standard units. Based upon submitted discharge monitoring reports and a reasonable potential analysis conducted during the renewal process of said Missouri State Operating Permit (MSOP), the Department has determined that said wastewater treatment facility has the reasonable potential to cause or contribute to an in-stream excursion above the narrative or the numeric water quality standard for Ammonia effluent parameter. Said MSOP contains a Schedule of Compliance (SOC) so that permittee may address forthcoming final effluent limitations for the Ammonia effluent parameter and current equivalent to secondary wastewater treatment technology.

## **Part II – Operator Certification Requirements**

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 ; 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 water body and/or first classified receiving water body’s beneficial water uses to be maintained are located in the **RECEIVING WATER BODY 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***
Unnamed tributary to Cox Branch	U	---	General Criteria	07140103 (Bourbeuse)	Ozark/Meramec
Cox Branch	C	03559	LWW; AQL; ****		

\* - 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 Recreation (WBC) use designation retention

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

**RECEIVING WATER BODY LOW-FLOW VALUES TABLE:**

RECEIVING WATER BODY (U, C, P)	LOW-FLOW VALUES (CFS*)		
	1Q <sub>10</sub> **	7Q <sub>10</sub> **	30Q <sub>10</sub> **
Unnamed tributary to Cox Branch (U)	---	---	---
Cox Branch (C) (03559)	0.0	0.0	0.1

\* - 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 (1Q<sub>10</sub>); Average minimum flow for seven (7) consecutive calendar days that has a probable recurrence interval of once-in-ten (10) calendar years (7Q<sub>10</sub>); Average minimum flow for 30 (30) consecutive calendar days that has a probable recurrence interval of once-in-ten (10) calendar years (30Q<sub>10</sub>)

**MIXING CONSIDERATIONS:** Per Missouri Clean Water Commission (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 7Q<sub>10</sub> low flows of less than 0.1 cfs, Mixing zone—not allowed, and per MCWC regulation [10 CSR 20-7.031(4)(A)4.B.(I)(b)], Water Quality, Water Quality Standards, Specific Criteria, For mixing zones, Zone of initial dilution—not allowed

**RECEIVING WATER BODY MONITORING REQUIREMENTS:** No receiving water body 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) regulations [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) regulations [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 Missouri State Operating Permit (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 Missouri State Operating Permit (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 a Missouri State Operating Permit (MSOP). 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. Facility issued Notice of Violation (NOV) # 19002SE dated August 15, 2011, for final effluent limitations exceedances for the Five-day Biochemical Oxygen Demand (BOD<sub>5</sub>) and Total Suspended Solids (TSS) effluent parameters for second quarter CY 2010. No flow reported for first quarter calendar year (CY) 2011 on discharge monitoring report (DMR). Final effluent limitation exceedance for the BOD<sub>5</sub> effluent parameter for third quarter CY 2010 reported on DMR. Facility sent certified Letter of Warning (environmental compliance inspection report) dated October 22, 2010, for final effluent limitations exceedance for the BOD<sub>5</sub> effluent parameter for effluent sample taken during environmental compliance inspection conducted September 29, 2010. Final effluent limitation exceedance for the BOD<sub>5</sub> effluent parameter reported for second quarter CY 2009 DMR. Facility issued NOV # 18528SE dated January 30, 2009, for final effluent limitations exceedance for the BOD<sub>5</sub> effluent parameter for effluent sample taken during environmental compliance inspection conducted January 6, 2009

**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 (POTW) per [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 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 CFR 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 effluent parameters (Ammonia). Based upon submitted discharge monitoring reports and a reasonable potential analysis (RPA) conducted during the renewal process of said Missouri State Operating Permit (MSOP), the Department has determined that said wastewater treatment facility has the reasonable potential to cause or contribute to an in-stream excursion above the narrative or the numeric water quality standard for Ammonia effluent parameter (please see **Part VII – Appendices, REASONABLE POTENTIAL ANALYSES (RPA) RESULTS** below). Said MSOP contains a Schedule of Compliance (SOC) so that permittee may address forthcoming final effluent limitations for the Ammonia effluent parameter and current equivalent to secondary wastewater treatment technology

; 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 ( $BOD_5$ ) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTW)/municipalities (see the United States Environmental Protection Agency’s (US 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](http://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,  $BOD_5$  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,  $BOD_5$  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 (POTW). 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 Missouri Clean Water Law (MCWL), and implementing Missouri Clean Water Commission (MCWC) regulations, and/or the terms and conditions of a Missouri State Operating Permit (MSOP).

; Applicable. The time given for effluent limitations of this Missouri State Operating Permit (MSOP) listed under Part 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 Missouri State Operating Permit (MSOP) 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 Missouri State Operating Permit (MSOP) 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 water body (stream) after the Department has determined total amount of pollutant that may be discharged into that water body (stream) without endangering said water body's (stream's) water quality.

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

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

Where C = downstream concentration

C<sub>s</sub> = upstream concentration

Q<sub>s</sub> = upstream flow

C<sub>e</sub> = effluent concentration

Q<sub>e</sub> = 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

Number of Samples “n”: Additionally, in accordance with the Technical Support Document (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, 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 Average Monthly Limitation (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.

**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.], Permits, 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 (NH<sub>3</sub>)]
- ; 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

**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, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility per [40 CFR 122.41(m)(1)(i)], Protection of Environment, Environmental Protection Agency [EPA], Water Programs, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, Permit Conditions, Conditions applicable to all permits (applicable to State programs), Bypass, Definitions. Additionally, Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-2.010(11)], Definitions, Definitions, Bypass, defines a bypass as diversion of wastewater from any portion of a wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do 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 permittee can meet all of the criteria listed in [40 CFR 122.41(m)(4)(i)(A), (B), and (C)], Protection of Environment, [EPA], Water Programs, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, Permit Conditions, Conditions applicable to all permits (applicable to State programs), Bypass, Prohibition of bypass. Any bypasses from this facility are subject to reporting required in [40 CFR 122.41(l)(6)], Protection of Environment, [EPA], Water Programs, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, Permit Conditions, Conditions applicable to all permits (applicable to State programs), Reporting Requirements,

Twenty-four hour reporting and per Standard Conditions–Part I, General Conditions, Section B, Management Requirements, subsection 2.b., Noncompliance Notification, Twenty-four hour reporting. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar.

Applicable ;

; Permittee has met the criteria as established in [40 CFR 122.41(m)(4)(i)(A), (B) and (C)], Protection of Environment, [EPA], Water Programs, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, Permit Conditions, Conditions applicable to all permits (applicable to State programs), Bypass, Prohibition of bypass

; Outfall # [NUMBER] is no longer authorized to discharge as it is a Bypass. The Department has developed a Voluntary Compliance Agreement (VCA) for communities that believe they need time to eliminate this discharge. Said VCA requires communities to develop and submit bypass elimination plans, to make progress, and to report on this progress. The terms of the VCA is for five (5) calendar years, and is renewable for another five (5) calendar years assuming that adequate progress is being made. In return, the State of Missouri will not initiate enforcement actions for the terms contained in the VCA. Permittee has entered into a VCA

; Permittee has not entered or does not meet the necessary requirements for entering into a Voluntary Compliance Agreement (VCA) with the Department

Not applicable ; Facility does not bypass

**303(d) LIST AND TOTAL MAXIMUM DAILY LOAD (TMDL):** Section 303(d) of the federal Clean Water Act, Water Quality Standards and Implementation Plans, requires that each state identify water bodies (streams) 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 bodies (streams) as Whole Body Contact Recreation (WBC) (such as swimming), maintaining fish and other aquatic life (AQL), providing drinking water for people (DWS), and livestock and wildlife watering (LWW). The 303(d) list helps state and federal agencies keep track of water bodies (streams) 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 (stream) 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. First classified water body [NAME] listed on the [YEAR] Missouri 303(d) List for [POLLUTANT] (source: [NAME])

; 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:**

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 final effluent limitations, of this operating permit.

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 <sub>5</sub> )	MG/L	1	N/A	65	45	NO	S
TOTAL SUSPENDED SOLIDS (TSS)	MG/L	1	N/A	110	70	YES	120/80

PARAMETER	UNITS	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS OPERATING PERMIT EFFLUENT LIMITATIONS
PH	SU	1	6.5-9.0	N/A	6.5-9.0	YES	6.0-9.0
AMMONIA AS N (APRIL 1 – SEPTEMBER 30) (OCTOBER 1 – MARCH 31)	MG/L	2/3/5	9.2 13.8	N/A N/A	3.5 5.3	YES	*
TEMPERATURE	°C	1/5/8	*	N/A	*	NO	S
MONITORING FREQUENCY	Please see <b>Minimum Measurement (Sampling), Monitoring and Reporting Frequency Requirements</b> in the <b>DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS</b> 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 (BOD<sub>5</sub>).** 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)(B)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. Changed from previous Missouri State Operating Permit (MSOP) per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.015(8)(B)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).
- **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)(B)A.], referenced above (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).
- **Escherichia coli (E. coli).** Said wastewater treatment facility discharges effluent to an unclassified water body that eventually flows into a classified water body identified and designated as Class C (water body that may cease flow in dry periods but maintain permanent pools which support aquatic life) per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.031(1)(F)6.], Water Quality, Water Quality Standards, Definitions, Classified waters, Class C. Said first classified water body does not possess a Whole Body Contact Recreation (WBC) or Secondary Contact Recreation (SCR) use designation per MCWC regulation [10 CSR 20-7.031, Table H], Water Quality, Effluent Regulations, Stream Classifications and Use Designations. Said effluent outfall is located less than two (2) upstream miles from this first classified water body. Said effluent outfall is located less than two (2) upstream miles from this first classified water body (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above). In accordance with MCWC regulation [10 CSR 7.015(8)(A)4.], Water Quality, Effluent Regulations, Effluent Limitations for All Waters, *E. coli*, standard final effluent limitations for the *Escherichia coli (E. coli)* effluent parameter not required.

- Total Ammonia Nitrogen.** Final effluent limitations reassessed. Based upon submitted discharge monitoring reports and a reasonable potential analysis conducted during the renewal process of said Missouri State Operating Permit (MSOP), the Department has determined that said wastewater treatment facility has the reasonable potential to cause or contribute to an in-stream excursion above the narrative or the numeric water quality standard for Ammonia effluent parameter. Said MSOP contains a Schedule of Compliance (SOC) so that permittee may address forthcoming final effluent limitations for the Ammonia effluent parameter and current equivalent to secondary wastewater treatment technology (please see **Part VII – Appendices, REASONABLE POTENTIAL ANALYSES (RPA) RESULTS** section below). Early Life Stages present total ammonia nitrogen criteria applicable per Missouri Clean Water Commission (MCWC) regulations [10 CSR 20-7.031(4)(B)7.C. ], Water Quality, Water Quality Standards, Specific Criteria, Toxic Substances, Total ammonia nitrogen, and [10 CSR 20-7.031, Table B3.], Chronic for Total Ammonia Nitrogen (mg N/L): Early Life Stages present. Background total ammonia nitrogen = 0.01 mg/L (default).

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen Criteria Continuous Concentration (CCC) (mg/L)	Total Ammonia Nitrogen Criteria Maximum Concentration (CMC) (mg/L)
Summer	22	6.9	3.8	39.3
Winter	14	7.1	5.7	34.0

Summer: April 1 – September 30

Chronic Wasteload Allocation (WLA):  $C_e = ((0.005 + 0)3.8 - (0 * 0.01))/0.005$   
 $C_e = 3.8 \text{ mg/L}$

Acute WLA:  $C_e = ((0.005 + 0)39.3 - (0 * 0.01))/0.005$   
 $C_e = 39.3 \text{ mg/L}$

Chronic Long-Term Average ( $LTA_c$ ) =  $3.8 \text{ mg/L} (0.78) = 2.96 \text{ mg/L}$  [CV = 0.6, 99th Percentile, 30 day avg.]  
 Acute Long-Term Average ( $LTA_a$ ) =  $39.3 \text{ mg/L} (0.321) = 12.62 \text{ mg/L}$  [CV = 0.6, 99th Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

Maximum Daily Limit (MDL) =  $2.96 \text{ mg/L} (3.11) = 9.2 \text{ mg/L}$  [CV = 0.6, 99th Percentile]  
 Average Monthly Limit (AML) =  $2.96 \text{ mg/L} (1.19) = 3.5 \text{ mg/L}$  [CV = 0.6, 95th Percentile, n =30]

Winter: October 1 – March 31

Chronic WLA:  $C_e = ((0.005 + 0)5.7 - (0 * 0.01))/0.005$   
 $C_e = 5.7 \text{ mg/L}$

Acute WLA:  $C_e = ((0.005 + 0)34 - (0 * 0.01))/0.005$   
 $C_e = 34.0 \text{ mg/L}$

$LTA_c = 5.7 \text{ mg/L} (0.78) = 4.45 \text{ mg/L}$  [CV = 0.6, 99th Percentile, 30 day avg.]  
 $LTA_a = 34 \text{ mg/L} (0.321) = 12.62 \text{ mg/L}$  [CV = 0.6, 99th Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

MDL =  $4.45 \text{ mg/L} (3.11) = 13.8 \text{ mg/L}$  [CV = 0.6, 99th Percentile]  
 AML =  $4.45 \text{ mg/L} (1.19) = 5.3 \text{ mg/L}$  [CV = 0.6, 95th Percentile, n =30]

- Temperature.** Monitoring requirement only. Monitoring for the Temperature effluent parameter included in subject Missouri State Operating Permit (MSOP) due to toxicity of the Ammonia effluent parameter varies by temperature.
- Minimum Measurement (Sampling), Monitoring and Reporting Frequency Requirements.** Measurement (sampling), monitoring and reporting requirements reassessed and retained from previous Missouri State Operating Permit [quarterly measurement (sampling), monitoring and reporting requirements]. All sampling data taken must be submitted even if sampling occurs more frequently than quarterly. Permittee may collect samples on a more frequent basis than quarterly and may be

averaged (except for the pH effluent parameter) to show compliance with the monthly averages and/ maximum monthly averages listed in the MSOP. Discharge Monitoring Reports (DMRs): See table below for quarterly sampling reporting:

Sample effluent discharge at least once for the months of:	Report due:
January, February, March (1 <sup>st</sup> Quarter)	April 28
April, May, June (2 <sup>nd</sup> Quarter)	July 28
July, August, September (3 <sup>rd</sup> Quarter)	October 28
October, November, December (4 <sup>th</sup> Quarter)	January 28

<u>EFFLUENT PARAMETER</u>	<u>MONITORING (SAMPLING) FREQUENCY</u>	<u>REPORTING FREQUENCY</u>
FLOW	ONCE/QUARTER	ONCE/QUARTER
BIOCHEMICAL OXYGEN DEMAND-FIVE (5) DAY (BOD <sub>5</sub> )	ONCE/QUARTER	ONCE/QUARTER
TOTAL SUSPENDED SOLIDS (TSS)	ONCE/QUARTER	ONCE/QUARTER
pH	ONCE/QUARTER	ONCE/QUARTER
AMMONIA AS N	ONCE/QUARTER	ONCE/QUARTER
TEMPERATURE	ONCE/QUARTER	ONCE/QUARTER

## **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 draft Missouri State Operating Permits (MSOP) is tentatively scheduled to begin on September 9, 2011, or is in process.

; The Public Notice period for this draft Missouri State Operating Permits (MSOP) was from September 9, 2011, through October 9, 2011. No responses received or responses to the Public Notice of this draft MSOP do not warrant the modification of interim and/or final effluent limitations and/or major modifications to the terms and conditions of this MSOP.

**DATE OF INITIAL FACT SHEET:** AUGUST 8, 2011

**DATE OF REVISED FACT SHEET:** OCTOBER 24, 2011

**COMPLETED BY:**

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## **Part VII – Appendices**

### **REASONABLE POTENTIAL ANALYSES (RPA) RESULTS:**

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF****	RP Yes/No
Total Ammonia as Nitrogen (Summer) (mg/L)	39.3	161.17	3.8	161.17	8	48.4/1	0.6	3.33	<b>YES</b>
Total Ammonia as Nitrogen (Winter) (mg/L)	34	86.81	5.7	86.81	7	24.5/3.6	0.6	3.54	<b>YES</b>

N/A – Not applicable

\* – Units are in milligrams per liter (mg/L) unless otherwise noted; CMC – Criteria maximum concentration; RWC – Receiving Water Concentration [the concentration of a toxicant or parameter toxicity in the receiving water after mixing (if applicable)]; CCC – criteria continuous concentration

\*\* – n (number of samples) – If n is greater than ten (> 10), then the Coefficient of Variation (CV) value must be used in the Water Quality Based Effluent Limitation (WQBEL) for the applicable constituent

\*\*\* – Coefficient of Variation (CV) calculated by dividing the Standard Deviation of the sample set (n) by the Mean of the same sample set (n)

\*\*\*\* – Multiplying Factor (MF) – 99% Confidence Level and 99% Probability Basis

Reasonable Potential (RP) – where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, at a minimum, the four (4) factors listed in [40 CFR 122.44(d)(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, Water quality standards and State requirements

Reasonable Potential Analyses (RPA) conducted as per [Technical Support Document (TSD), EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available from the Department upon request