

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

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

Permit No. MO-0081345

Owner: SW Livingston Co. R-1 School District  
Address: 4944 Hwy DD, Ludlow, MO 64656

Continuing Authority: Same as above  
Address: Same as above

Facility Name: SW Livingston Co. R-1 School District  
Facility Address: 4944 Hwy DD, Ludlow, MO 64656

Legal Description: SE¼, SE¼, Sec. 10, T56N, R25W, Livingston County  
UTM Coordinates: X= 441107.388, Y= 4391372.191

Receiving Stream: Unnamed tributary to Rattlesnake Creek (U)  
First Classified Stream and ID: Rattlesnake Creek (C) (520)  
USGS Basin & Sub-watershed No.: (10280101-1603)

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 – POTW – SIC #8211

The use or operation of this facility does not require the supervision of a Certified Operator.

Two-stage septic tank/dosing chamber/two sand filters/sludge disposal is by contract hauler or by owner.  
Design population equivalent is 400.  
Design flow is 0.008 MGD.  
Actual flow is 0.0035 MGD.  
Design sludge production is 2.8 sludge production dry tons/year.

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

July 1, 2013  
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

June 30, 2017  
Expiration Date

John Madras, Director, Water Protection Program

OUTFALL #001	TABLE A-1. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS			PAGE NUMBER 2 of 5		
				PERMIT NUMBER MO-0081345		
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect through <b>June 30, 2020</b> . Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		45	30	once/quarter****	grab
Total Suspended Solids	mg/L		45	30	once/quarter****	grab
<i>E. coli</i> (Note 1, Page 3)	#/100 ml		1030	206	once/quarter****	grab
pH – Units	SU	***		***	once/quarter****	grab
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	*		*	once/quarter****	grab
Oil & Grease	mg/L	15		10	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2013</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

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

Minimum Sampling Requirements				
Quarter	Months	E. coli	All Other Parameters	Report is Due
First	January, February, March	Not required to sample.	Sample at least once during any month of the quarter	April 28 <sup>th</sup>
Second	April, May, June	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	July 28 <sup>th</sup>
Third	July, August, September	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	October 28 <sup>th</sup>
Fourth	October, November, December	Sample once during October; no sample required in either November or December	Sample at least once during any month of the quarter	January 28 <sup>th</sup>

OUTFALL #001	TABLE A-2. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS			PAGE NUMBER 3 of 5		
				PERMIT NUMBER MO-0081345		
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on <b>July 1, 2020</b> , and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		45	30	once/quarter****	grab
Total Suspended Solids	mg/L		45	30	once/quarter****	grab
<i>E. coli</i> (Note 1, Page 3)	#/100 ml		1030	206	once/quarter****	grab
pH – Units	SU	***		***	once/quarter****	grab
Ammonia as N (April 1 – Sept 30)	mg/L	4.7		1.3	once/quarter****	grab
(Oct 1 – March 31)		8.0		2.9		
Oil & Grease	mg/L	15		10	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2020</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

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

Minimum Sampling Requirements				
Quarter	Months	<i>E. coli</i>	All Other Parameters	Report is Due
First	January, February, March	Not required to sample.	Sample at least once during any month of the quarter	April 28 <sup>th</sup>
Second	April, May, June	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	July 28 <sup>th</sup>
Third	July, August, September	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	October 28 <sup>th</sup>
Fourth	October, November, December	Sample once during October; no sample required in either November or December	Sample at least once during any month of the quarter	January 28 <sup>th</sup>

**Note 1** - Effluent limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean. The Weekly Average for *E. coli* will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

**C. STANDARD CONDITIONS**

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated October 1, 1980, May 1, 2013, and August 15, 1994, and hereby incorporated as though fully set forth herein.

D. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

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

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
4. Water Quality Standards
  - (a) To the extent required by law, discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
  - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
    - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
    - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
    - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
    - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
    - (5) There shall be no significant human health hazard from incidental contact with the water;
    - (6) There shall be no acute toxicity to livestock or wildlife watering;
    - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
    - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

5. Changes in Discharges of Toxic Substances

The 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 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 permit application;
    - (4) The level established by the Director in accordance with 40 CFR 122.44(f).
  - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
6. Report as no-discharge when a discharge does not occur during the report period.
  7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

D. SPECIAL CONDITIONS (continued)

8. The permittee shall submit a report annually in January to the Northeast Regional Office with the Discharge and Monitoring reports which address measures taken to locate and eliminate sources of infiltration and inflow into the collection system serving the facility for the previous year.
9. Bypasses are not authorized at this facility and are subject to 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3)(i), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Northeast Regional Office.
10. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.
11. A least one gate must be provided to access the wastewater treatment facility and provide for maintenance and mowing. The gate shall remain closed except when temporarily opened by; the permittee to access the facility, perform operational monitoring, sampling, maintenance, mowing, or for inspections by the Department. The gate shall be closed and locked when the facility is not staffed.
12. At least one (1) warning sign shall be placed on each side of the facility enclosure in such positions as to be clearly visible from all directions of approach. There shall also be one (1) sign placed for every five hundred feet (500') (150 m) of the perimeter fence. A sign shall also be placed on each gate. Minimum wording shall be SEWAGE TREATMENT FACILITY—KEEP OUT. Signs shall be made of durable materials with characters at least two inches (2") high and shall be securely fastened to the fence, equipment or other suitable locations.
13. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the facility.
14. An all-weather access road shall be provided to the treatment facility.
15. The discharge from the wastewater treatment facility shall be conveyed to the receiving stream via a closed pipe or a paved or rip-rapped open channel. Sheet or meandering drainage is not acceptable. The outfall sewer shall be protected against the effects of floodwater, ice or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.

E. SCHEDULE OF COMPLIANCE

The facility shall attain compliance with final effluent limitations for **Ammonia** as soon as reasonably achievable or no later than **7 years** of the effective date of this permit.

1. Within **6 months** of the effective date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits.
2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every **12 months** from issuance date.
3. Within **7 years** of the effective date of this permit, the permittee shall attain compliance with the final effluent limits, for Ammonia.

Please submit progress reports to the Missouri Department of Natural Resources, Northeast Regional Office, 1709 Prospect Dr., Macon, MO 63552-2602.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
FACT SHEET  
FOR THE PURPOSE OF RENEWAL  
OF  
MO-0081345  
SW LIVINGSTON CO. R-1 SCHOOL DISTRICT**

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

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

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

This Factsheet is for a Minor

**Part I – Facility Information**

Facility Type: POTW / School - SIC #4952/8241

Facility Description:

Two-stage septic tank/dosing chamber/two sand filters/sludge disposal is by contract hauler or by owner.

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

- No.

Application Date: 10/28/2011

Expiration Date: 03/22/2012

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.0124	Secondary	Domestic

Facility Performance History:

Inspection information is not available at this time.

**Part II – Operator Certification Requirements**

Not Applicable : This facility is not required to have a certified operator.

**Part III– Operational Monitoring**

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

**Part IV – Receiving Stream Information**

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1<sup>st</sup> classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

**RECEIVING STREAM(S) TABLE: OUTFALL #001**

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Unnamed tributary to Rattlesnake Creek	U	----	General Criteria	10280101-1603	~ 1.03
Rattlesnake Creek	C	520	AQL, LWV, WBC - B		

\* - Irrigation (IRR), Livestock & 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).

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

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Rattlesnake Creek	0.0	0.0	0.0

**MIXING CONSIDERATIONS**

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

**RECEIVING STREAM MONITORING REQUIREMENTS:**

No receiving water monitoring requirements recommended at this time.

Receiving Water Body's Water Quality

No water quality impacts noted at this time.

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

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

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

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

### **ANTI-BACKSLIDING:**

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

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

### **ANTIDegradation:**

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

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

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

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

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

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

- Permittee is not authorized to land apply biosolids. Sludge/biosolids are removed by contract hauler, incinerated, stored in the lagoon, etc.

### **COMPLIANCE AND ENFORCEMENT:**

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

Not Applicable ; The permittee/facility is not currently under Water Protection Program enforcement action.

**PRETREATMENT PROGRAM:**

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

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

**REASONABLE POTENTIAL ANALYSIS (RPA):**

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

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

Applicable ; A RPA was conducted on appropriate parameters. Please see **APPENDIX – RPA RESULTS**.

**REMOVAL EFFICIENCY:**

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

Not Applicable ; Influent monitoring is not being required to determine percent removal.

**SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):**

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

- In accordance with Missouri RSMo §644.026.1.(15) and 40 CFR Part 122.41(e), the permittee is required to develop and/or implement a program for maintenance and repair of the collection system and shall be required in this operating permit by either means of a Special Condition or Schedule of Compliance. In addition, the Department considers the development of this program as an implementation of this condition. Additionally, 40 CFR Part 403.3(o) defines a POTW to include any device and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of liquid nature. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW Treatment Plant.

At this time, the Department recommends the US EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002). The CMOM identifies some of the criteria used by the EPA to evaluate a collection system's management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

**SCHEDULE OF COMPLIANCE (SOC):**

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Applicable ; The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(10)]. The facility has been given a schedule of compliance to meet final effluent limits for Ammonia.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP):**

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water 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.

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

**VARIANCE:**

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ; This operating permit is not drafted under premises of a petition for variance.

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:**

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

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

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

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

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples "n":

Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

**WLA MODELING:**

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable ; A WLA study was either not submitted or determined not applicable by Department staff.

**WATER QUALITY STANDARDS:**

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

**WHOLE EFFLUENT TOXICITY (WET) TEST:**

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

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

**40 CFR 122.41(M) - BYPASSES:**

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

Not Applicable ; This facility does not anticipate bypassing.

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

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

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

Not Applicable ; This facility does not discharge to a 303(d) listed stream.

## Part VI – Effluent Limits Determination

### APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

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

All Other Waters [10 CSR 20-7.015(8)]:

### OUTFALL #001 – MAIN FACILITY OUTFALL

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

### EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Modified	Previous Permit Limitations
Flow	MGD	1	*		*	No	*/*
BOD <sub>5</sub>	mg/L	1, 4		45	30	No	45/30
TSS	mg/L	1, 4		45	30	No	45/30
pH	SU	1, 4	6.5-9.0		6.5-9.0	Yes	6.0-9.0
Ammonia as N (April 1 – Sept 30)	mg/L	2, 3, 5	4.7		1.3	Yes	*/*
Ammonia as N (Oct 1 – March 31)	mg/L	2, 3, 5	8.0		2.9	Yes	*/*
Escherichia coli	***	1, 3		1030	206	Yes	Fecal Coliform 1000/400
Oil & Grease (mg/L)	mg/L	1, 3	15		10	No	15/10

\* - Monitoring requirement only.

\*\* - For DO the Daily Maximum is a Daily Minimum and the Monthly Average is a Monthly Average Minimum.

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

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

#### Basis for Limitations Codes:

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

### OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD<sub>5</sub>).**  
 – Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Total Suspended Solids (TSS).**  
 – Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **pH.** Effluent limitation range is  $\geq 6.5$  or 6.5 – 9.0 Standard pH Units (SU), as per the applicable section of 10 CSR 20-7.015. pH is not to be averaged.

- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3] default pH 7.8 SU Background total ammonia nitrogen = 0.01 mg/L

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: April 1 – September 30

Chronic WLA:  $C_e = ((0.0124 + 0.0)1.5 - (0.0 * 0.01))/0.0124$   
 $C_e = 1.5 \text{ mg/L}$

Acute WLA:  $C_e = ((0.0124 + 0.0)12.1 - (0.0 * 0.01))/0.0124$   
 $C_e = 12.1 \text{ mg/L}$

$LTA_c = 1.5 \text{ mg/L} (0.683) = 1.02 \text{ mg/L}$

[CV = 0.94, 99<sup>th</sup> Percentile, 30 day avg.]

$LTA_a = 12.1 \text{ mg/L} (0.216) = 2.61 \text{ mg/L}$

[CV = 0.94, 99<sup>th</sup> Percentile]

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

**MDL = 1.02 mg/L (4.63) = 4.7 mg/L**

[CV = 0.94, 99<sup>th</sup> Percentile]

**AML = 1.02 mg/L (1.30) = 1.3 mg/L**

[CV = 0.94, 95<sup>th</sup> Percentile, n =10]

Winter: October 1 – March 31

Chronic WLA:  $C_e = ((0.0124 + 0.0)3.1 - (0.0 * 0.01))/0.124$   
 $C_e = 3.1 \text{ mg/L}$

Acute WLA:  $C_e = ((0.0124 + 0.0)12.1 - (0.0 * 0.01))/0.0124$   
 $C_e = 12.1 \text{ mg/L}$

$LTA_c = 3.1 \text{ mg/L} (0.760) = 2.36 \text{ mg/L}$

[CV = 0.67, 99<sup>th</sup> Percentile, 30 day avg.]

$LTA_a = 12.1 \text{ mg/L} (0.294) = 3.56 \text{ mg/L}$

[CV = 0.67, 99<sup>th</sup> Percentile]

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

**MDL = 2.36 mg/L (3.40) = 8.0 mg/L**

[CV = 0.67, 99<sup>th</sup> Percentile]

**AML = 2.36 mg/L (1.21) = 2.9 mg/L**

[CV = 0.67, 95<sup>th</sup> Percentile, n =10]

- ***Escherichia coli (E. coli)*.** Monthly average of 206 per 100 ml as a geometric mean and Weekly Average of 1030 during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (B) designated use of the receiving stream, as per 10 CSR 20-7.031(4)(C). An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d).
- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

**Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/month	once/quarter
BOD <sub>5</sub>	once/quarter	once/quarter
TSS	once/quarter	once/quarter
pH	once/quarter	once/quarter
Ammonia as N	once/quarter	once/quarter
<i>E. coli</i>	once/quarter	once/quarter
Oil & Grease	once/quarter	once/quarter

**Sampling Frequency Justification:**

The Clean Water Commission has directed the Department to proceed with amending 10 CSR 20-7.015 to reduce the sampling frequency required for *E. coli* to a lesser frequency, still protective of water quality standards, for smaller facilities, including those with discharges of 100,000 gallons per day or less.

**Sampling Type Justification**

As per 10 CSR 20-7.015, BOD<sub>5</sub> and TSS samples collected for sand filters may be grab samples. Grab samples must be collected for pH, Ammonia as N, *E. coli* and Oil & Grease. This is due to the holding time restriction for *E. coli*, the volatility of Ammonia and TRC, and the fact that pH cannot be preserved and must be sampled in the field. As Ammonia and Oil & Grease samples must be immediately preserved with acid, these samples are to be collected as a grab. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(A) 2.

**Part VII – Finding of Affordability**

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

Applicable; The Department is required to determine findings of affordability because the permit applies to a **combined or separate sanitary sewer system for a publically-owned treatment works.**

**Finding of affordability** - The department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the Department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644. 145.3. See **Appendix – Affordability Analysis**

## **Part VIII – Administrative Requirements**

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

### **PERMIT SYNCHRONIZATION:**

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the department to explore a watershed based permitting effort at some point in the future.

### **PUBLIC NOTICE:**

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- The Public Notice period for this operating permit began on April 19, 2013 and ended on May 20, 2013. No comments were received during the Public Notice period.

**DATE OF FACT SHEET:** 03/15/2013

### **COMPLETED BY:**

**HILLARY CLARK, ENVIRONMENTAL SPECIALIST  
MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT  
(573) 751-7326  
[Hillary.Clark@dnr.mo.gov](mailto:Hillary.Clark@dnr.mo.gov)**

**Appendices**

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

**APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):**

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
<b>VARIATION IN RAW WASTE (highest level only) (DMR exceedances and Design Flow exceedances)</b>		
Variation do not exceed those normally or typically expected	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	
<b>SECONDARY TREATMENT</b>		
Trickling filter and other fixed film media with secondary clarifiers	10	10
Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15	
Stabilization ponds without aeration	5	
Aerated lagoon	8	
Advanced Waste Treatment Polishing Pond	2	
Chemical/physical – without secondary	15	
Chemical/physical – following secondary	10	
Biological or chemical/biological	12	
Carbon regeneration	4	
<b>DISINFECTION</b>		
Chlorination or comparable	5	
Dechlorination	2	
On-site generation of disinfectant (except UV light)	5	
UV light	4	
<b>SOLIDS HANDLING - SLUDGE</b>		
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 <b>TWO (2)</b>	----	10
Total from page <b>ONE (1)</b>	---	3
<b>Grand Total</b>	---	13

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

**APPENDIX – RPA RESULTS:**

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Total Ammonia as Nitrogen (Summer) mg/L	12.1	16.80	1.5	16.80	10	0.24/5.6	0.94	3.0	Yes
Total Ammonia as Nitrogen (Winter) mg/L	12.1	50.70	3.1	50.70	10	0.17/16.9	0.67	3.0	Yes

N/A – Not Applicable

\* - Units are (µg/L) unless otherwise noted.

\*\* - If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent. If the number of samples is < 10, then the default CV value must be used in the WQBEL for the applicable constituent.

\*\*\* - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.

RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).

n – Is the number of samples.

MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.

RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.

**APPENDIX – AFFORDABILITY ANALYSIS:**

Missouri Department of Natural Resources  
Water Protection Program  
Affordability Determination and Finding  
(In accordance with RSMo 644.145)

**SW Livingston Co. R-1 School District  
Missouri State Operating Permit (MSOP) Renewal  
MO-0081345**

Section 644.145 RSMo requires DNR to make a “finding of affordability” when “issuing permits under” or “enforcing provisions of” state or federal clean water laws “pertaining to any portion of a combined or separate sanitary sewer system or publicly-owned treatment works.”

**Description:**

Two-stage septic tank/dosing chamber/two sand filters/sludge disposal is by contract hauler or by owner.

Design population equivalent is 400.

Design flow is 0.008 MGD.

Actual flow is 0.0035 MGD.

Design sludge production is 2.8 sludge production dry tons/year.

Receiving Stream:	Unnamed tributary to Rattlesnake Creek (U)
First Classified Stream and ID:	Rattlesnake Creek (C) (520)
USGS Basin & Sub-watershed No.:	(10280101-1603)

Total Connections: 1

**New Permit Requirements or Requirements Now Being Enforced:**

The proposed renewal of Missouri State Operating Permit (MSOP) # MO-0124885 contains new effluent limitations for Ammonia. The Schedule of Compliance outlines a timeline for the facility to meet the new requirements.

**Range of Anticipated Costs Associated with Complying with Requirements:**

At this time, it is unknown what construction upgrades will be chosen to meet the new effluent limitations. Estimates of expected costs for plant upgrades are presented here for reference only. Using capital improvement cost estimates for plant upgrades the cost estimate is approximately \$454,417 and \$1,094,247 depending on the treatment technology used, according to the Department’s cost estimator matrix (see *CAP/DET estimator worksheet attached*).

**(1) The county’s financial capability and ability to raise or secure necessary funding.**

Current Revenues:	\$2,052,265.95
Current Expenditures:	\$1,600,683
Current outstanding debt:	\$ 728,556
Other indicators:	None identified at this time.

**(2) Affordability of pollution control options for the individuals or households within the county;**

Current annual operating costs (exclude depreciation): \$ 162,938

**Estimated capital cost of pollution control options:**

<b>New Technology Requirement</b>	<b>Capital Costs</b>	<b>O &amp; M</b>	<b>Estimated Resulting Cost/School</b>
Ammonia (Low)	\$288,000	\$14,509	\$302,509
Ammonia (High)	\$479,000	\$54,460	\$533,460

Median Household Income: \$ 41,531  
 Household Property Tax: \$ 150,969,910  
 Assessed Value of School District Infrastructure: \$ 10,866,129  
 School District Annual Operating and Maintenance Costs: \$ 162,938  
 Cost per School as a percent of Assessed Valuation: 2.7% - 4.9%  
 Ammonia: \$ 302,509 – 533,460

<b>New Technology</b>	<b>Costs per School as % of Assessed Value</b>	<b>Financial Impact</b>	<b>Financial Impact: Revenue – cost of facility upgrade and operational costs</b>
Ammonia (Low)	2.7%	<b>High High</b>	Low (<1%)
Ammonia (High)	4.9%		Medium (1-2%)
			High (>2%)

**(3) An evaluation of the overall costs and environmental benefits of the control technologies;**

This evaluation is limited to those cost necessary to comply with (and therefore achieve the benefits derived from) the permit conditions identified as relevant to the affordability review. The additional treatment for Ammonia will allow the SE Livingston Co. R-1 School District to meet the revised ammonia limits for Rattlesnake Creek. The revised limit is more protective of aquatic life.

- (4) **An inclusion of ways to reduce economic impacts on distressed populations within the school district, including but not limited to low and fixed income populations. This requirement includes but is not limited to:**  
**Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations;**  
**and Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained;**

<b>Potentially Distressed Populations</b>	
Unemployment <sup>1</sup> for Jefferson County	4.6%
Median Household Income <sup>2</sup> [Jefferson County]	\$41,531
Percent change in Median Household Income <sup>3</sup> (1990-2010)	+91.9%
Percent Population Growth/Decline <sup>4</sup> (1990-2010)	+ 4.1%
Change in Median Age <sup>5</sup> in Years (1990-2010)	+ 4.2%
Percent of Households in Poverty <sup>6</sup>	26.7%
Percent of Households Dependent on Food Stamps <sup>7</sup>	9.7%
Property Tax Revenue as a % of Full Market Property Value	Unknown
Property Tax Collection Rate	Unknown

***Opportunity for cost savings or cost avoidance:***

None Noted

***Opportunity for changes to implementation/compliance schedule:***

None Noted

- (5) ***An assessment of other school district investments relating to environmental improvements;***

None noted at this time

<sup>1</sup> Unemployment data from Missouri Department of Economic Development (May 2012) – <http://www.missourieconomy.org/pdfs/ure11205.pdf>

<sup>2</sup> Median Household Income data from American Community Survey – Median income in the past 12 months – <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

<sup>3</sup> 1990 Median Household Income - Summary Tape File 3 - <http://mcdc.missouri.edu/websas/xtabs3menu/mo/Places/>

<sup>4</sup> 2010 Census Population Data - <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

2000 Census Population Data - <http://www.census.gov/popest/data/cities/totals/2009/tables/SUB-EST2009-04-29.xls> 1990 Census Population Data – <http://www.census.gov/prod/cen1990/cp1/cp-1-27.pdf>

<sup>5</sup> 1990 Median Age - <http://www.oseda.missouri.edu/mscdc/census/mo/trendplaces.html>

2010 Median Age by Sex -

2010 ACS 5-year estimates - B01002 - <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?ref=geo&refresh=t>

<sup>6</sup> and <sup>7</sup> Poverty and Food stamps data – American Community Survey 5-year estimates DP03 -

<http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

**(6) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards;**

See Section (2) of this analysis for the residential indicator as outlined in the above-referenced EPA guidance.

**Secondary indicators for consideration:**

Indicators	Strong (3 points)	Mid-Range (2 points)	Weak (1 point)	Score
Overall net debt as a % of assessed valuation	Below 2% 1.64%	2% - 5%	Above 5%	1
Unemployment Rate	>1% below Missouri average	± 1% of Missouri average = 0.8	>1% above Missouri average	2
Median household income	More than 25% above Missouri MHI	± 25% of Missouri MHI = 24%	More than 25% below Missouri average	2
Property tax revenues as a % of full market property value	Below 2%	2% - 4%	Above 4%	NA
Property tax collection rate	Above 98%	94% - 98%	Below 94%	NA

**Average Financial Capability score = 1.67**

**Financial Capability Matrix**

Financial Capability Indicators Score from above ↓	School District Indicator (User rate as a % of Assessed Valuation)		
	Low (Below 1%)	Mid-Range (Between 1.0% and 2.0%)	High (Above 2.0%)
Weak (below 1.5)	<b>Medium Burden</b>	High Burden	High Burden
Mid-Range (1.5 – 2.5)	<b>Low Burden</b>	Medium Burden	<b>High Burden</b>
Strong (above 2.5)	Low Burden	Low Burden	Medium Burden

**Estimated Financial Burden:    \_High Burden\_**

**(7) An assessment of any other relevant local community economic condition.**

Livingston County’s population increased by 4.1% from 1990-2010 In terms of economic strength, Livingston County is below average when compared to other counties in the State. The percentage of labor force is 9% below the State average, the per capita wealth<sup>8</sup> is 36% below the State average, and the per capita income is 9% below the State’s average.

The Department is not aware of any additional relevant economic conditions that would significantly affect the affordability of the proposed construction project.

**Conclusion and Finding**

As a result of reviewing the above criteria, the Department hereby finds that the action described above will result in a High burden with regard to the community’s overall financial capability and a High financial impact for the School District.

<sup>8</sup> Per capita wealth is calculated by taking a sum of appraised value of residential property, mobile homes, and motor vehicles and this sum is then divided by County population.

AP897 / ASD  
 no funds need 10/28/11



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH  
**FORM B - APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE (≤100,000 gallons per day) UNDER MISSOURI CLEAN WATER LAW**

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED

**NOTE ▶ PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM**

1. This application is for:

- An operating permit and antidegradation review public notice.
- A construction permit following an appropriate operating permit and antidegradation review public notice.
- A construction permit and a concurrent operating permit and antidegradation review public notice.
- A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).
- An operating permit for a new or unpermitted facility.
- An operating permit renewal: Permit #MO- MO0081345
- An operating permit modification: Permit #MO-

Construction Permit # \_\_\_\_\_ Expiration Date 03/22/2012 Reason: \_\_\_\_\_

1.1 Is this a Federal/State Funded Project?  YES  NO Funding Agency/Project #: \_\_\_\_\_

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)?  YES  NO

2. FACILITY (Outfall of )

Department of Natural Resources  
 Northeast Regional Office  
**RECEIVED**  
 US MAIL  
 UPS  
 Fed Ex

3. OWNER

NAME: Southwest Livingston County R-I School District  
 ADDRESS (PHYSICAL): 4944 Highway DD  
 CITY: Ludlow  
 STATE: MO ZIP CODE: 64656  
 TELEPHONE WITH AREA CODE: (660) 738-4433

2.1 LEGAL DESCRIPTION: SE ¼, SE ¼, ¼, Sec. 10, T 56n, R 25W Living.. County

2.2 UTM Coordinates Easting (X): 441075 Northing (Y): 439129  
 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream:

3. OWNER

NAME: Southwest Livingston County R-I School District  
 ADDRESS: 4944 Highway DD  
 CITY: Ludlow  
 STATE: MO ZIP CODE: 64656  
 E-MAIL ADDRESS: bfore@southwest.k12.mo.us  
 TELEPHONE WITH AREA CODE: (660) 738-4433

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

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

NAME: Same as facility  
 ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

5. OPERATOR

NAME: \_\_\_\_\_ CERTIFICATE NUMBER: \_\_\_\_\_ TELEPHONE WITH AREA CODE: \_\_\_\_\_

6. FACILITY CONTACT

NAME: Butch Fore TITLE: Superintendent TELEPHONE WITH AREA CODE: (660) 738-4433

7.0 ADDITIONAL FACILITY INFORMATION

7.1 Description of facilities (Attach additional sheet if required). Attach a 1" = 2,000' scale U.S. Geological Survey topographic map showing location of all outfalls and downstream landowners. (See Item 9.)

7.2 Facility SIC code: 4952 ; Discharge SIC code: \_\_\_\_\_ ; Facility NAICS code: \_\_\_\_\_ ; Discharge NAICS code: \_\_\_\_\_.

7.3 Number of people presently connected or population equivalent (P.E.) 230 Design P.E. 400  
 Number of units presently connected: Homes N/A Trailers N/A Apartments N/A Other N/A  
 Design flow for this outfall: 8000 Total design flow for the facility: 8000 Actual flow for this outfall: 3500  
 Commercial Establishment: Daily number of employees working \_\_\_\_\_ Daily number of customers/guests \_\_\_\_\_

7.4 Length of pipe in the sewer collection system? \_\_\_\_\_ feet/miles (Please denote which unit is appropriate.)

7.5 Does any bypassing occur in the collection system or at the treatment facility?  Yes  No (If yes, attach explanation.)

7.6 Does significant infiltration occur in the collection system?  Yes  No (If yes, attach explanation and proposed repair.)

7.7 Is industrial waste discharged to the facility identified in Item 2?  Yes  No (If yes, see instructions.)

7.8 Will the discharge be continuous through the year?  Yes  No  
 a. Discharge will occur during the following months: January-December  
 b. How many days of the week will the discharge occur? 5

7.9 Is wastewater land applied?  Yes  No (If yes, attach Form I.)

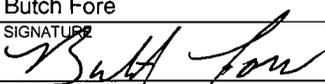
7.10 Will chlorine be added to the effluent?  Yes  No  
 a. If chlorine is added, what is the resulting residual? \_\_\_\_\_ µg/l (micrograms per liter)

7.11 Does this facility discharge to a losing stream or sinkhole?  Yes  No

7.12 Attach a flow chart showing all influents, treatment facilities and outfalls.

7.13 Has a waste load allocation study been completed for this facility?  Yes  No

7.14 List all permit violations, including effluent limit exceedances in the last five years. Attach a separate sheet if necessary.  
 If none, write none. None

<b>8. SLUDGE HANDLING, USE AND DISPOSAL</b>			
8.1	Is the sludge a hazardous waste as defined by 10 CSR 25? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
8.2	Sludge Production, including sludge received from others: <u>2.8</u> Design Dry Tons/Year <u>0</u> Actual Dry Tons/Year		
8.3	Capacity of sludge holding structures: Sludge storage provided: _____ cubic feet; _____ days of storage; _____ average percent solids of sludge; <input type="checkbox"/> No sludge storage is provided.		
8.4	Type of Storage:	<input type="checkbox"/> Holding tank <input type="checkbox"/> Basin <input type="checkbox"/> Concrete Pad	<input type="checkbox"/> Building <input checked="" type="checkbox"/> Other (Please describe) <u>Septic Tank</u>
8.5	Sludge Treatment:	<input checked="" type="checkbox"/> Anaerobic Digester <input type="checkbox"/> Storage Tank <input type="checkbox"/> Lime Stabilization	<input type="checkbox"/> Lagoon <input type="checkbox"/> Aerobic Digester <input type="checkbox"/> Air or Heat Drying <input type="checkbox"/> Composting <input type="checkbox"/> Other (Attach description)
8.6	Sludge Use or Disposal:	<input type="checkbox"/> Land Application <input checked="" type="checkbox"/> Contract Hauler <input type="checkbox"/> Hauled to Another Treatment Facility <input type="checkbox"/> Solid Waste Landfill	<input type="checkbox"/> Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years) <input type="checkbox"/> Incineration <input type="checkbox"/> Sludge Retained in Wastewater treatment lagoon <input type="checkbox"/> Other _____ Attach explanation sheet.
8.7	<b>PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY</b> <input type="checkbox"/> By Applicant <input type="checkbox"/> By Others (complete below)		
NAME No sludge has needed to be removed			
ADDRESS		CITY	STATE ZIP CODE
CONTACT PERSON		TELEPHONE WITH AREA CODE	PERMIT NO. MO-
<b>8.8 SLUDGE USE OR DISPOSAL FACILITY</b> <input type="checkbox"/> By Applicant <input type="checkbox"/> By Others (Please complete below.)			
NAME			
ADDRESS		CITY	STATE ZIP CODE
CONTACT PERSON		TELEPHONE WITH AREA CODE	PERMIT NO. MO-
8.9	Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Please attach explanation)		
<b>9. DOWNSTREAM LANDOWNER (S). ATTACH ADDITIONAL SHEETS AS NECESSARY. SEE INSTRUCTIONS.</b>			
NAME Betty Wolcott			
ADDRESS 4909 Highway DD		CITY Ludlow	STATE ZIP CODE MO 64656
<b>10. DRINKING WATER SUPPLY INFORMATION</b>			
10.1	WHAT IS THE SOURCE OF YOUR DRINKING WATER SUPPLY: A. Public supply (municipal or water district water) <u>District</u> If public, please give name of the public supply <u>PWSD #1</u> B. Private well _____ C. Surface water (lake, pond or stream) _____		
10.2	Does your drinking water source serve at least 25 people at least 60 days per year (not necessarily consecutive days)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
10.3	Does your supply serve housing which is occupied year round by the same people? This does not include housing which is occupied seasonally? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
11.	I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law.		
NAME AND OFFICIAL TITLE (TYPE OR PRINT) Butch Fore		TELEPHONE WITH AREA CODE (660) 738-4433	
SIGNATURE 		DATE SIGNED 10/26/2011	