

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

GENERAL 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-G750000

Owner:  
Address:

Continuing Authority:  
Address:

Facility Name:  
Facility Address:

Legal Description:  
UTM Coordinates:

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

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

**FACILITY DESCRIPTION**

All Outfalls - SIC #7542

Wastewater treatment systems for design flows of 50,000 gallons per day or less from exterior vehicle and equipment wash facilities. This includes no-discharge land application systems. Provides for 500 gallons per day *de minimis* exemption under certain conditions.

This permit authorizes only 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 644.051.6 of the Law.

August 1, 2013  
Effective Date

  
Sara Parker Pauley, Director, Department of Natural Resources

July 31, 2018  
Expiration Date

  
John Madras, Director, Water Protection Program

## APPLICABILITY

1. This permit authorizes the discharge or land application of treated wastewater from exterior vehicle or equipment washing facilities. Total design flow is limited to 50,000 gallons per day. Domestic wastewater may be treated by the system but is not to exceed a 20 population equivalent (P.E.) design flow for wastewater discharges.
2. Holders of current individual State Operating permits who desire inclusion under this general permit should contact the Missouri Department of Natural Resources (Department) for application requirements.
3. If at any time the Department determines that the quality of waters of the state may be better protected by requiring the owner/operator of a permitted site to apply for a site specific permit, the Department may require any person to obtain a site specific operating permit (10 CSR 20-6.010(13)).
4. Any owner/operator authorized by a general permit may request to be excluded from the coverage of the general permit and apply for a site-specific permit (10 CSR 20 6.010(13)).
5. The permittee will be notified in writing of the need to apply for a site specific permit or a different general permit. When a site specific permit or different general permit is issued to the authorized permittee, the applicability of this general permit to the permittee is automatically terminated upon the effective date of the site specific or different general permit.
6. This permit does not apply to:
  - a. Facilities with a design flow exceeding 50,000 gallon per day;
  - b. Facilities which discharge substances that are not addressed by or would not be adequately regulated by the effluent limitations in this permit;
  - c. Discharges which involve decontamination of equipment involved in remediation type activities;
  - d. Discharges which involve vehicles with tanks or cargo compartments for hauling or dispensing of pesticides, hazardous wastes;
  - e. Washing the inside of the storage compartment of garbage trucks that haul municipal/household solid waste;
  - f. Washing garbage trucks that haul industrial waste materials;
  - g. Internal tank truck washing or the external washing of tank trucks that have a visible accumulation of product on the outside of the tank;
  - h. Mobile wash activities;
  - i. Non-emergency steam or high pressure water degreasing of an average of more than one engine or oily piece of equipment per month at a given site in any given 6 month period;
  - j. Degreasing operations using degreasing agents containing halogenated hydrocarbons;
7. This permit authorizes the discharge or land application of treated vehicle or equipment wash and domestic wastewaters only. It does not authorize discharge of untreated wash and domestic waste waters to surface waters or ground waters.
8. Facilities utilizing an earthen wastewater storage structure are required to obtain a construction permit. This permit is not a substitute for, nor is it a waiver of, the requirement for a construction permit for facilities constructing an earthen storage structure.
9. This permit does not authorize discharges within five (5) stream miles of a known losing stream segment, sinkhole or other direct conduits to groundwater unless the Department conducts a specific geologic evaluation of that stream and concludes that the stream segment is gaining. A discharge is not authorized within two (2) stream miles of a known losing stream segment, sinkhole or other direct conduits to groundwater.
10. Facilities located in the watershed of Lake Taneycomo, a Metropolitan No-Discharge Stream, Outstanding State Resource Water, or Outstanding National Resource Water must be operated in a no-discharge manner.
11. This general operating permit does not authorize storm or non-storm water discharges:
  - a. Within 300 feet of reservoirs or lakes used for public drinking water supplies (class L1)<sup>1</sup> or major reservoirs (class L2)<sup>1</sup>,
  - b. Within 1,000 feet of biocriteria reference locations<sup>1</sup> or streams, lakes, or reservoirs identified as critical habitat for endangered species,
  - c. Within 300 feet of wetlands<sup>1</sup>

<sup>1</sup> Identified or described in 10 CSR 20, Chapter 7, Water Quality. These regulations are available at many libraries and online at [www.sos.mo.gov](http://www.sos.mo.gov), or may be purchased from the Department by calling the Water Protection Program.

APPLICABILITY (continued)

12. Facilities that are located within the watershed of the 303(d) listing of impaired waters will need to be evaluated, on a case-by-case basis, for inclusion under this general permit. Facilities that are found to be discharging the listed pollutant(s) of concern may be required to obtain a site-specific permit.
13. Facilities that discharge directly to a combined sewer system are exempt from permit requirements as per RSMo. 644.051.2.

EXEMPTIONS FROM STATE PERMIT REQUIREMENTS

1. No-discharge facilities that generate less than 500 gallons per day and that are in compliance with Missouri Water Quality Standards (10 CSR 20-7.031) are exempted from obtaining this permit. This exemption applies only to the types of facilities described in this permit. Construction of an earthen wastewater storage structure is subject to construction permitting requirements. Facilities not constructing an earthen storage structure are exempt from construction permitting requirements.
2. Non-profit activities such as fund-raising groups and personal vehicle washing by private citizens. Best Management Practices shall be implemented during these activities to prevent an impact to waters of the state.

REQUIREMENTS

1. Report as no-discharge when a discharge does not occur during the report period.
2. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
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. 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, an aerial or topographic map of the facility showing all permitted features, land application fields, and associated treatment processes, and a brief summary of the operation of the facility.
5. At least one sign shall be posted notifying users of the wash facility that washing vehicles that contain residue of toxic chemicals (fertilizer, pesticides, organic chemicals, solvents, etc.) is prohibited. The warning signs shall be posted in a highly visible area at the wash location. The warning signs shall be maintained in order to ensure that they remain legible. Signs shall be made of durable materials with characters at least two inches (2") high.
6. An all-weather access road shall be provided to the treatment facility.
7. A minimum of two (2) feet freeboard must be maintained in the lagoon cell(s) and storage basin(s).
8. The berms of the lagoon cell(s) and storage basin(s) shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.
9. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.
10. 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 WASTEWATER 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.
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.

REQUIREMENTS (continued)

12. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the lagoon cell(s) and storage basin(s) and to divert stormwater runoff around the lagoon cell(s) and storage basin(s) and protect embankments from erosion.
13. 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.
14. 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.

15. 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.
16. Sludge and sediment shall be disposed at a permitted solid waste disposal facility in accordance with 10 CSR 80 and 10 CSR 25, or other disposal method approved by the Department. If sludge or sediment is removed from the facility, the permittee shall document and retain for a period of at least five (5) years the following information; the name and address of the company hauling the waste, the type and amount of waste hauled, sample results if tested, and the final disposal site of waste hauled. Onsite land application of solids is prohibited.
17. Land Application Sites. To add additional land application sites, a permit modification may be required. The facility shall contact the Department for a written determination. Additionally, upon approval of the additional sites, the O&M Manual shall be updated to include the additional land application site(s) and a copy of the updated sections of the O&M Manual shall be submitted to the appropriate Regional Office.

REQUIREMENTS (continued)

18. Land Application of Wastewater
  - (a) Land application rates shall not exceed 0.25 inches/hour; 1.0 inch/week; and 24 inches/year.
  - (b) The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site
  - (c) A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation.
  - (d) Land application shall not occur within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply well not located onsite; 100 feet of gaining streams or tributaries including intermittent flowing streams; 150 feet of dwelling or public use areas; or 50 feet of the property line.
  - (e) There shall be no irrigation during ground frost, frozen, snow covered, or saturated soil conditions, or when precipitation is imminent or occurring.
  - (f) **Wastewater shall be land applied only during daylight hours.**
  - (g) Wastewater shall not be applied to public use areas or public access areas.
  - (h) Wastewater treatment and storage facilities and other design requirements shall be in accordance with design rules under 10 CSR 20-8.020.
  - (i) The irrigation system and application site shall be visually inspected at least **hourly** during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
  - (j) The minimum and maximum operating water levels for the storage lagoon shall be clearly marked.
  - (k) Any unauthorized discharge from the lagoon or irrigation system shall be reported to the Department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
  - (l) No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each basin shall be operated so that the maximum water elevation does not exceed two feet below the Emergency Spillway except due to exceedances of the 1-in-10 year, 365-day or 25-year, 24-hour storm events according to National Weather Service data. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage basin(s) shall be lowered to the minimum operating level prior to each winter by November 30.
19. Permitted features must be marked in field. The outfalls and land application fields shall be marked on an aerial or topographic site map submitted with the permit application.
20. 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.
21. These requirements do not supersede nor remove liability for compliance with county and other local ordinances.
22. Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period using report forms approved by the Department. The summarized annual report is in addition to the reporting requirements listed in Table A.
  - a. No-discharge Land Application Facilities - The summarized annual report shall include the following
    - i. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
    - ii. The number of days the storage basin(s) has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
    - iii. A summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility, a summary of testing results for wastewater and soils, and calculations for nitrogen applied and crop removal of nitrogen.
    - iv. The name and address of the company hauling sludge or sediment from the facility, the type and amount of waste hauled, sample results if tested, and the final disposal site of waste hauled.

REQUIREMENTS (continued)

- b. Discharging Facilities - The summarized annual report shall include the following
  - i. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
  - ii. The name and address of the company hauling sludge or sediment from the facility, the type and amount of waste hauled, sample results if tested, and the final disposal site of waste hauled.
- 23. Effluent shall not elevate or depress the temperature of the first classified receiving stream more than five degrees (5 °F) Fahrenheit. The temperature of first classified stream shall not exceed ninety degrees (90 °F) Fahrenheit due to the effluent.
- 24. The changing of vehicle fluids is prohibited in wash areas.

OUTFALL #001	TABLE A-1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				PAGE NUMBER 7 of 10	
					PERMIT NUMBER MO-G750000	
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 upon issuance 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/month	grab
Total Suspended Solids	mg/L	100		50	once/month	grab
Chemical Oxygen Demand	mg/L	30		20	once/month	grab
<i>E. coli</i> (Note 1, Page 9)	#/100 ml	630		126	once/month	grab
pH – Units	SU	**		**	once/month	grab
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	3.6 7.5		1.4 2.9	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
Total Residual Chlorine (Note 2, Page 9)	µg/L	17 (130ML)		8 (130ML)	once/month	grab
Chloride	mg/L	377.8		188.3	once/month	grab
Sulfate	mg/L	410.3		204.5	once/month	grab
Lead, Total Recoverable	µg/L	2.5		1.3	once/month	grab
Boron, Total Recoverable	µg/L	3285		1638	once/month	grab
Zinc, Total Recoverable	µg/L	73.5		36.6	once/month	grab
Copper, Total Recoverable	µg/L	8.2		4.1	once/month	grab
Total Phosphorus	mg/L	0.5		0.5	once/month	grab
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Dissolved Oxygen	mg/L	5		5	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE <b>MONTH 28, 20XX</b> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

PERMITTED FEATURE #002	TABLE A-1. IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS				PAGE NUMBER 8 of 10	
					PERMIT NUMBER MO-G750000	
The permittee is authorized to conduct land application of wastewater as specified in the application for this permit. The final limitations shall become effective upon issuance and remain in effect until expiration of the permit. The land application of wastewater shall be controlled, limited and monitored by the permittee as specified below:						
PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Storage Basin Operational Monitoring (Note 3)						
Storage Basin Freeboard (Note 4)	feet	*			once/month	measured
Precipitation	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <b>JANUARY 28, 20XX</b> .						

PERMITTED FEATURE #003	TABLE A-2. IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS					
	The permittee is authorized to conduct land application of wastewater as specified in the application for this permit. The final monitoring and limitations shall become effective upon issuance and remain in effect until expiration of the permit. The land application of wastewater shall be controlled, limited and monitored by the permittee as specified below:					
PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Land Application Operational Monitoring (Note 3)						
Irrigation Period	hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <b>JANUARY 28, 20XX</b> .						
Irrigated Wastewater (Notes 3, 5, & 6)						
Total Kjeldahl Nitrogen as N	mg/L	*		*	once/year	grab
Nitrate Nitrogen as N	mg/L	*		*	once/year	grab
Lead	mg/L	*		*	once/year	grab
Boron	mg/L	*		*	once/year	grab
Zinc	mg/L	*		*	once/year	grab
Copper	mg/L	*		*	once/year	grab
Phosphorus	mg/L	*		*	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <b>JANUARY 28, 20XX</b> .						

<b>PERMITTED FEATURE #004</b>	<b>TABLE A-2. SOIL MONITORING REQUIREMENTS</b>	PAGE NUMBER 9 of 10
		PERMIT NUMBER MO-G750000

The land application field soil shall be monitored by the permittee as specified below:

PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Soil Monitoring (Note 7)						
pH – Units (salt solution method) ***	SU	*			once/permit cycle	composite
Sodium	lbs./acre	*			once/permit cycle	composite
Available Phosphorus as P (Bray 1-P method)	lbs./acre	300			once/permit cycle	composite
Lead	mg/kg	*			once/permit cycle	composite
Boron	mg/kg	*			once/permit cycle	composite
Zinc	mg/kg	*			once/permit cycle	composite
Copper	mg/kg	*			once/permit cycle	composite
Exchangeable Sodium Percentage	%	*			once/permit cycle	composite
Cation Exchange Capacity	CEC	*			once/permit cycle	composite

MONITORING REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE FIRST REPORT IS DUE JANUARY 28, 2018. 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.

\*\*\* Soil pH shall be maintained between pH 6.0 - 7.5 using the salt based test method in accordance with University of Missouri Soil Testing Laboratory procedures.

Note 1 – Effluent limitations 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.

Note 2 – This permit contains a Total Residual Chlorine (TRC) limit.

(a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 130 µg/L will be considered violations of the permit and values less than the minimum quantification level of 130 µg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

(b) Do not chemically de-chlorinate **if it is not needed to meet the limits in your permit.**

Note 3 – This section only applies to **No-discharge land application facilities**. The facility shall report “Not Applicable” on the Discharge Monitoring Report if the facility is a discharging system.

Note 4 – Storage Basin freeboard shall be reported as Storage Basin water level in feet below the overflow level.

Note 5 – Wastewater that is irrigated shall be sampled at the irrigation pump or wet well. If irrigation did not occur during the report period, report as “No Irrigation”.

Note 6 – Monitor once per year during the months of March through November.

Note 7 – Soil samples are to be collected once per permit cycle in August 2017. Composite samples from the top 0-12 inches of soil shall be collected from each land application field. The samples shall be collected in accordance with the sampling guidance contained in University of Missouri publication G9217, Soil Sampling Hayfields and Row Crops but does not include the requirements for one sample per 20 acres. Only one composite sample per field is required. Testing shall conform to Soil Testing Procedures for North Central Region (North Dakota Agricultural Experiment Bulletin 499-Revised); Methods of Soil Analysis, American Society of Agronomy, Inc; Soil Testing and Plant Analysis, Soil Science Society of America Inc; EPA Methods; or other methods approved by the Department. The requirement to collect one representative composite sample per field supersedes the sampling guidance contained in University of Missouri publication G9217 that states that typical sampling areas should not exceed 20 acres.

### STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I standard conditions dated October 1, 1980, and hereby incorporated as though fully set forth herein.

### PERMIT TRANSFER

This permit may be transferred to a new owner by submitting an "Application for Transfer of Operating Permit" signed by the seller and buyer of the facility, along with the appropriate modification fee.

### TERMINATION

In order to terminate this permit, the permittee shall notify the Department by submitting Form H, included with the State Operating Permit. The permittee shall complete Form H and mail it to the Department at the address noted in the cover letter of this permit. Proper closure of any storage structure is required prior to permit termination. A closure plan may be required to be submitted and approved by the Department prior to initiating closure activities.

### PERMIT RENEWAL REQUIREMENTS

Unless this permit is terminated, the permittee shall submit an application for the renewal of this permit no later than thirty (30) days prior to the permit's expiration date. Failure to apply for renewal may result in termination of this permit and enforcement action to compel compliance with this condition and the Missouri Clean Water Law.

### DUTY OF COMPLIANCE

The permittee shall comply with all conditions of this general permit. Any noncompliance with this general permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6. Noncompliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal.

This permit authorizes only the activities described in this permit. Compliance with this permit may not be considered a shield from compliance with any local ordinance, State Regulation or State Law.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**FACT SHEET**  
**FOR THE PURPOSE OF RENEWAL**  
**OF**  
**MASTER GENERAL PERMIT**  
**#MO-G750000**

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 Fact Sheet is not an enforceable part of an operating permit.

This Fact Sheet is for a Master General Permit

**Facility Information**

The following Facility Information shall appear on the coverage document issued to a General Permit Covered Facility.

Permit #:

Owner's Name:

Owner's Address:

Facility Name:

Facility Address:

Legal Description:

UTM Coordinates

Receiving Stream:

First Classified Stream and ID:

USGS Basin & Sub-watershed:

Facility Description:      Vehicle wash wastewater treatment systems for design flows of 50,000 gallons per day or less. This includes discharging facilities and no-discharge land application systems.

**Outfalls**

A full description of each outfall shall appear on the coverage document issued to a General Permit Covered Facility. The following information is required for each outfall.

Please mark the correct designated waters of the state categories of the receiving stream.

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

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)]. This permit does not allow discharges within two miles upstream of a waterbody with the designated use of drinking water supply.

## **Rationale and Derivation of Effluent Limitations & Permit Conditions**

### **ANTI-BACKSLIDING:**

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

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

- Backsliding proposed in this Fact Sheet for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 § CFR 122.44.

### **ANTIDegradation:**

Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation plans are adopted by each State to minimize adverse effects on water.

Not Applicable ;

As per [10 CSR 20-7.031(2)(D)], 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. *Missouri Antidegradation Rule and Implementation Procedure*, when approved, shall be applicable to new or upgraded/expanded facilities only.

### **APPLICABLE PERMIT PARAMETERS:**

Effluent parameters for conventional, non-conventional, and toxic pollutants have been obtained from the previous NPDES operating permit for this facility, technology based effluent limits (TBEL), and from appropriate sections of the renewal application.

### **PUBLIC NOTICE OF COVERAGE FOR AN INDIVIDUAL FACILITY**

The need for an individual public notification process shall be determined and identified in the general permit. [10 CSR 20-6.020(1)(C)5.]

Not Applicable ;

Public Notice is not required for issuance of coverage under this Master General Permit to individual facilities for the first time.

Public Notice of reissuance of coverage is not required unless the facility has been found to be in significant noncompliance [10 CSR 20-6.020(1)(C)4.].

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

A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Not Applicable ;

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

**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 to 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:

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

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.

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

As per [10 CSR 20-7.031(1)(C)], a toxicity test conducted under specified laboratory conditions on specific indicator organism; and as per [40 CFR §122.2], the aggregate toxic effect of an effluent measured directly by a toxicity test.

Not Applicable ;

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

**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.

**Permitted Feature #001 – Discharge  
EFFLUENT LIMITATIONS TABLE:**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Flow	gallons	1	*		*	No	*/*
Biochemical Oxygen Demand <sub>5</sub>	mg/L	2	45		30	No	45/30
Total Suspended Solids	mg/L	2	100		50	No	100/50
Chemical Oxygen Demand	mg/L	2	30		20	No	30/20
E. coli	#/100ml	***	630		126	Yes	Previously Fecal Coliform
pH - Units	SU	2	6.5 - 9.0			No	6.5 - 9.0
Ammonia as N (April – Sept 30)	mg/L	3	3.6		1.4	Yes	****
Ammonia as N (Oct 1 – March 31)	mg/L	3	7.5		2.9	Yes	****
Oil and Grease	mg/L	2	15		10	No	15/10
Chlorine, Total Residual	µg/L	3	17		8	Yes	16.4/8.2
Chloride	mg/L	3	377.8		188.3	Yes	411/205
Sulfate	mg/L	3	819		408	Yes	****
Lead, Total Recoverable	µg/L	3	2.5		1.3	Yes	12/12
Boron, Total Recoverable	µg/L	3	3285		1638	No	3285/1638
Zinc, Total Recoverable	µg/L	3	73.9		36.8	Yes	180/89.7
Copper, Total Recoverable	µg/L	3	8.2		4.1	Yes	19.2/9.6
Phosphorus, Total	mg/L	1	0.5		0.5	No	0.5/0.5
Dissolved Oxygen	mg/L**	2	5		5	Yes	****

\* - 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     | 6. Antidegradation Policy         |
| 2. Water Quality Standard              | 7. Water Quality Model            |
| 3. Water Quality Based Effluent Limits | 8. Best Professional Judgment     |
| 4. Lagoon Policy                       | 9. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                      | 10. WET test Policy               |

**DERIVATION AND DISCUSSION OF LIMITS:**

Effluent limitations were calculated to protect the most sensitive watershed and use designation that discharges from the facilities would enter. Chloride, Sulfate, and metals limitations were calculated using the most limiting hardness and sulfate concentrations determined from summary data from the 66 8-digit Hydrologic Unit Codes (HUCS) in Missouri.

- **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.
- **Total Suspended Solids (TSS).**
  - Effluent limitations have been retained from previous state operating permit
- **Chemical Oxygen Demand (COD).**
  - Effluent limitations have been retained from previous state operating permit.

- **Escherichia coli (E. coli)**. Monthly average of 126 per 100 ml as a geometric mean and Weekly Average of 630 during the recreational season (April 1 – October 31).
- **pH**. Effluent limitation range is 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. No mixing considerations allowed; therefore, WLA = appropriate criterion.

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

**Summer: April 1 – September 30**

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

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

$LTA_c = 1.5 \text{ mg/L} (0.780) = 1.17 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]

$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.89 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]

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

$MDL = 1.17 \text{ mg/L} (3.11) = 3.6 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]

$AML = 1.17 \text{ mg/L} (1.19) = 1.4 \text{ mg/L}$

[CV = 0.6, 95<sup>th</sup> Percentile, n =30]

**Winter: October 1 – March 31**

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

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

$LTA_c = 3.1 \text{ mg/L} (0.780) = 2.42 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]

$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.89 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]

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

$MDL = 2.42 \text{ mg/L} (3.11) = 7.5 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]

$AML = 2.42 \text{ mg/L} (1.19) = 2.9 \text{ mg/L}$

[CV = 0.6, 95<sup>th</sup> Percentile, n =30]

- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

- **Total Residual Chlorine (TRC).** Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

Chronic WLA:  $C_e = ((0.01 + 0.0)10 - (0.0 * 0.0))/0.01$   
 $C_e = 10 \mu\text{g/L}$

Acute WLA:  $C_e = ((0.01 + 0.0)19 - (0.0 * 0.0))/0.01$   
 $C_e = 19 \mu\text{g/L}$

$LTA_c = 10 (0.527) = 5.3 \mu\text{g/L}$   
 $LTA_a = 19 (0.321) = 6.1 \mu\text{g/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]  
[CV = 0.6, 99<sup>th</sup> Percentile]

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

MDL = 5.3 (3.11) = **17 µg/L**  
AML = 5.3 (1.55) = **8 µg/L**

[CV = 0.6, 99<sup>th</sup> Percentile]  
[CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

- **Chloride.** Protection of Aquatic Life Chronic Criteria = 230 mg/L, Acute Criteria = 860 mg/L.

Chronic WLA:  $C_e = ((0.01 + 0.0)230 - (0.0 * 0.0))/0.01$   
 $C_e = 230 \text{ mg/L}$

Acute WLA:  $C_e = ((0.01 + 0.0)860 - (0.0 * 0.0))/0.01$   
 $C_e = 860 \text{ mg/L}$

$LTA_c = 230 (0.527) = \mathbf{121.3 \text{ mg/L}}$   
 $LTA_a = 860 (0.321) = 276.1 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]  
[CV = 0.6, 99<sup>th</sup> Percentile]

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

MDL = 121.31 (3.114) = 377.8 mg/L  
AML = 121.31 (1.552) = 188.3 mg/L

[CV = 0.6, 99<sup>th</sup> Percentile]  
[CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

- **Sulfate.** Protection of Drinking Water Supply = 250 mg/L,

Chronic WLA:  $C_e = ((0.01 + 0.0)250 - (0.0 * 0.0))/0.01$   
 $C_e = 250 \text{ mg/L}$

$LTA_c = 250 (0.527) = \mathbf{131.75 \text{ mg/L}}$

[CV = 0.6, 99<sup>th</sup> Percentile]

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

MDL = 131.75 (3.114) = 410.3 mg/L  
AML = 131.75 (1.552) = 204.5 mg/L

[CV = 0.6, 99<sup>th</sup> Percentile]  
[CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

- **Boron.** Protection of Irrigation = 2000 µg/L

Chronic WLA:  $C_e = ((0.01 + 0.0)2000 - (0.0 * 0.0))/0.01$   
 $C_e = 2000 \mu\text{g/L}$

$LTA_c = 2000 (0.527) = \mathbf{1054.9 \mu\text{g/L}}$

[CV = 0.6, 99<sup>th</sup> Percentile]

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

MDL = 1054.866 (3.1144) = 3285 µg/L  
AML = 1054.86 (1.5524) = 1638 µg/L

[CV = 0.6, 99<sup>th</sup> Percentile]  
[CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

- **Dissolved Oxygen.** Effluent limitation for protection of aquatic life; 5 mg/L monthly average minimum, 5 mg/L daily minimum.

**Metals.** Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the “Technical Support Document For Water Quality-based Toxic Controls” (EPA/505/2-90-001) and “The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion” (EPA 823-B-96-007). General warm-water fishery criteria apply and a water hardness of 56.5 mg/L is used in the conversion below.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, hardness, and total suspended solids with which to calculate metals translators, partitioning between the dissolved and absorbed phases was assumed to be minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals, hardness, and total suspended solids are provided to the Department, partitioning evaluations may be considered and site-specific translators developed.

METAL	CONVERSION FACTORS	
	ACUTE	CHRONIC
Lead	0.874	0.874
Zinc	0.980	0.980
Copper	0.960	0.960

Conversion factors for Lead, Zinc, and Copper are hardness dependent. Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 56.5 mg/L.

- **Lead, Total Recoverable.** Protection of Aquatic Life Chronic Criteria = 1.3 µg/L, Acute Criteria = 34 µg/L.

$$\text{Chronic} = 1.3 / 0.874 = 1.54 \text{ } \mu\text{g/L}$$

$$\text{Acute} = 34 / 0.874 = 39.45 \text{ } \mu\text{g/L}$$

$$\text{Chronic WLA: } C_e = ((0.01 + 0.0)1.54 - (0.0 * 0.0)) / 0.01$$

$$C_e = 1.54 \text{ } \mu\text{g/L}$$

$$\text{Acute WLA: } C_e = ((0.01 + 0.0)39.45 - (0.0 * 0.0)) / 0.01$$

$$C_e = 39.45 \text{ } \mu\text{g/L}$$

$$\text{LTA}_c = 1.54 (0.527) = 0.8 \text{ } \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{LTA}_a = 39.45 (0.321) = 12.67 \text{ } \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

Use most protective number of  $\text{LTA}_c$  or  $\text{LTA}_a$ .

$$\text{MDL} = 0.8 (3.11) = 2.5 \text{ } \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 0.8 (1.55) = 1.3 \text{ } \mu\text{g/L} \quad [\text{CV} = 0.6, 95^{\text{th}} \text{ Percentile, } n = 4]$$

- **Zinc, Total Recoverable.** Protection of Aquatic Life Chronic Criteria = 72.39 µg/L, Acute Criteria = 72.39 µg/L.

$$\text{Chronic} = 72.39 / 0.980 = 73.86 \text{ } \mu\text{g/L}$$

$$\text{Acute} = 72.39 / 0.980 = 73.86 \text{ } \mu\text{g/L}$$

$$\text{Chronic WLA: } C_e = ((0.01 + 0.0)73.86 - (0.0 * 0.0)) / 73.86$$

$$C_e = 73.86 \text{ } \mu\text{g/L}$$

$$\text{Acute WLA: } C_e = ((0.01 + 0.0)73.86 - (0.0 * 0.0)) / 73.86$$

$$C_e = 73.86 \text{ } \mu\text{g/L}$$

$$\text{LTA}_c = 73.86 (0.527) = 39 \text{ } \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{LTA}_a = 73.86 (0.321) = 23.72 \text{ } \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

Use most protective number of  $\text{LTA}_c$  or  $\text{LTA}_a$ .

$$\text{MDL} = 23.72 (3.11) = 73.9 \text{ } \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 23.72 (1.55) = 36.8 \text{ } \mu\text{g/L} \quad [\text{CV} = 0.6, 95^{\text{th}} \text{ Percentile, } n = 4]$$

- **Copper, Total Recoverable.** Protection of Aquatic Life Chronic Criteria = 5.5 µg/L, Acute Criteria = 7.8 µg/L.

Chronic =  $5.5/0.874 = 5.73$  µg/L  
 Acute =  $7.8/0.874 = 8.17$  µg/L

Chronic WLA:  $C_e = ((0.01 + 0.0)5.73 - (0.0 * 0.0))/5.73$   
 $C_e = 5.73$  µg/L

Acute WLA:  $C_e = ((0.01 + 0.0)8.17 - (0.0 * 0.0))/8.17$   
 $C_e = 8.17$  µg/L

$LTA_c = 5.73 (0.527) = 3.02$  µg/L  
 $LTA_a = 8.17 (0.321) = 2.6$  µg/L

[CV = 0.6, 99<sup>th</sup> Percentile]  
 [CV = 0.6, 99<sup>th</sup> Percentile]

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

MDL =  $2.6 (3.11) = 8.2$  µg/L  
 AML =  $2.6 (1.55) = 4.1$  µg/L

[CV = 0.6, 99<sup>th</sup> Percentile]  
 [CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

- **Total Phosphorus**

– Effluent limitations have been retained from previous state operating permit.

**Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/month	once/month
BOD <sub>5</sub>	once/month	once/month
TSS	once/month	once/month
COD	once/month	once/month
E. coli	once/month	once/month
pH	once/month	once/month
Ammonia as N	once/month	once/month
Oil & Grease	once/month	once/month
TRC	once/month	once/month
Chloride	once/month	once/month
Sulfate	once/month	once/month
Lead, TR	once/month	once/month
Boron, TR	once/month	once/month
Zinc, TR	once/month	once/month
Copper, TR	once/month	once/month
Total Phosphorus	once/month	once/month
Dissolved Oxygen	once/month	once/month

**PERMITTED FEATURE #002 – STORAGE BASIN**

**IRRIGATION BASIN MONITORING REQUIREMENTS TABLE:**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Freeboard	feet	1	*			YES	**
Precipitation	inches	1	*			YES	**
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* - Monitoring requirement only.

\*\* - 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                |                                    |

**PERMITTED FEATURE #002 – DERIVATION AND DISCUSSION OF LIMITS:**

- **Freeboard.** Monitoring requirement only.
- **Precipitation.** Monitoring requirement only.

**Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Freeboard	once/month	once/year
Precipitation	once/day	once/year

**PERMITTED FEATURE #003 – IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Irrigation Period	hours	1	*			YES	**
Volume Irrigated	gallons	1	*			YES	**
Application Area	acres	1	*			YES	**
Application Rate	inches	1	*			YES	**
Total Kjeldahl Nitrogen	mg/L	1	*		*	YES	**
Nitrate Nitrogen as N	mg/L	1	*		*	YES	**
Lead	***	1	*		*	YES	**
Boron	mg/L	1	*		*	YES	**
Zinc	mg/L	1	*		*	YES	**
Copper	mg/L	1	*		*	YES	**
Phosphorus	mg/L	1	*		*	YES	**
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* - Monitoring requirement only.

\*\* - 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                |                                    |

- **Irrigation Period.** Monitoring requirement only. Monitoring for the Irrigation Period is included to determine if proper application is occurring on the land application fields.
- **Volume Irrigated.** Monitoring requirement only. Monitoring for the Volume Irrigated is included to determine if proper application is occurring on the land application fields.
- **Application Area.** Monitoring requirement only. Monitoring for the Application Area is included to determine if proper application is occurring on the land application fields.
- **Application Rate.** Monitoring requirement only. Monitoring for the Application Rate is included to determine if proper application is occurring on the land application fields.
- **Total Kjeldahl Nitrogen.** Monitoring requirement only. Monitoring for Total Kjeldahl Nitrogen as N is included to determine nutrient loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]
- **Nitrate Nitrogen as N.** Monitoring requirement only. Monitoring for Nitrate Nitrogen as N is included to determine nutrient loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]
- **Lead.** Monitoring requirement only. Monitoring for Lead is included to determine loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]
- **Boron.** Monitoring requirement only. Monitoring for Boron is included to determine loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]
- **Zinc.** Monitoring requirement only. Monitoring for Zinc is included to determine loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]
- **Copper.** Monitoring requirement only. Monitoring for Copper is included to determine loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]

- **Phosphorus.** Monitoring requirement only. Monitoring for Phosphorus is included to determine loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]

**Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Irrigation Period	once/day	once/year
Volume Irrigated	once/day	once/year
Application Area	once/day	once/year
Application Rate	once/day	once/year
Total Kjeldahl Nitrogen	once/year	once/year
Nitrate Nitrogen as N	once/year	once/year
Lead	once/year	once/year
Boron	once/year	once/year
Zinc	once/year	once/year
Copper	once/year	once/year
Phosphorus	once/year	once/year

**PERMITTED FEATURE #004 – SOIL MONITORING REQUIREMENTS**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
pH – Units (salt solution method)	SU	1	**			NO	6.0 - 7.5
Sodium	lbs./acre	1	*			NO	*
Available Phosphorus as P (Bray 1-P Method)	lbs./acre	1	300			NO	300
Lead	mg/kg	1	*			NO	*
Boron	mg/kg	1	*			NO	*
Zinc	mg/kg	1	*			NO	*
Copper	mg/kg	1	*			NO	*
Exchangeable Sodium Percentage	%	1	*			YES	***
Cation Exchange Capacity	CEC	1	*			YES	***
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* - Monitoring requirement only.

\*\* - Soil pH shall be maintained between pH 6.0 - 7.5 using the salt based test method in accordance with University of Missouri Soil Testing Laboratory procedures.

\*\*\* - 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                |                                    |

- **pH.** Soil pH shall be maintained between pH 6.0 - 7.5 using the salt based test method in accordance with University of Missouri Soil Testing Laboratory procedures.
- **Sodium.** Monitoring requirement only. Monitoring is included to determine loading rates on the land application fields.
- **Available Phosphorus as P.** Limitations have been retained from previous state operating permit.
- **Lead.** Monitoring requirement only. Monitoring is included to determine loading rates on the land application fields.
- **Boron.** Monitoring requirement only. Monitoring is included to determine loading rates on the land application fields.
- **Zinc.** Monitoring requirement only. Monitoring is included to determine loading rates on the land application fields.
- **Copper.** Monitoring requirement only. Monitoring is included to determine loading rates on the land application fields.
- **Exchangeable Sodium Percentage.** Monitoring requirement only. Monitoring is included to determine condition of soils.
- **Cation Exchange Capacity.** Monitoring requirement only. Monitoring is included to determine condition of soils.

**Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
pH	once/permit cycle in August 2017	once/permit cycle
Sodium	once/permit cycle in August 2017	once/permit cycle
Available Phosphorus as P	once/permit cycle in August 2017	once/permit cycle
Lead	once/permit cycle in August 2017	once/permit cycle
Boron	once/permit cycle in August 2017	once/permit cycle
Zinc	once/permit cycle in August 2017	once/permit cycle
Copper	once/permit cycle in August 2017	once/permit cycle
Exchangeable Sodium Percentage	once/permit cycle in August 2017	once/permit cycle
Cation Exchange Capacity	once/permit cycle in August 2017	once/permit cycle

**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.

**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.

- This permit was placed on public notice from April 26, 2013 – May 26, 2013. No comments were received.

**DATE OF FACT SHEET:** APRIL 24, 2013

**COMPLETED BY:**

**BRANT FARRIS, ENVIRONMENTAL SPECIALIST III**  
**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**WATER PROTECTION PROGRAM**  
**OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT**  
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