

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),

Permit No. MO-0138169

Owner: Missouri Army National Guard
Address: 6819B North Boundary Road, Jefferson City, MO 65101

Continuing Authority: Same as above
Address: Same as above

Facility Name: Festus Armory and Field Maintenance Shop
Facility Address: 2740 Hwy P, Festus, MO 63028

Legal Description: Land Grant 00910
UTM Coordinates: See Page 2

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

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

FACILITY DESCRIPTION

Industrial Facility – SIC #9711, #4952. **Industrial** – Wash rack (screening)/Oil and Water Separator/ Single Cell Lagoon/Lift Station/Pumping Station/Wastewater Irrigation via Sprinklers/Sludge retained in lagoon. **Domestic** - Single Cell Lagoon/Lift Station/Pumping Station/Wastewater Irrigation via Sprinklers/Sludge retained in lagoon.

See page 2 for more details on each permitted feature.

This permit authorizes only land application of wastewater under the Missouri Clean Water Law; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

June 1, 2016 August 4, 2016
Effective Date Revised Date

Sara Parker Pauley, Director, Department of Natural Resources

May 31, 2021
Expiration Date

John Madros, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

This is an Army National Guard Training facility that performs maintenance and repairs on Army National Guard vehicles and equipment. Domestic wastewater and washwater from vehicles are generated on site. Domestic wastewater and vehicle wash wastewater are treated by a no-discharge wastewater treatment facility on site. Wastewater from domestic facilities and vehicle washwater flows into a one-cell facultative lagoon, followed by land application. Sludge is retained in the lagoon.

PERMITTED FEATURE #001 – One-cell Facultative Lagoon

Design Population Equivalent:	24
Design Flow, Dry Weather (gallons per day):	535
Design Flow, 1-in-10 Year Wet Weather (gallons per day):	733
Design sludge production (dry tons per year):	0.36
Total Depth (feet):	9.0
Maximum Operating Depth (feet):	7.0
Total Volume (gallons):	386,675
Maximum Operating Storage Volume (gallons):	285,634 (90 day)
Temporal Storage Capacity, Dry Weather (days):	68,400 based on 760 gpd influent flow
Temporal Storage Capacity, 1-in-10 Year Wet Weather (days):	90

Legal Description:	Land Grant 00910, Jefferson County
UTM Coordinates:	X=723580, Y= 4232637
Receiving Stream:	Joachim Creek (P)
First Classified Stream and ID:	Joachim Creek (P) (WBID 1719)
USGS Basin & Sub-watershed No.:	07140101-0802

Receiving Stream Watershed: a gaining stream setting

Facility Type:

No-discharge Storage and Irrigation System for annual flows

PERMITTED FEATURE #002 – Land Application Field

Legal Description:	Land Grant 00910, Jefferson County
UTM Coordinates:	X=723579, Y= 4232748
Receiving Stream:	Joachim Creek (P)
First Classified Stream and ID:	Joachim Creek (P) (WBID 1719)
USGS Basin & Sub-watershed No.:	07140101-0802

Wastewater

Application Rate Basis:	Hydraulic Loading
Crops and Vegetation:	Grass
Equipment Type:	Sprinklers (4 heads)
Equipment Design Flow Capacity (gallons per hour):	930
Equipment Total Operation (hours per year):	198
Field Slopes (%):	< 5%
Application Rates (varied per acre):	0.125 inch/hour; 24 inches/year
Irrigation Volume (gallons per year):	770, 000 at design loading (including 1-in-10 year flows)
Irrigation Areas (acres):	1.18 acres total available
Application Period (days per year):	approximately 50 days

Industrial Sludge

Sludge is retained in the lagoon. *Domestic Sludge* is addressed in Standard Conditions Part III and shall be handled, treated and disposed of in accordance with those standard conditions.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMITTED FEATURE #001	TABLE A-1 STORAGE BASIN LIMITATIONS AND MONITORING REQUIREMENTS					
	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 PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	BENCH-MARKS	MEASUREMENT FREQUENCY	SAMPLE TYPE
STORAGE BASIN OPERATIONAL MONITORING (Note 1 & 2)						
Freeboard	Feet	*		-	once/month	measured
Precipitation	Inches	*		-	daily	measured
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2017</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
WASTEWATER (Note 2, 3, & 4)						
Boron, Total Recoverable	mg/L	*		0.75	once/2.5 years	grab
Copper, Total Recoverable	mg/L	*		0.2	once/2.5 years	grab
Lead, Total Recoverable	mg/L	*		5.0	once/2.5 years	grab
Zinc, Total Recoverable	mg/L	*		2.0	once/2.5 years	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ONCE PER PERMIT CYCLE</u> ; THE FIRST REPORT IS DUE <u>DECEMBER 28, 2018</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

PERMITTED FEATURE #002	TABLE A-2 LAND APPLICATION FIELD LIMITATIONS AND MONITORING REQUIREMENTS					
	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 PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	BENCH-MARKS	MEASUREMENT FREQUENCY	SAMPLE TYPE
LAND APPLICATION OPERATIONAL MONITORING (NOTE 2)						
Application Area	Acres	*			once/day	measured
Application Rate	Inches/ Acre	*			once/day	measured
Irrigation Period	Hours	*			once/day	measured
Volume Irrigated	Gallons	*			once/day	measured
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2017</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring requirement only

- Note 1 – Storage Basin freeboard shall be reported as Storage Basin water level in feet below the overflow level.
- Note 2 – Report as “No Application” when land application does not occur during the report period.
- Note 3 – Wastewater that is land applied shall be sampled at the irrigation pump, wet well, or application equipment prior to land application.
- Note 4 – Wastewater and sludge shall not exceed the nitrogen application rates discussed in section D. Land Application System Condition #9.

B. STANDARD CONDITIONS

1. In addition to specified conditions stated herein, this permit is subject to the attached Part I and Part III standard conditions dated August 1, 2014 and March 1, 2015, respectively, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. Emergency Discharge. Wastewater shall be stored and land applied during suitable conditions so that there is no discharge from the storage structure(s) or land application site. An emergency discharge may only occur if rainfall exceeds the wettest 1-in-10 year annual precipitation amount (Data taken from the Missouri Climate Atlas) or the 25-year, 24-hour storm event (Data taken from NRCS Urban Hydrology for Small Watersheds) rainfall events. The wettest 1-in-10 year annual precipitation amount shall be a rolling average of the previous 11 months plus the current month of monitoring. The 25-year, 24-hour storm event shall be a single day precipitation event during the current monitoring period. **Discharge for any other reason or from land application sites shall constitute a permit violation and shall be reported in accordance with Standard Conditions, Part 1, Section B.2.b.** Monitoring shall take place once in the first six (6) hours of discovery of the discharge and then once per day following the initial sampling period until the discharge ceases. The facility shall submit test results, along with the number of days the storage basin(s) has discharged during the month, to the St. Louis Regional Office by the 28th day of the month after the discharge ceases. Permittee shall monitor for the following constituents:

Constituent	Units
Flow	MGD
Biochemical Oxygen Demand ₅	mg/L
Total Suspended Solids	mg/l
Ammonia as N	mg/L
pH – Units	SU
Oil & Grease	mg/L
E. coli	#/100mL

2. The permit may be modified or revoked after thirty (30) days' notice for cause including, but not limited to, the following causes:
- A violation of any term or condition of the permit;
 - A misrepresentation or failure to fully disclose all relevant facts in obtaining a permit;
 - A change in the operation, size, or capacity of the permitted facility; and
 - The permit may be modified after proper public notice and opportunity for comment when a wasteload allocation study has been completed showing that more stringent limitations are necessary to protect the in-stream water quality.

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

3. Water Quality Standards
- 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.
 - 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:
 - 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;
 - Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - There shall be no significant human health hazard from incidental contact with the water;
 - There shall be no acute toxicity to livestock or wildlife watering;
 - Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - 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.
4. Reporting of Non-Detects:
- An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
 - The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.

C. SPECIAL CONDITIONS (continued)

- (c) The permittee shall provide the “Non-Detect” sample result using the less than sign and the minimum detection limit (e.g. <10).
 - (d) Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
 - (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
5. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

D. LAND APPLICATION SYSTEM CONDITIONS

1. Annual Report on Land Application. An annual report is required in addition to other reporting requirements under Section A of this permit. The annual report shall be submitted by January 28 of each year. The report shall include, but is not limited to, a summary of the following:
 - (a) Record of maintenance and repairs 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.
 - (b) The number of days the storage structure discharged during the year, the discharge flow, reason the discharge occurred and effluent analysis performed.
 - (c) A summary for each field used for land application showing number of acres used number of days application occurred, crop grown and yield, and total amount of wastewater and/or sludge applied (gal. or tons/acre).
 - (d) For fields where the total nitrogen application exceeds 150 lbs./acre, submit PAN calculations to document that the applied nitrogen will be utilized.
 - (e) Narrative summary of any problems or deficiencies identified, corrective action taken and improvements planned.
2. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems, including key operating procedures, an aerial or topographic site map with the permitted features, land application fields, and irrigation buffer zones marked, and a brief summary of the operation of the facility. The O&M manual shall be made available to the operator and available to the department upon request. A copy of the O&M Manual shall be submitted to the St. Louis Regional Office for review by September 30, 2016. The O&M Manual shall be reviewed and updated at least every five years.
3. All permitted features, including emergency outfalls, must be clearly marked in the field. The permitted features and land application fields shall also be marked on the aerial or topographic site map included with the Operation and Maintenance manual.
4. An all-weather access road shall be provided to the treatment facility.
5. Record Keeping
 - (a) A daily land application log shall be prepared and kept on file at the permittee office location for each application site showing dates of application, weather condition (sunny, overcast, raining, below freezing etc...), soil moisture condition, application method.
 - (b) A record of monthly visual storage structure inspections shall be maintained.
 - (c) A record of land application equipment inspections and calibrations as well as land application field inspections shall be maintained.
 - (d) All records and monitoring results shall be maintained for at least three years and shall be made available to the department upon request.

D. LAND APPLICATION SYSTEM CONDITIONS

6. Storage Basin.
 - (a) The berms of the 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.
 - (b) The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the storage basin(s) and to divert stormwater runoff around the storage basin(s) and protect embankments from erosion.
 - (c) The minimum and maximum operating water levels for the storage basin(s) shall be clearly marked. Each storage basin shall be operated so that the maximum water elevation does not exceed upper operating level except due to exceedances of the 1-in-10 year or 25-year, 24-hour storm events. Storage basins shall be lowered to the minimum operating level prior to November 30 each year. Storage basins shall be inspected monthly for structural integrity and leaks.
 - (d) A least one gate, constructed of materials comparable to the fence, must be provided to access any storage basin and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform maintenance or mowing.
 - (e) At least one sign shall appear on the fence on each side of each facility. Minimum wording shall be "SEWAGE TREATMENT FACILITY – KEEP OUT", in letters at least 2 inches high.
 - (f) Earthen storage basins shall have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. It is a violation of this permit to place material in the emergency spillway or otherwise cause it to cease to function properly, as this may result in a catastrophic failure of the storage basin.

7. Land Application Equipment.
 - (a) Spray application equipment shall minimize the formation of aerosols.
 - (b) Provisions shall be made for draining pipes and other equipment to prevent freezing.
 - (c) Portable pumping unit or permanent pumping installation.
 - (1) A suitable structure shall be provided to house the pump.
 - (2) The intake pumping system shall provide the capability for varying the withdrawal depth.
 - (3) The intake elevation should be maintained 12-24 inches below the wastewater elevation.
 - (4) The intake shall be screened so as to minimize clogging of the sprinkler nozzle or distribution system orifices.
 - (5) For use of a potable pump, a stable platform and flexible intake line with flotation device to control depth of intake will be acceptable.
 - (d) Thrust blocking of pressure pipes shall be provided. For use of above ground risers of sprinklers, a concrete pad and support bracing should be considered.
 - (e) Automatic or semi-automatic controls should be considered for shut off of the system after a prescribed wastewater application period. Manual start-up of the application system is recommended.
 - (f) Land application equipment shall be visually inspected daily during land application to check for equipment malfunctions and leaks. The application system shall be operated so as to provide uniform distribution of wastes over the entire land application site and shall be capable of applying the annual design flow during an application period of less than 100 days or 800 hours per year.

8. Land Application Fields.
 - (a) This special condition does not apply to fertilizer products that are exempted under the Missouri Clean Water Law and regulations, 10 CSR 20-6.015(3)(B)8.
 - (b) If land application sites listed in this permit are also included as land application sites in another permit, the wastewater and sludge applications from other sources shall be included in the application rates in the facility description. Records of the amount and application rate of wastewater or sludge from other sources must be kept.
 - (c) Public Access Restrictions. This permit does not authorize application of wastewater to public use areas. The land application area must be clearly marked.
 - (d) No land application shall occur when the soil is frozen, snow covered, or saturated. There shall be no application during a precipitation event or if a precipitation event that is likely to create runoff is forecasted to occur within 24 hours of a planned application.
 - (e) Land application shall occur only during daylight hours.
 - (f) Land application fields shall be checked daily during land application for runoff. Sites that utilize spray irrigation shall monitor for the drifting of spray across property lines.

D. LAND APPLICATION SYSTEM CONDITIONS

- (g) Setback distances from sensitive features. There shall be no land application within:
 - (1) 300 feet of any well, sinkhole, losing stream, wetland, or cave entrance, water supply impoundment or stream intake;
 - (2) 150 feet of an occupied residence, public building, or public use area;
 - (3) 100 feet of any gaining perennial or intermittent streams or tributaries, public or privately owned pond or lake. As a compliance alternative a 35-foot vegetative buffer that is permanently covered with perennial vegetation maybe substituted for the 100 foot set-back requirement;
 - (4) 50 feet of property line or public road.
- (h) Wastewater application on slopes exceeding 10%, the hourly application rate shall not exceed one-half (1/2) the design sustained permeability and in no case shall exceed one-half (1/2) inch per hour.

9. **Benchmark Values.** This permit stipulates pollutant benchmarks applicable to the wastewater being land applied. The benchmarks do not constitute direct numeric effluent limitations; therefore, a benchmark exceedance alone is not a permit violation. Benchmark monitoring and visual inspections shall be used to determine the overall effectiveness of the land application activity and to assist you in knowing when application rates should be reduced or when to alter the crop grown on the land application field. If a sample exceeds a benchmark value, you must review your designed application system to determine what operational and maintenance adjustments, improvements, or additional controls are needed to ensure proper treatment of wastewater and sludge. This evaluation should consider nutrient output and crop uptake, possibly resulting in change in crop grown on the land application field.

Any time a benchmark exceedance occurs a Corrective Action Report (CAR) must be completed. A CAR is a document that records the efforts undertaken by the facility to improve the land application activity to meet benchmarks in future samples. CARs must be retained with the permit and available to the department upon request. If the efforts taken by the facility are not sufficient and subsequent exceedances of a benchmark occur, the facility must contact the department if a benchmark value cannot be achieved. Failure to take corrective action to address a benchmark exceedance and failure to make measureable progress towards achieving the benchmarks is a permit violation.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR A NEW FACILITY
MO-0138169
FESTUS NATIONAL GUARD ARMORY AND FIELD MAINTENANCE SHOP

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. After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful.

As per [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 Industrial Land Application activity.

Part I **FACILITY INFORMATION**

Facility Type: Industrial, with domestic flows
Facility SIC Code(s): 9711/4952

Facility Description:

This is an Army National Guard Training facility that performs maintenance and repairs on Army National Guard vehicles and equipment. Domestic wastewater and wash water from vehicles are generated on site. Domestic wastewater and vehicle wash wastewater are treated by a no-discharge wastewater treatment facility on site. Wastewater from domestic facilities and vehicle washwater flows into a one-cell facultative lagoon (see Appendix A: Facility Design), followed by land application (see Water Balance Diagram below for more details and Appendix A: Facility Design, memorandum). Sludge is retained in the lagoon.

Application Date: 07/06/15

There are two permitted features covered by this permit. The first is the single-cell facultative lagoon for storage prior to land application of the wastewater. The second is the land application field.

PERMITTED FEATURE(S) TABLE:

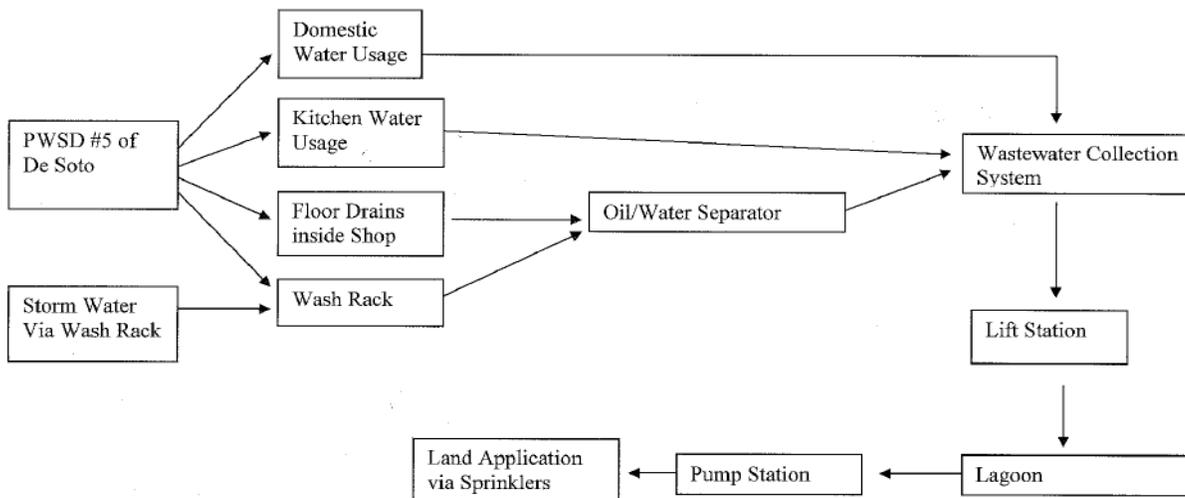
PERMITTED FEATURE	STORAGE CAPACITY / DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	386,675 gallons	Primary	Industrial/Domestic wastewater
#002	930 gpd*	Land Application	Industrial/Domestic wastewater

*gpd = gallons per day

FACILITY PERFORMANCE HISTORY & COMMENTS:

Because this is a new permit, there is no facility performance history. The facility was previously exempt from a state operating permit because it was a no-discharging irrigation system treating less than 3,000 gallons per day of only domestic wastewater. With the addition of vehicle wash water to the wastewater treatment and disposal system, a site-specific state operating permit is required.

Festus Armory and FMS
 Water Flow through Facility



Water is obtained from the PWSD #5 of De Soto. Water used at the wash rack and any water coming from the shop floor drains are routed through an oil water separator. Domestic and kitchen wastewater along with water that has passed through the oil water separator enters the wastewater collection system. Wastewater is directed to a lift station that pumps it to the lagoon. Water then enters a pump station where it is pumped to sprinklers and land applied.

Part II RECEIVING STREAM INFORMATION

This section of the factsheet provides information regarding the waterbodies downstream on the storage basins and land application fields. If the permittee decides to convert the no-discharge land application system into a discharging system, then the discharge must meet all applicable standards for the protection of the waterbodies, associated use designations, and 303(d) List or Total Maximum Daily Load implementation plans listed below.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

✓ As per Missouri’s Effluent Regulations [10 CSR 20-7.015(1)(B)], the waters of the state are divided into the following seven categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall’s Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

- Missouri or Mississippi River:
- Lake or Reservoir:
- Losing:
- Metropolitan No-Discharge:
- Special Stream:
- Subsurface Water:
- All Other Waters:

Classes [10 CSR 20-7.031(1)(F)1. to 8.] of water bodies which may be found in the receiving streams table below are:

Lakes: L1 = drinking supply lakes; L2 = major reservoirs; L3 = other

Streams: P = permanent streams; P1 = standing water of P streams; C = may cease flow in droughts but maintains permanent pools; E = ephemeral; W = natural wetlands

✓ As per 10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission’s water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream’s beneficial water uses to be maintained are in the following receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses which may be found in the following receiving streams table:

- 10 CSR 20-7.031(1)(C)1.: Protection and propagation of fish, shellfish, and wildlife (formerly AQL; this permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all habitat temperature designations unless otherwise specified)
WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat
- 10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = Whole Body Contact; WBC-A = public swimming; WBC-B = swimming
SCR = Secondary Contact Recreation (like fishing, wading, and boating)
- 10 CSR 20-7.031(1)(C)3. to 7.: HHP (formerly HHF) = Human Health Protection (fish consumption); IRR = irrigation;
LWP (formerly LWV) = Livestock And Wildlife Protection; DWS = Drinking Water Supply;
IND = industrial water supply
- 10 CSR 20-7.031(6): GRW = Groundwater

RECEIVING WATER BODY'S WATER QUALITY:

The receiving stream has no concurrent water quality data available.

303(D) LIST:

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. <http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm>

✓ Not applicable; this facility does not discharge to an impaired segment of a 303(d) listed stream.

TOTAL MAXIMUM DAILY LOAD (TMDL):

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; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards. 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. <http://dnr.mo.gov/env/wpp/tmdl/>

✓ Not applicable; this facility is not associated with a TMDL.

RECEIVING STREAMS TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#001, #002	Joachim Creek	P	1719	GEN, IRR, IND, LWW, HHP, SCR, WWH, WBC -A	0.1 mi over land	07140101-0802

n/a = not applicable

WBID = Waterbody ID: Missouri Use Designation Dataset 8-20-13 MUDD V1.0 data can be found as an ArcGIS shapefile on MSDIS at http://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements are recommended at this time.

Part III RATIONALE & DERIVATION OF 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 is a no-discharge system that 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(l)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- ✓ Not Applicable; This is a state no-discharge permit, anti-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.

- ✓ Not Applicable; No degradation proposed and no further review necessary. This is a no-discharge system and antidegradation does not apply.

BENCHMARKS:

When a permitted feature has associated parameters that may alter the operation and maintenance of the land application activity depending on wastewater or sludge quality, a benchmark may be implemented at the discretion of the permit writer. Benchmarks require the facility to monitor, and if necessary, adjust operations and maintenance or replace and update land application control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the technology based effluent limitations (TBEL).

Numeric benchmark values are based on state regulations 10 CSR 20-8.020(15), the *U.S. Environmental Protection Agency Process Design Manual for Land Treatment of Municipal Wastewater* (EPA/625/R-06/016), or other pertinent, reviewed and accepted materials regarding land application activity.

- ✓ Applicable; this permit implements benchmark values. The wastewater and sludge quality may result in alterations to the land application system, including different crop use.

BIOSOLIDS & SEWAGE SLUDGE:

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

- ✓ Not Applicable; Permittee is not authorized to land apply biosolids. Sludge/biosolids are removed by contract hauler, incinerated, stored in the lagoon, etc. The permittee must submit a sludge management plan for approval that details removal and disposal plans when sludge is to be removed from lagoons.

COMPLIANCE AND ENFORCEMENT:

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

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

INDUSTRIAL SLUDGE:

Industrial sludge is solids, semi-solids, or liquid residue generated during the treatment of industrial process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and a material derived from industrial sludge.

✓ Not applicable; this condition is not applicable to the permittee for this facility.

LAND APPLICATION RATES:

In accordance with 10 CSR 20-8.020(15), wastewater must be land applied at either hydraulic loading rates, nitrogen loading rates, or trace elements loading rates.

Conversion Factors for laboratory testing results: [mg/L or mg/kg or ppm] x [conversion factor] = [pounds per Unit Volume]

<u>Unit Volume</u>	<u>Conversion Factors</u>
lbs./acre inch	0.226
lbs./1,000 gallons	0.0083
lbs./100 cubic feet	0.0062
lbs/ton (wet weight)	0.002

✓ Applicable; **Hydraulic Loading Rates** – wastewater shall be land applied at rates to allow for proper soil absorption and plant uptake. In no case, shall the hydraulic loading rate exceed the soil permeability rate, resulting in a discharge. Hydraulic loading rates must also consider nitrogen loading to the soils and crop. In accordance with 10 CSR 20-8.020(15)(F)7., wastewater application rates should not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater should not exceed ten (10) mg/l of nitrate nitrogen as N.

NO-DISCHARGE LAND APPLICATION:

Land application of wastewater or sludge shall comply with the all applicable no-discharge requirements listed in 10 CSR 20-6.015 and all facility operations and maintenance requirements listed in 10 CSR 20-8.020(15). These requirements ensure appropriate operation of the no-discharge land application systems and prevent unauthorized and illicit discharges to waters of the state. Land applications by a contract hauler on fields that the permittee has a spreading agreement on are not required to be in this permit. A spreading agreement does not constitute the field being rented or leased by the permittee as they do not have any control over management of the field.

✓ Applicable; This permit authorizes operation of a no-discharge land application system to treat wastewater.

SCHEDULE OF COMPLIANCE (SOC):

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. *See also* Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit includes interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1) and 10 CSR 20-7.031(10), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:

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

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

✓ Not Applicable; This permit does not contain a SOC.

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 stormwater discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate pollution of stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged with during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values discussed in Part V above. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure that will assist in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit. Additional information can be found in EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009].

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures that have been determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

If failures continue to occur and the permittee feels there are no practicable or cost-effective BMPs that will sufficiently reduce a pollutant concentration in the discharge to the benchmark values established in the permit, the permittee can submit a request to re-evaluate the benchmark values. This request needs to include 1) a detailed explanation of why the facility is unable to comply with the permit conditions and unable to establish BMPs to achieve the benchmark values; 2) financial data of the company and documentation of cost associated with BMPs for review and 3) the SWPPP, which should contain adequate documentation of BMPs employed, failed BMPs, corrective actions, and all other required information. This will allow the department to conduct a cost analysis on control measures and actions taken by the facility to determine cost-effectiveness of BMPs. The request shall be submitted in the form of an operating permit modification; the application is found at: <http://dnr.mo.gov/forms/index.html>.

✓ Not applicable; at this time, the permittee is not required to develop and implement a SWPPP. Stormwater regulations were developed to protect waters from pollutant runoff during precipitation events. This permit does not authorize the discharge of any point source. If this facility has a standard industrial classification (SIC) code listed in the stormwater regulations, then the facility will be required to develop 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 WLA is the amount of pollutant each discharger is allowed 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.

✓ Not applicable; wasteload allocations were not calculated. This facility does not discharge.

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. This facility does not discharge.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(4)], general criteria shall be applicable to all waters of the state at all times including mixing zones. If the facility converts to a discharging system, water quality standards must be considered in the permit modification.

Part IV PERMIT LIMITS & MONITORING DETERMINATION

PERMITTED FEATURE #001 – ONE-CELL LAGOON (STORAGE BASINS)

Irrigation limitations derived and established in the below Irrigation 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.

STORAGE BASIN LIMITATIONS TABLE:

PARAMETERS	UNIT	BASIS FOR LIMITS	DAILY MAX	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
STORAGE BASIN								
FREEBOARD	FEET	6	*	-	NEW	once/month	once/year	MEASURED
PRECIPITATION	INCHES	6	*	-	NEW	once/month	once/year	MEASURED
WASTEWATER								
BORON, TOTAL RECOVERABLE	MG/L	6	*	0.75	NEW	once/2.5 years	once/permit	GRAB
COPPER, TOTAL RECOVERABLE	MG/L	6	*	0.2	NEW	once/2.5 years	once/permit	GRAB
LEAD, TOTAL RECOVERABLE	MG/L	6	*	5.0	NEW	once/2.5 years	once/permit	GRAB
ZINC, TOTAL RECOVERABLE	MG/L	6	*	2.0	NEW	once/2.5 years	once/permit	GRAB

* - Monitoring requirement only
NEW – This is a new state operating permit.

Basis for Limitations Codes:

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

PERMITTED FEATURE #001 – DERIVATION AND DISCUSSION OF LIMITS:

STORAGE BASIN:

Freeboard

Monitoring requirement only. In order to determine compliance with 10 CSR 20-8.020(15)(F)2., monitoring of freeboard in the storage basin is required.

Precipitation

Monitoring requirement only. In order to determine compliance with 10 CSR 20-8.020(15)(F)2., monitoring of freeboard in the storage basin is required. Additionally, precipitation monitoring allows the permittee to operate the land application activity to prevent over application during saturated conditions that may result in a discharge.

WASTEWATER:

Boron, Total Recoverable

Monitoring requirement only. Boron is a pollutant of concern from vehicle washing operations and is included in the state’s general permit MO-G75 for vehicle and equipment wash facilities. In accordance with 10 CSR 20-8.020(15)(F)8., if wastewater land applied exceeds the trace element concentrations listed in Table 2-6 of the *U.S. Environmental Protection Agency Process Design Manual for Land Treatment of Municipal Wastewater* (EPA/625/R-06/016), the permittee will be required to reduce hydraulic application rates or alter the crops planted in the land application field. Monitoring will assist in management of the land application activity.

Copper, Total Recoverable

Monitoring requirement only. Copper is a pollutant of concern from vehicle washing operations and is included in the state’s general permit MO-G75 for vehicle and equipment wash facilities. Since there are no technology based standards for metals from vehicle washing operations, the permit writer used best professional judgment to use Table 2-6 of the *U.S. Environmental Protection Agency Process Design Manual for Land Treatment of Municipal Wastewater* (EPA/625/R-06/016) for evaluating trace metal loading rates. This guidance document is listed in 10 CSR 20-8.020(15)(F)8. This is appropriate since the wastewater has both vehicle wash wastewater and domestic (municipal) wastewater. If wastewater land applied exceeds the trace element concentrations listed in the permittee will be required to reduce hydraulic application rates or alter the crops planted in the land application field. Monitoring will assist in management of the land application activity.

Lead, Total Recoverable

Monitoring requirement only. Lead is a pollutant of concern from vehicle washing operations and is included in the state’s general permit MO-G75 for vehicle and equipment wash facilities. Since there are no technology based standards for metals from vehicle washing operations, the permit writer used best professional judgment to use Table 2-6 of the *U.S. Environmental Protection Agency Process Design Manual for Land Treatment of Municipal Wastewater* (EPA/625/R-06/016) for evaluating trace metal loading rates. This guidance document is listed in 10 CSR 20-8.020(15)(F)8. This is appropriate since the wastewater has both vehicle wash wastewater and domestic (municipal) wastewater. If wastewater land applied exceeds the trace element concentrations listed in the permittee will be required to reduce hydraulic application rates or alter the crops planted in the land application field. Monitoring will assist in management of the land application activity.

Zinc, Total Recoverable

Monitoring requirement only. Zinc is a pollutant of concern from vehicle washing operations and is included in the state’s general permit MO-G75 for vehicle and equipment wash facilities. Since there are no technology based standards for metals from vehicle washing operations, the permit writer used best professional judgment to use Table 2-6 of the *U.S. Environmental Protection Agency Process Design Manual for Land Treatment of Municipal Wastewater* (EPA/625/R-06/016) for evaluating trace metal loading rates. This guidance document is listed in 10 CSR 20-8.020(15)(F)8. This is appropriate since the wastewater has both vehicle wash wastewater and domestic (municipal) wastewater. If wastewater land applied exceeds the trace element concentrations listed in the permittee will be required to reduce hydraulic application rates or alter the crops planted in the land application field. Monitoring will assist in management of the land application activity.

PERMITTED FEATURE #002 – Land Application Field

Limitations derived and established in the below Land Application Field 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.

LAND APPLICATION FIELD LIMITATIONS TABLE:

PARAMETERS	UNIT	BASIS FOR LIMITS	DAILY MAX	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
WASTEWATER APPLICATION								
APPLICATION AREA	ACRES	6	*	-	NEW	once/day	once/year	MEASURED
APPLICATION RATE	INCHES/ACRE	6	*	-	NEW	once/day	once/year	MEASURED
IRRIGATION PERIOD	HOURS	6	*	-	NEW	once/day	once/year	MEASURED
VOLUME IRRIGATED	GALLONS	6	*	-	NEW	once/day	once/year	MEASURED

* - Monitoring requirement only

NEW – This is a new state operating permit.

Basis for Limitations Codes:

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

PERMITTED FEATURE #002 – DERIVATION AND DISCUSSION OF LIMITS:

WASTEWATER APPLICATION:

Application Area

Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15), monitoring of application activity is required. Monitoring the area will allow the permittee to ensure compliance with setback distances and are prevents illicit discharges to waterbodies.

Application Rate

Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15), monitoring of application activity is required. Monitoring the rate will allow the permittee to ensure appropriate permeability and plant uptake is occurring and will prevent soil saturation that may result in runoff and illicit discharges to waterbodies.

Irrigation Period

Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15), monitoring of application activity is required. Monitoring the irrigation period will also ensure that soils to not get saturated and result in runoff and illicit discharges to waterbodies.

Volume Irrigated

Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15), monitoring of application activity is required. Monitoring the volume irrigated will allow the permittee to ensure over application does not occur and that hydraulic loading is maintained within design levels. This will also help prevent runoff and illicit discharges due to soil saturation.

PART V SAMPLING AND REPORTING REQUIREMENTS:

Refer to each outfall's derivation and discussion of limits section to review individual sampling and reporting frequencies and sampling type.

ELECTRONIC DISCHARGE MONITORING REPORTING:

Due to upcoming federal regulations, all facilities will need to begin submitting their discharge monitoring reports electronically, called the eDMR system. To begin the process, please visit <http://dnr.mo.gov/env/wpp/edmr.htm>. This process is expected to save time, lessen paperwork, and reduce operating costs for both the facilities and the water protection program. Additional information may also be found at <http://dnr.mo.gov/pubs/pub2474.pdf>.

SAMPLING FREQUENCY JUSTIFICATION:

Sampling and reporting frequencies were established to best monitor the land application system. The storage basins should be monitored more frequently than the wastewater sampling requirements in order to ensure the basins do not overflow. The wastewater being land applied shall be tested yearly for nutrients to ensure that the land application field is not being overloaded. Due to the low volume of vehicle wash wastewater being introduced, the permittee will only be required to sample for metals twice per permit cycle. These frequencies are consistent with other land application permits issued in the state.

SAMPLING TYPE JUSTIFICATION:

Sampling type was established to best represent the operations of the site. Storage basin parameters and land application parameters shall be recorded as measurement. The wastewater pollutants shall be collected in a grab sample. These sampling types are representative of the activity and will help in ensuring compliance with all applicable requirements.

Part VI COST ANALYSIS FOR COMPLIANCE

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a "finding of affordability" on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

- 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.

Cost Analysis for Compliance - 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 B – Cost Analysis for Compliance**

Part VII ADMINISTRATIVE REQUIREMENTS

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

PERMIT SYNCHRONIZATION:

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

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.

- The Public Notice period for this operating permit was March 25, 2016 – April 25, 2016. No comments were received.

DATE OF FACT SHEET: FEBRUARY 17, 2016

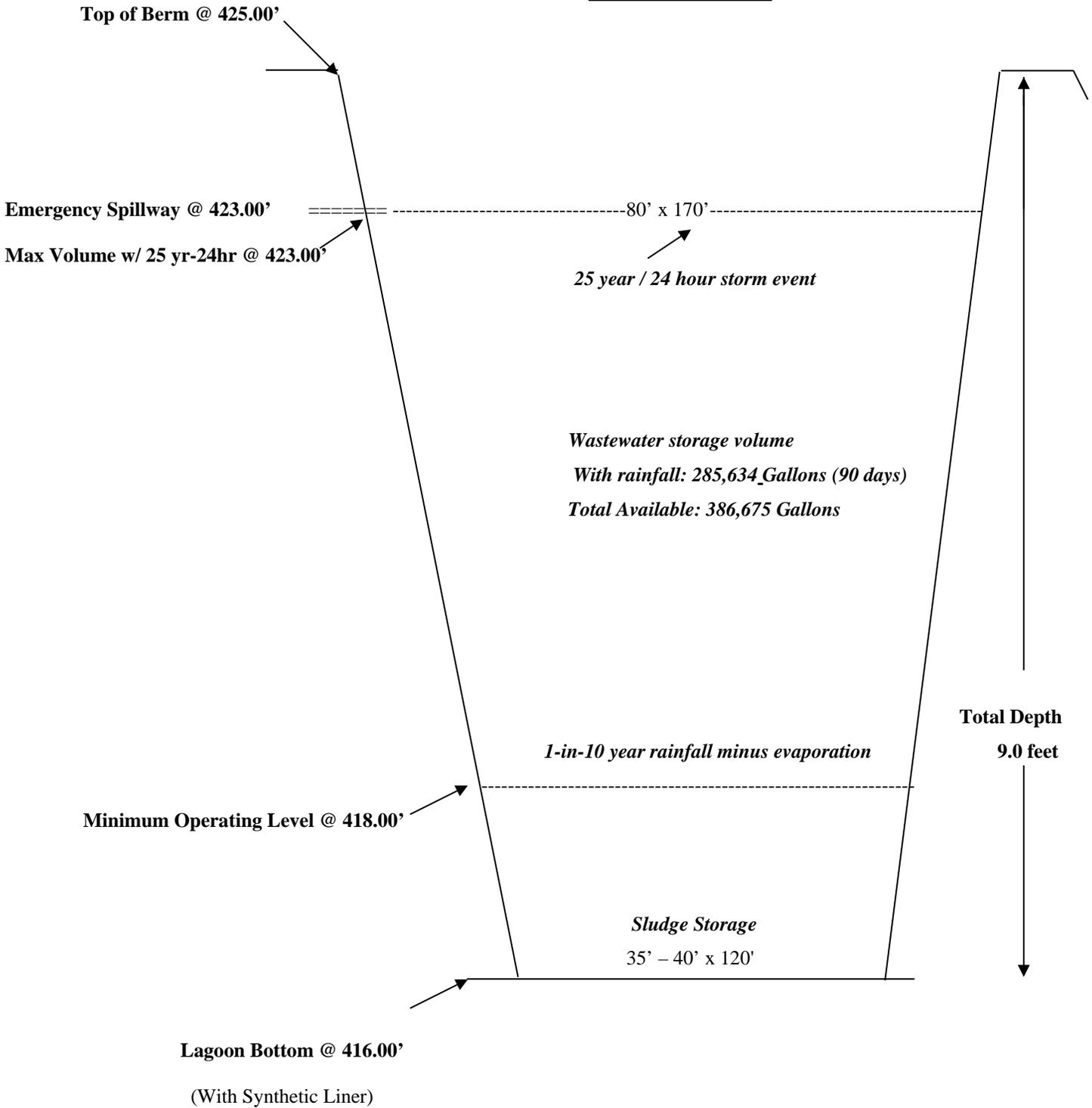
COMPLETED BY:

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Appendices

APPENDIX A. FACILITY DESIGN:

LAGOON PROFILE



REITZ & JENS, Inc.
CONSULTING ENGINEERS

1055 Corporate Square Drive • St. Louis, Missouri 63132 • 314/993-4132
FAX 314/993-4177

MEMORANDUM

To: Missouri Department of Natural Resources

From: Michael Wheeler, P.E. 

Subject: MONG Armory - Festus, MO - Sewer Improvements - T0245-01
Form J – Request for Termination of a State Operating Permit

Date: August 1, 2003

This memorandum is to summarize the pertinent aspects of the sewer improvements made at the Missouri National Guard Armory in Festus, Missouri as they affect the request for termination of state operating permit number MO-0120383.

- I. The former two-cell lagoon with a point discharge has been converted into a single cell lagoon with a no discharge land application system.
 1. All sludge was removed from the old lagoon.
 2. The lagoon was modified for the new system.
 - A. The center berm was removed.
 - B. The outlet pipe was cut off below grade and filled.
 - C. The liner was reworked to bring up to DNR standards.
 3. The following is pertinent dimensions for the lagoon and system:
 - A. Low point of the lagoon near land application pump station is 412±.
 - B. Pipes to land application pump station are 10" PVC with inverts at elevation 416 and 419.
 - C. The new influent pipe is 8" PVC and discharges at elevation 416.
 - D. The bottom dimension of the lagoon (at 416) is 35' to 40' by 120'.
 - E. The design high water elevation is 423. The lagoon at 423 is 80' by 170'.
 - F. The normal water line elevation is 418.
 - G. The top of the lagoon berms are at a minimum of 425.
- II. Design information from the Engineering report dated August 2002.
 1. Design flows:
 - A. The estimated average daily flow of domestic waste is 476 gpd.
 - B. The estimated average daily flow of effluent from the truck wash facility is 59 gpd.
 - C. The estimated average daily rainfall runoff from the truck wash facility is 198 gpd.
 - D. Total estimated average daily flow to lagoon is 733 gpd.
 2. Lagoon 90 day storage requirement:
 - A. Using an average daily flow of 760 gpd = 68,400 gallons storage.
 - B. Rainfall on lagoon requires 217,234 gallons storage.
 - C. Total required 90 day storage = 285,634 gallons.
 - D. Total storage available in lagoon between elevations 418 and 423 is 386,675 gallons.
 3. Land Application:
 - A. Total land application area = 4x64' radius circles = 1.18 acre.
 - B. Maximum volume available for land application at 24" per year 770,021 gallons.
 - C. Total estimated yearly flow is 525,627 gallons.

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Soil Mechanics, Foundations, Hydrology, Hydraulics, Solid Waste Management, Land Development, Water Resources

APPENDIX B – COST ANALYSIS FOR COMPLIANCE

**Missouri Department of Natural Resources
Water Protection Program
Cost Analysis for Compliance
(In accordance with RSMo 644.145)**

**Festus National Guard Amory and Field Maintenance Shop
Missouri Army National Guard
For a New Permit
Missouri State Operating Permit #MO-0138169**

Section 644.145 RSMo requires the Department of Natural Resources (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 for publicly-owned treatment works.”

This cost analysis is based on data available to the Department as provided by the permittee and data obtained from readily available sources. The Department currently uses software to estimate the cost for reconstruction of a treatment plant titled CAPDEWORKS (CapDet). CapDet is a preliminary design and costing software program from Hydromantis for wastewater treatment plants that uses national indices, such as the Marshall and Swift Index and Engineering News Records Cost Index for pricing in development of capital, operating, maintenance, material, and energy costs for each treatment technology. As the program works from national indices and each facility is unique in its budget commitments and treatment design, the estimated costs are expected to be higher than actual costs. The cost estimates located within this document are for the construction of a brand new treatment facility or system that is the most practical to facilitate compliance with new requirements.

Current Facility Description:

This is a military training facility for the Missouri Army National Guard. Domestic wastewater and industrial process wastewater are generated on site. Domestic wastewater and industrial process wastewater are treated by a no-discharge wastewater treatment facility on site. Wastewater from vehicle washing and domestic wastewater flows into a one-cell facultative lagoon, followed by land application. Sludge is retained in the lagoon, and pumped and hauled to a permitted facility when necessary.

Flow evaluated: 930 gallons per day

Total Connections for this facility: 1

New Permit Requirements:

The permit requires compliance with new monitoring requirements for storage basin monitoring, wastewater analytical sampling and data collection, and wastewater application activity monitoring. This permit also includes operational and maintenance requirements in order to ensure proper function of the land application system. The storage basin monitoring, wastewater application activity monitoring and continued operations and maintenance activities all occur onsite. The wastewater analytical sampling occurs in a laboratory.

Since this is a new operating permit, the cost assumptions in this cost analysis which typically anticipate complete replacement of the existing treatment facility to comply with more stringent limits placed in a renewed permit have been removed. This cost analysis will consider only the estimated laboratory costs for testing the wastewater being land applied and the estimated operational and maintenance costs associated with a land application system. Estimated laboratory costs were collected from a testing fees schedule for a local private laboratory in Columbia, MO. These costs are considered to be competitive and will represent laboratory costs in Festus, MO or other parts of the state. The estimated costs for continued operations and maintenance of the facility were collected from the CapDet calculator used to evaluate multiple treatment technologies and costs associated with those technologies at a range of flows, then, using a linear interpolation, develops a spreadsheet outlining high and low costs for treatment plants. This CapDet spreadsheet estimated costs based on location of the facility within the state. This analysis assumes that costs for operations and maintenance of the land application system for the Festus National Guard Amory and Field Maintenance Shop will be similar to costs for the City of Festus, MO. The proximity of the Festus National Guard Amory and Field Maintenance Shop to the city allows the permit writer to utilize the ranges of cost found in the CapDet spreadsheet for the City of Festus. There are no costs ranges associated with non-municipal facilities readily available.

Anticipated Costs Associated with Complying with the New Requirements:

Costs associated with land application:

This is a new permit that will cost \$1,800 per year. The total cost estimated for new annual and twice per permit cycle wastewater monitoring requirements, meaning laboratory testing, is estimated to be \$308 per permit cycle. This is averaged to \$61.60 per year for a five year permit cycle. Additionally, the estimated annual costs for operations and maintenance of the facility ranges from \$744 to \$11,743. This cost is not funded through user fees; therefore, a monthly household user fee is not calculated here. These costs to the Missouri Army National Guard total approximately \$2,605.60 to \$13,604.60 each year to continue operating the land application system and meet the monitoring and sampling requirements of the permit. In order to keep a conservative assumption of highest potential cost burden, the permit writer will assume that the Missouri Army National Guard currently does not spend any money on this system. Labor costs are not included. The facility previously existed, with staff operating and maintaining the system in some capacity.

This cost analysis does not dictate that a permittee will upgrade their facility, or how they will comply with the new permit requirements. For any questions associated with the *CAPDEWORKS cost estimator*, please contact the Engineering Section at (573) 751-6621.

(1) A community’s financial capability and ability to raise or secure necessary funding;

The permit is being issued to the Missouri Army National Guard, which operates in a separate capacity than that of entities with rate payers. The Missouri Army National Guard is funded through both federal and state sources, which in turn are funded by federal and state taxes. Taxes are applied to the entire population of the United States of America. Furthermore, the funding sources provide adequate resources to operate and maintain wastewater treatment systems on Missouri Army National Guard sites. No additional federal or state tax levies will be required to comply with the conditions of this permit.

This permit does not require conditions that will result in infrastructure upgrades associated with capital improvement projects that require procurement of funding prior to commencing improvements. The Missouri Army National Guard can fund sampling, operations and maintenance activities through the budget established for operation and maintenance of the wastewater treatment plant, which does not affect individuals or their communities. Since the users are not utility customers in the traditional municipal sense of the term (city or sewer district utility customers), there are no user rates. Therefore, no residential utility rates should be impacted in order to comply with the new requirements of this permit.

(2) Affordability of pollution control options for the individuals or households at or below the median household income level of the community;

Estimated Costs for Land Application Pollution Control Options

Estimated total present worth of pollution control*:	<u>Not Applicable</u>
Estimated capital cost of pollution control**:	<u>Not Applicable</u>
Land required:	<u>3.46 acres</u>
Annual cost of operation and maintenance***:	<u>\$744 - \$11,743</u>

* Total Present Worth includes a five percent interest rate to construct and perform annual operation and maintenance of the new treatment plant over the term of the loan. This cost includes capital costs for construction and debt costs for a loan to fund the new construction. This facility already exists, and the permit conditions do not require new construction. Therefore, this value is not applicable to this analysis.

** Capital Cost includes project costs from CapDet with design, inspection and contingency costs. This cost includes capital costs for construction. This facility already exists, and the permit conditions do not require new construction. Therefore, this value is not applicable to this analysis

*** O&M cost includes operations, maintenance, materials, chemical and electrical costs for the facility on an annual basis. It includes items that are expected to replace during operations, such as pumps. The CapDet program estimates O&M costs between 15% and 45% of the user cost. However, there are no users in the traditional municipal sense of the term.

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

The investment in wastewater treatment will provide several social, environmental and economic benefits. Improved wastewater provides benefits such as avoided health costs due to water-related illness, enhanced environmental ecosystem quality, and improved natural resources. The preservation of natural resources has been proven to increase the economic value and sustainability of the surrounding communities. Maintaining Missouri's water quality standards fulfill the goals of **restoring** and **maintaining** the chemical, physical and biological integrity of **the receiving stream**; and, where attainable, to achieves a level of water quality that provides for the protection and propagation of fish, shellfish, wildlife and recreation in and on the water.

(4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates:

The permit is being issued to the Missouri Army National Guard, which operates in a separate capacity than that of entities with rates payers. The Missouri Army National Guard is funded through both federal and state sources, which in turn are funded by federal and state taxes. Taxes are applied to the entire population of the United States of America. Furthermore, the funding sources provide adequate resources to operate and maintain wastewater treatment systems on Missouri Army National Guard sites. No additional federal or state tax levies will be required to comply with the conditions of this permit.

This permit does not require conditions that will result in infrastructure upgrades associated with capital improvement projects that require procurement of funding prior to commencing improvements. The Missouri Army National Guard can fund sampling, operations and maintenance activities through the budget established for operation and maintenance of the wastewater treatment plant, which does not affect individuals or their communities. Since there are no users (city or sewer district utility customers) in the traditional municipal sense of the term, there are no user rates. Therefore, no rates should be impacted in order to comply with the new requirements of this permit.

(5) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low and fixed income populations. This requirement includes but is not limited to:

- (a) 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.
- (b) 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.

There are no schedules of compliance. This is a new permit and compliance with permit conditions must be accomplished immediately.

The permit is being issued to the Missouri Army National Guard, which operates in a separate capacity than that of entities with rates payers. The Missouri Army National Guard is funded through both federal and state sources, which in turn are funded by federal and state taxes. Taxes are applied to the entire population of the United States of America. Furthermore, the funding sources provide adequate resources to operate and maintain wastewater treatment systems on Missouri Army National Guard sites. No additional federal or state tax levies will be required to comply with the conditions of this permit.

This permit does not require conditions that will result in infrastructure upgrades associated with capital improvement projects that require procurement of funding prior to commencing improvements. The Missouri Army National Guard can fund sampling, operations and maintenance activities through the budget established for operation and maintenance of the wastewater treatment plant, which does not affect individuals or their communities. Since there are no users (city or sewer district utility customers) in the traditional municipal sense of the term, there are no user rates. Therefore, no rates should be impacted in order to comply with the new requirements of this permit.

(6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;

The Missouri Army National Guard did not report any other investments relating to environmental improvements.

(7) 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;

The permit is being issued to the Missouri Army National Guard, which operates in a separate capacity than that of entities with rates payers. The Missouri Army National Guard is funded through both federal and state sources, which in turn are funded by federal and state taxes. Taxes are applied to the entire population of the United States of America. Furthermore, the funding sources provide adequate resources to operate and maintain wastewater treatment systems on Missouri Army National Guard sites. No additional federal or state tax levies will be required to comply with the conditions of this permit.

This permit does not require conditions that will result in infrastructure upgrades associated with capital improvement projects that require procurement of funding prior to commencing improvements. The Missouri Army National Guard can fund sampling, operations and maintenance activities through the budget established for operation and maintenance of the wastewater treatment plant, which does not affect individuals or their communities. Since there are no users (city or sewer district utility customers) in the traditional municipal sense of the term, there are no user rates. Therefore, no rates should be impacted in order to comply with the new requirements of this permit and new costs will not cause a financial burden to surrounding communities.

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

The Missouri Army National Guard did not report any other relevant local economic conditions.

Conclusion and Finding

This is a new permit, implementing current regulations associated with operating and maintaining a land application system for the treatment and disposal of wastewater. As a result, the Department requires monitoring and analytical sampling of the wastewater, as well as operational and maintenance requirements in the permit.

The Department considered the eight (8) criteria presented in subsection 644.145.3 when evaluating the cost associated with the relevant actions. The Department estimates the resulting permit compliance costs will be between \$2,605.60 to \$13,604.60 per year over a five year period. As a result of reviewing the above criteria, the Department hereby finds that the actions described above may result in a low burden with regard to the community's overall financial capability and a low financial impact for most individual customers/households; therefore, the new permit requirements are affordable. All costs will be incurred by the permittee and will not be disseminated to the surrounding community. The Missouri Army National Guard will be required to incorporate costs of compliance with the new permit into the existing budget allocated for this wastewater treatment system. With this understanding, it can be reasonably determined that that the surrounding community will incur virtually no new costs as a result of the permit actions.

The estimated cost for land application in the state is divided into four regions, based on the minimum storage time, rainfall amounts, and land required for land application to occur. The regions are north of Highway 36, between Highways 36 and 50, between Highways 50 and 60, and south of Highway 60. For communities that are divided by highways, the region selected is where the majority of the county resides. The low cost estimate for land application assumes that the permittee will not have to construct a new storage basin and the high cost estimate assumes the construction of a storage basin.

In accordance with 40 CFR § 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. This is a new permit; therefore, compliance must be accomplished upon issuance of the permit. The Missouri Army National Guard is not awarded a schedule of compliance for any condition in the permit.

The Department is committed to reassessing the cost analysis for compliance at renewal to determine if the appropriate financial burden was placed on the surrounding community or to evaluate schedules of compliance with new permit conditions that will accommodate the socioeconomic data and financial capability of the permittee at that time. By working more closely with permittees, we will be able to identify opportunities to extend future schedules of compliance, if appropriate. Because each facility is unique, we want to make sure that you have the opportunity to consider all your options and tailor solutions to best meet your needs. The Department understands the economic challenges associated with achieving compliance, and is committed to using all available tools to make an accurate and practical finding of affordability for the facilities in the State.

This determination is based on readily available data and may overestimate the financial impact on the permittee.



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MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

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

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

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

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

Section B – Reporting Requirements

1. **Planned Changes.**
 - a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
 - iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
 - iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.
2. **Non-compliance Reporting.**
 - a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.



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- b. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - ii. Any upset which exceeds any effluent limitation in the permit.
 - iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
 - c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.
3. **Anticipated Noncompliance.** The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.
 4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.
 5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.
 6. **Other Information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.
 7. **Discharge Monitoring Reports.**
 - a. Monitoring results shall be reported at the intervals specified in the permit.
 - b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
 - c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.
- b. Notice.
 - i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
 - ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
 - c. Prohibition of bypass.
 - i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 3. The permittee submitted notices as required under paragraph 2. b. of this section.
 - ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.
3. **Upset Requirements.**
 - a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated; and
 - iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
 - iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
 - c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section C – Bypass/Upset Requirements

1. **Definitions.**
 - a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
 - b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
2. **Bypass Requirements.**
 - a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
 - a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 - b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement



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- imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
- c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.
- d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed \$10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
2. **Duty to Reapply.**
- a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
- b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
- c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
5. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
6. **Permit Actions.**
- a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
- i. Violations of any terms or conditions of this permit or the law;
- ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
- iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- iv. Any reason set forth in the Law or Regulations.
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
7. **Permit Transfer.**
- a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
- b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
- c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.
8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.



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

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.
11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.
12. **Closure of Treatment Facilities.**
 - a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
 - b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.
13. **Signatory Requirement.**
 - a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
 - b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
 - c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.
14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

STANDARD CONDITIONS FOR NPDES PERMITS
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March 1, 2015

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

SECTION A – GENERAL REQUIREMENTS

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

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

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

SECTION B – DEFINITIONS

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

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

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

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

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

SECTION E – INCINERATION OF SLUDGE

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

SECTION F – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

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

SECTION G – LAND APPLICATION

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

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

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

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

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

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

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

TABLE 1

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

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

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

TABLE 2

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

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

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

TABLE 3

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

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

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

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

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

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

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

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

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

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

SECTION H – CLOSURE REQUIREMENTS

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

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

SECTION I – MONITORING FREQUENCY

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

TABLE 5

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

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

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

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

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

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

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

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

Note 3: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

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

SECTION J – RECORD KEEPING AND REPORTING REQUIREMENTS

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

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

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

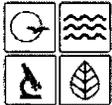
EPA Region VII
Water Compliance Branch (WACM)
Sludge Coordinator
11201 Renner Blvd.
Lenexa, KS 66219

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

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

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MAR 06 2015 AP2554



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM A - APPLICATION FOR NONDOMESTIC PERMIT UNDER MISSOURI
CLEAN WATER LAW
WATER PROTECTION PROGRAM

FOR AGENCY USE ONLY
CHECK NUMBER
DATE RECEIVED 7/6/15
FEE SUBMITTED

Note PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:
 An operating permit for a new or unpermitted facility: MOD 138 169
Please indicate the original Construction Permit # _____
 An operating permit renewal:
Please indicate the permit # MO- _____ Expiration Date _____
 An operating permit modification:
Please indicate the permit # MO- _____ Modification Reason: _____

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

2. FACILITY

NAME Festus Armory and Field Maintenance Shop
TELEPHONE NUMBER WITH AREA CODE (573) 368-3142
FAX
ADDRESS (PHYSICAL) 2740 Hwy P CITY Festus STATE MO ZIP CODE 63028

3. OWNER

NAME Missouri Army National Guard
EMAIL ADDRESS johnny.d.jurgensmeyer.mil@mail.mil
TELEPHONE NUMBER WITH AREA CODE (573) 638-9514
FAX (573) 638-9511
ADDRESS (MAILING) 6819B North Boundary Road CITY Jefferson City STATE MO ZIP CODE 65101

3.1 Request review of draft permit prior to public notice? YES NO

4. CONTINUING AUTHORITY

NAME Same as owner
EMAIL ADDRESS
TELEPHONE NUMBER WITH AREA CODE
FAX
ADDRESS (MAILING) CITY STATE ZIP CODE

5. OPERATOR

NAME N/A
CERTIFICATE NUMBER
TELEPHONE NUMBER WITH AREA CODE
FAX
ADDRESS (MAILING) CITY STATE ZIP CODE

6. FACILITY CONTACT

NAME Mr. Kit Sybert
TITLE Maintenance
TELEPHONE NUMBER WITH AREA CODE (573) 368-3142
E-MAIL ADDRESS kit.p.sybert2.nfg@mail.mil
FAX

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.) N/A
001 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)
002 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____
003 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____
004 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.
N/A 001 - SIC _____ and NAICS _____ 002 - SIC _____ and NAICS _____
003 - SIC _____ and NAICS _____ 004 - SIC _____ and NAICS _____

Handwritten signature

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION
(Complete all forms that are applicable.)

- A. Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? YES NO
 If yes, complete Form C or 2F.
 (2F is the U.S. EPA's Application for Storm Water Discharges Associate with Industrial Activity.)
- B. Is application for storm water discharges only? YES NO
 If yes, complete Form C or 2F.
- C. Is your facility considered a "Primary Industry" under EPA guidelines: YES NO
 If yes, complete Forms C or 2F and D.
- D. Is wastewater land applied? YES NO
 If yes, complete Form I.
- E. Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? YES NO
 If yes, complete Form R.
- F. If you are a Class IA CAFO, please disregard part D and E of this section. However, please attach any revision to your Nutrient Management Plan.
- F. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions.
 (PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).

NAME See attached page			
ADDRESS	CITY	STATE	ZIP CODE

10. 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 to the Missouri Clean Water Commission.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) LTC John D. Jurgensmeyer, Environmental Management Officer	TELEPHONE NUMBER WITH AREA CODE (573) 638-9514
SIGNATURE 	DATE SIGNED 30 Jun 2015

MO 780-1479 (07-14)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

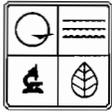
Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- Appropriate Fees?
- Map at 1" = 2000' scale?
- Signature?
- Form C or 2F, if applicable?
- Form D, if applicable?
- Form I (Irrigation), if applicable?
- Form R (Sludge), if applicable?
- Revised Nutrient Management Plan, if applicable?

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JUL 06 2015



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM I - PERMIT APPLICATION FOR OPERATION OF WASTEWATER IRRIGATION SYSTEMS

FOR AGENCY USE ONLY	
PERMIT NUMBER	MO - _____
DATE RECEIVED	_____

INSTRUCTIONS: The following forms must be submitted with Form I: **FORM B or B2** for domestic wastewater.
FORM A for industrial wastewater.

1. FACILITY INFORMATION

1.1 Facility Name Festus Armory and Field Maintenance Shop	1.2 Permit Number MO- _____
1.3 Type of wastewater to be irrigated: <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Municipal <input type="checkbox"/> State/National Park <input type="checkbox"/> Seasonal business <input type="checkbox"/> Municipal with Pretreatment Program or Significant Industrial Users <input checked="" type="checkbox"/> Other (explain) <u>Industrial</u> SIC Codes (list all that apply, in order of importance) <u>9711</u>	
1.4 Months when the business or enterprise will operate or generate wastewater: <input checked="" type="checkbox"/> 12 months per year <input type="checkbox"/> Part of year (list Months): _____	
1.5 This system is designed for: <input checked="" type="checkbox"/> No-discharge <input type="checkbox"/> Partial irrigation when feasible and discharge rest of time. <input type="checkbox"/> Irrigation during recreation season (April – October) and discharge during November – March. <input type="checkbox"/> Other (explain) _____	
1.6 List the Facility outfalls which will be applicable to the irrigation system. Outfall Numbers: <u>N/A</u>	

2. STORAGE BASINS

2.1 Number of storage basins: <u>1</u>
Type of basin: <input type="checkbox"/> Steel <input type="checkbox"/> Concrete <input type="checkbox"/> Fiberglass <input type="checkbox"/> Earthen <input checked="" type="checkbox"/> Earthen with membrane liner

3. LAND APPLICATION SYSTEM

3.1 Number of irrigation sites <u>1</u> Total Acres <u>1.18</u> Location: <u>SE</u> ¼, <u>NE</u> ¼, <u>NE</u> ¼, Sec <u>10</u> T <u>40N</u> R <u>5E</u> <u>Jefferson</u> County <u>1.18</u> Acres Location: _____ ¼, _____ ¼, _____ ¼, Sec _____ T _____ R _____ County _____ Acres Attach pages as needed.
3.2 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings, and other pertinent features.
3.3 Type of vegetation: <input type="checkbox"/> Grass hay <input type="checkbox"/> Pasture <input type="checkbox"/> Timber <input type="checkbox"/> Row crops <input checked="" type="checkbox"/> Other (describe) <u>Grass</u>
3.4 Wastewater flow (dry weather) gallons/day: Average annual: <u>760 gpd</u> Seasonal _____ Off-season _____ Months of seasonal flow: _____

3. LAND APPLICATION SYSTEM (continued)

3.5 Land Application rate per acre (design flow including 1 in 10 year stormwater flows):

Design: _____ inches/year .125 inches/hour _____ inches/day _____ inches/week

Actual: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week

Total Irrigation per year (gallons): 737,986 Design _____ Actual

Actual months used for Irrigation (check all that apply):

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

3.6 Land Application Rate is based on:

Nutrient Management Plan (N&P)

Hydraulic Loading

Other (describe) Engineering Calculations

3.7 Equipment type: Sprinklers Gated pipe Center pivot Traveling gun Other (describe) _____

Equipment Flow Capacity: 930 Gallons per hour 198 Total hours of operation per year

3.8 **Public Use Areas.** Public access shall not be allowed to public use area irrigation sites when application is occurring. Method of Public Access Restriction:

Site is Fenced

Wastewater disinfection prior to irrigation

Site is not for public use

Other (describe): _____

3.9 Separation distance (in feet) from the outside edge of the wetted irrigation area to nearby down gradient features:

741 Permanent flowing stream _____ Losing Stream _____ Intermittent (wet weather) stream _____ Lake or pond

189 Property boundary _____ Dwellings _____ Water supply well _____ Other (describe) _____

3.10 The facility must develop and retain an Operation and Maintenance (O&M) Plan for the irrigation system.

Date of O&M Plan: 04/01/2003

4. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment.

OWNER OR AUTHORIZED REPRESENTATIVE

John D. Jurgensmeyer

OFFICIAL TITLE

Environmental Management Officer

EMAIL ADDRESS

johnny.d.jurgensmeyer.mil@mail.mil

TELEPHONE NUMBER WITH AREA CODE

(573) 638-9514

SIGNATURE



DATE SIGNED

30 Jun 2015

From Form A, #9 Downstream Landowners

The land application site will be on property owned by:

State of Missouri
2740 State Rd P
Festus, MO 63028

Adjacent landowners include:

Union Electric DBA Ameren UE
2690 State Rt 21A
Festus, MO 63028

Mannisi Real Estate, LLC
48 Hickory Ct
Arnold, MO 63010

Jeremiah W. (Jay) Nixon
Governor



STATE OF MISSOURI
OFFICE OF THE ADJUTANT GENERAL
DEPARTMENT OF PUBLIC SAFETY
IKE SKELTON NATIONAL GUARD TRAINING SITE
2302 MILITIA DRIVE
JEFFERSON CITY, MISSOURI 65101-1203
<http://www.moguard.com>

Stephen L. Danner
Major General, MONG
The Adjutant General



June 29, 2015

RECEIVED

Missouri Department of Natural Resources
Water Protection Program
Attention: Mr. Chris Wieberg
P.O. Box 176
Jefferson City, Missouri 65102

JUL 06 2015

WATER PROTECTION PROGRAM

Dear Mr. Wieberg:

Please find the necessary information for the issuance of an operating permit for the Festus Armory and Field Maintenance Shop (FMS). The operating permit fee for the Festus facility is \$1,800.00. The Missouri Army National Guard requests interagency billing in SAMS II for the fee. Our agency code is 812, customer ID is I8124425002.

If you have any questions or need additional information, contact Ms. Angela Neal at (573) 638-9802 or angela.m.neal30.nfg@mail.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Jurgensmeyer".

John D. Jurgensmeyer
Lieutenant Colonel, MOARNG
Environmental Management Officer

Enclosure

