STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

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

Permit No.	MO-0129224
Owner:	AFB International
Address:	117 N. Morgan, Aurora, MO 65605
Continuing Authority:	Same as Above
Address:	Same as Above
Facility Name:	AFB International
Facility Address:	117 N. Morgan, Aurora, MO 65605
Legal Description:	See Page 2
Lat / Long:	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

SIC Code #2087

See Page 2

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

August 1, 2014
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

September 30, 2017
Expiration Date

John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued)

No discharge from sludge storage tank. Pretreated process wastewater is discharged to Aurora POTW. Sludge removed by contract hauler. Design average daily flow is 8,000 gallons per day (dry weather flows).
Design sludge production is 309 dry tons/year.
Storage tank volume: 27,000 gallons.
Design capacity for dry weather flows: 4 days.

Permitted Feature #001 - **Main Permitted Feature –** Sludge storage tank.
Legal Description: SW ¼, NE ¼, Sec. 12, T26N, R26W, Lawrence County
UTM Coordinates: X = 435444 Y = 4092593
Receiving Stream: Chat Creek (C) (03168) 303(d)
First Classified Stream and ID: Chat Creek (C) (03168) 303(d)
USGS Basin & Sub-Watershed No: (11070207-0101

Permitted Feature #002 - #008, No longer used as land application sites.

Permitted Feature #009 - Storm water outfall.
Legal Description: SW ¼, NE ¼, Sec. 12, T26N, R26W, Lawrence County
UTM Coordinates: X = 435444 Y = 4092593
Receiving Stream: Chat Creek (C) (03168) 303(d)
First Classified Stream and ID: Chat Creek (C) (03168) 303(d)
USGS Basin & Sub-Watershed No: (11070207-0101)

Permitted Feature #010 - #011, No longer used as land application sites.

Permitted Feature #012 – Storm water outfall.
Legal Description: SW ¼, NE ¼, Sec. 12, T26N, R26W, Lawrence County
UTM Coordinates: X = 435575 Y = 4092630
Receiving Stream: Chat Creek (C) (03168) 303(d)
First Classified Stream and ID: Chat Creek (C) (03168) 303(d)
USGS Basin & Sub-Watershed No: (11070207-0101)

Permitted Feature #013 – Storm water outfall.
Legal Description: SW ¼, NE ¼, Sec. 12, T26N, R26W, Lawrence County
UTM Coordinates: X = 435538 Y = 4092630
Receiving Stream: Chat Creek (C) (03168) 303(d)
First Classified Stream and ID: Chat Creek (C) (03168) 303(d)
USGS Basin & Sub-Watershed No: (11070207-0101)

Permitted Feature #014 – Storm water outfall.
Legal Description: SW ¼, NE ¼, Sec. 12, T26N, R26W, Lawrence County
UTM Coordinates: X = 435406 Y= 4092630
Receiving Stream: Chat Creek (C) (03168) 303(d)
First Classified Stream and ID: Chat Creek (C) (03168) 303(d)
USGS Basin & Sub-Watershed No: (11070207-0101)

PERMITTED FEATURES #009, #012 - #014	TABLE A-1. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PAGE NUMBER 3 of 6
		PERMIT NUMBER MO-0129224

The permittee is authorized to conduct land application of wastewater as specified in the application for this permit. The final limitations shall become effective **August 1, 2014**, and remain in effect until expiration of the permit. The land application of wastewater shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S) (Note 1)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	GPD	*			once/quarter****	24 hr. estimate
Chemical Oxygen Demand	mg/L	120			once/quarter****	grab
Total Nitrogen	mg/L	*			once/quarter****	grab
pH	SU	**			once/quarter****	grab
Total Phosphorus as P	mg/L	*			once/quarter****	grab
Oil & Grease	mg/L	15			once/quarter****	grab
Total Suspended Solids	mg/L	100			once/quarter****	grab
Rainfall***	inches	*			once/quarter****	measured

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2014.

PERMITTED FEATURE #001	TABLE A-2. STORAGE TANK OPERATIONAL MONITORING REQUIREMENTS

EFFLUENT PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Storage Tank Freeboard (Note 2)	feet	*			once/week	measured
Precipitation	inches	*			daily	total

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2015.

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

Minimum Sampling Requirements			
Quarter	**Months**	**Effluent Parameters**	**Report is Due**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

Note 1 - All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measureable precipitation event.

Note 2 – Storage basin freeboard shall be reported as basin water level in feet below the overflow level.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Standard Conditions Part I and III dated November 1, 2013 and March 1, 2014, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. Emergency Discharge. An emergency discharge from wastewater storage structures may only occur if rainfall exceeds the 1 in 10 year (Data taken from the Missouri Climate Atlas) or the 24 hour, 25 year (Data taken from NRCS Urban Hydrology for Small Watersheds) rainfall events. **Discharge for any other reason 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 per day while discharging. Test results are due on the 28th day of the following month after the cessation of the discharge. 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. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   a. Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      2) controls any pollutant not limited in the permit.
   b. Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   c. Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.
   d. Incorporate the requirement to develop a pretreatment program pursuant to 40 CFR 403.8(a) when the Director of the Water Protection Program determines that a pretreatment program is necessary due to any new introduction of pollutants into the Publically Owned Treatment Works or any substantial change in the volume or character of pollutants being introduced.

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

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

C. SPECIAL CONDITIONS (continued)

4. 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 system, including key operating procedures, an aerial or topographic site map with the permitted features, and a brief summary of the operation of the facility. The O & M manual shall be made available to the operator and to the department upon request. The O&M Manual shall be reviewed and updated at least every five years.

5. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

6. Hazardous waste regulated under the Missouri Hazardous Waste Law and regulations shall not be land applied under this permit.

7. Any unauthorized discharge from storage structure shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Effluent Limitations and Special Conditions sections of this permit.

8. Report as no-discharge when a discharge does not occur during the reporting period.

9. Permitted Features must be clearly marked in the field and on the topographic site map submitted with the permit application.

10. Sludge storage structure shall be visually inspected at least once/month for structural integrity and visible leaks.

11. Record Keeping
    a. A record of monthly visual storage structure inspections and freeboard measurements shall be maintained.
    b. A record of maintenance and repairs conducted during the year, and a description of any unusual operating conditions encountered during the year.
    c. All records and monitoring results shall be maintained for at least five years and shall be made available to the department upon request.

12. Annual Report.
    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. 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. Record of sludge storage tank inspections.
    d. Narrative summary of any problems or deficiencies identified, permit violations, corrective action taken and improvements planned.

13. The permittee shall implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be prepared and implemented within ninety (90) days of permit issuance. The SWPPP must be kept on-site and should not be sent to the department unless specifically requested. The SWPPP must be reviewed and updated, if needed, every five (5) years or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

    Developing Your Storm water 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.
    The SWPPP must include the following:

    a. A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter stormwater.
    b. The SWPPP must include a schedule for monthly site inspections and brief written reports. The inspections must include observation and evaluation of BMP effectiveness. Deficiencies must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report, including photographs. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to department personnel upon request.
    c. A provision for designating an individual to be responsible for environmental matters.
    d. A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of the department.

C. SPECIAL CONDITIONS (continued)

14. Permittee shall adhere to the following minimum Best Management Practices (BMPs):

    a. Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
    b. Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
    c. Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
    d. Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
    e. Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.

15. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.

16. Release of a hazardous substance must be reported to the department in accordance with 10 CSR 24-3.010. A record of each reportable spill shall be retained with the SWPPP and made available to the department upon request

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0128224
AFB INTERNATIONAL

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

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

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

This Factsheet is for an Industrial Facility.

Part I – Facility Information

Facility Type: Pet food supplement
Facility SIC Code(s): 2087

Facility Description: Pretreated process wastewater is discharged to Aurora POTW (MO0036757). Sludge removed by contract hauler. No discharge from sludge storage tank.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?
☒ - No.

Application Date: 06/13/13
Expiration Date: 11/23/13
Last Inspection: 03/26/13 Non-Compliance ☒

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0	Land Application	Industrial Sludge
#009, #012 - #014	0	BMP	Industrial Stormwater

Facility Performance History & Comments:
The facility was last inspected on March 26, 2013, and was found to be in non-compliance for failure to comply with permit conditions. The DMR data for the last 5 years was reviewed and there were exceedances of BOD effluent limits.

Part II – Receiving Stream Information

Receiving Water Body's Water Quality

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

Missouri or Mississippi River [10 CSR 20-7.015(2)]: ☐
Lake or Reservoir [10 CSR 20-7.015(3)]: ☐
Losing [10 CSR 20-7.015(4)]: ☐
Metropolitan No-Discharge [10 CSR 20-7.015(5)]: ☐
Special Stream [10 CSR 20-7.015(6)]: ☐
Subsurface Water [10 CSR 20-7.015(7)]: ☐
All Other Waters [10 CSR 20-7.015(8)]: ☒

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

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	DISTANCE TO CLASSIFIED SEGMENT	12-DIGIT HUC**
Chat Creek	C	3168	LWW, SCR, WBC B	0	11070207-0101

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

Part III – Rationale and Derivation of Effluent Limitations & Permit Conditions

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

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

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

☒ - The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b). Previous limits for BOD_5 were based on technology based limits for wastewater. The BOD_5 has limits have been replaced with Chemical Oxygen Demand (COD).

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.

☒ - Renewal no degradation proposed and no further review necessary.

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

☒ - Sludge/biosolids are removed by contract hauler.

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.

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

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

☒ Not Applicable; A RPA was not conducted for this facility.

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

☒ 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 storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

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 Storm Water 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.

☒ Applicable; A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

SPILL REPORTING:
Per 10 CSR 24-3.010, any emergency involving a hazardous substance must be reported to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.

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

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

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

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

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

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

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

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

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

☒ Not Applicable; Wasteload allocations were not calculated.

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

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

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

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

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

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

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

☒ Applicable; Chat Creek is listed on the (YEAR) Missouri 303(d) List for cadmium.

☒ – This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment of Chat Creek.

Part IV – Effluent Limits Determination

Permitted Feature #001 – Emergency Discharge from sludge storage tank.
There shall be no discharge from the sludge storage tank. An emergency discharge from wastewater storage structures may only occur if rainfall exceeds the 1 in 10 year (Data taken from the Missouri Climate Atlas) or the 24 hour, 25 year (Data taken from NRCS Urban Hydrology for Small Watersheds) rainfall events. Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

Emergency Discharge Table:

PARAMETER	Unit	Daily Maximum	Weekly Average	Monthly Average	Modified	Previous Permit Limitations
Flow	gpd	*			Yes	***
BOD_5	mg/L	*			Yes	***
TSS	mg/L	*			Yes	***
pH	SU	*			Yes	***
Ammonia as N	mg/L	*			Yes	***
Oil & Grease	mg/L	*			Yes	***
Escherichia coli	**	*			Yes	***

* - Monitoring requirement only.
** - # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean.
*** - Parameter not previously established in previous state operating permit.

Permitted Feature #001 – Derivation and Discussion of Limits:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each Permitted Feature is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **Biochemical Oxygen Demand (BOD_5).** Monitoring only in case of an emergency discharge.

- **Total Suspended Solids (TSS).** Monitoring only in case of an emergency discharge.

- **pH**. Monitoring only in case of an emergency discharge.

- **Total Ammonia Nitrogen**. Monitoring only in case of an emergency discharge.

- ***Escherichia coli (E. coli)***. Monitoring only in case of an emergency discharge.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	Sampling Frequency	Reporting Frequency
Flow	once/day while discharging	Test results are due on the 28th day of the month after the cessation of the discharge
Biochemical Oxygen Demand$_5$	once/week while discharging	
Total Suspended Solids	once/week while discharging	
Ammonia as N	once/week while discharging	
pH	once/week while discharging	
E.coli	once/week while discharging	

PERMITTED FEATURE #001 – SLUDGE STORAGE TANK MONITORING
Sludge storage tank monitoring derived and established in the below Sludge Storage Tank Monitoring 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.

SLUDGE STORAGE TANK MONITORING TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Freeboard	feet	1	*			NO	
Precipitation	inches	1	*			NO	
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only.
** - Parameter not previously established in previous state operating permit.

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

PERMITTED FEATURE #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Freeboard.** Monitoring requirement only.

- **Precipitation.** Monitoring requirement only.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Freeboard	once/week	once/quarter
Precipitation	once/day	once/ quarter

PERMITTED FEATURE #009, #012 - #014 – Storm Water Outfalls
Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

STORMWATER EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	*		*	NO	
COD	MG/L	120			YES	45/30 BOD_5
TSS	MG/L	*		*	NO	
PH	SU				YES	6.0-9.0
TOTAL PHOSHPORUS AS P	MG/L	*		*	NO	
OIL & GREASE	MG/L	15		10	NO	
TOTAL NITROGEN	MG/L	*		*	NO	
RAINFALL	***				NO	

* - Monitoring requirement only

PERMITTED FEATURE #009, #012 - #014– DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **Chemical Oxygen Demand (COD).** The limits for COD are a best professional judgment value established to verify the effectiveness of stormwater BMPs. This limit is consistent with other industrial stormwater facilities. These limits have been demonstrated attainable with existing technology and are deemed protective of instream water quality. Limits for this permit were derived from EPA's Multi-Sector General Permit (MSGP) Subsector U2. It is the permit writer's best professional judgment that these values have been demonstrated attainable with existing technology and are protective of in-stream water quality.

- **Total Suspended Solids (TSS).** The limits for TSS are a best professional judgment value established to verify the effectiveness of stormwater BMPs. This limit is consistent with other industrial stormwater facilities. These limits have been demonstrated attainable with existing technology and are deemed protective of instream water quality. Limits for this permit were derived from EPA's Multi-Sector General Permit (MSGP) Subsector U2. It is the permit writer's best professional judgment that these values have been demonstrated attainable with existing technology and are protective of in-stream water quality.

- **pH.** pH is addressed in two main sections of the Missouri Clean Water Law that influence permit parameters. In accordance with 10 CSR 20-7.015(8)(A)2., pH shall be maintained in the range of 6.0-9.0 standard pH units. In accordance with 10 CSR 20-7.031(5)(E), water contaminants shall not cause pH to be outside of the range of 6.5 -9.0 standard pH units. pH is also address in 40 CFR 426 – Subpart H, which states water contaminants shall not cause pH to be outside of the range of 6.0 to 9.0 standard pH units. However, 40 CFR 122.44(b)(1) and 40 CFR 122.44(d) require that the permit contain the most stringent requirement for a parameter. Therefore, the facility shall be required to maintain a range of 6.5-9.0 standard pH units.

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

- **Total Phosphorus.** Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

- **Total Nitrogen.** Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/quarter	once/quarter
BOD_5	once/quarter	once/quarter
TSS	once/quarter	once/quarter
pH	once/quarter	once/quarter
Total Phosphorus as P	once/quarter	once/quarter
Oil & Grease	once/quarter	once/quarter
Total Nitrogen	once/quarter	once/quarter
Rainfall	once/quarter	once/quarter

Part V – Finding of Affordability

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

☒ Not Applicable; The Department is not required to determine findings of affordability because the permit contains no new conditions or requirements that convey a new cost to the facility.

Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, 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.

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

☒ - The Public Notice period for this operating permit was from June 6, 2014 to July 7, 2014. No responses received.

DATE OF FACT SHEET JULY 15, 2014

COMPLETED BY:

GREG CALDWELL, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL PERMITS UNIT
(573) 526-1426
greg.caldwell@dnr.mo.gov

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
NOVEMBER 1, 2013

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(a)(1);
      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. **Twenty-Four Hour 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.

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. **Sanitary Sewer Overflow Reporting.** The following requirements solely reflect reporting obligations, and reporting does not necessarily reflect noncompliance, which may depend on the circumstances of the incident reported.
   a. Twenty-Four Hour (24-Hour) Reporting. The permittee or owner shall report any incident in which wastewater escapes the collection system such that it reaches waters of the state or it may pose an imminent or substantial endangerment to the health or welfare of persons. 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 incident. A written submission shall also be provided within five (5) business days of the time the permittee or owner becomes aware of the incident. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The five (5) day reports may be provided via the current electronic method approved by the Department.
   b. Incidents Reported via Discharge Monitoring Reports (DMRs). The permittee or owner shall report any event in which wastewater escapes the collection system, which does not enter waters of the state and is not expected to pose an imminent or substantial endangerment to the health or welfare of persons, which occur typically during wet weather events. Relevant information shall be provided with the permittee's or owner's DMRs.

4. **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.

5. **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.

6. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, 4, and 7 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

7. **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.

8. **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.

Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility.
   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.
   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 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 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.

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
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
March 1, 2014

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 Actor 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 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 removals unless the nitrogen content of the biosolids does not exceed 50,000 milligrams per kilogram of total nitrogen on a dry weight basis and biosolids application rate is less 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 factor[1]).

[1] Volatilization 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, 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:

(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x 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 ≥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 ≥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

1. 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 and 2)			
	Metals, Pathogens and Vectors	Nitrogen TKN[1]	Nitrogen PAN[2]	Priority Pollutants and TCLP[3]
0 to100	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, if biosolids application is more than 2 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.

2. 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.

3. 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.

4. 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

1. 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.
2. Reporting period
    a. 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.
    b. 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.
3. Report Forms. The annual report shall be submitted on report forms provided by the department or equivalent forms approved by the department.
4. 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. If biosolids application exceeds 2 dry tons/acre/year, reports biosolids nitrogen results, Plant Available Nitrogen (PAN) in pounds/acre, crop nitrogen requirement.
        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.

RECEIVED

AP 15580

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM A – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT UNDER MISSOURI CLEAN WATER LAW

WATER PROTECTION PROGRAM

CHECK NUMBER	
DATE RECEIVED 6/3/13	FEE SUBMITTED 88

1. This application is for:
- ☐ An operating permit and antidegradation review public notice
- ☐ A construction permit following an appropriate operating permit and antidegradation review public notice
- ☐ A construction permit and concurrent operating permit and antidegradation review public notice
- ☐ A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required)
- ☐ An operating permit for a new or unpermitted facility — Construction Permit # _____
- ☑ An operating permit renewal: permit # MO- 0129224 — Expiration Date 11-23-2013
- ☐ An operating permit modification: permit # MO-_____ — Reason: _____

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

NAME			TELEPHONE WITH AREA CODE
AFB International			(417) 678-5988
			FAX (417) 678-2056
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
117 North Morgan Avenue	Aurora	MO	65605

NAME	E-MAIL ADDRESS	TELEPHONE WITH AREA CODE
AFB International	doplinger@afbinternt	(417) 678-5988
		FAX (417) 678-2056

ADDRESS (MAILING)	CITY	STATE	ZIP CODE
117 N. Morgan Avenue	Aurora	MO	65605

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

NAME		TELEPHONE WITH AREA CODE
AFB International		(636) 634-4100
		FAX (636) 634-4190
ADDRESS (MAILING)	CITY	STATE / ZIP CODE
3 Research Park Drive	St. Charles	MO 63304

NAME	CERTIFICATE NUMBER	TELEPHONE WITH AREA CODE
Rick Pierce	7596	(417) 678-5988
		FAX
ADDRESS (MAILING)	CITY	STATE / ZIP CODE
117 North Morgan	Aurora	MO 65605

NAME	TITLE	TELEPHONE WITH AREA CODE
Dan White	Engineering Manager	(417) 678-5988
		FAX (417) 678-2056

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.) SEE ATTACHED (A)

001 ____¼ ____¼ 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 ____¼ ____¼ Sec ____ T ____ R ____ ____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

003 ____¼ ____¼ Sec ____ T ____ R ____ ____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

004 ____¼ ____¼ 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
001 – SIC 2087 and NAICS _____ 002 – SIC _____ and NAICS _____
003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

RECEIVED MAY 2013 DEQ/SWRO

MO 780-1479 (01-09)

A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C (unless storm water only, then complete U.S. Environmental Protection Agency Form 2F per Item C below).	YES ☐	NO ☑
B.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C and D.	YES ☐	NO ☑
C.	Is application for storm water discharges only? If yes, complete EPA Form 2F.	YES ☐	NO ☑
D.	Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.		
E.	Is wastewater land applied? If yes, complete Form I.	YES ☐	NO ☑
F.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R.	YES ☐	NO ☑

NAME			
E. Reidle ATTACHMENT 3			
ADDRESS	CITY	STATE	ZIP CODE
	Aurora	MO	65605

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)	TELEPHONE WITH AREA CODE
SIGNATURE	DATE SIGNED

MO 780-1479 (01-09)

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, if applicable?
- ☐ Form D, if applicable?
- ☐ Form 2F, if applicable?
- ☐ Form I (Irrigation), if applicable?
- ☑ Form R (Sludge), if applicable?

INSTRUCTIONS FOR COMPLETING FORM A
APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT

1. Check which option is applicable. **Do not check more than one item.** Construction and operating permit refer to permits issued by the Department of Natural Resources' Water Protection Program, Water Pollution Control Branch. Effective Sept. 1, 2008, a facility will be required to use ***MISSOURI'S ANTIDEGRADATION RULE AND IMPLEMENTATION PROCEDURE.*** For more information, this document can be reviewed at www.dnr.mo.gov/env/wpp/docs/aip-cwc-appr-050708.pdf. This procedure will be applicable to new and expanded wastewater facilities and requires the proposed discharge to a water body to undergo a level of Antidegradation Review, which documents that the use of a water body's available assimilative capacity is justified.

1.1 An operating permit and antidegradation review public notice requires a Water Quality/Antidegradation Review Sheet to be submitted with the application (No fee required).

CONSTRUCTION PERMIT FEES

A. $750 for a sewage treatment facility with a design flow of less than 500,000 gallons per day.
B. $2,200 for a sewage treatment facility with a design flow of 500,000 gallons per day or more.

Different application and construction fees are applicable if only sewer and/or lift stations are to be constructed.

OPERATING PERMIT FEES

If the application is for a site-specific permit re-issuance, send no fees.. You will be invoiced separately by the department.

Discharges covered by section 644.052.4 RSMo. (Primary or Categorical Facilities)

$3,500 for a design flow under 1 mgd
$5,000 for a design flow of 1 mgd or more

A. Discharges covered by section 644.052.5 RSMo. (Secondary or Non-Categorical Facilities).

$1,500 for a design flow under 1 million gallons per day (mpg)
$2,500 for a design flow of 1 mgd or more

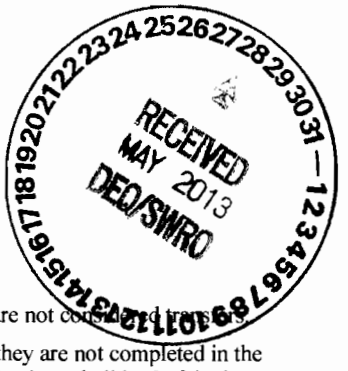
SITE-SPECIFIC STORM WATER DISCHARGE FEES

A. $1,350 for a design flow under 1 mgd.
B. $2,350 for a design flow of 1 mgd or more.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

A. Municipals - $200 each.
B. All others - 25 percent of annual fee.

Note: Facility name and address changes where owner, operator and continuing authority remain the same are not considered transfers.



Incomplete permit applications and/or related engineering documents will be returned by the department if they are not completed in the time frame established in a comment letter from the department to the owner. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

2. Facility - Provide the name by which this facility is known locally. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Also include the street address or location of the facility. If the facility lacks a street name or route number, give the names of the closest intersection, highway, county road, etc.

3. Owner - Provide the legal name and address of owner.

3.1 Prior to submitting a permit to public notice, the department shall provide the permit applicant 10 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice. Check YES to review the draft permit prior to public notice. Check NO to waive the process and expedite the permit.

4. Continuing Authority - Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf or contact the appropriate Department of Natural Resources Regional Office.

5. Operator - Provide the name, certificate number and telephone number of the person operating the facility.

6. Provide the name, title and work telephone number of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department, if necessary.

7.1 An outfall is the point at which wastewater is discharged. Outfalls should be given in terms of the legal description of the facility. Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, please use a mapping system to approximate the coordinates; the department's mapping system is available at www.dnr.mo.gov/internetmapviewer/.

7.2 List only your primary Standard Industrial Classification, or SIC, and North American Industry Classification System code for each outfall. The SIC system was devised by the U.S. Office of Management and Budget to cover all economic activities. To find the correct SIC code, an applicant may check his or her unemployment insurance forms or contact the Missouri Division of Employment Security,

7.3 573-751-3215. The primary SIC code is that of the operation that generates the most revenue. If this information is not available, the number of employees or, secondly, production rate may be used to determine your SIC code. Additional information is on the Web for Standard Industrial Codes at www.osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System at www.census.gov/naics or contact the appropriate Department of Natural Resources Regional Office.

INSTRUCTIONS FOR COMPLETING FORM A
APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT
(CONTINUED)

8. If you answer yes to A, B, C, D, E or F, then you must complete and file the supplementary form(s) indicated. A U.S. Geological Survey 1" = 2,000' scale map must be submitted with the permit application showing all outfalls, the receiving stream and the location of the downstream property owners. This type of map is available on the Web at www.dnr.mo.gov/internetmapviewer/ or from the Missouri Department of Natural Resources' Division of Geology and Land Survey in Rolla at 573-368-2125.

9. Please provide the name and address of the first downstream landowner, different from that of the permitted facility, through whose property the discharge will flow. Also, please indicate the location on the map. For discharges that leave the permitted facility and flow under a road or highway, or along the right-of-way, the downstream property owner is the landowner that the discharge flows to after leaving the right-of-way. For no discharge facilities, provide this information for the location where discharge would flow if there was one. For land application sites, include the owners of the land application sites and all adjacent landowners.

10. Signature - All applications must be signed as follows and the signature must be **original**:
    A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
    B. For a partnership or sole proprietorship, by a general partner or the proprietor.
    C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

This completed form, along with the applicable permit fees, should be submitted to the appropriate Regional Office. Submittal of an incomplete application may result in the application being returned. A map of the department's regional offices with addresses and phone numbers can be viewed on the Web at www.dnr.mo.gov/regions/ro-map.pdf. If there are any questions concerning this form, contact the appropriate Regional Office or the Department of Natural Resources' Water Protection Program, Water Pollution Control Branch, Permits and Engineering Section at 573-751-6825.

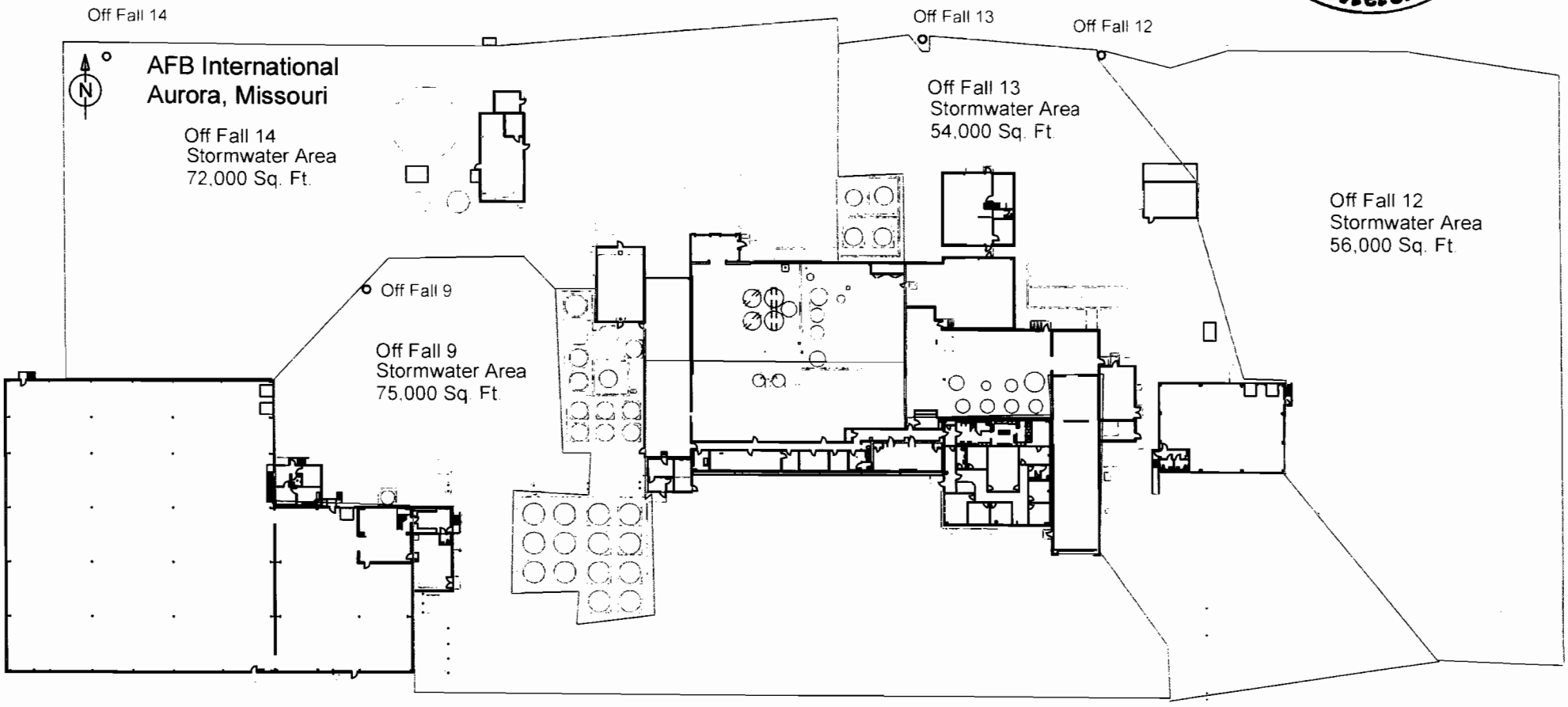
(A)

STORM WATER SAMPLING

PROCEDURES & OUTFALLS

STORM WATER SAMPLING PROCEDURES

1. All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable precipitation event.
2. Sampling shall occur once per quarter in the periods of January through March, April through June, July through September, and October through December.
3. Monitoring reports shall be submitted no later than the 28th day of the month following the monitoring period (April 28th, July 28th October 28th and January 28th, respectively).
4. If a precipitation event does not occur within the reporting period, report as no discharge.
5. One sample shall be taken from each outfall, (#9, #12 and #13).
6. Samples shall be sent to CSA Laboratories and tested for (BOD, TSS, pH, Total Phosphorus, Oil & Grease and Total Nitrogen.



(A)

(A)

A. FACILITY DESCRIPTION (continued)

Adjacent Land Owners

Outfall #001 — Removed
Legal Description: S½, Sec. 19, T27N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001)

Olen Miller

Outfall #002
Legal Description: NW¼, Sec. 27, T26N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001) HENSON

Jim Snowden

Outfall #003 — Remove
Legal Description: SE¼, NW¼, Sec. 06, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to Little Crane Creek
First Classified Stream and ID: Little Crane Creek (C) (03165)
USGS Basin & Sub-Watershed No: (11010002-050004)

Clyde King

Outfall #004 — Remove
Legal Description: S½, Sec. 06, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to Little Crane Creek
First Classified Stream and ID: Little Crane Creek (C) (03165)
USGS Basin & Sub-Watershed No: (11010002-050004)

Harold Cantrell

Outfall #005 — Remove
Legal Description: SE¼, Sec. 11, T25N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to Calton Creek
First Classified Stream and ID: Calton Creek (C) (02392)
USGS Basin & Sub-Watershed No: (11010002-060002)

Larry Hooten

Outfall #006 — Remove
Legal Description: SW¼, Sec. 21, T27N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to Honey Creek
First Classified Stream and ID: Honey Creek (C) (03169)
USGS Basin & Sub-Watershed No: (11070207-010001)

William Bunch

Outfall #007
Legal Description: NE¼, Sec. 32, T26N, R26W, Barry County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001) 80 ACRES

Kenny Vaught

Outfall #008 — Remove
Legal Description: SE¼, Sec. 24, T27N, R27W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001)

Gary Reidle

Outfall #009 (Storm water) OUTFALL 012, 013, 014
Legal Description: NW¼, SE Sec. 12, T26N, R26W, Lawrence County
Receiving Stream: Dougar Branch
First Classified Stream and ID: Douger Branch (C) (03168)
USGS Basin & Sub-Watershed No: (11070207-010001)

Emit Reidlee

Outfall #010 — Remove
Legal Description: W½ NE¼ Sec. 32 T26N, R26W, Barry County
Receiving Stream: Unnamed Tributary to Spring River
First Classified Stream and ID: Spring River (P) 03165

Jerry Pinkley

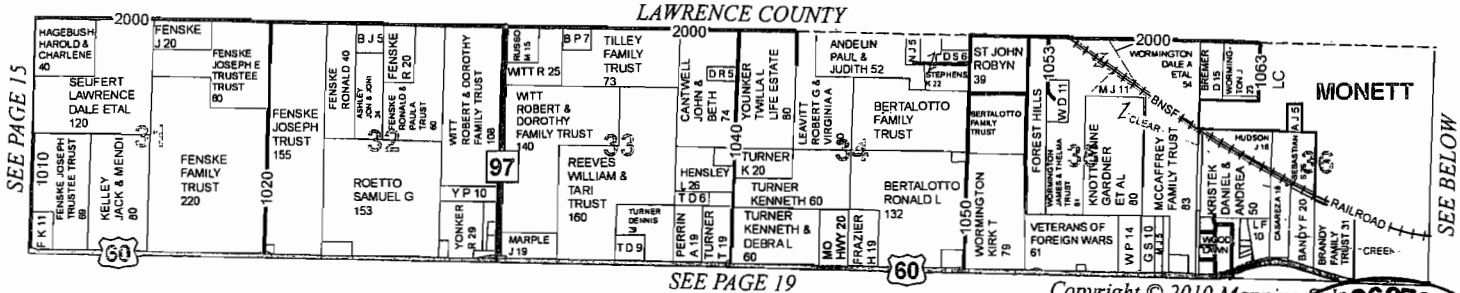
Out Fall #011

Legal Description:	N.E. ¼ S.E ¼ SEC 28 T26N R26W
Receiving Stream:	Unnamed Tributary to the Spring River
First Classified Steam and ID:	Spring River (P) (03165)
USGS Basin & Sub-Watershed No:	(11070207-010001)

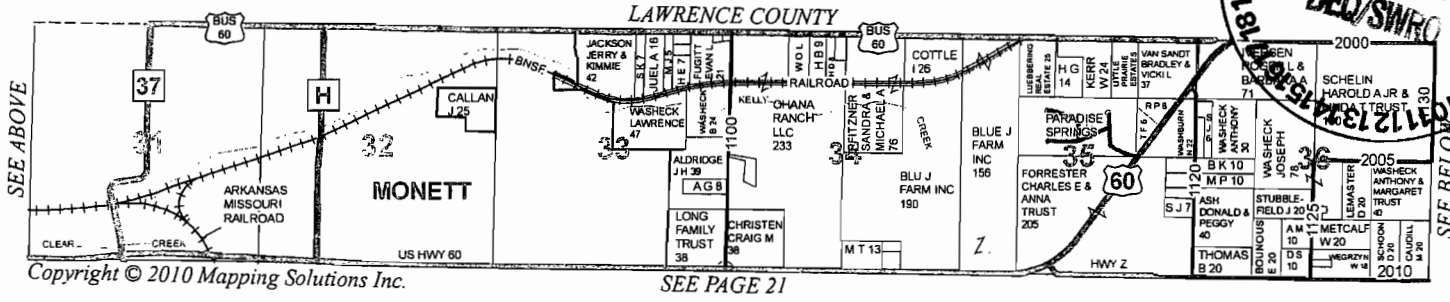
Adjacent Landowner: Benjamin Kaal

TOWNSHIP 26N • RANGE 28W

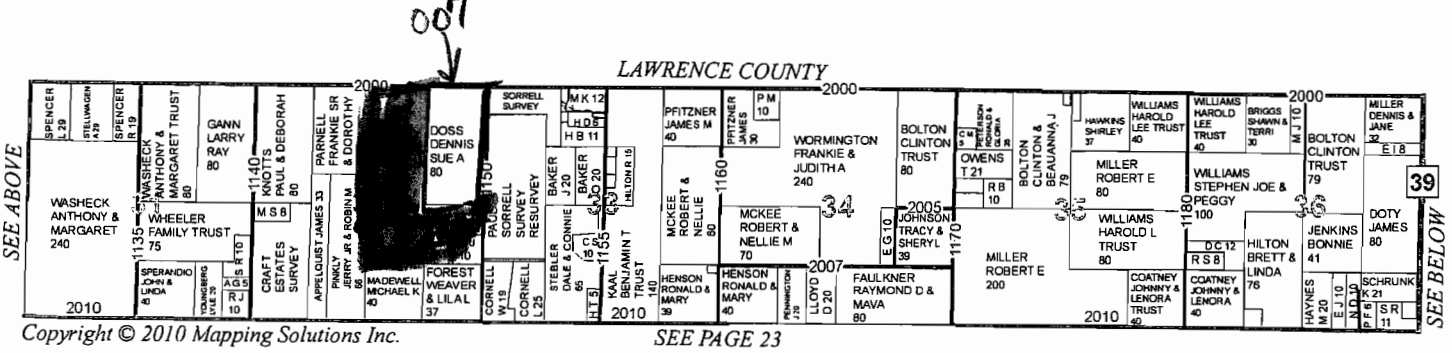
OUTFALL 007



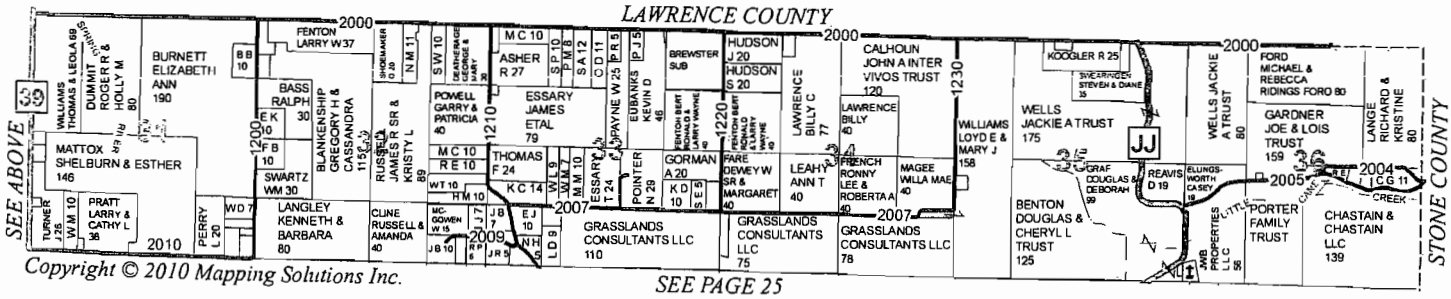
TOWNSHIP 26N • RANGE 27W



TOWNSHIP 26N • RANGE 26W



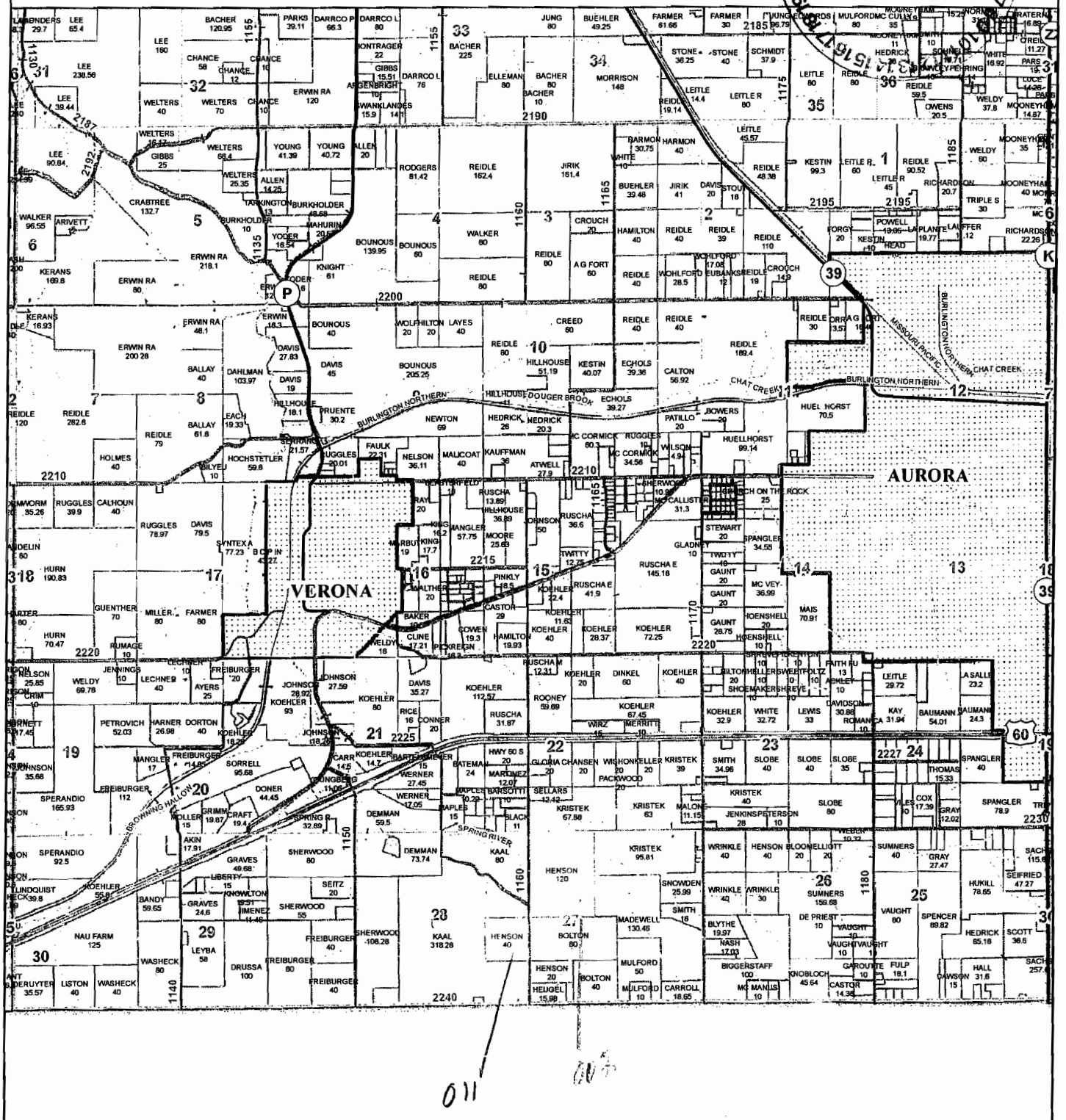
TOWNSHIP 26N • RANGE 25W



Lawrence County, MO

T26N-R26W

OUTFALL 002



Map Date: *Aug 26, 2008*

This data was primorily developed for tax purposes and is not considered survey accurate.

Lawrence County Commission

Sam Goodman - Presiding Commissioner
Rodney Barnes - Associate Commissioner
Earl Dotson - Associate Commissioner

Most parcels > 10 ac labeled

Data Courtesy Lawrence County Geographic Information System

Doug Bowerman - Assessor

GIS & Map Development By:

MIDLAND GIS SOLUTIONS

501 N Market
Maryville, MO 64468
(660) 562-0050
www.midlandgis.com

1 inch equals 0.78 miles

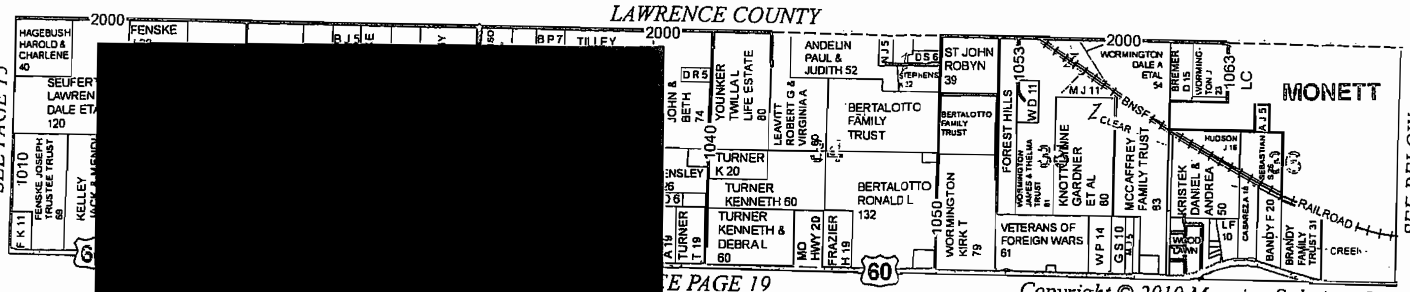
0 2,000 4,000 Feet

R29W R28W R27W R26W R25W
T29N T28N T27N T26N

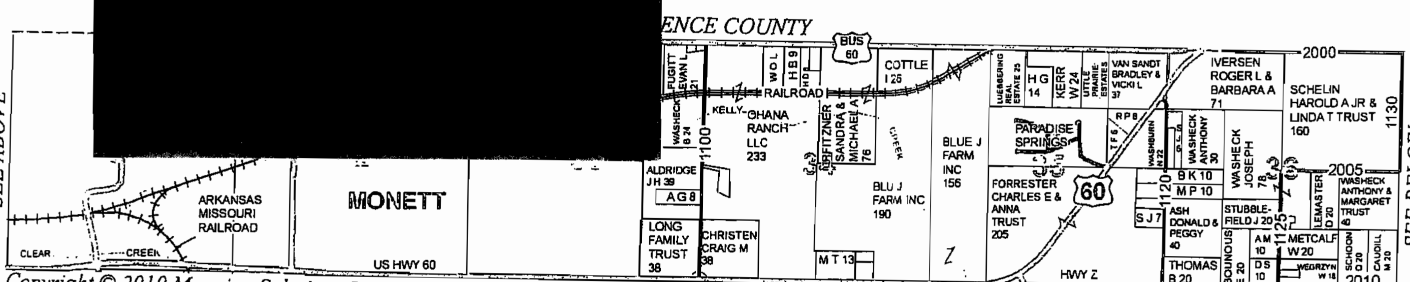
Legend

- County Boundary
- City Limits
- Township-Range
- Sections
- Subdivisions
- Water
- Land Ownership
- US Highways
- ST Highways
- CO Highways
- Streets / Roads
- Rail Roads
- Streams
- Land Hooks

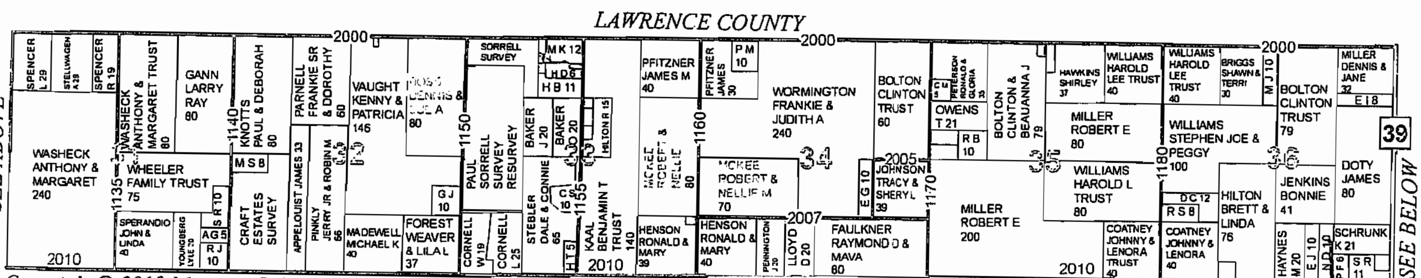
TOWNSHIP 26N • RANGE 28W



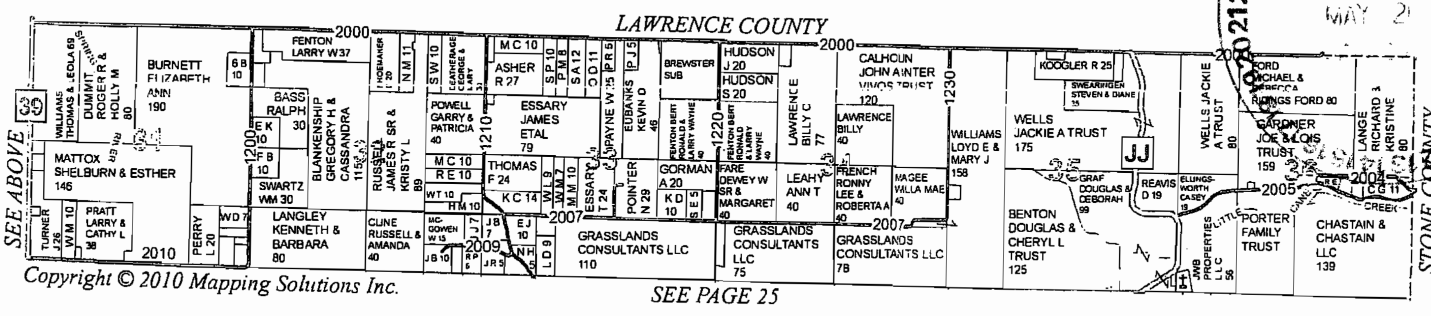
[redacted]N • RANGE 27W



TOWNSHIP 26N • RANGE 26W



TOWNSHIP 26N • RANGE 25W



University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51058-1	Lab no. C1308622
County Lawrence	Region 6
Submitted 4/29/2013	Processed 4/29/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID MCKEE 1	Sample no 1	
Acres 80	Last Limed unknown	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:
AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

Sampled: 4-17-2013

SOIL TEST INFORMATION				RATING					
				Very Low	Low	Medium	High	Very High	Excess
pH_s	(salt pH)	6.3		**********					
Phosphorus	(P)	24	lbs/A	**********					
Potassium	(K)	63	lbs/A	**********					
Calcium	(Ca)	2393	lbs/A	**********					
Magnesium	(Mg)	295	lbs/A	**********					
Sulfur	(SO_4-S)		ppm						
Zinc	(Zn)		ppm						
Manganese	(Mn)		ppm						
Iron	(Fe)		ppm						
Copper	(Cu)		ppm						

Organic matter	2.8	%	Neutralizable acidity	1.0	meq/100g	Cation Exch. Capacity	8.3 meq/100g
PH in water			Electrical Conductivity		Mmho/cm	Sodium (Na)	37 lbs/A

Nitrate (NO_3-N) Topsoil	8.8 ppm	Subsoil ppm	Sampling Depth	Top Inches	Subsoil Inches

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	25	85		
18 COOL SEASON GRASS HAY	2 T/A	80	40	125		
18 COOL SEASON GRASS HAY	3 T/A	120	45	160		

LIMESTONE SUGGESTIONS

Effective Neutralizing Material (ENM)	0
Effective magnesium (EMg)	0

Comments

---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.8 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---For hay production apply nitrogen just before spring growth begins (typically March). Consider splitting nitrogen applications if the rate exceeds 90 lbs N/acre, applying 60% in March and the balance in mid August.

TKN is 0.161%
Chloride is 4.5 ppm
Exchangeable sodium is 1.0%

RECEIVED
MAY 2013
DEQ/SWRO

Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: McKee #1
Sample Collection Date: 04/17/2013

Date of Sample Receipt: 04/18/2013

Lab Number: 0413131
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	**4.2**	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51058-2	Lab no. C1308623
County Lawrence	Region 6
Submitted 4/29/2013	Processed 4/29/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID MCKEE 2	Sample no 2	
Acres 70	Last Limed unknown	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:
AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

Sampled: 4-17-2013

SOIL TEST INFORMATION				RATING					
				Very Low	Low	Medium	High	Very High	Excess
pH_s	(salt pH)	6.3		**********					
Phosphorus	(P)	54	lbs/A			**********			
Potassium	(K)	182	lbs/A			**********			
Calcium	(Ca)	2115	lbs/A					**********	
Magnesium	(Mg)	271	lbs/A					**********	
Sulfur	(SO_4-S)		ppm						
Zinc	(Zn)		ppm						
Manganese	(Mn)		ppm						
Iron	(Fe)		ppm						
Copper	(Cu)		ppm						

Organic matter 3.0 %	Neutralizable acidity 1.0 meq/100g	Cation Exch. Capacity 7.7 meq/100g			
PH in water	Electrical Conductivity Mmho/cm	Sodium (Na) 32 lbs/A			
Nitrate (NO_3-N) Topsoil 22.4 ppm	Subsoil ppm	Sampling Depth Top 6 Inches	Subsoil Inches		

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	20	30		
18 COOL SEASON GRASS HAY	2 T/A	80	20	75		
18 COOL SEASON GRASS HAY	3 T/A	120	20	110		

LIMESTONE SUGGESTIONS

Effective Neutralizing Material (ENM)	0
Effective magnesium (EMg)	0

Comments

---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.8 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---For hay production apply nitrogen just before spring growth begins (typically March). Consider splitting nitrogen applications if the rate exceeds 90 lbs N/acre, applying 60% in March and the balance in mid August.

TKN is 0.205%
Chloride is 3.2 ppm
Exchangeable sodium is 0.9%

RECEIVED
MAY 2013
DED/SWRC

Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812

Signature

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: McKee #2
Sample Collection Date: 04/17/2013

Date of Sample Receipt: 04/18/2013

Lab Number: 0413132
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	**4.4**	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature

University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51050-1	**Lab no. C1307165**
County Lawrence	Region 6
Submitted 4/4/2013	Processed 4/9/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID DOSS #2	Sample no 1	
Acres 40	Last Limed 1-5 yrs	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:

AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

SOIL TEST INFORMATION			RATING					
			Very Low	Low	Medium	High	Very High	Excess
pH_s	(salt pH)	5.5	**********					
Phosphorus	(P)	53 lbs/A				**********		
Potassium	(K)	98 lbs/A			**********			
Calcium	(Ca)	2492 lbs/A						**********
Magnesium	(Mg)	155 lbs/A				**********		
Sulfur	(SO_4-S)	ppm						
Zinc	(Zn)	ppm						
Manganese	(Mn)	ppm						
Iron	(Fe)	ppm						
Copper	(Cu)	ppm						

Organic matter 4.7 %	Neutralizable acidity 3.5 meq/100g	Cation Exch. Capacity 10.5 meq/100g			
PH in water	Electrical Conductivity Mmho/cm	Sodium (Na) 34 lbs/A			
Nitrate (NO_3-N) Topsoil 7.4 ppm	Subsoil ppm	Sampling Depth Top 6 Inches	Subsoil Inches		

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	20	70		

LIMESTONE SUGGESTIONS

Effective Neutralizing Material (ENM)	570
Effective magnesium (EMg)	***

Comments

---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.0 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---To determine limestone needed in tons/acre, divide your ENM requirement by the guarantee of your limestone dealer.

***Suggest using dolomitic limestone if readily available, but yield response to magnesium is not likely.

TKN is 0.247%
Chloride is 3.6 ppm
Exchangeable sodium is 0.7%

Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812

Tim Schnakenberg
Signature

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: Doss #2
Sample Collection Date: 04/03/2013

Date of Sample Receipt: 04/10/2013

Lab Number: 0413076
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	**3.9**	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

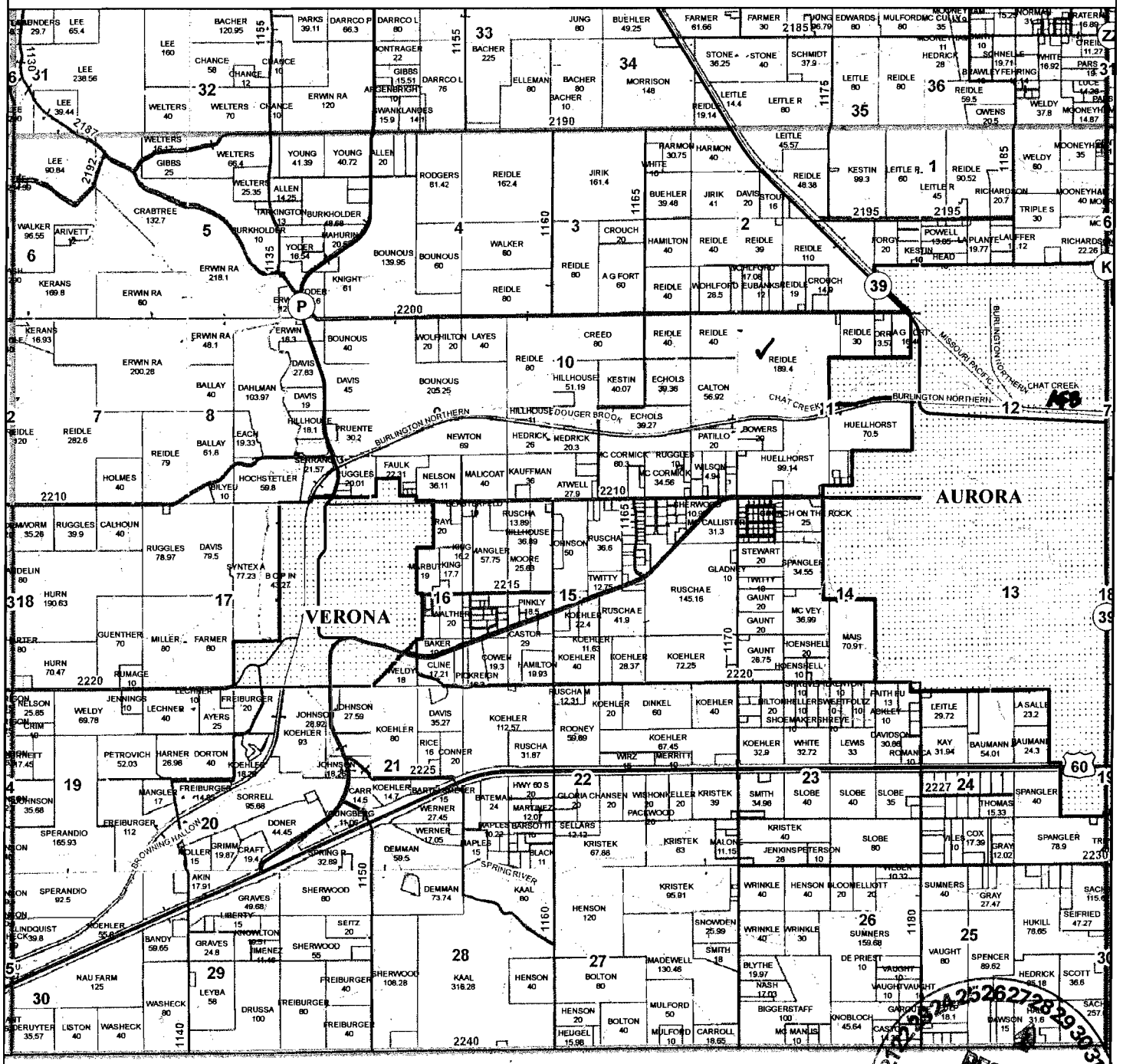
Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

(ATTACHMENT B)

Lawrence County, MO

T26N-R26W



Map Date: *Aug 26, 2008*

This data was primarily developed for tax purposes and is not considered survey accurate.

Lawrence County Commission

Sam Goodman - Presiding Commissioner
Rodney Barnes - Associate Commissioner
Earl Dotson - Associate Commissioner

Most parcels > 10 ac labeled

Data Courtesy Lawrence County Geographic Information System

Doug Bowerman - Assessor

GIS & Map Development By:

MIDLAND GIS SOLUTIONS

501 N Market
Marysville, MO 64468
(660) 562-0050
www.midlandgis.com

1 inch equals 0.78 miles

0 2,000 4,000 Feet

R29W R28W R27W R26W R25W

T29N T28N T27N T26N

Legend

- County Boundary
- City Limits
- Township-Range
- Sections
- Subdivisions
- Water
- Land Ownership
- US Highways
- ST Highways
- CO Highways
- Streets / Roads
- Rail Roads
- Streams
- Land Hooks

C

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH

FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, PROCESS & STORM WATER

CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

1.00 NAME OF FACILITY

AFB International

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

MO- 0129224

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST 2087 B. SECOND

C. THIRD D. FOURTH

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) _____1/4 _____1/4 SEC_____ T_____ R_____ _____COUNTY

see attached

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
See Attachment A	

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

The AFB Facility in Aurora Missouri Manufactures pet food palatants from poultry by products. The process consists of meat handling systems, reactors and mixing vessels. Waste water is primary generated from process clean up.

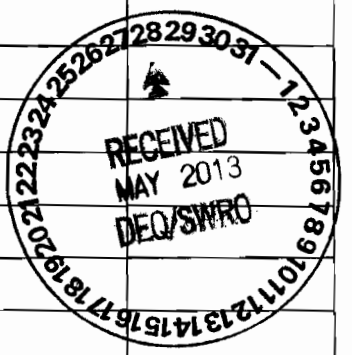
RECEIVED
MAY 2013
DEQ/SWRO

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, public sewers and outfalls. If a water balance cannot by determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of
1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water and storm water runoff.
2. The average flow contributed by each operation.
3. The treatment received by the wastewater.

Continue on additional sheets if necessary.

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
(LIST)	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
002	Clean up and Waste	219,000 gallon per year	Biological	3-A
007	Clean up and Waste	228,000 gallons per yeat	Biological	3-A
011	Clean up and Waste	69,000 gallons per year	Biological	3-A
009	Storm Water	75,000 gallons per year		
012	Storm Water	56,000 gallons per year		
013	Storm Water	54,000 gallons per year		
014	Storm Water	72,000 gallons per year		
015	Clean up and Waste	New site to be added	Biological	
016	Clean up and Waste	New site to be added	Biological	
017	Clean up and Waste	New site to be added	Biological	



2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☑ **NO** *(GO TO SECTION 2.50)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(S) CONTRIBUTING FLOW *(list)*	3. FREQUENCY		4. FLOW				C. DURATION *(in days)*
				A. FLOW RATE *(in mgd)*		B. TOTAL VOLUME (specify with units)		
		A. DAYS PER WEEK *(specify average)*	B. MONTHS PER YEAR *(specify average)*	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

☐ **YES** *(COMPLETE B.)* ☑ **NO** *(GO TO SECTION 2.60)*

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINES EXPRESSED IN TERMS OF PRODUCTION (OF OTHER MEASURE OF OPERATION)?

☐ **YES** *(COMPLETE c.)* ☑ **NO** *(GO TO SECTION 2.60)*

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS *(list outfall numbers)*
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET, ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☑ **NO** *(GO TO 3.00)*

1. IDENTIFICATION OF CONDITION AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED

B. OPTIONAL: YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS *(OR OTHER ENVIRONMENTAL PROJECTS THAT MAY AFFECT YOUR DISCHARGES)* YOU NOW HAVE UNDER WAY OR ARE YOU PLANNING. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION.

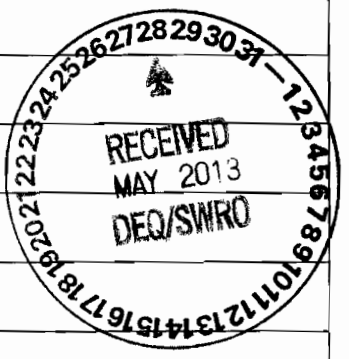
☐ **MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.**

3.00 INTAKE AND EFFLUENT CHARACTERISTICS

A. & B. SEE INSTRUCTIONS BEFORE PROCEEDING – COMPLETE ONE TABLE FOR EACH OUTFALL – ANNOTATE THE OUTFALL NUMBER IN THE SPACE PROVIDED.
NOTE: TABLE 1 IS INCLUDED ON SEPARATE SHEETS NUMBERED FROM PAGE 6 TO PAGE 7.

C. USE THE SPACE BELOW TO LIST ANY OF THE POLLUTANTS LISTED IN PART B OF THE INSTRUCTIONS, WHICH YOU KNOW OR HAVE REASON TO BELIEVE IS DISCHARGED OR MAY BE DISCHARGED FROM ANY OUTFALL. FOR EVERY POLLUTANT YOU LIST, BRIEFLY DESCRIBE THE REASONS YOU BELIEVE IT TO BE PRESENT AND REPORT ANY ANALYTICAL DATA IN YOUR POSSESSION.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
see attached	Activated Sludge		



3.10 BIOLOGICAL TOXICITY TESTING DATA

DO YOU HAVE ANY KNOWLEDGE OR REASON TO BELIEVE THAT ANY BIOLOGICAL TEST FOR ACUTE OR CHRONIC TOXICITY HAS BEEN MADE ON ANY OF YOUR DISCHARGES OR ON RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?

☐ YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.) ☑ NO (GO TO 3.20)

3.20 CONTRACT ANALYSIS INFORMATION

WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

☒ **YES** *(LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.)* ☐ **NO** *(GO TO 3.30)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
CSA Laboratories	1708 South Street Rogers, AR 72758	1-479-903-1986	See attached report

RECEIVED
MAY 20 13
FWSMRO

3.30 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 the information, I believe the information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
DAWN OPLINGER	417-678-5988
SIGNATURE (SEE INSTRUCTIONS)	**DATE SIGNED**
Dawn Oplinger	5/23/13

PLEASE PRINT OR TYPE. You may report some or all of this information on separate sheet instead of completing these pages.
(Use the same format)
SEE INSTRUCTIONS

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002, 007,011

PART A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT							3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)	879628	391	x	x	x	x	x	mg/kg	lbs	X	X	X
B. Chemical Oxygen Demand (COD)	1865541	829	x	x	x	x	x	mg/kg	lbs	X	X	X
C. Total organic Carbon (TOC)	585135	260	x	x	x	x	x	mg/kg	lbs	X	X	X
D. Total Suspended Solids (TSS)	29600	444	x	x	x	x	x	mg/kg	lbs	X	X	X
E. Ammonia *(as N)*	21588	10	x	x	x	x	x	mg/kg	lbs	X	X	X
F. Flow	VALUE 1800 gpd		VALUE		VALUE					VALUE		
G. Temperature *(winter)*	VALUE 50 F		VALUE		VALUE			°C		VALUE		
H. Temperature *(summer)*	VALUE 80 F		VALUE		VALUE			°C		VALUE		
I. pH	MINIMUM 6.0	MAXIMUM 8.0	MINIMUM x	MAXIMUM x				STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results for at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Bromide (24959-67-9)		X												
B. Chlorine Total Residual		X												
C. Color		X												
D. Fecal Coliform	X		16800				cfu/100ml							
E. Fluoride (16984-48-8)		X												
F. Nitrate—Nitrate *(as N)*	X		131	.06			mg/kg							

PLEASE PRINT OR TYPE. You may report some or all of this information on separate sheet instead of completing these pages.
(Use the same format)
SEE INSTRUCTIONS

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 009 Storm Water

PART A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT							3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)	11.7	7.3	x	x	x	x	x	mg/l	lbs	X	X	X
B. Chemical Oxygen Demand (COD)			x	x	x	x	x	mg/l	lbs	X	X	X
C. Total organic Carbon (TOC)			x	x	x	x	x	mg/kg	lbs	X	X	X
D. Total Suspended Solids (TSS)	44.3	27.7	x	x	x	x	x	mg/l	lbs	X	X	X
E. Ammonia *(as N)*			x	x	x	x	x	mg/kg	lbs	X	X	X
F. Flow	VALUE 75,000 gpd		VALUE		VALUE					VALUE		
G. Temperature *(winter)*	VALUE 50 F		VALUE		VALUE			°C		VALUE		
H. Temperature *(summer)*	VALUE 80 F		VALUE		VALUE			°C		VALUE		
I. pH	MINIMUM 6.0	MAXIMUM 8.0	MINIMUM x	MAXIMUM x				STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results for at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Bromide (24959-67-9)		X												
B. Chlorine Total Residual		X												
C. Color		X												
D. Fecal Coliform		X					cfu/100ml							
E. Fluoride (16984-48-8)		X												
F. Nitrate—Nitrate *(as N)*		X					mg/kg							

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
G. Nitrogen Total Organic *(as N)*	X		2.115	1.3						mg/l	lb.			
H. Oil and Grease	X		1.7	1.1						mg/l	lb.			
I. Phosphorus *(as P)* Total (7723-14-0)	X		1.931	1.2						mg/l	lb.			
J. Sulfate *(as SO^4)* (14808-79-8)		X												
K. Sulfide *(as S)*		X												
L. Sulfite (as SO^3) (14265-45-3)		X												
M. Surfactants	X		1.5	.07						mg/l	lb.			
N. Aluminum Total (7429-90-5)		X												
O. Barium Total (7440-39-3)		X												
P. Boron Total (7440-42-8)		X												
Q. Cobalt Total (7440-48-4)		X												
R. Iron Total (7439-89-6)	X		2.3	.01						mg/l	lb.			
S. Magnesium Total (7439-95-4)	X		1.5	.07						mg/l	lb.			
T. Molybdenum Total (7439-98-7)	X		3.4	.002						mg/l	lb.			
U. Manganese Total (7439-96-5)		X												
V. Tin Total (7440-31-5)		X												
W. Titanium Total (7440-32-6)		X												

Form C

Form C Part A Outfall 009 Storm Water

	Conc	Mass	Conc	Mass
BOD	11.7	7.3	mg/l	lb
TSS	44.3	27.7	mg/l	lb
Phosphorus	1,931	1.2	mg/l	lb
O&G	1.7	1.1	mg/l	lb
Nitrogen	2.115	1.3	mg/l	lb

Flow 75,000 gpd

Temp 50°F winter

[redacted] 80°F Summer

pH min. 6.80 max 7.20

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-9)		X												
2M. Beryllium, Total (7440-41-7)		X												
3M. Magnesium, Total (7439-95-4)	X		150	.07						mg/kg	lbs			
4M. Molybdenum, Total (7439-98-7)	X		3.4	.002						mg/kg	lbs			
5M. Tin, Total (7440-31-5)		X												
6M. Titanium, Total (7440-32-6)		X												
7M. Mercury, Total (7439-97-6)	X		.07	.001						mg/kg	lbs			
8M. Selenium, Total (7782-49-2)	X		.07	.001						mg/kg	lbs			
9M. Thallium, Total (7440-28-0)		X												
10M. Phenols, Total		X												
RADIOACTIVITY														
(1) Alpha Total		X												
(2) Beta Total		X												
(3) Radium Total		X												
(4) Radium 226 Total		X												

INSTRUCTIONS FOR FILLING OUT APPLICATION FOR DISCHARGE PERMIT FORM C – MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS.

All blanks must be filled in when the application is submitted to the appropriate regional office (see map). The form must be signed as indicated.

This application is to be completed only for wastewater facilities with a discharge. Include any facility with possibility of discharge, even if normally there is no discharge. If this form is not adequate for you to describe your existing operation, then sufficient information should be attached so that an evaluation of the discharge can be made.

1.00 Name of Facility – By what title or name is this facility known locally?

1.10 and 1.20 Self-explanatory.

2.00 List in descending order of significance the four digit Standard Industrial Classification (SIC) codes that best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words.

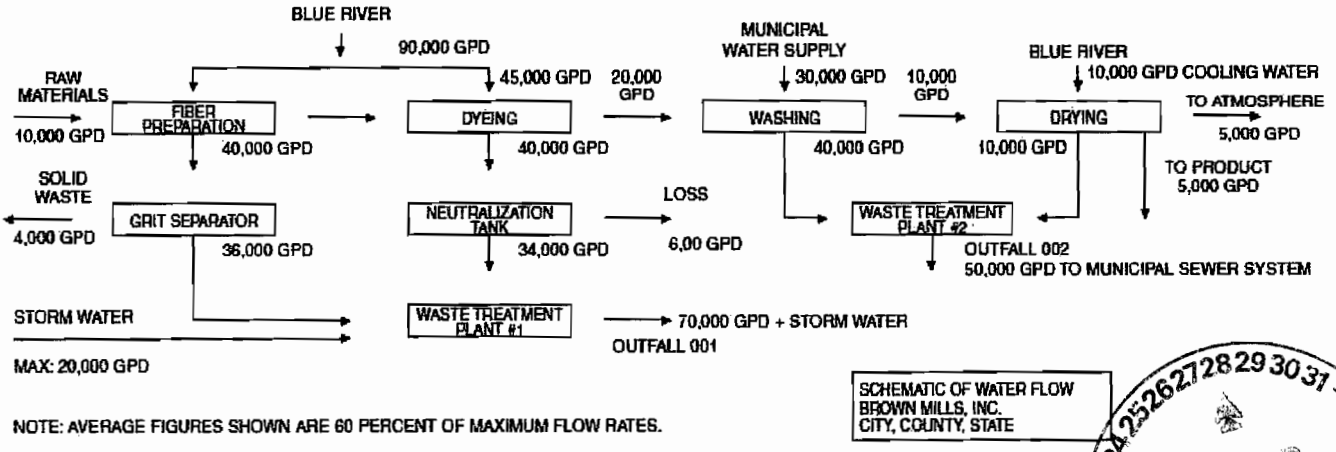
SIC code numbers are descriptions that may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, that is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual. If you have any questions concerning the appropriate SIC code for your facility, contact the Missouri Department of Natural Resources Regional office in your area (see map).

2.10 Point of discharge should be given in terms of the legal description of the waste treatment plant, location or sufficient information so that it may be located by the Missouri Clean Water Commission staff.

2.20 Receiving Water – the name of the stream to which the discharge is directed and any subsequent tributary until a continuous flowing stream is reached.

2.30 Self-explanatory.

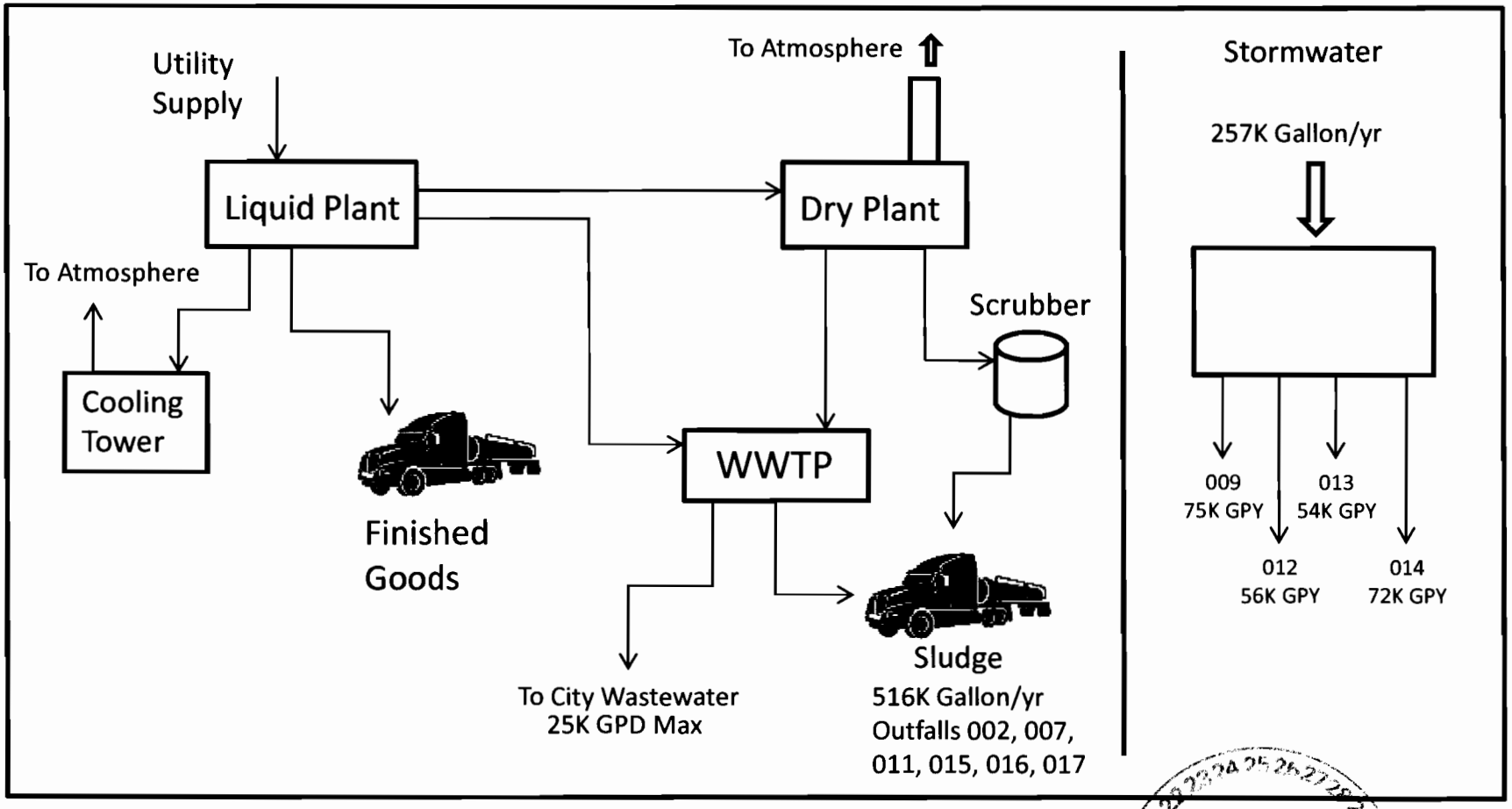
2.40 A. The line drawing should show generally the route taken by water in your facility from intake to discharge. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water and storm water runoff. You may group similar operations into a single unit labeled to correspond to the more detailed listing. The water balance should show average and maximum flows. Show all significant losses of water to products, atmosphere, discharge and public sewer systems. You should use actual measurements whenever available; otherwise, use your best estimate. An example of any acceptable line drawing appears below.



NOTE: AVERAGE FIGURES SHOWN ARE 60 PERCENT OF MAXIMUM FLOW RATES.

SCHEMATIC OF WATER FLOW
BROWN MILLS, INC.
CITY, COUNTY, STATE

AFB Water Flow Diagram



B. List all sources of wastewater to each outfall. Operations may be described in general terms (for example, "dye-making reactor" or a distillation tower"). You may estimate the flow contributed by each source if no data is available, and for storm water, you may use any reasonable measure of duration, volume or frequency. For each treatment unit, indicate its size, flow rate and retention time, and describe the ultimate disposal of any solid or liquid wastes not discharged. Treatment units should be listed in order and you should select the proper code from Table A to fill in column 3B for each treatment unit. Insert "XX" into column 3B if no code corresponds to a treatment unit you list.

TABLE A – CODES FOR TREATMENT UNITS

PHYSICAL TREATMENT PROCESSES

1-A	Ammonia Stripping	1-M	Grit Removal
1-B	Dialysis	1-N	Microstraining
1-C	Diatomaceous Earth Filtration	1-O	Mixing
1-D	Distillation	1-P	Moving Bed Filters
1-E	Electrodialysis	1-Q	Multimedia Filtration
1-F	Evaporation	1-R	Rapid Sand Filtration
1-G	Flocculation	1-S	Reverse Osmosis (Hyperfiltration)
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation (Settling)
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding (Comminutors)	1-X	Sorption

CHEMICAL TREATMENT PROCESSES

2-A	Carbon Absorption	2-G	Disinfection (Ozone)
2-B	Chemical Oxidation	2-H	Disinfection (Other)
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection (Chlorine)	2-L	Reduction

BIOLOGICAL TREATMENT PROCESSES

3-A	Activated Sludge	3-E	Pre-Aeration
3-B	Aerated Lagoons	3-F	Spray Irrigation/Land Application
3-C	Anaerobic Treatment	3-G	Stabilization Ponds
3-D	Nitrification-Denitrification	3-H	Trickling Filtration

OTHER PROCESSES

4-A	Discharge to Surface Water	4-C	Reuse/Recycle of Treated Effluent
4-B	Ocean Discharge Through Outfall	4-D	Underground Injection

SLUDGE TREATMENT AND DISPOSAL PROCESSES

5-A	Aerobic Digestion	5-M	Heat Drying
5-B	Anaerobic Digestion	5-N	Heat Treatment
5-C	Belt Filtration	5-O	Incineration
5-D	Centrifugation	5-P	Land Application
5-E	Chemical Conditioning	5-Q	Landfill
5-F	Chlorine Treatment	5-R	Pressure Filtration
5-G	Composting	5-S	Pyrolysis
5-H	Drying Beds	5-T	Sludge Lagoons
5-I	Elutriation	5-U	Vacuum Filtration
5-J	Flotation Thickening	5-V	Vibration
5-K	Freezing	5-W	Web Oxidation
5-L	Gravity Thickening		

2.40 C. A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes or other similar activities. A discharge is seasonal if it occurs only during certain parts of the year. Fill in every applicable column in this item for each source of intermittent or seasonal discharges. Base your answers on actual data whenever available; otherwise, provide your best estimate. Report the highest daily value for flow rate and total volume in the "Maximum Daily" columns. Report the average of all daily values measures during days when discharge occurred within the last year in the "Long Term Average" columns.

2.50 A. All effluent guidelines promulgated by EPA appear in the Federal Register and are published annually in 40 CPR Subchapter N. A guideline applies to you if you have any operations contributing process wastewater in any subcategory covered by BPT, BCT, or BAT guidelines. If you are unsure whether you are covered by a promulgated effluent guideline, check with your Missouri Department of Natural Resources' Regional Office. You must check yes if an applicable effluent guideline has been promulgated, even if the guideline limitations are being contested in court. If you believe that a promulgated effluent guideline has been remanded for reconsideration by a court and does not apply to your operations, you may check no.

B. An effluent guideline is expressed in terms of production (or other measure of operation) if the limitations are expressed as mass of pollutant per operational parameter; for example, "pounds of BOD per cubic foot of logs from which bark is removed," or "pounds of TSS per megawatt hour of electrical energy consumed by smelting furnace." An example of a guideline not expressed in terms of a measure of operation is one which limits the concentration of pollutants.

C. This item must be completed only if you checked yes to item B. The production information requested here is necessary to apply effluent guidelines to your facility and you may not claim it as confidential. However, you do not have to indicate how the reported information was calculated.

Report quantities in the units of measurement used in the applicable effluent guideline. The figures provided must be a measure of actual operation over a one month period, such as the production for the highest month during the last twelve months, or the monthly average production for the highest year of the last five years, or other reasonable measure of actual operation, but may not be based on design capacity or on predictions of future increases in operation.

2.60 A. If you check yes to this question, complete all parts of the chart, or attach a copy of any previous submission you have made containing the same information.

B. You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

3.00 These items require you to collect and report data on the pollutants discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

GENERAL INSTRUCTIONS. Part A requires you to report at least one analysis for each pollutant. Part B requires you to mark "X" in either the "Believe Present" column or the "Believe Absent" column (column 2A or 2B, Part B) based on you best estimate, and test for those which you believe to be present. Part C requires you to list any of a group of pollutants which you believe to be present, with a brief explanation of why you believe it to be present. (See specific instructions on the form and below Parts A through C).

Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, maintenance chemicals, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or of any similar effluent. (For example, if you manufacture pesticides, you should expect those pesticides to be present in contaminated storm water runoff.) If you would expect a pollutant to be present solely as a result of its presence in your intake water, you must mark "Believe Present" but you are not required to analyze for that pollutant. Instead, mark an "X" in the "Intake" column.

REPORTING. All levels must be reported as a concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper. (Use the following abbreviations in the columns headed "Units" (column 3, Part A, and column 4, Part B).

CONCENTRATION		MASS	
ppm	parts per million	lbs	pounds
mg/L	milligrams per liter	ton	tons (English tons)
ppb	parts per billion	mg	Milligrams
ug/L	micrograms per liter	g	grams
		kg	kilograms
		T	tonnes (metric tons)

If you measure only one daily value, complete only the "Maximum Daily Values" columns and insert "1" into the "number of analyses" columns (columns 2A and 2B, Part A, and columns 3A and 3D, Part B). The Missouri Department of Natural Resources may require you to conduct additional analyses to further characterize your discharges.

For composite samples, the daily value is the total mass or average concentration found in a complete sample taken over the operating hours of the facility during a 24 hour period; for grab samples, the daily value is the arithmetic or flow-weighted total mass or average concentration found in a series of at least four grab samples taken over the operating hours of the facility during a 24 hour period.

If you measure more than one daily value for a pollutant, determine the average of all values within the last year and report the concentration and mass under the "Long Term Average Values" columns (column 2C, Part A, and column 3C, Part B), and the total number of daily values under the "Number of Analyses" columns (column 2D, Part A, and column 3D, Part B). Also, determine the average of all daily values taken during each calendar month, and report the highest average of all daily values taken during each calendar month, and report the highest average under the "Maximum 30 Day Values" columns (column 2B, Part A, and column 3B, Part B).

SAMPLING. The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater. You may contact your Missouri Department of Natural Resources' Regional Office for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative of your normal operation, to the extent feasible, with all processes which contribute wastewater in normal operation and with your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit or at any site adequate for the collection of a representative sample.

Grab and composite samples are defined as follows:

GRAB SAMPLE. An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

COMPOSITE SAMPLE. A combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

ANALYSIS. You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding times, preservation techniques and the quality control measures which you used.

If you have two or more substantially identical outfalls, you may request permission from the Missouri Department of Natural Resources to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the Missouri Department of Natural Resources, on a separate sheet attached to the application form, identify which outfall you did test and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

REPORTING OF INTAKE DATA. You are not required to report data under the "Intake" columns unless you wish to demonstrate your eligibility for a "net" effluent limitation for one or more pollutants, that is, an effluent limitation adjusted by subtracting the average level of the pollutant(s) present in your intake water. National Pollutant Discharge Elimination System (NPDES) regulations allow net limitations only in certain circumstances. To demonstrate your eligibility, under the Intake columns report the average of the results of analyses on your intake water (if your water is treated before use, test the water after it is treated), and attach a separate sheet containing the following for each pollutant:

1. A statement that the intake water is drawn from the body of water into which the discharge is made. (Otherwise, you are not eligible for net limitations.)

2. A statement of the extent to which the level of the pollutant is reduced by treatment of your wastewater. (Your limitations will be adjusted only to the extent that the pollutant is not removed.)

3. When applicable, a demonstration of the extent to which the pollutants in the intake vary physically, chemically, or biologically from the pollutants contained in your discharge. For example, when the pollutant represents a class of compounds. Your limitations will be adjusted only to the extent that the intake pollutants do not vary from the discharged pollutants.

3.00 Part A must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff. However, at your request, the Missouri Department of Natural Resources may waive the requirements to test for one or more of these pollutants, upon a determination that testing for the pollutant(s) is not appropriate for your effluent.

Use composite samples for all pollutants in this part, except use grab samples for pH and temperature. See discussion in instructions above for definitions of the columns in Part A. The "Long Term Average Values" column (column 2C) and "Maximum 30 Day Values" column (column 2B) are not compulsory but should be filled out if data is available.

3.00 Part B must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff.

Use composite samples for all pollutants you analyze for in this part, except use grab samples for residual chlorine, oil and grease and fecal coliform. The Long Term Average Values column (column 3C) and Maximum 30 Day Values column (column 3B) are not compulsory but should be filled out if data is available.

3.00 List any pollutants in Table B that you believe to be present and explain why you believe them to be present in part C. No analysis is required, but you have analytical, you must report it.

TABLE B – TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT

TOXIC POLLUTANT	HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES
Asbestos	Dichlorvos	Nalad
	Diethylamine	Napthenic acid
HAZARDOUS SUBSTANCES	Dimethylamine	Nitrotoluene
	Dintrobenzene	Parathion
Acetaldehyde	Diquat	Phenolsulfonate
Allyl alcohol	Disulfoton	Phosgene
Allyl chloride	Diuron	Propargite
Amyl acetate	Epichlorohydrin	Propylene oxide
Aniline	Ethion	Pyrethrins
Benzonitrile	Ethylene diamine	Quinoline
Benzyl chloride	Ethylene dibromide	Resorcinol
Butyl acetate	Formaldehyde	Strontium
Butylamine	Furfural	Strychnine
Captan	Guthion	Styrene

TABLE B – (continued)

HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES
Carbaryl	Isoprene	2, 4, 5-T (2,4,5-Trichloro-phenoxyacetic acid)
Carbofuran	Isopropanolamine	TDE (Tetrachlorodiphenyl ethane)
Carbon disulfide	Kelthane	2, 4, 5-TP (2-(2,4,5-Trichloro-phenoxy) propanoic acid)
Chlorpyrifos	Kepone	Trichlorofon
Coumaphos	Malathion	Triethanolamine
Cresol	Mercaptodimethur	Triethaylamine
Crotonaldehyde	Methoxychlor	Uranium
2,4-D (2,4-Dichloro-Phenoxyacetic acid)	Methyl mercaptan	Vanadium
Diazinon	Methyl parathion	Vinyl acetate
Dicamba	Mevinphos	Xylene
Dichlobenil	Mexacarbate	Xylenol
2,2-Dichloropropionic acid	Monethyl amine	Zirconium
	Monomethyl amine	

3.10 Self-explanatory. Additional information may be requested by the Missouri Department of Natural Resources.

3.20 Self-explanatory.

3.30 The Clean Water Act provides for severe penalties for submitting false information on this application form.

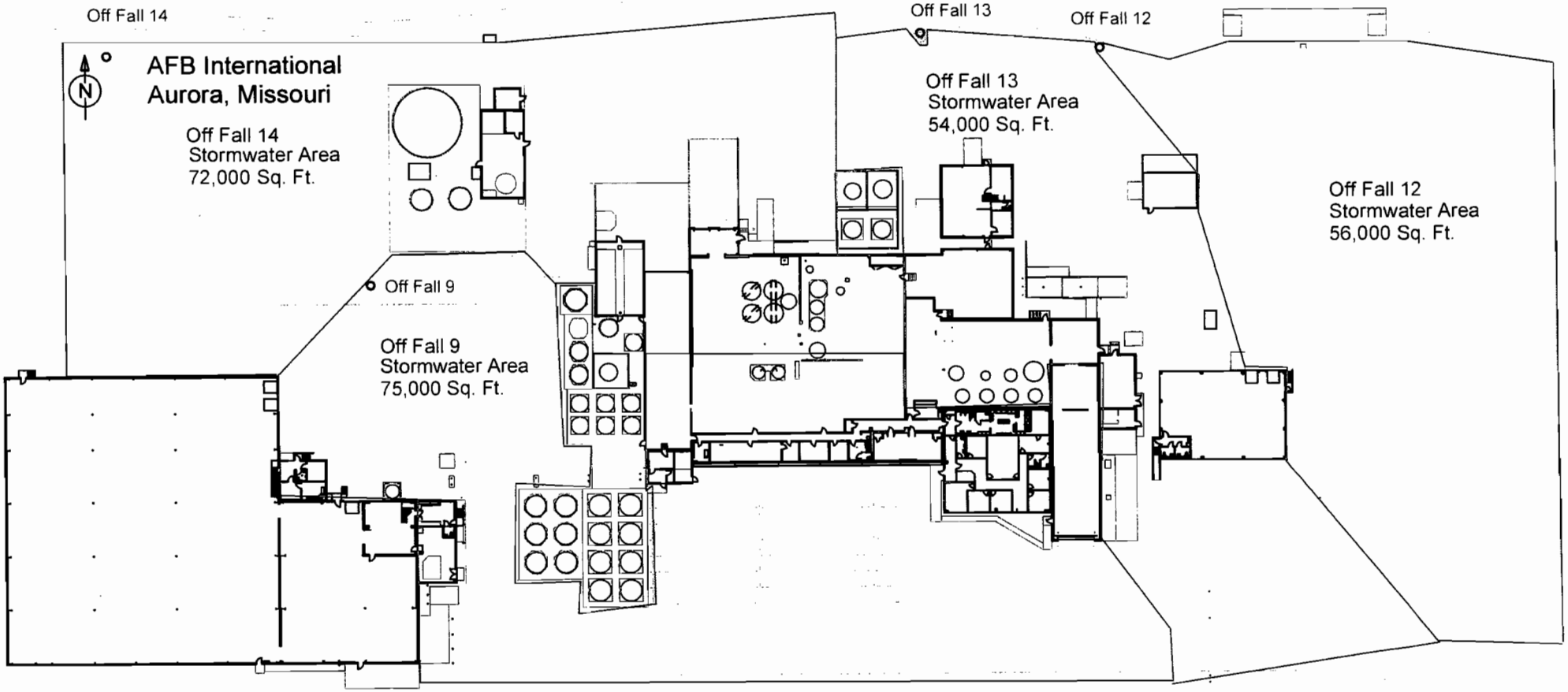
Section 309(c)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application . . . shall upon conviction, be punished by a fine of no more $10,000 or by imprisonment for not more than six months, or both.

All applications must be signed as follows and the signature must be original.

A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.

B. For a partnership or sole proprietorship, by a general partner or the proprietor.

C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.



(A)
STORM WATER
ON SITE
AFB

A. FACILITY DESCRIPTION (continued)

Adjacent Land Owners

Outfall #001 — Removed
Legal Description: S½, Sec. 19, T27N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001)
Olen Miller

Outfall #002
Legal Description: NW¼, Sec. 27, T26N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001) HENSON
Jim Snowden

Outfall #003 — Remove
Legal Description: SE¼, NW¼, Sec. 06, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to Little Crane Creek
First Classified Stream and ID: Little Crane Creek (C) (03165)
USGS Basin & Sub-Watershed No: (11010002-050004)
Clyde [illegible]

Outfall #004 — Remove
Legal Description: S½, Sec. 06, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to Little Crane Creek
First Classified Stream and ID: Little Crane Creek (C) (03165)
USGS Basin & Sub-Watershed No: (11010002-050004)
Harold Cantrell

Outfall #005 — Remove
Legal Description: SE¼, Sec. 11, T25N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to Calton Creek
First Classified Stream and ID: Calton Creek (C) (02392)
USGS Basin & Sub-Watershed No: (11010002-060002)
Larry Hooten

Outfall #006 — Remove
Legal Description: SW¼, Sec. 21, T27N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to Honey Creek
First Classified Stream and ID: Honey Creek (C) (03169)
USGS Basin & Sub-Watershed No: (11070207-010001)
William Bunch

Outfall #007
Legal Description: NE¼, Sec. 32, T26N, R26W, Barry County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001) 80 ACRES
Kenny Vaught

Outfall #008 — Remove
Legal Description: SE¼, Sec. 24, T27N, R27W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001)
Garey Reidle

Outfall #009 (~~Storm water~~) OUTFALL 012, 013, 014
Legal Description: NW¼, SE Sec. 12, T26N, R26W, Lawrence County
Receiving Stream: Dougar Branch
First Classified Stream and ID: Douger Branch (C) (03168)
USGS Basin & Sub-Watershed No: (11070207-010001)
Emit Reidlee

Outfall #010 — Remove
Legal Description: W½ NE¼ Sec. 32 T26N, R26W, Barry County
Receiving Stream: Unnamed Tributary to Spring River
Jerry Pinkley

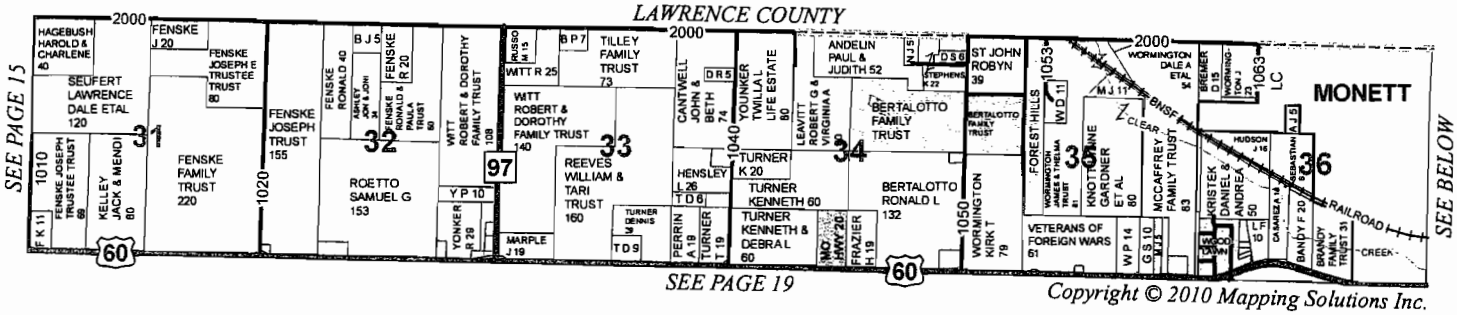
Out Fall #011

Legal Description:	N.E. ¼ S.E ¼ SEC 28 T26N R26W
Receiving Stream:	Unnamed Tributary to the Spring River
First Classified Steam and ID:	Spring River (P) (03165)
USGS Basin & Sub-Watershed No:	(11070207-010001)

Adjacent Landowner: Benjamin Kaal

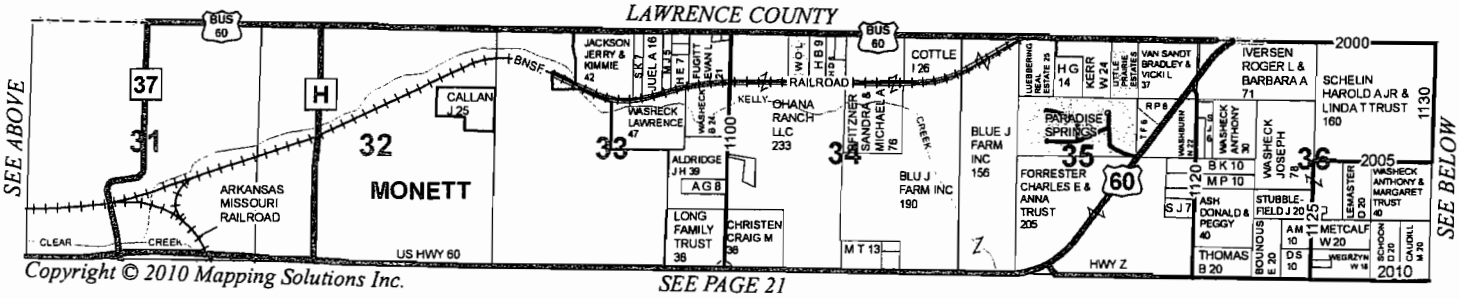
TOWNSHIP 26N • RANGE 28W

OUTFALL 007



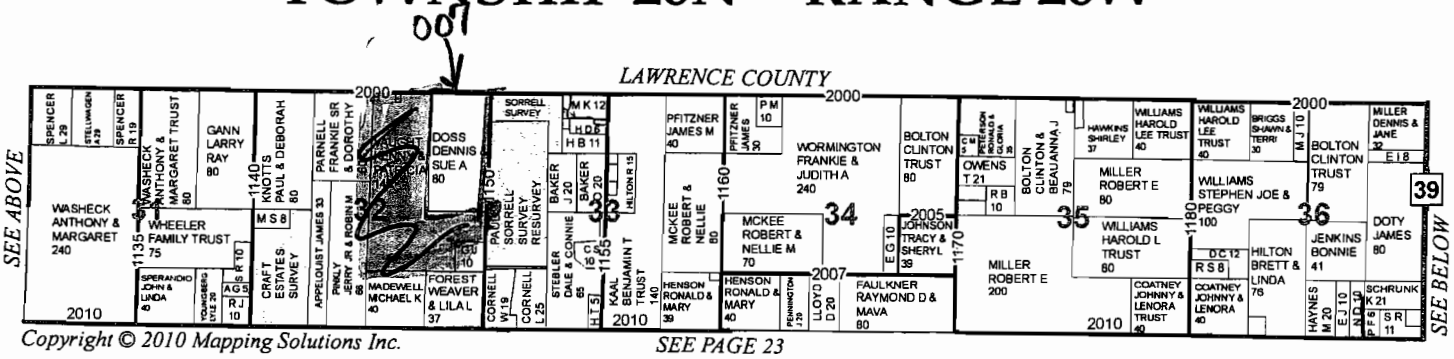
Copyright © 2010 Mapping Solutions Inc.

TOWNSHIP 26N • RANGE 27W



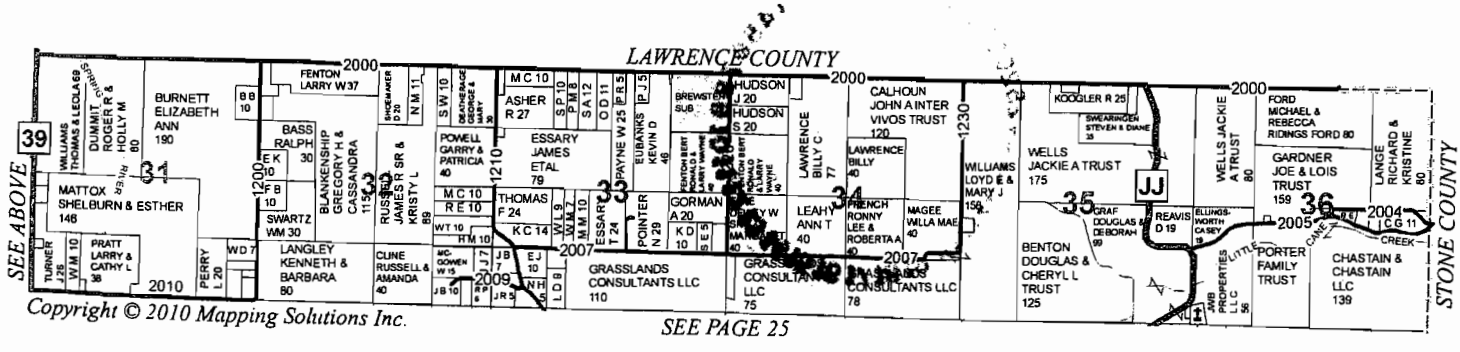
Copyright © 2010 Mapping Solutions Inc.

TOWNSHIP 26N • RANGE 26W



Copyright © 2010 Mapping Solutions Inc.

TOWNSHIP 26N • RANGE 25W



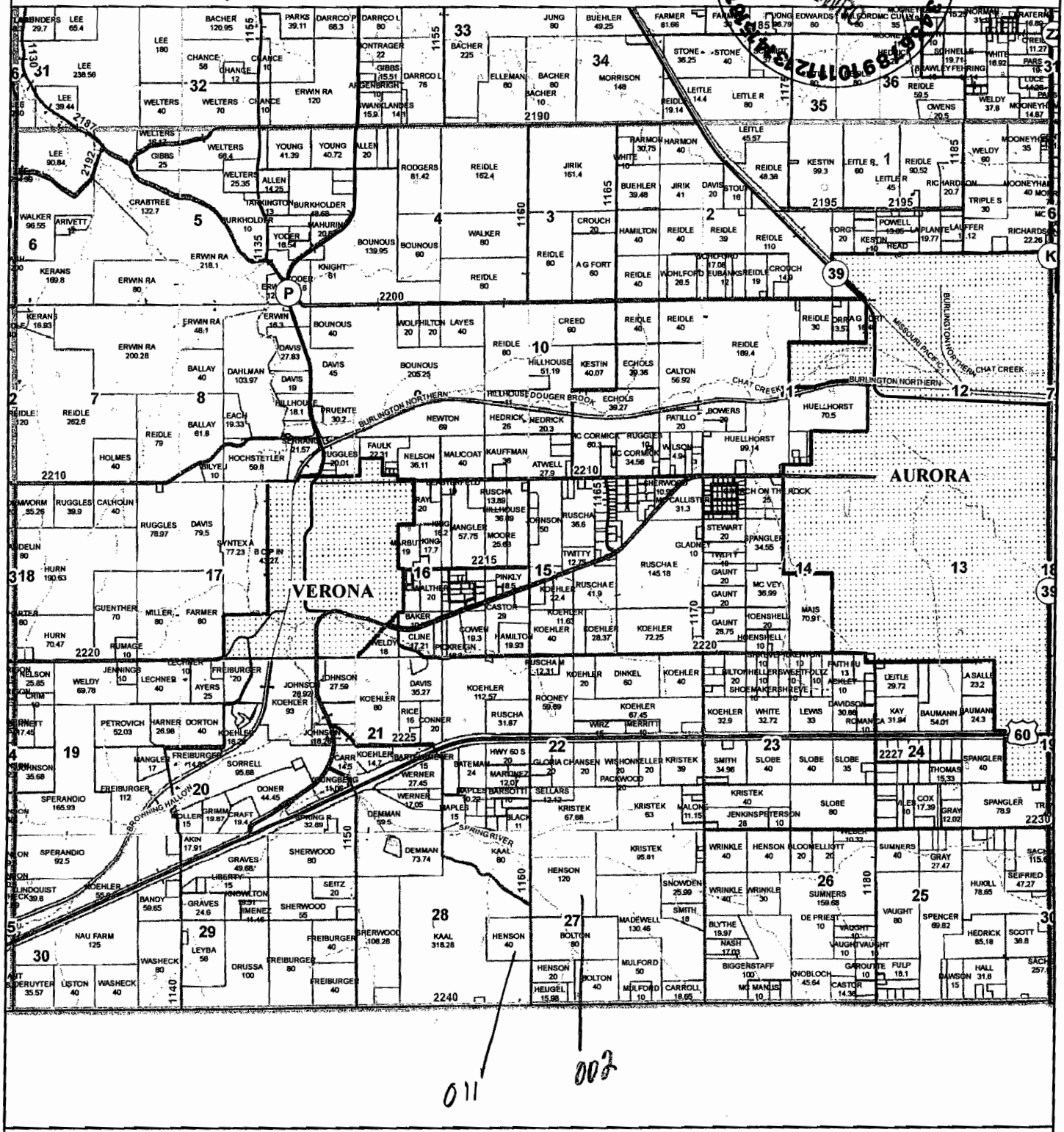
Copyright © 2010 Mapping Solutions Inc.

Lawrence County, MO

T26N-R26W

OUTFALL 002, 011

RECEIVED
MAY 2013
DEQ/SWRO



Map Date: *Aug 26, 2008*

This data was primarily developed for tax purposes and is not considered survey accurate.

Lawrence County Commission

Sam Goodman - Presiding Commissioner
Rodney Barnes - Associate Commissioner
Earl Dotson - Associate Commissioner

Most parcels > 10 ac labeled

Data Courtesy Lawrence County Geographic Information System

Doug Bowerman - Assessor

GIS & Map Development By:

MIDLAND GIS SOLUTIONS

GIS

501 N Market
Maryville, MO 64468
(660) 562-0050
www.midlandgis.com

1 inch equals 0.78 miles

0 2,000 4,000 Feet

R29W R28W R27W R26W R25W

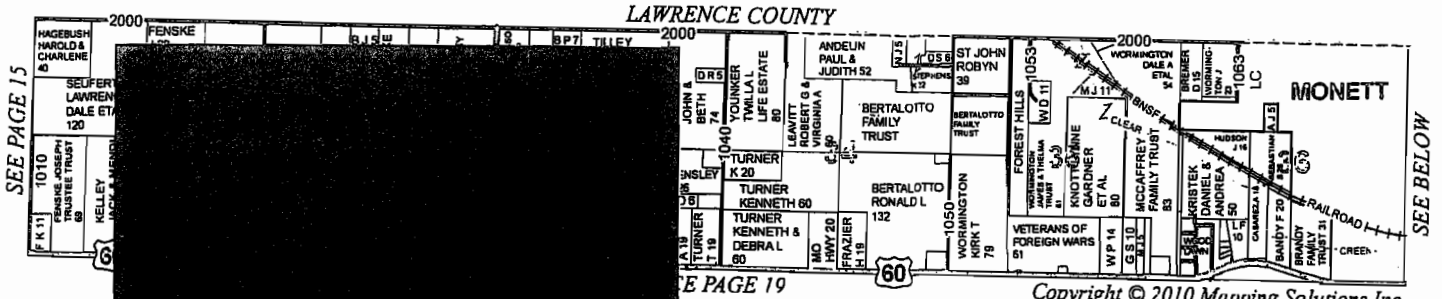
T29N T28N T27N T26N

Legend

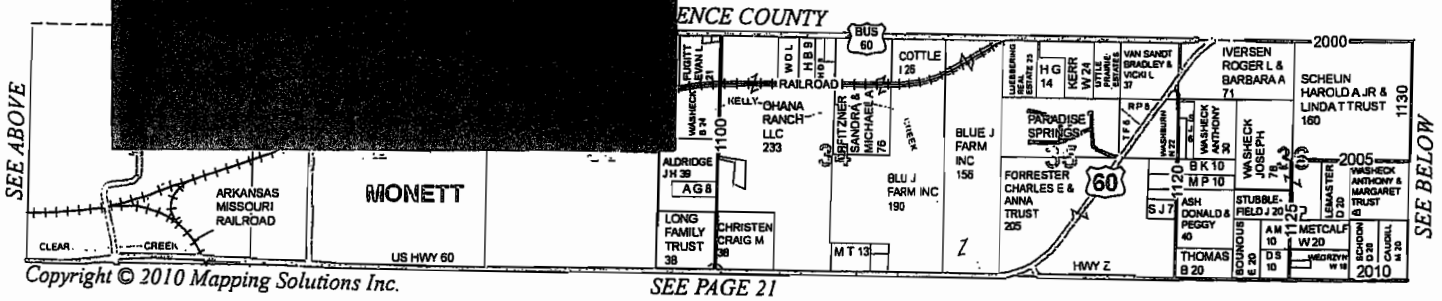
- County Boundary
- City Limits
- Township-Range
- Sections
- Subdivisions
- Water
- Land Ownership
- US Highways
- ST Highways
- CO Highways
- Streets / Roads
- Rail Roads
- Streams
- Land Hooks

OUTFALLS 015, 016, 017

TOWNSHIP 26N • RANGE 28W

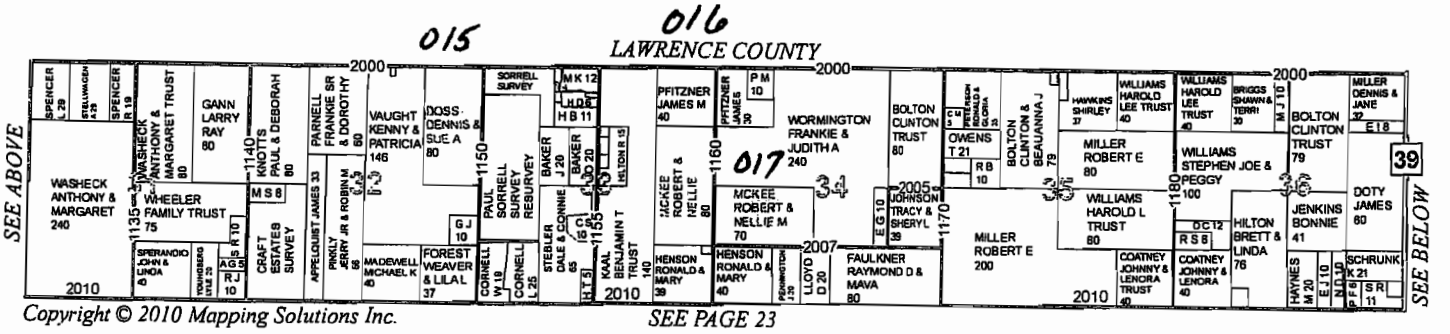


N • RANGE 27W

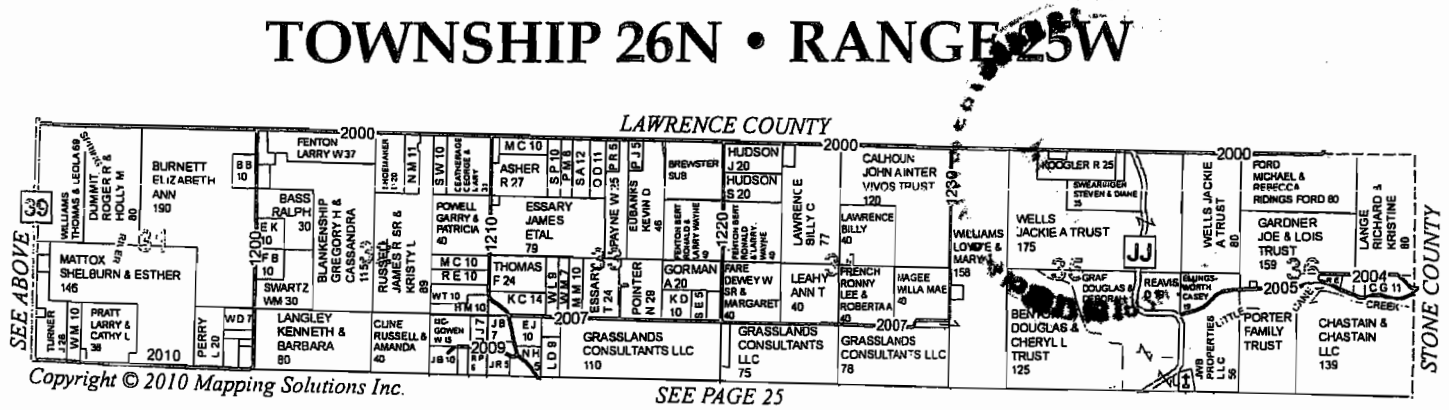


TOWNSHIP 26N • RANGE 26W

015 016 017



TOWNSHIP 26N • RANGE 25W



University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51058-1	Lab no. C1308622
County Lawrence	Region 6
Submitted 4/29/2013	Processed 4/29/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID MCKEE 1	Sample no 1	
Acres 80	Last Limed unknown	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:
AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

Sampled: 4-17-2013

SOIL TEST INFORMATION			RATING					
			Very Low	Low	Medium	High	Very High	Excess
pH_s (salt pH)	6.3		**********					
Phosphorus (P)	24	lbs/A		**********				
Potassium (K)	63	lbs/A		**********				
Calcium (Ca)	2393	lbs/A					**********	
Magnesium (Mg)	295	lbs/A					**********	
Sulfur (SO_4-S)		ppm						
Zinc (Zn)		ppm						
Manganese (Mn)		ppm						
Iron (Fe)		ppm						
Copper (Cu)		ppm						

Organic matter	2.8 %	Neutralizable acidity	1.0 meq/100g	Cation Exch. Capacity	8.3 meq/100g
PH in water		Electrical Conductivity	Mmho/cm	Sodium (Na)	37 lbs/A
Nitrate (NO_3-N) Topsoil	8.8 ppm	Subsoil ppm	Sampling Depth	Top Inches	Subsoil Inches

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	25	85		
18 COOL SEASON GRASS HAY	2 T/A	80	40	125		
18 COOL SEASON GRASS HAY	3 T/A	120	45	160		

LIMESTONE SUGGESTIONS

Effective Neutralizing Material (ENM)	0
Effective magnesium (EMg)	0

Comments

---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.8 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---For hay production apply nitrogen just before spring growth begins (typically March). Consider splitting nitrogen applications if the rate exceeds 90 lbs N/acre, applying 60% in March and the balance in mid August.

TKN is 0.161%
Chloride is 4.5 ppm
Exchangeable sodium is 1.0%

RECEIVED
MAY 2013
DEQ/SWRO

Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: McKee #1
Sample Collection Date: 04/17/2013

Date of Sample Receipt: 04/18/2013

Lab Number: 0413131
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	**4.2**	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51058-2	Lab no. C1308623
County Lawrence	Region 6
Submitted 4/29/2013	Processed 4/29/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID MCKEE 2	Sample no 2	
Acres 70	Last Limed unknown	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:
AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

Sampled: 4-17-2013

SOIL TEST INFORMATION			RATING					
			Very Low	Low	Medium	High	Very High	Excess
pH_s	(salt pH)	6.3	**********					
Phosphorus	(P)	54 lbs/A			**********			
Potassium	(K)	182 lbs/A			**********			
Calcium	(Ca)	2115 lbs/A					**********	
Magnesium	(Mg)	271 lbs/A					**********	
Sulfur	(SO_4-S)	ppm						
Zinc	(Zn)	ppm						
Manganese	(Mn)	ppm						
Iron	(Fe)	ppm						
Copper	(Cu)	ppm						

Organic matter 3.0 %	Neutralizable acidity 1.0 meq/100g	Cation Exch. Capacity 7.7	meq/100g
PH in water	Electrical Conductivity Mmho/cm	Sodium (Na) 32	lbs/A
Nitrate (NO_3-N) Topsoil 22.4 ppm	Subsoil ppm	Sampling Depth Top 6 Inches	Subsoil Inches

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	20	30		
18 COOL SEASON GRASS HAY	2 T/A	80	20	75		
18 COOL SEASON GRASS HAY	3 T/A	120	20	110		

LIMESTONE SUGGESTIONS

Effective Neutralizing Material (ENM)	0
Effective magnesium (EMg)	0

Comments

---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.8 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---For hay production apply nitrogen just before spring growth begins (typically March). Consider splitting nitrogen applications if the rate exceeds 90 lbs N/acre, applying 60% in March and the balance in mid August.

TKN is 0.205%
Chloride is 3.2 ppm
Exchangeable sodium is 0.9%

RECEIVED
MAY 2013
DEQ/SWRO

Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: McKee #2
Sample Collection Date: 04/17/2013

Date of Sample Receipt: 04/18/2013

Lab Number: 0413132
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	4.4	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

RECEIVED
MAY 2013
DEQ/SWRO

Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51050-1	**Lab no. C1307165**
County Lawrence	Region 6
Submitted 4/4/2013	Processed 4/9/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID DOSS #2	Sample no 1	
Acres 40	Last Limed 1-5 yrs	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:

AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

SOIL TEST INFORMATION			RATING					
			Very Low	Low	Medium	High	Very High	Excess
pH_s (salt pH)	5.5		**********					
Phosphorus (P)	53	lbs/A	**********	**********	**********	**********		
Potassium (K)	98	lbs/A	**********	**********				
Calcium (Ca)	2492	lbs/A	**********	**********	**********	**********	**********	
Magnesium (Mg)	155	lbs/A	**********	**********				
Sulfur (SO_4-S)		ppm						
Zinc (Zn)		ppm						
Manganese (Mn)		ppm						
Iron (Fe)		ppm						
Copper (Cu)		ppm						

Organic matter	4.7 %	Neutralizable acidity	3.5 meq/100g	Cation Exch. Capacity	10.5 meq/100g
PH in water		Electrical Conductivity	Mmho/cm	Sodium (Na)	34 lbs/A
Nitrate (NO_3-N) Topsoil	7.4 ppm	Subsoil ppm	Sampling Depth	Top 6 Inches	Subsoil Inches

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	20	70		

LIMESTONE SUGGESTIONS	
Effective Neutralizing Material (ENM)	570
Effective magnesium (EMg)	***

Comments

---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.0 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---To determine limestone needed in tons/acre, divide your ENM requirement by the guarantee of your limestone dealer.

***Suggest using dolomitic limestone if readily available, but yield response to magnesium is not likely.

TKN is 0.247%
Chloride is 3.6 ppm
Exchangeable sodium is 0.7%

RECEIVED MAY 2013 DEQ/SWRO

Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812 Tim Schnakenberg

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: Doss #2
Sample Collection Date: 04/03/2013

Date of Sample Receipt: 04/10/2013

Lab Number: 0413076
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	**3.9**	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

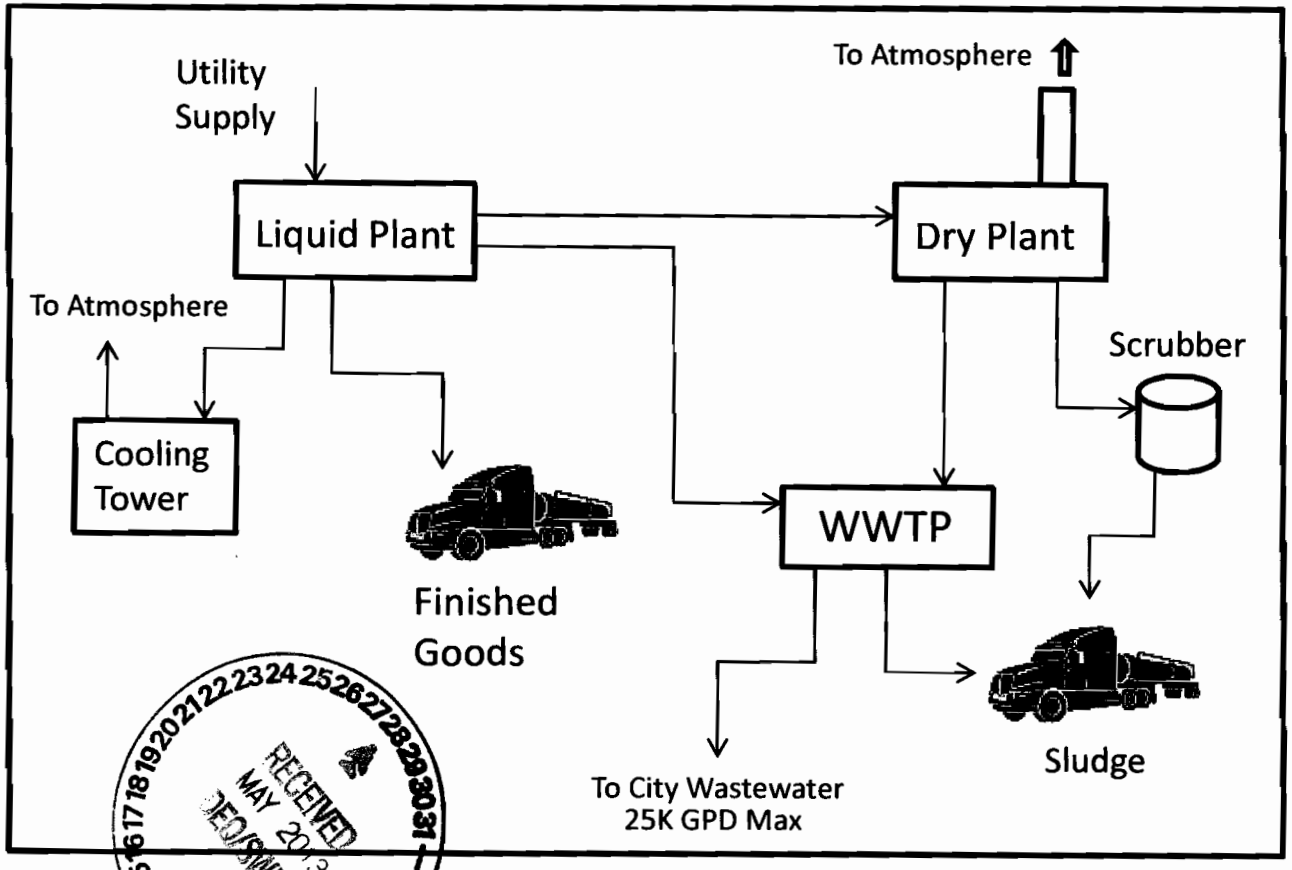
Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

B

B

AFB Water Flow Diagram



(R)

AFB International®

117 North Morgan
Aurora, MO 65605-1408 U.S.A.
Phone (417) 678 5988
Fax (417) 678 2056
www.afbinternational.com

RECEIVED
MAY 2013
DEQ/SWRO

Department of Natural Resources
Southwest Regional Office
2040 West Woodland
Springfield, Missouri 65807-5912

RECEIVED
MAY 2013
WATER PROTECTION PROGRAM

To whom it may concern;

AFB International upon renewing our current permit of Form A, C and R are asking to revise the following areas:

- We would like to remove Outfall numbers Outfall #001, Outfall #003, Outfall #004, Outfall #005, Outfall # 006, Outfall #008 and Outfall #010. Plat information is attached. These are land application sites that are no longer used.
- We would also like to add storm water outfalls: Outfall #12, #13, #14 to our permit. A site map is attached. Theses outfalls were identified by Mr. Charles Greeson with MoDNR on a recent visit.
- We would like to add three new land application sites:
  - Field ID DOSS #2 NE ¼ sec 32 T26N-R26W 40 acres in Barry County
  - Field ID McKee #1 E ½ sec 33 T26N R26W 80 acres in Barry County
  - Field ID McKee #2 SW ¼ sec 34 T26N R26W 70 acres in Barry County
    - Soil samples have been taken and we have the consent of the property owners. Plat maps are attached.
- We would also request the Nitrate testing only be required once per year, due to similar results.
- We have also obtained William Lindsey, P.E. of Midwest Environmental who had helped with this permit and will create a Nutrient Management Plan for the Aurora Facility.

Sincerely;

Dawn Marie Oplinger
AFB Safety
417-678-5988 X4563

NO3-N (ppm)

Field	2009		2010		2011		2012	
Henson #002	12.5	28.6	18.4	7.2	13.8	13.0	13.4	15.9
Henson #011	10.8	11.5	14.6	4.7	6.5	10.6	7.7	9.9
Doss #007	7.2	3.4	6.0	8.5	13.7	20.5	11.0	18.3

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)

FORM R – PERMIT APPLICATION FOR LAND APPLICATION OF INDUSTRIAL WASTEWATER BIOSOLIDS AND RESIDUALS

FOR AGENCY USE ONLY

PERMIT NUMBER MO - 0129224

DATE RECEIVED

INSTRUCTIONS: FORMS A & C or F (CAFOs) (and D where applicable) must also be submitted for land application of industrial wastewater sludge biosolids or residuals. **Submit FORMS E and G** for land disturbance permit if construction areas total five acres or more.

Attach **FORM I**, if wastewater will be land applied or irrigated.

RECEIVED MAY 2013 DEQ/SWRO

1.00 FACILITY INFORMATION

1.10 Facility Name

AFB International

1.20 Application for:
- ☐ Construction Permit (attach Engineering report, Plans and Specifications per 10 CSR 20-8.020)
- ☐ Operating Permit (if no construction permit, attach engineering documents)
  Date Land Application System Began Operation: _____
- ☑ Operating Permit Renewal

1.30 Months when the business or enterprise will operate or generate sludge or residuals:
- ■ 12 months per year
- ☐ Part of year (list Months): _____

1.40 List the Facility outfalls which will be applicable to the land application system from outfalls listed on Form A, C, D and F.
Outfall Nos. See att ___ ___ ___ ___ ___ ___ ___ SEE ATTACHED

2.00 STORAGE BASINS

2.10 Number of storage basins: 1 Type of basin: ☐ Steel ☐ Concrete ☑ Fiberglass ☐ Earthen ☐ Earthen with membrane liner

2.20 Storage basin dimensions at inside top of berm (feet): Report freeboard as feet from top of berm to emergency spillway or overflow pipe.
(Complete Attachment A: Profile Sketch) VERTICLE FIBERGLASS TANK 32' TALL
Basin #1: Length 12 Width 12 Depth 32 Freeboard 32 Berm Width _____ % Slope _____
Basin #2: Length _____ Width _____ Depth _____ Freeboard _____ Berm Width _____ % Slope _____

2.21 Storage basin volumes (gallons): Permanent volume means two foot water depth for seal protection, and any required treatment volume capacity.
Basin #1: Gallons: 27k Permanent Volume + 0 Storage = 27k Total volume (gallons)
Basin #2: Gallons: _____ Permanent Volume + 0 Storage = _____ Total volume (gallons)

2.30 Storage Basin operating levels (report as feet below emergency overflow level)
Basin #1: Maximum water level 32 ft. Minimum operating water level 0 ft.
Basin #2: Maximum water level _____ ft. Minimum operating water level 0 ft.

2.40 Storage Basin design storage capacity: (storage between minimum and maximum operating levels for 1-in10 year storm water flows.)
Basin #1: 9 days Basin #2: ___ days Basin #3: ___ days

2.50 Attach Water Balance Test results to verify earthen basin seal in accordance with 10 CSR 20-8.020(13) and (16), when required by the department. N/A

2.60 Attach a sludge management plan for materials that are not land applied. N/A

2.70 Attach a closure plan for lagoons, storage basins and treatment units. N/A

3.00 LAND APPLICATION SYSTEM SEE ATTACHED A

3.10 Number of application sites 6 Total Available Acres 200 Minimum & Maximum % field slopes <1% - 4 3%
Location: ___ ¼ ___ ¼ ___ ¼ ___ Sec. ___ T ___ R _____ County ___ Acres
Location: ___ ¼ ___ ¼ ___ ¼ ___ Sec. ___ T ___ R _____ County ___ Acres
Attach extra sheets as necessary.

3.12 Type of vegetation: ☑ Grass hay ☐ Pasture ☐ Timber ☐ Row crops ☐ Other (describe) _____
Specific Crops and Yields/acre: Goal: _____ Actual for last five years: _____

3.20 Annual sludge production (gallons per year): 621k Actual x Design
(dry tons per year): 65 Actual x Design
Human Population Equivalent: x Actual x Design

3.21 Land Application rate per acre:
Design: x dry ton/year x dry ton/application x No. applications/year
Actual: 0.63 dry ton/year .31 dry ton/application 207 No. applications/year
Total amount land applied each year (total all sites) Design x dry ton/year Actual 65 dry ton/year
Actual months used for land application: ☑ Jan ☑ Feb ☑ Mar ☑ Apr ☑ May ☑ Jun ☑ Jul ☑ Aug ☑ Sep ☑ Oct ☑ Nov ☑ Dec

RECEIVED MAY 2013 DEQ/SWRO

3.22 Land Application Rate is based on:
☐ Nutrient Management Plan (N&P) ☐ PAN ☐ Conservative
☐ Hydraulic Loading ☐ Limiting Pollutant (Specify) _____
■ Other (describe) TKN & Phosphorus

3.30 Equipment type: ☐ Tank wagon ☐ Tank truck ☐ Subsurface injection ☐ Slinger spreader ☐ Dry spreader
☑ Other (describe) Vacuum Truck
Equipment Capacity: _____ Gallons (cubic feet) per hour _____ Total hours of operation per year

3.40 Public Use/Access Sites: If public use or access to land application site, describe pathogen treatment and site access restrictions. If human, animal, or organic wastes, refer to 40 CFR 503.32 for pathogen treatment methods. Attach extra sheets as necessary.
n/a

3.50 Separation distance (in feet) from the outside edge of the biosolids application area to down gradient features:
n/a Permanent flowing stream 300 Losing Stream 300 Intermittent (wet weather) stream n/a Lake or pond
75 Property boundary 200 Dwellings n/a Water supply well _____ Other (describe) _____

3.60 SOILS INFORMATION: Use information from the County Soil Survey, NRCS, or professional soil scientist.
NOTE: On-site soils classification by a professional soil scientist may be required by the department where appropriate.
Soil Series Name M0109 Depth of bedrock 20 Feet Depth to water table 15 Feet
Soil Infiltration rate in inches/hour (in/hr) for most restrictive layer within the following soil depth ranges:
0.21-0.24 In/hr for 0-12 inch soil depth _____ In/hr for 12-24 inch soil depth _____ In/hr for 24-60 inch soil depth

3.70 Attach Nutrient Management Plan (NMP) including calculations for plant available nitrogen (PAN) and other nutrients, crop requirements, crop yields and other management factors. Include USDA/NRCS phosphorus recommendations. MIDWEST ENVIRONMENTAL TO COMPLETE

3.80 Geologic Investigation: UNKNOWN Date of most recent Geologic Report by Department's Division of Geology and Land Survey.

3.81 Ground Water Monitoring Wells: (Attach Groundwater Monitoring Plan when required by department)
☑ NONE ☐ EXISTING ☐ PLANNED NUMBER: ____ Monitoring Wells ____ Lysimeters

3.90 Attach a current copy of the Operation and Maintenance (O&M) Plan for the land application system. Date of O&M Plan: 2009

3.91 Attach a site map showing topography, storage basins, land application sites, property boundary, streams, wells, roads, dwellings and other pertinent features.

3.92 Attach a facility sketch showing treatment units, storage basins, pipelines, application sites and other features. ATTACHMENT B

4.00 INDUSTRIAL PROCESS INFORMATION

4.10 Brief description of treatment processes prior to land application and note any changes made in last five years. (Attach extra sheets as necessary.) AFB MANUFACTURES PET FOOD PALATANTS FROM POULTRY BY PRODUCTS. WASTE IS TREATED IN AN ACTIVATED SLUDGE FACILITY AND BIOSOLID ACRE LAND APPLICATION.

4.11 Detailed description of industrial production processes. Also indicate any changes made in last five years. (attach extra sheets as necessary) MEAT BIPRODUCTS ARE ENZMATICALLY BROKEN DOWN AND COATED WITH FLAVOR COMPOUNDS. NO SIGNIFICANT PROCESS CHANGES.

4.20 List of raw materials, chemicals, additives, products, and by-products (Attach extra sheets as necessary)
Poultry by products, sugars, amino acids, sodium hydroxide, phosphoric acid, sulfuric acid.

4.31 Attach following FORMS for wastewater to be land applied.

FORM C or F is required for all applicants. Use Form F for CAFOs.

FORM D is required for those industries listed in the Form D instructions or when required by the department.

Use actual testing results within last 12 months. For new operations use testing results from other similar operations or from published literature.

4.32 Are there any listed hazardous wastes in the material to be land applied: ☐ YES ☑ NO (If YES, attach testing results)

4.40 A. Are any Pollutants listed in 40 CFR 268.40 believed to be present in detectable concentrations: ☐ YES ☑ NO

B Are any Pollutants listed in 10 CSR 20-7.031 believed to be present in detectable concentrations: ☐ YES ☑ NO

C. Are any Pollutants listed in EPA Process Design Manual for Land Treatment of Municipal Wastewater publication EPA-625/1-81-013, Table 4-5 and Table 4-16 believed present in detectable concentrations: ☐ YES ☑ NO

(Attach a copy of testing results for any pollutants that may be present in detectable concentrations.)

4.50 Environmental Assessment. Do any of the pollutants detected exceed the criteria for pollutant concentrations of limitations contained in the publications referenced in Section 4.40 of this form: ☐ YES ☑ NO

If YES, attach a copy of the Environmental Assessment as required in 10 CSR 20-8.020(3)(D).

5.00 SOIL TESTING RESULTS: Complete information for each pollutant listed and each land application site. Attach results of any other soil testing performed in the last 12 months. Soil sampling and testing should conform to University publication G9110, Sampling Your Soil for Testing; Soil Test Procedures for North Central Region (North Dakota Agricultural Experiment Bulleting 499-Revised); Methods of Soil Analysis, American Society of Agronomy, Inc.; Soil Testing and Plant Analysis, Soil Science Society of America, Inc.; EPA Methods; or other methods approved by the department. Attach extra sheets as necessary.

Total area sampled is 200 acres. Each composite sample covers 40 acres. Each composite consists of 5 subsamples.

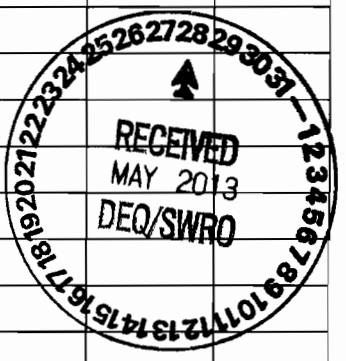
Sample depth: ☑ 0-6 inches ☐ 0-12 inches ☐ Other (describe) _____

Pollutant	Concentration (mg/kg or ppm)			Pounds/ Acre	No. Composite Samples	Sample Period
	Minimum	Maximum	Average			
Organic Nitrogen as N	1500	2900	2200		5	05/29 &10/29/12
Ammonia Nitrogen as N						
Nitrate Nitrogen as N	1.821	1.910				
Phosphorus as P (Bray 1P)	40	109	69			
Exchangeable Sodium %						
Organic Matter (percent)	2.6	4.4	3.2			
Cation Exchange Capacity						
pH (standard units)	6.67	6.90	6.4			
Other pollutants present in the material to be land applied: (Attach extra sheets as necessary)						

6.00 LAND LIMITING CONSTITUENTS FOR LAND APPLICATION N/A

6.10 Metals of Concern for Land Application. Complete information for each pollutant listed.
Analysis results must be for "TOTAL METALS". (Do NOT use TCLP, dissolved, total recoverable or other extraction methods.
Include all test results for the last 5 years and a minimum of 4 separate samples.

Pollutant (total metals)	Concentration (mg/kg dry weight)			Design LBS/ Acre/Year	Type of Samples	Number Samples	Sample Location	Sample Period
	Minimum	Maximum	Average					
Aluminum								
Arsenic								
Beryllium								
Cadium								
Chromium								
Copper								
Fluoride								
Lead								
Manganese								
Mercury								
Molybdenum								
Nickel								
Selenium								
Silver								
Tin								
Zinc								



6.20 Major Pollutants of Concern for Land Application. Complete information for each pollutant listed. Include any other pollutants that are most limiting for determining land application rates. Attach extra sheets as necessary. One page attached

Organic Nitrogen as N								
Ammonia Nitrogen as N	413	892	687		grab	4	sludge tnk	2012
Nitrate Nitrogen as N	1.772	3.882	2.35		grab	4	sludge tnk	2012
Total Nitrogen as N						4		
Plant Available Nitrogen (PAN)								
Total Phosphorus as P	617	1082	817		grab	4	sludge tnk	2012
Boron								
Chlorides	91	95	93		grab	4	sludge tnk	2012
Sodium	86	103	97		grab	4	sludge tnk	2012
COD			55,220		grab	4	sludge tnk	2012
TPH								
Total Suspended Solids								
Oil & Grease	267	1338	589		grab	4	sludge tnk	2012
Sodium Absorption Ration (SAR)								
pH (standard units)	6.67	6.93			grab	4	sludge tnk	2012

Form R

Section 5.00

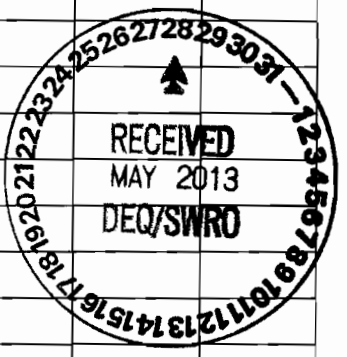
Doss 007	Min	Max	Avg	Comp. samples	Sample Period
Nitrate Nitrogen	11 ppm	18.3 ppm	14.65	1	April - Oct. 2012
Phosphorus	69 mg/Kg				May 2011
Exch. Sodium	2.9%				May 2011
Organic matter	2.1%				May 2011
Cation Exc Capacity	8.5 meq/100g				May 2011
pH	5.4				May 2011

Henson 007	min	max	Avg	Comp Samples	Sample Period
Nitrate Nitrogen	13.4	15.9 ppm	14.65	1	April - Oct 2012
Phosphorus	62.5 mg/Kg				May 2011
Exch. Sodium	2.3%				May 2011
Organic matter	2.7%				May 2011
Cation Exc Capacity	10.1 meq/100g				May 2011
pH	6.2				May 2011

Henson 011	min	max	Avg	Comp.	Sample Period
Nitrate Nitrogen	7.7	9.9	8.8	1	April - Oct 2012
Phosphorus	62.5 mg/Kg				May 2011
Exch. Sodium	1.0%				May 2011
Organic matter	2.5%				May 2011
Cation Exc Capacity	8.3 meq/100g				May 2011
pH	7.1				May 2011

6.30 Other Limiting Pollutants for Land Application Rates. Specify any other pollutants that are most limiting for determining land application rates. Include any additional significant pollutants from Section 4 that is not already listed in Section 6.00. Attach extra sheets as necessary. N/A

Pollutant	Concentration (mg/kg dry weight)			Design LBS/ Acre/Year	Type of Samples	Number Samples	Sample Location	Sample Period
	Minimum	Maximum	Average					



6.40 Requirements for Public Use Sites. Complete this if land application onto public use or public access sites or if material will be distributed for general public use. Fecal Coliform, Salmonella and Entric Virus must be tested if the biosolids include waste material from humans, animals, vegetables or organic matter.

Pollutant	N/A	Concentration (mg/kg dry weight)			Type of Samples	Number Samples	Sample Location	Sample Period
		Minimum	Maximum	Average				
Total Dioxin TEQ*	N/A							
* Required Only for public access sites. TEQ = Toxicity Equivalents for CDD and CDF isomers per EPA Publication EPA/625/3-89/016 and EPA method 1613. Detection limits must be less than 1.0 ppt.								
Fecal Coliform	N/A							
Salmonella	N/A							
Enteric Virus	N/A							
Other (specify)	N/A							

7.00 CERTIFICATION

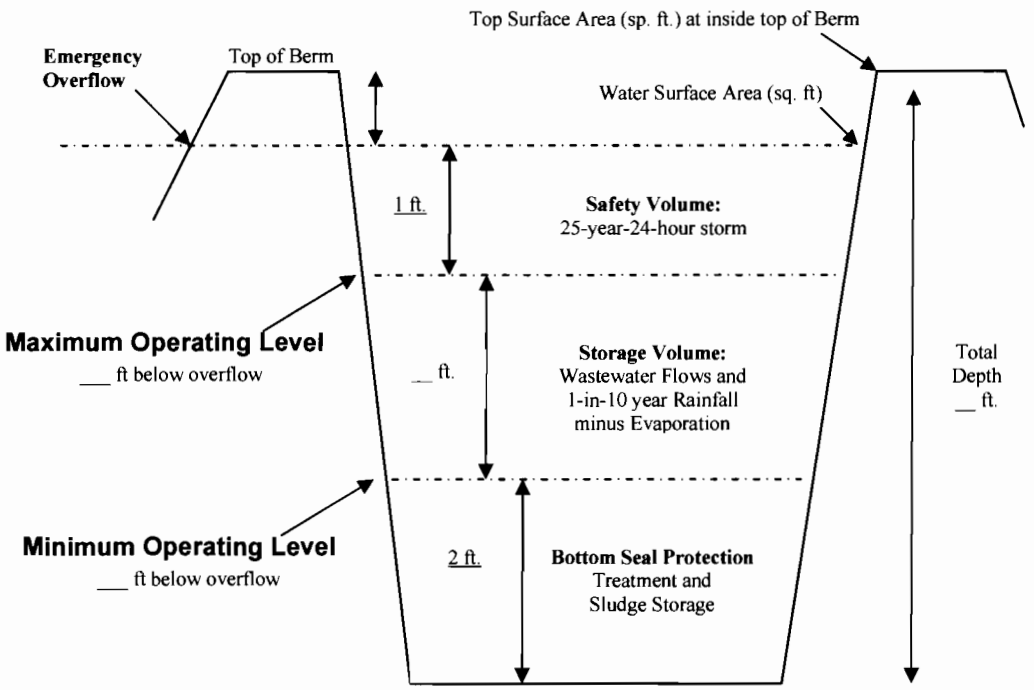
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS APPLICATION AND ALL ATTACHMENTS AND THAT BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THIS INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE OR IMPRISSONMENT.

CONSULTING ENGINEER – Name, Official Title and Engineering Firm (TYPE OR PRINT)	TELEPHONE NUMBER (area code and number)
SIGNATURE	DATE SIGNED
OWNER OR AUTHORIZED REPRESENTATIVE – Name and Official Title (TYPE OR PRINT)	TELEPHONE NUMBER (area code and number)
DAWN OPLINGER	417-678-5988
SIGNATURE	DATE SIGNED
Dawn Oplinger	5/23/13

ATTACHMENT A

(To be included with Form I and Form R)

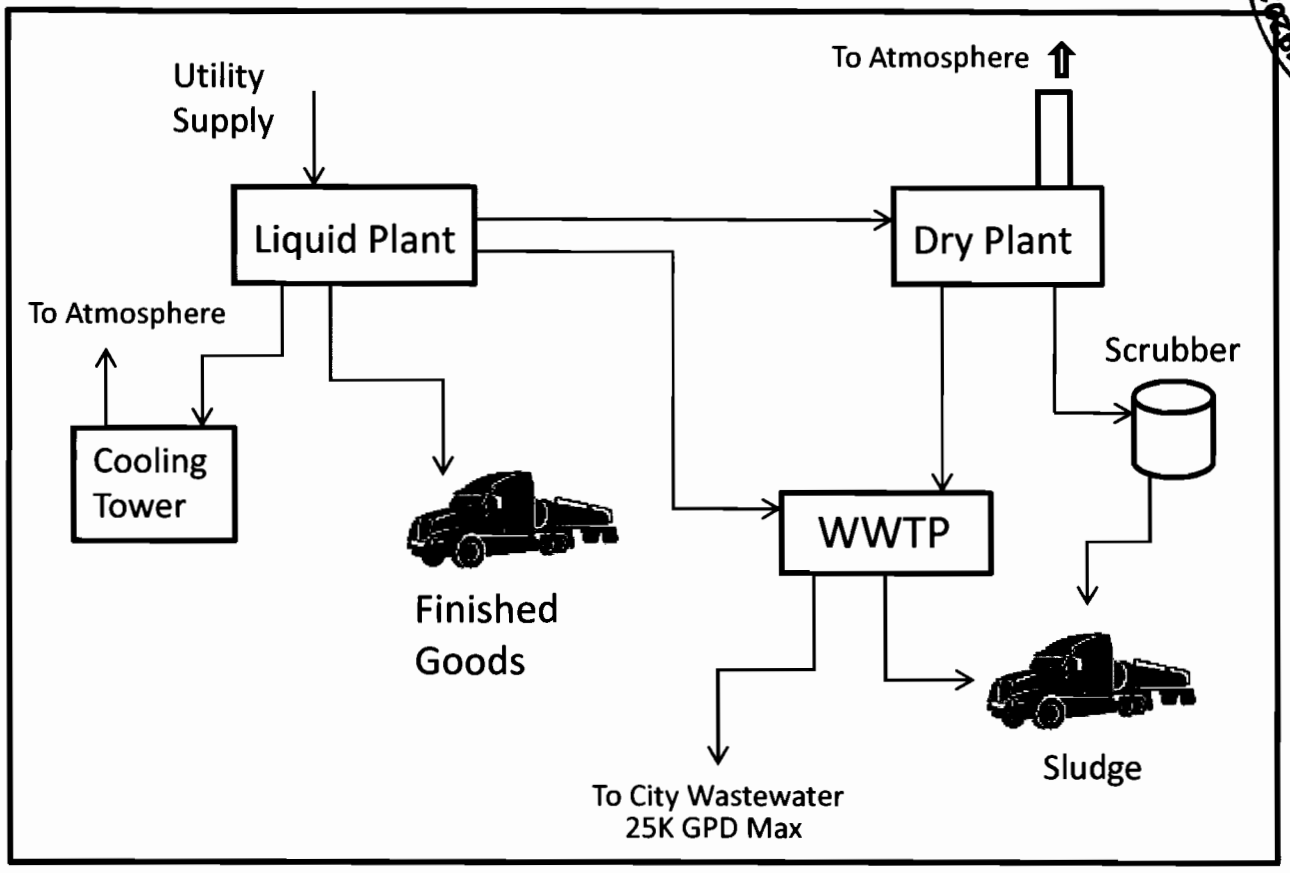
Lagoon or Storage Basin
PROFILE SKETCH



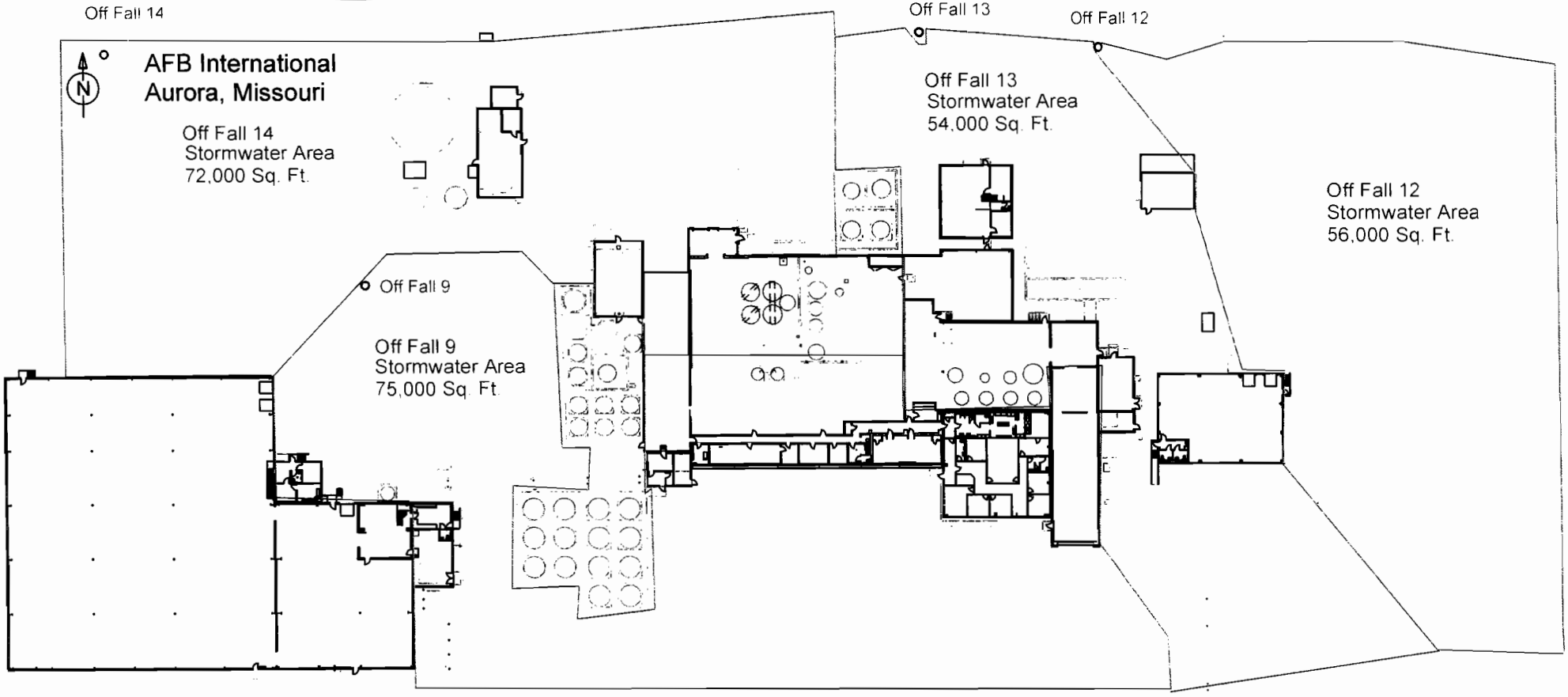
DEFINITION OF TERMS (REFER TO THE PROFILE SKETCH ABOVE).

a. Freeboard is depth from top of berm to emergency spillway (minimum 1 foot);
b. Safety Volume is depth for 25-year, 24-hour storm (minimum of 1 foot);
c. Maximum Operating Level is at bottom of the safety volume (minimum of 2 feet below top of berm).
d. Minimum Operating Level is 2 feet above bottom of lagoon for seal protection per 10 CSR 20-8.
   The minimum operating level may be greater than 2 feet when additional treatment volume is included.
e. Storage Volume and days storage are based on the volume between Minimum and Maximum Operating Levels.
f. Total Depth is from top of berm to bottom of basin including freeboard.

AFB Water Flow Diagram



B



B

mytopo
A TRIMBLE COMPANY

Home | Printed Maps | Map Software | Online Maps | About Us

Online Topo Map Viewing
SEARCH: Search >

order a print centered here

Search by city, town, zip code, address, or geographic feature name in the US and Canada. [Lat/Lon Coordinate Search]

Location: 36.9779924, -93.724494 | Change Format

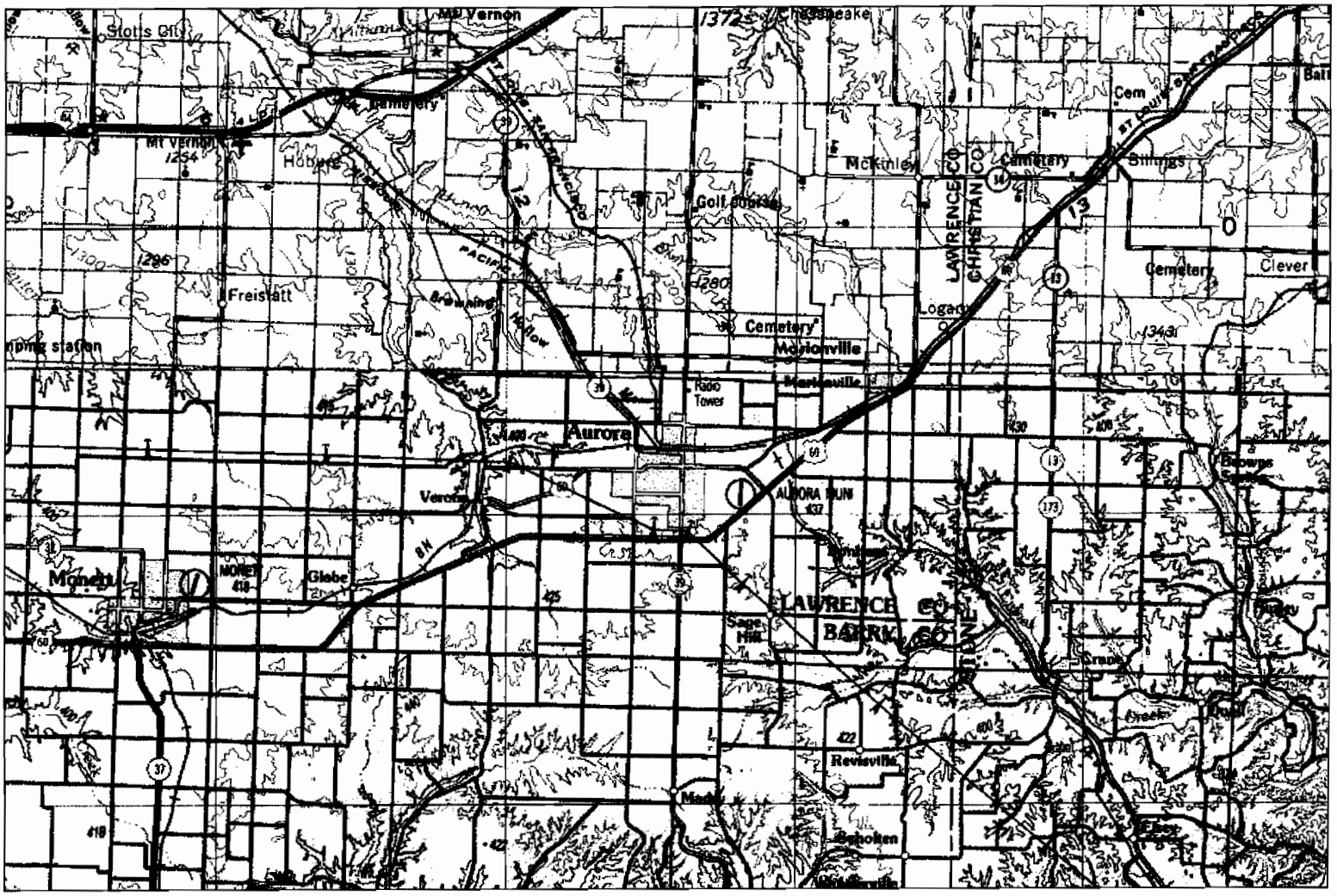
Browse and view US Geological Survey, US Forest Service, and NRCan topo maps for the US and Canada!

Click here to get a link for this map

Print from your computer: Landscape | Portrait
Print link opens in a new window, and may take a few seconds to process
Note that the MyTopo U.S. map layer is the only one available for printing

[redacted]

B



Map provided by MyTopo.com

C S A Laboratories

C S A Laboratories (479) 631-0410

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: **Sludge**
Sample Collection Date: 05/17/2012 Time: 07:00

Date of Sample Receipt: 05/17/2012

Lab Number: 0512122
Date of Report: 05/29/2012
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
pH	**6.90**	S.U.	05/17/2012	08:30	G2	STM18	4500H	Yes	Grab	0.000	
TS	**2.38**	**%**	05/17/2012	14:30	G2	STM18	5540D	Yes	Grab	0.000	
NH_3-N	892	mg/L	05/17/2012	16:00	G2	STM18	5210B	Yes	Grab	0.392	98.27
Nitrate as N	1.821	mg/L	05/17/2012	13:00	G2	EPA	352.1	Yes	Grab	0.000	100.22
TKN	1,762	mg/L	05/17/2012	16:00	G2	STM18	4500NH_3D	Yes	Grab	0.392	98.27
T. Phosphorus	**766**	mg/L	05/18/2012	08:00	G2	STM18	4500PE	Yes	Grab	0.992	99.90
Chloride	**94.6**	mg/L	05/15/2012	13:30	G2	STM18	4500Cl	Yes	Grab	0.000	99.90
Sodium	**103**	mg/L	05/24/2012	14:00	G2	STM18	3111B	Yes	Grab	1.932	102.02
Oil & Grease	**267**	mg/L	05/18/2012	08:00	G2	STM18	5520B	Yes	Grab	0.288	99.26

RECEIVED
MAY 2013
DEQ/SWRO

Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

(A)

(A) 1 of 3

A. FACILITY DESCRIPTION (continued)

Adjacent Land Owners

Outfall #001 — Remove
Legal Description: S½, Sec. 19, T27N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001)

Olen Miller

Outfall #002 — KEEP
Legal Description: NW¼, Sec. 27, T26N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001) HENSON

Jim Snowden

Outfall #003 — Remove
Legal Description: SE¼, NW¼, Sec. 06, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to Little Crane Creek
First Classified Stream and ID: Little Crane Creek (C) (03165)
USGS Basin & Sub-Watershed No: (11010002-050004)

Clyde King

Outfall #004 — Remove
Legal Description: S½, Sec. 06, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to Little Crane Creek
First Classified Stream and ID: Little Crane Creek (C) (03165)
USGS Basin & Sub-Watershed No: (11010002-050004)

Harold Cantrell

Outfall #005 — Remove
Legal Description: SE¼, Sec. 11, T25N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to Calton Creek
First Classified Stream and ID: Calton Creek (C) (02392)
USGS Basin & Sub-Watershed No: (11010002-060002)

Larry Hooten

Outfall #006 — Remove
Legal Description: SW¼, Sec. 21, T27N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to Honey Creek
First Classified Stream and ID: Honey Creek (C) (03169)
USGS Basin & Sub-Watershed No: (11070207-010001)

William Bunch

Outfall #007 — KEEP
Legal Description: NE¼, Sec. 32, T26N, R26W, Barry County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165) 80 ACRES
USGS Basin & Sub-Watershed No: (11070207-010001)

Kenny Vaught

Outfall #008 — Remove
Legal Description: SE¼, Sec. 24, T27N, R27W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001)

Gary Reidle

Outfall #009 (Storm water) OUTFALL 012, 013, 014
Legal Description: NW¼, SE Sec. 12, T26N, R26W, Lawrence County
Receiving Stream: Dougar Branch
First Classified Stream and ID: Douger Branch (C) (03168)
USGS Basin & Sub-Watershed No: (11070207-010001)

Emit Reidlee

Outfall #010 — Remove
Legal Description: W½ NE¼ Sec. 32 T26N, R26W, Barry County
Receiving Stream: Unnamed Tributary to Spring River
First Classified Stream and ID: Spring River (P) 03165

Jerry Pinkley

(A)
2 of 3

Out Fall #011 KEEP

Legal Description: N.E. ¼ S.E ¼ SEC 28 T26N R26W
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Steam and ID: Spring River (P) (03165)
USGS Basin & Sub-Watershed No: (11070207-010001)

Adjacent Landowner: Benjamin Kaal

A
3 of 3

AFB Aurora Three new Land Application Sites to be added 2013

Field ID DOSS #2 NE ¼ sec 32 T26N-R26W 40 acres in Barry County

Field ID McKee #1 E ½ sec 33 T26N R26W 80 acres in Barry County

Field ID McKee #2 SW ¼ sec 34 T26N R26W 70 acres in Barry County

C S A Laboratories

C S A Laboratories (479) 631-0410

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: **Sludge**
Sample Collection Date: 010/11/2012 Time: 07:00

Date of Sample Receipt: 10/11/2012

Lab Number: 1012077
Date of Report: 10/29/2012
Sample Collected by: Rick Pierce

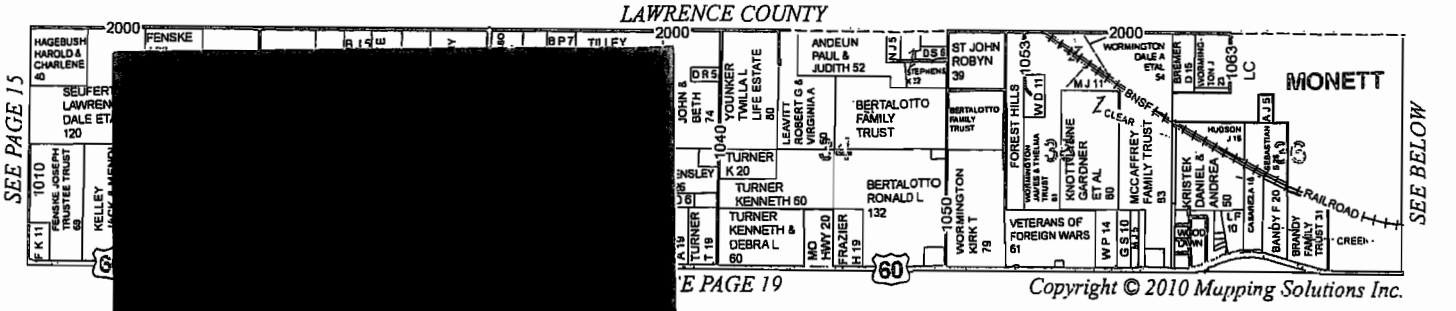
Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
pH	**6.67**	S.U.	10/11/2012	08:28	G2	STM2000	4500H+B	Yes	Grab	0.000	
TS	**2.34**	%	10/11/2012	09:40	G2	STM1997	2540B	Yes	Grab	0.000	
NH_3-N	**804**	mg/L	10/11/2012	16:00	G2	STM1997	5210B	Yes	Grab	2.919	101.99
Nitrate as N	**1.910**	mg/L	10/10/2012	16:00	G2	EPA	352.1	Yes	Grab	0.864	99.43
TKN	**1,837**	mg/L	10/11/2012	16:00	G2	STM1997	4500NH_3D	Yes	Grab	0.735	97.21
T. Phosphorus	**803**	mg/L	10/11/2012	15:00	G2	STM1999	4500PE	Yes	Grab	0.591	99.55
Chloride	**90.5**	mg/L	10/12/2012	11:20	G2	STM1997	4500Cl	Yes	Grab	0.227	99.50
Sodium	**109**	mg/L	10/12/2012	15:00	G2	STM1999	3111B	Yes	Grab	1.118	103.09
Oil & Grease	**399**	mg/L	10/12/2012	08:00	G2	EPA	1164B	Yes	Grab	0.252	99.12

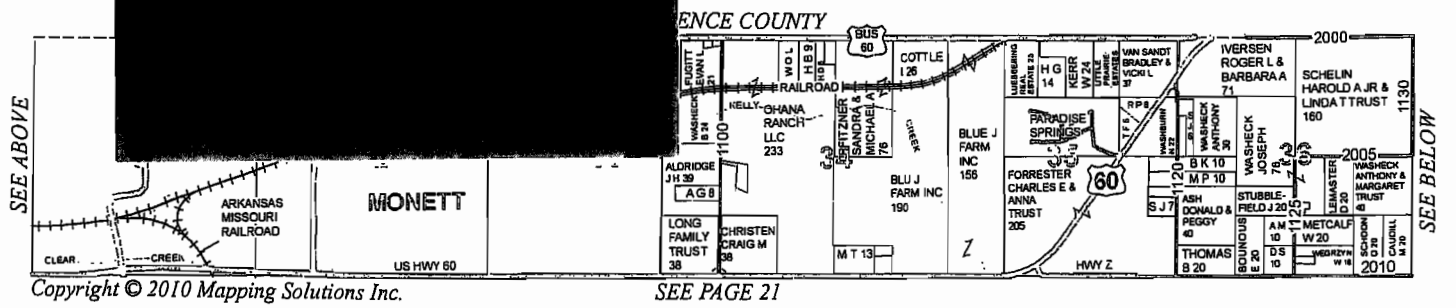
Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

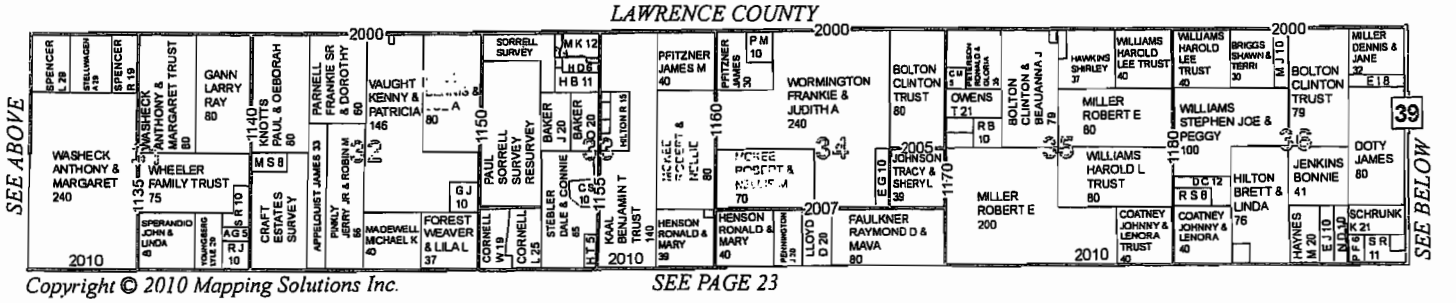
TOWNSHIP 26N • RANGE 28W



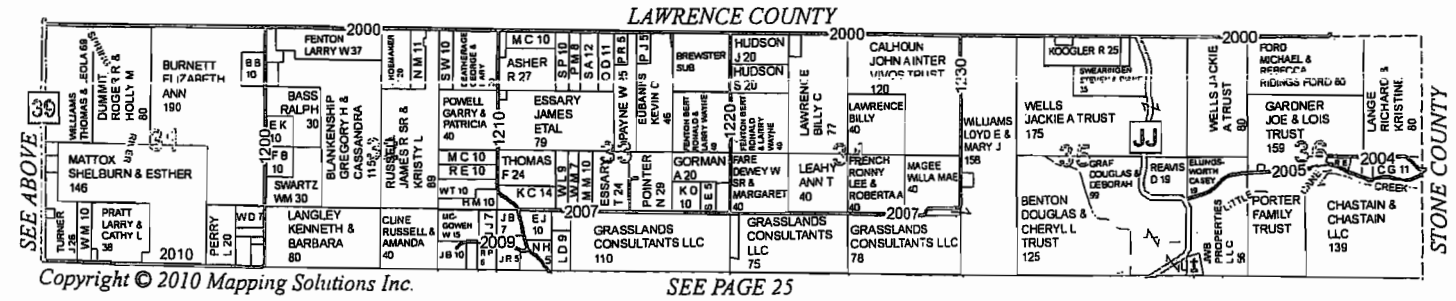
N • RANGE 27W



TOWNSHIP 26N • RANGE 26W



TOWNSHIP 26N • RANGE 25W



University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51058-1	**Lab no. C1308622**
County Lawrence	Region 6
Submitted 4/29/2013	Processed 4/29/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID MCKEE 1	Sample no 1	
Acres 80	Last Limed unknown	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:
AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

Sampled: 4-17-2013

SOIL TEST INFORMATION				RATING					
				Very Low	Low	Medium	High	Very High	Excess
pH_s	(salt pH)	6.3		**********					
Phosphorus	(P)	24	lbs/A	**********					
Potassium	(K)	63	lbs/A	**********					
Calcium	(Ca)	2393	lbs/A	**********					
Magnesium	(Mg)	295	lbs/A	**********					
Sulfur	(SO_4-S)		ppm						
Zinc	(Zn)		ppm						
Manganese	(Mn)		ppm						
Iron	(Fe)		ppm						
Copper	(Cu)		ppm						

Organic matter	2.8 %	Neutralizable acidity	1.0 meq/100g	Cation Exch. Capacity	8.3 meq/100g		
PH in water		Electrical Conductivity	Mmho/cm	Sodium (Na)	37 lbs/A		
Nitrate (NO_3-N) Topsoil	8.8 ppm	Subsoil ppm	Sampling Depth	Top Inches	Subsoil Inches		

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	25	85		
18 COOL SEASON GRASS HAY	2 T/A	80	40	125		
18 COOL SEASON GRASS HAY	3 T/A	120	45	160		

LIMESTONE SUGGESTIONS

Effective Neutralizing Material (ENM)	0
Effective magnesium (EMg)	0

Comments

---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.8 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---For hay production apply nitrogen just before spring growth begins (typically March). Consider splitting nitrogen applications if the rate exceeds 90 lbs N/acre, applying 60% in March and the balance in mid August.

TKN is 0.161%
Chloride is 4.5 ppm
Exchangeable sodium is 1.0%

Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812

Signature

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: McKee #1
Sample Collection Date: 04/17/2013

Date of Sample Receipt: 04/18/2013

Lab Number: 0413131
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	**4.2**	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51058-2	Lab no. C1308623
County Lawrence	Region 6
Submitted 4/29/2013	Processed 4/29/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID MCKEE 2	Sample no 2	
Acres 70	Last Limed unknown	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:
AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

Sampled: 4-17-2013

SOIL TEST INFORMATION				RATING					
				Very Low	Low	Medium	High	Very High	Excess
pH_s	(salt pH)	6.3		**********					
Phosphorus	(P)	54	lbs/A	**********					
Potassium	(K)	182	lbs/A	**********					
Calcium	(Ca)	2115	lbs/A	**********					
Magnesium	(Mg)	271	lbs/A	**********					
Sulfur	(SO_4-S)		ppm						
Zinc	(Zn)		ppm						
Manganese	(Mn)		ppm						
Iron	(Fe)		ppm						
Copper	(Cu)		ppm						

Organic matter	3.0	%	Neutralizable acidity	1.0	meq/100g	Cation Exch. Capacity	7.7 meq/100g
PH in water			Electrical Conductivity		Mmho/cm	Sodium (Na)	32 lbs/A
Nitrate (NO_3-N) Topsoil	22.4 ppm		Subsoil ppm	Sampling Depth	Top 6 Inches	Subsoil	Inches

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	20	30		
18 COOL SEASON GRASS HAY	2 T/A	80	20	75		
18 COOL SEASON GRASS HAY	3 T/A	120	20	110		

LIMESTONE SUGGESTIONS

Effective Neutralizing Material (ENM)	0
Effective magnesium (EMg)	0

Comments

---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.8 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---For hay production apply nitrogen just before spring growth begins (typically March). Consider splitting nitrogen applications if the rate exceeds 90 lbs N/acre, applying 60% in March and the balance in mid August.

TKN is 0.205%
Chloride is 3.2 ppm
Exchangeable sodium is 0.9%

Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: McKee #2
Sample Collection Date: 04/17/2013

Date of Sample Receipt: 04/18/2013

Lab Number: 0413132
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	4.4	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

University Extension
University of Missouri-Columbia

Soil Test Report

Soil Testing Laboratory
23 Mumford Hall, MU
Columbia, MO 65211
Phone: (573) 882-0623

or

Soil Testing Laboratory
P.O. Box 160
Portageville, MO 63873
Phone: (573)379-5431

http://www.soiltest.psu.missouri.edu/

Serial no. S51050-1	Lab no. C1307165
County Lawrence	Region 6
Submitted 4/4/2013	Processed 4/9/2013

Soil sample submitted by: Firm Number: Outlet:

FIELD INFORMATION		
Field ID DOSS #2	Sample no 1	
Acres 40	Last Limed 1-5 yrs	Irrigated No
Last crop 19 COOL SEASON GR PAST		FSA Copy N

This report is for:
AFB INTERNATIONAL
117 NORTH MORGAN
AURORA MO 65605

SOIL TEST INFORMATION			RATING					
			Very Low	Low	Medium	High	Very High	Excess
pH_s (salt pH)	5.5		**********					
Phosphorus (P)	53	lbs/A	**********	**********	**********	**********	**********	
Potassium (K)	98	lbs/A	**********	**********				
Calcium (Ca)	2492	lbs/A	**********	**********	**********	**********	**********	
Magnesium (Mg)	155	lbs/A	**********	**********				
Sulfur (SO_4-S)		ppm						
Zinc (Zn)		ppm						
Manganese (Mn)		ppm						
Iron (Fe)		ppm						
Copper (Cu)		ppm						

Organic matter	4.7	%	Neutralizable acidity	3.5	meq/100g	Cation Exch. Capacity	10.5 meq/100g
PH in water			Electrical Conductivity		Mmho/cm	Sodium (Na)	34 lbs/A
Nitrate (NO_3-N) Topsoil	7.4 ppm		Subsoil ppm	Sampling Depth	Top 6 Inches	Subsoil	Inches

NUTRIENT REQUIREMENTS

Cropping options	Yield goal	Pounds per acre N	P_2O_5	K_2O	Zn	S
19 COOL SEASON GR PAST	150 CD/A	90	20	70		

LIMESTONE SUGGESTIONS

Effective Neutralizing Material (ENM)	570
Effective magnesium (EMg)	***

Comments

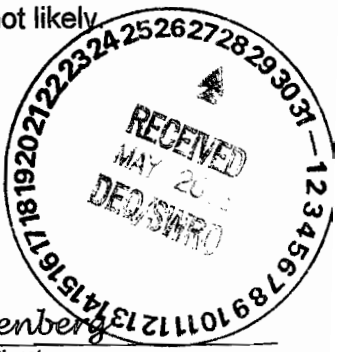
---For cool season grass pasture and bluegrass pasture split nitrogen applications between late Spring after first grazing and mid August, applying 60% before the season of greatest need.

---Some herbicide labels list restrictions based on soil pH in water. This sample has an estimated pH in water of 6.0 . Use this estimated pH in water as a guide. If you wish to have soil pH in water analyzed, contact your dealer or Extension specialist listed below.

---To determine limestone needed in tons/acre, divide your ENM requirement by the guarantee of your limestone dealer.

***Suggest using dolomitic limestone if readily available, but yield response to magnesium is not likely.

TKN is 0.247%
Chloride is 3.6 ppm
Exchangeable sodium is 0.7%



Regional Agronomy Specialist Tim Schnakenberg Phone 417-357-6812 Tim Schnakenberg

C S A Laboratories

C S A Laboratories (479) 903-1986

1708 South 26th Street Rogers, AR 72758

Client: **AFB International**
Sample Location: Doss #2
Sample Collection Date: 04/03/2013

Date of Sample Receipt: 04/10/2013

Lab Number: 0413076
Date of Report: 04/24/2013
Sample Collected by: Rick Pierce

Sample Delivered by: Gene Grassle

Parameter	Concentration	Units	Analysis Date	Time	Analyst	Method	Page	Preserved	Sample Type	Prec. 100*(a-b)/(a+b)	Acc
Oil & Grease	**3.9**	mg/Kg	04/18/2013	17:30	G2	EPA	1164B	Yes	Grab	0.509	98.50

Sampling and analyses are conducted according to the guidelines set forth in the Methods for Chemical Analysis of Water and Wastes (March 1979). Standard Methods 18th edition (1992). All reports are submitted to clients on a confidential basis. No reference to the results or the work preformed will be released without written authorization from our clients. A minimum of 10% duplicate and spiked analyses are preformed on a routine basis. All instruments are calibrated daily or prior to use.

Signature _____

AFB INTERNATIONAL

WASTEWATER TREATMENT PLANT

OPERATION AND MAINTENANCE

MANUAL

OPERATION AND MAINTENANCE OF WWTP

INFLUENT

Wastewater from liquid plant enters through micro-screen and then to the pit. From the dry plant it enters directly into pit. The screen should be kept clean by washing and spraying with caustic. The screenings fall into the fall-out tote, which is dumped into fall-out dumpster at liquid plant 2-3 times/week.

EQUALIZATION

From the pit, all the wastewater is pumped to the equalization tank (east tank), by the lift pump #1, which is float controlled. Caustic is added at the pit by 2 LMI metering pumps, which are manually controlled, to raise the pH of the eq tank to 7-7.5. Check eq pH 3-4 times/day with pH meter in the office. In the event of a spill from production plants, may have to add caustic by bucket to neutralize it. Should keep eq tank level around 10 ft. for dilution. Eq is continuously aerated for mixing and to keep it from going septic. Air is supplied by air compressor.

PRIMARY CLARIFIER

From the eq tank, the wastewater is pumped to the primary clarifier by the eq pump, which is located between eq and sludge tanks. Flow rate is controlled by a VFD and should be 15-20 gpm. The settleable solids are removed from bottom of primary by primary sludge pump, which is on a timer, and is pumped to sludge tank (east tank). Usually 1 minute on, 15-30 minutes off. This is determined by sludge blanket in bottom of primary and is measured with sludge judge. The floating solids are removed by skimmer on top of primary and goes into the grease tank. The grease tank should be manually pumped to sludge tank once or twice a week. The scum box to the grease tank and the v-notch weirs on primary should be kept clean at all times for best treatment. The overflow from the primary goes into a 500 gal. plastic tank and pumped to a-basin by a-basin feed pump, which is float controlled. Check pH at this point also (should be 7-8).

A-BASIN

From the primary, the wastewater goes into the a-basin. The pH of the a-basin should be (7-8). The D.O. should be maintained at 1-2 ppm. This is controlled by the 3 blowers. The D.O. is monitored continuously by an in-line probe as the water goes from a-basin to DAF. Monitor is in the office. A-basin water is recycled by mixed liquor recycle pumps located in building by a-basin. One pump should be on at all times. Check temperature of a-basin. If it gets below 15 degrees Celsius, open steam valve to a-basin about ¼. The level of the a-basin should be maintained at 14-16 ft. with a MLSS of 8,000 – 10,000 mg/l.

DAF

From the a-basin, the wastewater is pumped to the DAF by the two effluent pumps. Only one is used at a time. Operation of the DAF is outlined in the DAF SMP. Outfall from the DAF goes to the city WWTP.

SLUDGE DISPOSAL

Sludge is hauled from sludge tank 2-3 times/week or as needed and land applied on fields identified in DNR permit. It is hauled by a contract hauler (Matt Pruente) and spread at a rate of 6,000 gal/acre.

1. The pH of the sludge must be 6-9.
2. It is not to be spread on frozen, snow covered or saturated soils.
3. It is not to be spread within 300 ft. of a pond, lake, sinkhole or stream.
4. It is not to be spread within 150 ft. of a dwelling or 50 ft. of property line.
5. Keep records of where all sludge is applied and how much.
6. See DNR permit for all rules and regulations.
7. Alternate sludge disposal is Terra Renewal Services 479-263-4531

MAINTENANCE

1. Grease all pumps and blowers weekly.
2. Change oil & air filters in blowers every 6 months.
3. Check packing in pumps daily- tighten or add as needed.
4. Grease chain and sprocket on primary weekly.
5. Check all pumps for proper operation daily.
6. Check oil in air compressor daily

DAILY TESTING AND RECORDS

1. pH- Eq tank, primary, a-basin, effluent, sludge tank
2. S.S. – Eq tank, primary, a-basin, daf float, effluent, effluent composite
3. Run composite sampler on effluent Mon-Wed and send off for analysis,BOD,SS,O&G
4. Fill out AFB daily monitoring report
5. Fill out city daily monitoring report
6. Fill out sludge log
7. Take flow reading

DAILY DUTIES OF WWTP OPERATOR

MONDAY

1. Run pH test on eq, primary, a-basin, sludge tank and effluent
2. Run S.S. test on eq, primary, a-basin, daf float, and effluent
3. Take timer and flow readings
4. Turn on composite sampler
5. Fill caustic tank
6. Check levels of eq tank, sludge tank and a-basin
7. Check all pumps
8. Load TRS truck: 4 ft. from tank B and 4 ft. from sludge tank
9. Have sludge trucks haul rest of sludge
10. Wash influent screen and spray with caustic
11. Wash weir and scum box on primary
12. Take sludge judge reading on primary
13. Wash DAF- sludge basin and skimmers
14. Dump fall-out tote
15. Keep Eq pH between 7-8
16. Flush out line between Eq and primary
17. Check all DAF settings and adjust if necessary
18. Check polymer drum level
19. Fill out daily monitoring report and monthly monitoring report
20. Fill out city monitoring report
21. Check mixed liquor under microscope for biological life

TUESDAY

1. Run pH test on eq, primary, a-basin, sludge tank, effluent and composite sample
2. Run S.S. test on eq, primary, a-basin, daf float, effluent and composite sample
3. Fill out chain-of-custody for composite sample
4. Restart sampler
5. Take timer and flow readings
6. Fill caustic tank
7. Check levels of eq tank, sludge tank and a-basin
8. Check all pumps
9. Wash influent screen and spray with caustic
10. Wash weir and scum box on primary
11. Take sludge judge reading on primary
12. Wash DAF- sludge basin and skimmers
13. Keep Eq pH between 7-8
14. Flush out llne between Eq and primary
15. Check all DAF settings and adjust if necessary
16. Check polymer drum level
17. Fill out daily monitoring report and monthly monitoring report
18. Fill out city monitoring report
19. Check mixed liquor under microscope for biological life

WEDNESDAY

1. Run pH test on eq, primary, a-basin, sludge tank, effluent and composite sample
2. Run S.S. test on eq, primary, a-basin, daf float, effluent and composite sample
3. Fill out chain-of-custody for composite sample
4. Restart sampler
5. Take timer and flow readings
6. Fill caustic tank
7. Check levels of eq tank, sludge tank and a-basin
8. Check all pumps
9. Wash influent screen and spray with caustic
10. Wash weir and scum box on primary
11. Take sludge judge reading on primary
12. Wash DAF- sludge basin and skimmers
13. Dump fall-out tote
14. Keep Eq pH between 7-8
15. Flush out line between Eq and primary
16. Check all DAF settings and adjust if necessary
17. Check polymer drum level
18. Fill out daily monitoring report and monthly monitoring report
19. Fill out city monitoring report
20. Check mixed liquor under microscope for biological life

THURSDAY

1. Run pH test on eq, primary, a-basin, sludge tank, effluent and composite sample
2. Run S.S. test on eq, primary, a-basin, daf float, effluent and composite sample
3. Fill out chain-of-custody for composite sample and send samples to CSA Lab.
4. Shut off composite sampler
5. Take timer and flow readings
6. Fill caustic tank
7. Check levels of eq tank, sludge tank and a-basin
8. Check all pumps
9. Grease all pumps, blowers and primary clarifier sprocket
10. Shut off air compressor and check oil- add if needed
11. Wash influent screen and spray with caustic
12. Wash weir and scum box on primary
13. Take sludge judge reading on primary
14. Wash DAF- sludge basin and skimmers
15. Keep Eq pH between 7-8
16. Flush out line between Eq and primary
17. Check all DAF settings and adjust if necessary
18. Check polymer drum level
19. Fill out daily monitoring report and monthly monitoring report
20. Fill out city monitoring report
21. Check mixed liquor under microscope for biological life

FRIDAY

1. Run pH test on eq, primary, a-basin, sludge tank and effluent
2. Run S.S. test on eq, primary, a-basin, daf float and effluent
3. Take flow and timer readings
4. Fill caustic tank
5. Check levels of eq tank, sludge tank and a-basin
6. Check all pumps
7. Wash influent screen and spray with caustic
8. Wash weir and scum box on primary
9. Take sludge judge reading on primary
10. Wash DAF- sludge basin and skimmers
11. Pump grease tank and pit to sludge tank
12. Keep Eq pH between 7-8
13. Flush out line between Eq and primary
14. Check all DAF settings and adjust if necessary
15. Dump fall- out tote
16. Check polymer drum level
17. Fill out daily monitoring report and daily monitoring report
18. Fill out city monitoring report
19. Load TRS truck: 4 ft. from tank B and 4 ft. from sludge tank
20. Have sludge trucks haul rest of sludge
21. Check mixed liquor under microscope for biological life
22. Drain sludge from bottom of DAF

SATURDAY

1. Take flow readings
2. Check Eq pH and adjust if necessary (7-8)
3. Check pH of primary, a-basin and effluent
4. Check all pumps
5. Check levels of eq tank,sludge tank and a-basin
6. Wash influent screen and spray with caustic
7. Wash weir and scum box on primary
8. Take sludge judge reading on primary
9. Wash DAF- sludge basin and skimmers
10. Flush out line between Eq and primary
11. Check all DAF settings and adjust if necessary
12. Check polymer drum level
13. Fill caustic tank

SUNDAY- Same as Saturday

OTHER DUTIES

1. Schedule TRS truck and sludge trucks
2. Order lab supplies, parts and polymer
3. Fill out P.O.'s on all orders
4. Fill out P.O.'s on TRS loads, sludge loads and lab testing
5. Draining and cleaning tanks
6. Replace air filters in blowers every 6 months
7. Clean and calibrate in-line D.O. probe weekly
8. Monthly report for city of Aurora
9. Keep records of all sludge hauled – when, where to and how much
10. Quarterly sludge sample for analysis and report for DNR
11. Quarterly stormwater sample for analysis and report for DNR
12. Yearly soil samples from all fields for analysis and report for DNR
13. Keep plant in daily compliance with city of Aurora permit
14. Keep in compliance with land application permit

STANDARD MANUFAC 'RING PROCEDURE WWT DAF Unit	Effective Date 03/24	Number wwt01
AFB Aurora, MO	Page 1 of	Revision 001

I. CONCEPT

The following information is for operating the DAF Unit at the Waste Water Treatment Facility.

II. SAFETY CONCERNS

Safety Equipment Needed

- Safety glasses
- Ear plugs
- Steel toe boots

III. PRIOR KNOWLEDGE

The employee must have knowledge of operation of the waste water treatment plant.

IV. PROCEDURES

I. FILLING DAF UNIT

A. Make sure the three valves on bottom of DAF are shut and valve from sludge hopper is open.
B. Fill DAF to six inches above outlet to Nikuni air pump with city water
C. Open valve on effluent pump about ½ way
D. Check valves on Nikuni (suction valve partially open and discharge valve about ½
E. Power up PLC and go to secondary clarifier setup screen and select effluent pump you are using. (P5020B-north pump or P5020C-south pump) and set to auto
F. Go to secondary clarifier screen and enter F-3 (Full)
G. Turn skimmer to auto or hand
H. Turn DAF pump (Nikuni) to auto and adjust settings
    1. Air flow meter (5-10 cfm)
    2. Vacuum gauge (-3 to -5 Hg)
    3. Pressure gauge (70-100 psi)
I. Turn polymer pump on and open water valve and injection valve
    1. Primary dilution (.25 gpm)
    2. Secondary dilution (2.0 gpm)

II. PUMP AND VALVE SETTINGS

A. Go to secondary clarifier setup screen
   1. Go to FIC5030 and set to auto (speed controller on effluent pump)
   2. Go to P5042 and set to auto (polymer pump)
   3. Go to P5040 and set to auto (polymer speed control)
   4. Go to SV5051 and set to auto (sludge pump)
   5. Go to NV5030 and set to auto (RAS valve to A-basin)
   6. Go to NV5060 and set to auto (WAS valve to sludge tank)

B. Go to secondary clarifier set points
   1. Set P5020B/C Flow Set point gpm – this is flow to DAF (15-18)
      a. This is set by scrolling green box with two short arrows on key pad to desired set point and then enter number and push long arrow on key pad.
   2. Set P5042 multiplier (.7 – 1.0)
   3. Set S5050 on timer (skimmer) (5 – 10 min)
   4. Set S5050 off timer (skimmer) (2 – 5 min)
   5. Set SV5051 on timer (sludge pump) 1 min
   6. Set SV5051 off timer (sludge pump) 10 min
   7. Set no. of transfers to A-basin (7)
   8. These are all starting points and will have to be adjusted

III. CHECK SETTINGS STATUS

A. Go to secondary clarifier screen
   1. P5020B or P5020C should be on (left side of screen)
   2. Below that should be RUN
   3. P5020B and P5020C status should be: one of them on, the other one off
   4. SC5020 pump speed shows the speed of P5020B or P5020C, keep between 25-80% by adjusting discharge valve on effluent pump
   5. FI5030 shows gpm into DAF set on set points screen
   6. P5050 status should be on (Nikuni pump)
   7. SC5042 shows speed of polymer pump
   8. P5042 status should be on (polymer pump)
   9. S5050 status could be on or off, it's on timer (skimmer)
   10. SV5051 status could be on or off, it's on timer (sludge pump)
   11. NV5030 status could be on or off, it's on timer (valve to A-basin)
   12. NV5060 status could be on or off, it's on timer (valve to sludge tank)

IV. DAF SHUT DOWN PROCEDURE

A. Go to secondary clarifier screen and enter F-4 (Stop)
   1. Shut valve on effluent pump
   2. Run skimmer on hand until most of sludge is off, then shut off
B. Go to secondary clarifier setup screen
   1. Enter F-7, then F-2 for hand, this will open NV5030 valve to A-basin, then
   2. F-5 to close screen
   3. Enter F-6, then F-2 for hand, this will turn on SV5051 (sludge pump)
   4. Wash out sludge hopper to empty and keep adding water to flush out line
   5. Enter F-4 for auto and then F-5 close screen
   6. Enter F-7, then F-4 for auto, this will close valve NV5030, then F-5 close
   7. Enter F-8, then F-2 for hand, this will open NV5060 valve to sludge tank,
   8. then F-5 to close screen
   9. Enter F-6, then F-2 for hand, this will turn on SV5051 (sludge pump)
   10. Run water into sludge hopper to flush out line for at least 1 minute
   11. Enter F-4 for auto and then F-5 to close screen
   12. Enter F-8, then F-4 for auto, this will close valve NV5060, then F-5 close
   13. Push power off button

V. DRAINING DAF

A. Go to secondary clarifier screen and enter F-4 (Stop)
   1. Shut valve on effluent pump
   2. Shut off skimmer
B. Go to secondary clarifier setup screen
   1. Enter F-7, then F-2 for hand, this will open NV5030 valve to A-basin, then F-5 close
   2. Enter F-6, then F-2 for hand, this will turn on SV5051 (sludge pump)
   3. Wash out sludge hopper
   4. Close valve under sludge hopper and open all 3 valves from DAF until empty
   5. Enter F-4 for auto, then F-5 close
   6. Enter F-7, then F-4 for auto, this will shut valve NV5030, then F-5 close

VI. RESTART AFTER POWER OUTAGE

A. Restart DAF: F-3. If this doesn't work, push control power off button and then control power on button. Then F-3
B. Turn on air compressor
C. Reset Eq pump: Shut off disconnect until light on VFD goes off, then turn back on
D. Turn on blower #3, if it was on

V ***Quality concerns:***

Sanitation must be kept high in order to control insect populations. It is also important for appearance purposes.

Training Documentation

Employee Name	*Date of Training/Certification*	*Signature verifying trainee has read and understands SMP*

Suspended Solids Test Procedure

1. Preheat oven to 105 degrees Celsius
2. Place pad on filter funnel, rough side up, and turn on vacuum pump
3. Measure sample with pipet, while being stirred, to pad
4. Place pad back into the pan and place in oven to dry for 1 hour
5. Remove from oven and place in dessicator to cool for 15 minutes
6. Weigh and record weight

$$\text{Mg/l S.S.} = \frac{(\text{wt. pad} + \text{s.s.}) - (\text{wt. pad}) \times 1{,}000{,}000}{\text{mls sample}}$$

DAILY MONITORING REPORT
AFB WASTEWATER TREATMENT PLANT

DATE: _____

EQUALIZATION TANK				PRIMARY CLARIFIER			
pH		LEVEL	FT.	pH		TEMP	
S.S.	mg/l	TEMP	°C	S.S.	mg/l	SLUDGE BLANKET	FT.
				SLUDGE TANK		WEATHER	
EQ Pump Setting:	%			pH		TEMP	°
				Level	ft.	Conditions	

AERATION BASIN				SETTLOMETER:				
pH		S.S.	MG/L	5 MIN.	ML	SVI	SA	DAYS
TEMP	°C	V.S.S.	MG/L	15 MIN.	ML	S.R.T.		DAYS
F/M			%	30 MIN.	ML	LEVEL		FT.
D.O.	MG/L			60 MIN.	ML	VOLUME		GAL.

AERATION TO A-BASIN: AERATION TO EQ & SLUDGE:

FOAM ON A-BASIN:

MICRO-ORGANISMS:

RAS PUMP SETTINGS	ON	CYCLES	ON	%	
WAS PUMP SETTINGS	ON	CYCLES	ON	%	

DAF				EFFLUENT	
SLUDGE PUMP: ON	MIN	OFF	MIN	GRAB	COMPOSITE
SKIMMER: ON	MIN	OFF	MIN	pH	pH
POLYMER: MULTIPLIER =		PUMP SPEED =	%	S.S. Mg/l	S.S. Mg/l
FLOAT S.S. MG/L		FLOW TO DAF:	GPM	EFFLUENT FLOW METER:	GALS.

MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITY

NAME OF FACILITY	LOCATION	REGION
FOR THE MONTH OF ____	PERMIT NUMBER	OUTFALL NUMBER	TYPE TREATMENT FACILITY

NOTE: SEE INSTRUCTIONS ON REVERSE SIDE OF THIS FORM

	INFLUENT					EFFLUENT									
DATE	FLOW MGD ☐ GPD ☐ INF. OR EFF.	PH UNITS	BOD mg/l	SUS. SOLIDS mg/l	TEMP. °F - °C	PH UNITS	BOD mg/l	SUS. SOLIDS mg/l	Oil & Grease	OTHER	OTHER	OTHER	RAIN		TIME
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															
30															
31															

SIGNATURE _____ TITLE _____ DATE _____

SLUDGE APPLICATION LOG

AFB WASTEWATER TREATMENT PLANT

LAND OWNER: **TOTAL NUMBER ACRES:**

Date	Loads	Gallons	Total Gal. For Month	Total Gal. For Year	Rainfall

AFB WWTP MONTHLY MONITORING REPORT

	PRIMARY			A-BASIN				DAF				EFFLUENT			LAB RESULTS			SLUDGE	
Date	pH	S.S.		S.S.	pH	S.S.	D.O.	Temp. C	LEVEL, ft.	RAS	WAS	RAS S.S	pH	S.S.	FLOW	BOD	S.S.	O&G	Gals.

SPILL AND OTHER EMERGENCY CONTACTS

Mark Scheid – Plant Manager
Office: 417-678-5988 x 4515
Cell: 417-860-2836

Dawn Oplinger – Safety Administrator
Office: 417-678-5988 x 4563
Cell: 417-860-8979

Dan White – Engineering Manager
Office: 417-678-5988 x 4581
Cell: 636-887-1498

Paul Boatman – Maintenance Supervisor
Office: 417-678-5988 x 4561
Cell: 417-860-2809

Oros and Busch Application Technologies, Inc – Sludge Truck
P.O. Box 37
Defiance, MO 73341
Office: 636-329-8859
Contact: Joe Busch – cell 314-651-4673

Hillhouse Pumping LLC – Sludge Truck
21009 Lawrence 1160
Verona, MO 65769
Office: 417-498-6548
Contact: Frank Porter – cell 417-861-7942