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-0118079 |
| Owner: | Murphy Brown of Missouri LLC |
| Address: | 17999 U.S. Hwy 65, Princeton, MO 64673 |
| Continuing Authority: | Same as above |
| Address: | Same as above |
| Facility Name: | Coffey Feed Mill |
| Facility Address: | 18115 State Highway B, Coffey, MO 64636 |
| Legal Description: | See Page 2 |
| UTM Coordinates: | See Page 2 |
| Receiving Stream: | See Page 2 |
| First Classified Stream and ID: | See Page 2 |
| USGS Basin & Sub-watershed No.: | See Page 2 |

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

## FACILITY DESCRIPTION

Feed mill operation producing feed and kindred products for swine feed.

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.

February 1, 2018
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

December 31, 2021
Expiration Date

Chris Wieberg, Director, Water Protection Program

**FACILITY DESCRIPTION (continued)**

Permitted Feature #001 – Agricultural feed – SIC #2048. Boiler blowdown and reverse osmosis, backwash is discharged. Design flow is 27,400 gallons per day. Average daily maximum flow is 12,000 gallons per day.
Legal Description: SE ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County
UTM Coordinates: X= 409402, Y= 4440144
Receiving Stream: Tributary to Cypress Creek
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10280101-1201

Outfall #002 – Transferred to General Permit MO-R130102

Outfall #003 – Transferred to General Permit MO-R130102

Permitted Feature #004 – Domestic Wastewater – SIC #4952 No-discharge domestic system consisting of a septic tank and single cell lagoon serving employee restrooms, cafeteria, and showers. Wastewater is irrigated and sludge is land applied.
Design population equivalent is 4.
Design flow is 390 gallons per day.
Legal Description: SW ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County
UTM Coordinates: X= 409436, Y= 4440082
Receiving Stream: Tributary to Cypress Creek
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10280101-1201

Permitted Feature #005 – Truck Wash - No-discharge Solids Separation/Solids Storage/Anaerobic Lagoon. Wastewater is irrigated and sludge is land applied.
Design flow is 13,000 gallons per day.
Maximum Operating Level (Safety Volume Depth): one foot below overflow level.
Minimum Operating Level: 15.9 feet below overflow level.
Legal Description: SW ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County
UTM Coordinates: X= 409518, Y= 4440278
Receiving Stream: Tributary to Cypress Creek
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10280101-1201

Permitted Feature #006-#022 – Stormwater Outfalls. Removed from permit.

Permitted Feature #023 – Land Application Field F200 21.4 acres
Legal Description: SW ¼, Sec. 4, T61N, R28W, Daviess County
UTM Coordinates: X= 409724, Y= 4440156
Receiving Stream: Tributary Cypress Creek
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10280101-1201

Permitted Feature #024 – Land Application Field F300 36.9 acres
Legal Description: SW ¼, Sec. 4, T61N, R28W, Daviess County
UTM Coordinates: X= 409577, Y= 4440464
Receiving Stream: Tributary to Cypress Creek
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10280101-1201

Permitted Feature #025 – Land Application Field F400 7.9 acres
Legal Description: SW ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County
UTM Coordinates: X= 409188, Y= 4440130
Receiving Stream: Tributary to Cypress Creek
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10280101-1201

Permitted Feature #026 – Land Application Field F008 30.86 acres

| | |
|---|---|
| Legal Description: | S ½, NW ¼, Sec. 4, T61N, R28W, Daviess County |
| UTM Coordinates: | X= 409531, Y= 4440887 |
| Receiving Stream: | Tributary to Big Creek |
| First Classified Stream and ID: | 8-20-13 MUDD V1.0 (C) (3960) |
| USGS Basin & Sub-watershed No.: | 10280101-0911 |

Permitted Feature #027 – Land Application Field F011 32.78 acres

| | |
|---|---|
| Legal Description: | E ½, NW ¼, Sec. 4, T61N, R28W, Daviess County |
| UTM Coordinates: | X= 409870, Y= 4441084 |
| Receiving Stream: | Tributary to Cypress Creek |
| First Classified Stream and ID: | 8-20-13 MUDD V1.0 (C) (3960) |
| USGS Basin & Sub-watershed No.: | 10280101-1201 |

Permitted Feature #028 – Land Application Field F012 12.18 acres

| | |
|---|---|
| Legal Description: | NE ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County |
| UTM Coordinates: | X= 409780, Y= 4440605 |
| Receiving Stream: | Tributary to Cypress Creek |
| First Classified Stream and ID: | 8-20-13 MUDD V1.0 (C) (3960) |
| USGS Basin & Sub-watershed No.: | 10280101-1201 |

| **PERMITTED FEATURE #001** | **TABLE A-1.** FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS |
|---|---|

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on the **February 1, 2018** of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

| EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
|---|---|---|---|---|---|---|
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| Flow | MGD | * | | * | once/quarter*** | 24 hr. estimate |
| Total Suspended Solids | mg/L | 110 | | 70 | once/quarter*** | grab |
| Iron, Total Recoverable | µg/L | * | | * | once/quarter*** | grab |
| pH – Units | SU | ** | | ** | once/quarter*** | grab |
| Sulfate + Chloride | mg/L | * | | * | once/quarter*** | grab |
| Oil & Grease | mg/L | 15 | | 10 | once/quarter*** | grab |

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2018. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

| **PERMITTED FEATURES #004-#005** | **TABLE A-2.** IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS |
|---|---|

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

| EFFLUENT PARAMETER(S) | UNITS | FINAL LIMITATIONS | | | MONITORING REQUIREMENTS | |
|---|---|---|---|---|---|---|
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| Storage Basin Operational Monitoring | | | | | | |
| Storage Basin Freeboard (See Note 1, Page 5) | Feet | * | | | once/month | measured |
| Precipitation | Inches | * | | | daily | total |
| MONITORING REPORTS SHALL BE SUBMITTED MONTHLY THE FIRST REPORT IS DUE MARCH 28, 2018. | | | | | | |
| Wastewater Land Applied (Note 2, Page 5) | | | | | | |
| Total Kjeldahl Nitrogen as N | mg/L | * | | | once/year | grab |
| Ammonia Nitrogen as N | mg/L | * | | | once/year | grab |
| Total Phosphorus as P | mg/L | * | | | once/year | grab |
| MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2019. | | | | | | |

| PERMITTED FEATURE #023-028 | **TABLE A-3**. LAND APPLICATION LIMITATIONS AND MONITORING REQUIREMENTS |
|---|---|

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

| EFFLUENT PARAMETER(S) | UNITS | **FINAL LIMITATIONS** | | | MONITORING REQUIREMENTS | |
|---|---|---|---|---|---|---|
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| Wastewater Land Application Operational Monitoring | | | | | | |
| Irrigation Period | Hours | * | | | daily | total |
| Volume Irrigated | Gallons | * | | | daily | total |
| Application Area | Acres | * | | | daily | total |
| Application Rate | gal./acre | * | | | daily | total |
| Soil Monitoring (See Note 3, Page 5) | | | | | | |
| pH – Units | SU | * | | | once/5 years | composite |
| Nitrate Nitrogen as N | mg/kg | * | | | once/5 years | composite |
| Available Phosphorus as P (Bray P-1 Method) | mg/kg | * | | | once/5 years | composite |

MONITORING REPORTS SHALL BE SUBMITTED WITH THE ANNUAL REPORT. SEE SPECIAL CONDITION #21.

* Monitoring requirement only
** The pH is limited to the range of 6.5-9.0 pH units.
*** See table below for quarterly sampling

| **Minimum Sampling Requirements** | | | |
|---|---|---|---|
| **Quarter** | **Months** | **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 – Storage Basin freeboard shall be reported as Storage Basin water level in feet below the overflow level.

Note 2 – Wastewater that is applied shall be sampled at the storage basin, irrigation pump, wet well, or application vehicle. If no land application occurred during the report period, report as "No Application."

Note 3 – Sample the upper 6 to 8 inches of soil. Composite samples shall be collected from each permitted land application site. See Special Condition #17(e) Soil Monitoring for additional guidance.

**STANDARD CONDITIONS**

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

**SPECIAL CONDITIONS**

1. Emergency and Unauthorized Discharge. Wastewater/sludge shall be stored and land applied during suitable conditions so that there is no discharge from the storage structure(s) or land application site. An emergency discharge from wastewater storage structure(s) 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 or from land application sites shall constitute a permit violation and shall be reported in accordance with Standard Conditions, Part 1, Section B.2.b. Monitoring shall take place once 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[1] | mg/L |
| E. coli[1] | #/100mL |

1 Required only for domestic and truck wash wastewater.

2. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the CWA section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued to 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 contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not limited in the permit.

3. Changes in Discharges of Toxic Pollutant
   In addition to the reporting requirements under §122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
   a. That an activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
      (1) One hundred micrograms per liter (100 µg/L);
      (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile;
      (3) Five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol;
      (4) One milligram per liter (1 mg/L) for antimony;
      (5) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
      (6) The notification level established by the department in accordance with 40 CFR 122.44(f).
   b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
      (1) Five hundred micrograms per liter (500 µg/l);
      (2) One milligram per liter (1 mg/l) for antimony;
      (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with §122.21(g)(7).
      (4) The level established by the Director in accordance with §122.44(f).

4. All permitted features must be clearly marked in the field.

5. Public access to storage areas and land application sites must be controlled by either positive barriers or remoteness of site.

6. Reporting of Non-Detects:
   a. An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
   b. The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non-Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
   c. The permittee shall report the "Non-Detect" result using the less than sign and the minimum detection limit (e.g. <10).

**SPECIAL CONDITONS (continued)**

d. Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
e. See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
f. When calculating monthly averages, one-half of the minimum detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the "<MDL" shall be reported as indicated in item (C).

7. Electronic Discharge Monitoring Report (eDMR) Submission System
   a. Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
   b. Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:
      (1) Collection System Maintenance Annual Reports;
      (2) Wastewater Irrigation Annual Reports;
      (3) Any additional report required by the permit excluding bypass reporting.
      After such a system has been made available by the department, required data shall be directly input into the system by the next report due date.
   c. Other actions. The following shall be submitted electronically after such a system has been made available by the department:
      (1) General Permit Applications/Notices of Intent to discharge (NOIs);
      (2) Notices of Termination (NOTs);
   d. Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx.
   e. Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. The department will either approve or deny this electronic reporting waiver request within 120 calendar days. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period that the approved electronic reporting waiver is effective.

8. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems, including key operating procedures, an aerial or topographic site map with the permitted features, land application fields, and irrigation buffer zones marked, and a brief summary of the operation of the facility. The O & M manual shall be made available to the operator and available to the department upon request. The O&M Manual shall be reviewed and updated at least every five years.

9. The berms of the storage basin(s) shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.

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

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

12. All paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) shall be stored so that these materials are not exposed to stormwater. Spill prevention, control, and/or management shall be provided sufficient to prevent any spills of these pollutants from entering a water 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.

13. Good housekeeping practices shall be maintained on the site to keep solid waste from entry into waters of the state.

14. Any pesticide discharge from any point source shall comply with the requirements of Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 136 et. seq.) and the use of such pesticides shall be in a manner consistent with its label.

15. 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 O&M and made available to the department upon request.

**SPECIAL CONDITONS (continued)**

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

17. Land Application System.
    a. This special condition does not apply to fertilizer products that are exempted under the Missouri Clean Water Law and regulations, 10 CSR 20-6.015(3)(B)8.
    b. Permitted Sites. This permit authorizes land application of wastewater by the permittee to those sites listed in the "Facility Description" of this permit. Land application of wastewater by a contract hauler to sites owned, rented, or leased by the permittee must also be listed in the "Facility Description" unless, the contract hauler is permitted. Land applications by contract hauler to sites that are not owned, rented, or leased by the permittee are not required to be listed in this permit. Only those pollutants listed in the permit application may be land applied. Permittee requests for additional sites must follow permit modification procedures prior to land application. Additionally, the O&M Manual shall include all additional land application site(s) listed in this permit. For land application fields that are also included in other permits, the total amount of wastewater applied shall not exceed the agronomic rate. Records of all wastewater applications shall be maintained for each permit the fields are listed in.
    c. Storage Basins. The minimum and maximum operating water levels for the storage basin(s) shall be clearly marked. Each storage basin shall be operated so that the maximum water elevation does not exceed upper operating level. Storage basins shall be lowered to the minimum operating level prior to November 30 each year. Storage basins shall be inspected monthly for structural integrity and leaks.
    d. Public Access Restrictions. This permit does not authorize application of wastewater to public use areas.
    e. Soil Monitoring.
        (1) Composite soil samples shall be collected from each field listed in this permit where land application has or will occur prior to the expiration date of this permit. No land application shall occur on fields listed in this permit if soil test results are more the five (5) years old.
        (2) Soil sampling shall be in accordance with University of Missouri (MU) Extension Guides G9215, Soil Sampling Pastures or G9217, Soil Sampling Hayfields and Row Crops or other methods approved by the department. The recommendation of one composite sample per 20 acres in G9215 and G9217 is not required by this permit, however, this is a useful method to identify soil fertility fluctuations in large fields due to past management practices, soil type, and variability of crop yields. There shall be at least one composite sample per 80 acres.
        (3) Testing shall conform to Recommended Chemical Soil Testing Procedures for North Central Region (North Central Regional Research Publication 221 Revised), or Soil Testing in Missouri (MU Extension Guide EC923), or other methods approved by the department.

18. Land Application Requirements.
    a. Wastewater and sludge land applications shall not exceed agronomic rates to ensure agricultural use of nutrients and prevent contamination of surface and groundwater. The agronomic rate is the amount of wastewater and/or sludge applied to a field to meet the fertilizer recommendation.
    b. No land application shall occur when the soil is frozen, snow covered, or saturated. There shall be no application during a precipitation event or if a precipitation event that is likely to create runoff is forecasted to occur within 24 hours of a planned application.
    c. Land application shall occur only during daylight hours.
    d. Land application fields shall be checked daily during land application for runoff. Sites that utilize spray irrigation shall monitor for the drifting of spray across property lines.
    e. Setback distances from sensitive features. There shall be no land application within:
        (1) 300 feet of any well, sinkhole, losing stream, wetland, or cave entrance, water supply impoundment or stream intake;
        (2) 150 feet of an occupied residence, public building, or public use area;
        (3) 50 feet of gaining perennial or intermittent stream, public or privately owned pond or lake;
        (4) 50 feet of property line or public road.
    f. Sludge application slope limitations for application sites are as follows;
        (1) Slopes of 6 percent or less there are no limitations.
        (2) Slopes of 7 to 12 percent, biosolids when may be applied with no limitation when soil conservation practices are used to meet the minimum erosion levels.
        (3) Slopes greater than 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less

**SPECIAL CONDITONS (continued)**

g. Grazing of animals and harvesting of forage crops deferments following wastewater irrigation or sludge application shall be as follows:
   (1) During the period May 1 to October 30 the minimum deferment shall be fourteen (14) days,
   (2) During the period November 1 to April 30, the minimum deferment shall be thirty (30) days,
   (3) Grazing of dairy animals shall follow the recommendations of the State Milk Board. A much longer deferment period is recommended for lactating dairy animals.

h. Sludge should not be applied to fields used to grow food crops for human consumption to be eaten raw, such as leafed vegetables or root crops.

i. Land application equipment shall be visually inspected daily during land application to check for equipment malfunctions and leaks. The application system shall be operated so as to provide uniform distribution of wastes over the entire land application site and shall be capable of applying the annual design flow during an application period of less than 100 days or 800 hours per year. Land application equipment shall be calibrated at least once annually.

19. Nutrient Management Plant Available Nitrogen (PAN) Method

Land application to fields listed in this permit shall use the following protocols to determine the amount of wastewater and/or sludge to be applied.

a. The fertilizer recommendation shall be based on the following:
   (1) The nutrient recommendation (nitrogen or phosphorus) for each crop. Recommendations can be found in University of Missouri Extension Guide WQ430 Crop/Nutrient Considerations for Biosolids or from publications by other land grant universities in adjoining states,
   (2) Realistic yield goal for each crop. Yield goals should be based on actual crop yield records from multiple years for each field. Good judgment should be used to counteract unusually high or low yields. If a field's yield history is not available the USDA county wide average or other approved source may be used, and
   (3) The most recent soil test.

b. Wastewater and/or Sludge applications shall be conducted according to one the following nutrient based management practices.
   (1) Nitrogen based application. This method can be used when soil test phosphorus (P) levels are 120 pounds or less per acre using Bray P-1 test method, or if the field has been assessed by Missouri Phosphorus Index (P-index) with a low or medium rating. The amount of wastewater and/or sludge to be applied shall be adjusted annually based on the Plant Available Nitrogen (PAN) calculation using the current wastewater and/or sludge nutrient analysis and the following:
      (a) For non-legume crops, the nitrogen fertilizer recommendation shall be adjusted to account for nitrogen credits from a preceding legume crop and residual nitrogen from the previous year's application. Nitrogen removal rates can be found in WQ430.
      (b) For legume crops, the nitrogen removal capacity of the legume crops should be based on the estimated nitrogen content of the harvested crop as defined in WQ430 and a realistic yield goal. The estimated nitrogen content of the crop must be adjusted using nitrogen credits for residual nitrogen fertilizer from the previous year's application.

      **PAN** = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2]
      *Volatilization factor is 0.7 for surface application and 1 for subsurface application.

   (2) Phosphorus based application. This method must be used when soil test phosphorus (P) levels are above 120 pounds per acre using Bray P-1 test method, or if the P-index rating is high. The amount of wastewater and/or sludge to be applied shall be adjusted annually based the phosphorus content of the current wastewater and/or sludge nutrient analysis and may be done applied according to one of the following methods;
      (a) The annual amount of phosphorus applied shall not exceed the planned crop's phosphorus removal estimate from WQ430, or from publications by other land grant universities in adjoining states or,
      (b) Multi-year phosphorus applications. Wastewater and/or sludge applications can exceed the annual planned phosphate removal estimate for the crop when a multi-year phosphorus application is utilized. The multi-year application must comply with the following conditions:
         (i) the amount of wastewater and/or sludge applied shall not exceed the nitrogen fertilizer recommendation or the estimated nitrogen removal capacity of the planned crop during the year of the application,
         (ii) the amount of phosphorus banked shall not exceed four years of the estimated crop removal rate for the planned crop rotation.
         (iii) the actual application rate shall not exceed the multi-year application rate
         (iv) no additional sludge applications shall occur until the applied phosphorus has been removed from the field by crop removal or harvest.
   (3) No land application can occur if the P-index rating for a field is very high.

**SPECIAL CONDITONS (continued)**

c. Other Pollutant Limitations and Loading Rates
   (1) Oil and grease application shall not exceed 10,000 pounds oil/acre/year for subsurface injection or soil incorporation. For surface application to growing vegetation, the sludge shall not exceed 15% oil & grease content and shall not exceed 1,000 pounds oil/acre. Avoid heavy application of oil and grease within 30 days before planting of row crops.

20. Record Keeping

a. A daily land application log shall be prepared and kept on file at the permittee office location for each application site showing dates of application, weather condition (sunny, overcast, raining, below freezing etc…), soil moisture condition, application method.
b. A record of monthly visual storage structure inspections shall be maintained.
c. A record of land application equipment inspections and calibrations as well as land application field inspections shall be maintained.
d. A record of all PAN calculations.
e. All records and monitoring results shall be maintained for at least five years and shall be made available to the department upon request.

21. Annual Report on Land Application Facility: Basin Operation and Field Application.

An annual report is required in addition to other reporting requirements under Section A of this permit. The annual report shall be submitted by January 28 of each year. The report shall include, but is not limited to, a summary of the following:

a. Record of maintenance and repairs during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year.
b. The number of days the storage structure discharged during the year, the discharge flow, reason the discharge occurred and effluent analysis performed.
c. A summary for each field used for land application showing number of acres used number of days application occurred, crop grown and yield, and total amount of wastewater applied (gal. or tons/acre).
d. Any soil tests taken during the reporting period.
e. For fields where the total nitrogen application exceeds 150 lbs./acre, submit PAN calculations to document that the applied nitrogen will be utilized.
f. Narrative summary of any problems or deficiencies identified, corrective action taken and improvements planned.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES**
**FACT SHEET**
**FOR THE PURPOSE OF RENEWAL**
**OF**
# MO-0118079
**COFFEY FEED MILL**

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"). Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified. After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful.

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

A fact sheet is not an enforceable part of an operating permit.

This fact sheet is for Industrial Land Application

## Part I – Facility Information

Facility Type: Industrial discharge of boiler blowdown, domestic and other industrial wastewater is irrigated and sludge is land applied– SIC #2048, 4952.

Facility Description:
Feed mill operation producing feed and kindred products for swine feed at company owned farms. Boiler blowdown from feed mill is treated with reverse osmosis and discharged. Domestic wastewater and truck wash waste water is irrigated and sludge is land applied.

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

Application Date: 10/17/2013
Expiration Date: 12/14/2011

**Permitted Feature(s) Table:**

| Permitted Feature | Treatment Level | Effluent type |
|---|---|---|
| #001 | Reverse osmosis | Boiler Blowdown |
| #004 | Secondary (Lagoon) | Domestic |
| #005 | Secondary (Lagoon) | Truck Wash |
| #023-#028 | Land Application | Truck Wash/Domestic |

Facility Performance History:
This facility was last inspected on 03/10/2011. The facility was in compliance at the time of inspection.

**FACILITY MAP:**

## Part II – Receiving Stream Information

Receiving Water Body's Water Quality

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 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(4)].

**RECEIVING STREAM(S) TABLE:**

| WATERBODY NAME | CLASS | WBID | DESIGNATED USES* | DISTANCE TO CLASSIFIED SEGMENT | 12-DIGIT HUC** |
|---|---|---|---|---|---|
| Tributary to Cypress Creek | n/a | n/a | General Criteria | 1.5 miles | 102801011201 |
| 8-20-13 MUDD V1.0 | C | 3960 | IRR, LWW, AQL, WBC-B, SCR, HHP | | |
| Tributary to Big Creek | n/a | n/a | General Criteria | 1.7 miles | 102801010911 |
| 8-20-13 MUDD V1.0 | C | 3960 | IRR, LWW, AQL, WBC-B, SCR, HHP | | |

n/a not applicable
WBID Waterbody ID: Missouri Use Designation Dataset 8-20-13 MUDD V1.0 data can be found as an ArcGIS shapefile on MSDIS at ftp://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip
* As per 10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses which may be found in the receiving streams table, above:
10 CSR 20-7.031(1)(C)1.:
**AQL** = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all habitat designations unless otherwise specified.)
10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = Whole Body Contact recreation where the entire body is capable of being submerged;
**WBC-A** = Whole body contact recreation that supports swimming uses and has public access;
**WBC-B** = Whole body contact recreation that supports swimming;
**SCR** = Secondary Contact Recreation (like fishing, wading, and boating).
10 CSR 20-7.031(1)(C)3. to 7.:
**HHP** (formerly HHF) = Human Health Protection as it relates to the consumption of fish;
**IRR** = Irrigation for use on crops utilized for human or livestock consumption;
**LWW =** Livestock and wildlife watering (Current narrative use is defined as LWP = Livestock and Wildlife Protection);
**DWS** = Drinking Water Supply;
**IND** = Industrial water supply
10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)
WSA = Storm- and flood-water storage and attenuation; WHP = Habitat for resident and migratory wildlife species;
WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = Hydrologic cycle maintenance.
10 CSR 20-7.031(6): GRW = Groundwater

## 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.

- ✓ Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44. The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
  - The only water quality standard for manganese is for groundwater. It is the permit writer's best professional judgment that this surface discharge does not have the potential to impact groundwater.
  - Stormwater monitoring outfall #007 was removed. Activities in contact with stormwater at outfall #007 are not covered by Stormwater Regulation 10 CSR 20-6.200. Several parameters were removed from monitoring at outfall #006 and a benchmark consistent with other industrial facilities was established.
  - No reasonable potential was found to exceed the Chloride + Sulfate standard, so the limit was replaced with monitoring only.
  - There is no reasonable potential for temperature to exceed water quality standard, therefore the monitoring requirements was removed.
  - The monitoring requirement for nitrates was removed from land applied wastewater and replaced with the more inclusive Total Kjeldahl Nitrogen (TKN) for the PAN calculation.

**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.

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

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

- ✓ Not applicable; this facility does not have operational and maintenance issues that would warrant change to the operation.

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

- ✓ Applicable; Permittee land applies biosolids in accordance with Standard Conditions III and a Department approved biosolids management plan.

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

- ✓ Applicable; Permittee land applies biosolids in accordance with Standard Conditions III and a Department approved biosolids management plan.

**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.

**NUTRIENT MANAGEMENT AND LAND APPLICATION:**
Land applications by a contract hauler on fields that the permittee has a spreading agreement on are not required to be in this permit. A spreading agreement does not constitute the field being rented or leased by the permittee as they do not have any control over management of the field.

The fertilizer recommendation is the amount of nutrients required for a crop to produce the expected yield. The agronomic rate is the amount of wastewater applied to a field to supply the amount of nutrients to meet the fertilizer recommendation. For more information on nutrient management, PAN calculations, and land application best management practices, consult the following University of Missouri Extension Guides:

The Missouri Soil Testing Association provides a list of accredited labs at http://soilplantlab.missouri.edu/soil/msta.aspx.

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

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

Oil and grease sludges with low nitrogen content, more than 20:1 Carbon to Nitrogen ratio, may require supplemental nitrogen application to provide proper decomposition of the oil content and prevent nitrogen deficiencies for the crop.

**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)(1)(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.

- ✓ Applicable; a RPA was conducted on appropriate parameters.

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

| Parameter * | CMC | RWC Acute | CCC | RWC Chronic | n | Range min; max | CV | MF | RP Yes/No |
|---|---|---|---|---|---|---|---|---|---|
| Metals | | | | | | | | | |
| Sulfate + Chloride | 1000 | 258.78 | 1000 | 258.78 | 59 | 194/7 | 0.33 | 1.3338942 | NO |

N/A Not Applicable
* Units are (µg/L) unless otherwise noted.
n number of samples. If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent.
CV Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.
RWC Receiving Water Concentration: concentration of a toxicant or the parameter in the receiving water after mixing (if applicable).
MF Multiplying Factor. 99% Confidence Level and 99% Probability Basis.

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

**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.

**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.

**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.

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

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

- ✓ Not Applicable: this operating permit is not drafted under premises of a petition for variance.

**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.

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

- ✓ Not Applicable; this facility does not anticipate bypassing.

**303(d) List:**
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.

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

**TOTAL MAXIMUM DAILY LOAD (TMDL):**
A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation.

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

## Part IV – Permit Limits Determination

**GENERAL CRITERIA CONSIDERATIONS:**
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants which have been determined to cause, have the reasonable potential to cause, or to contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. The previous permit included the narrative criteria as specific prohibitions placed upon the discharge. These prohibitions were included in the permit absent any discussion of the discharge's reasonable potential to cause or contribute to an excursion of the criterion. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether the discharge has reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). In instances where reasonable potential exists, the permit includes numeric limitations to address the reasonable potential. In instances where reasonable potential does not exist the permit includes monitoring of the discharges potential to impact the receiving stream's narrative criteria. Finally, all of the previous permit narrative criteria prohibitions have been removed from the permit given they are addressed by numeric limits where reasonable potential exists. It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is 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.

(A) 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.

For all outfalls, there is no RP for unsightly or harmful bottom deposits preventing full maintenance of beneficial uses because all outfalls have TSS limitations, however, they are all based on technology for the processes involved; values discharged from all outfalls are typically below WQ limitations, therefore no RP.

(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.

For all outfalls, there is no RP for scum and floating debris in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates scum and floating debris will be present in sufficient amounts to impair beneficial uses

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.

For all outfalls, there is no RP for unsightly color or turbidity in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates unsightly color or turbidity will be present in sufficient amounts to impair beneficial uses.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.

This facility has numeric effluent limitations for WET testing; specific toxic pollutants are discussed below in Derivation and Discussion of Limits, and where appropriate, numeric effluent limitations added.

(E) There shall be no significant human health hazard from incidental contact with the water.

This facility has numeric effluent limitations for WET testing; specific toxic pollutants are discussed below in Derivation and Discussion of Limits, and where appropriate, numeric effluent limitations added.

(F) There shall be no acute toxicity to livestock or wildlife watering.

This facility has numeric effluent limitations for WET testing; specific toxic pollutants are discussed below in Derivation and Discussion of Limits, and where appropriate, numeric effluent limitations added.

(G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

For all outfalls, there is no RP for physical changes that would impair the natural biological community because nothing disclosed by the permittee at renewal for these outfalls indicates physical changes that would impair the natural biological community.

(H) 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.

There are no solid waste disposal activities or any operation that has reasonable potential to cause or contribute to the materials listed above being discharged through any outfall.

***Outfall #001 –*** Boiler Blowdown/reverse osmosis/backwash discharge.

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

**Effluent Limitations Table:**

| PARAMETER | Unit | Basis for Limits | Daily Maximum | Weekly Average | Monthly Average | Modified | Previous Permit Limitations |
|---|---|---|---|---|---|---|---|
| Flow | gpd | 1 | * | | * | No | * |
| TSS | mg/L | 1, 9 | 110 | | 70 | No | * |
| Iron | mg/L | 1, 9 | * | | * | No | * |
| Temperature | | | Removed | | | Yes | 90/90 |
| Sulfate + Chloride | mg/L | 1, 2 | * | | * | Yes | 1000/1000 |
| pH | SU | 3 | ** | | ** | Yes | 6.0-9.0 |
| Oil & Grease | mg/L | 1, 3 | 15 | | 10 | No | 15/10 |

* - Monitoring requirement only.
** The pH is limited to the range of 6.5-9.0 pH units.

**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

**Outfall #001 – Derivation and Discussion of Limits:**

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

- **Total Suspended Solids (TSS).** 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. Effluent limitations have been retained from previous state operating permit, please see the **Applicable Designation of Waters of the State** sub-section of the **Receiving Stream Information.**

- **pH.** – 6.5-9.0 SU. 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. 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, in accordance with 10 CSR 20-7.031 Table A effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

- **Temperature**. See Part III – Rationale and Derivation of Effluent Limitations & Permit Conditions, Anti-backsliding.

- **Chloride + Sulfate.** Monitoring only. A reasonable potential analysis demonstrated no reasonable potential. Per department policy monitoring only will be continued for this permit cycle.

**Metals.** Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the "Technical Support Document For Water Quality-based Toxic Controls."

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

**Iron, Total Recoverable.** Monitoring only. The water quality standard for iron is 1,000 µg/L, chronic for aquatic life. Monitoring to assess reasonable potential at the next permit renewal.

**Manganese.** Manganese monitoring was removed. The only water quality standard for manganese is groundwater. It is the permit writer's best professional judgment that this surface discharge does not have the potential to impact groundwater.

**Minimum Sampling and Reporting Frequency Requirements**.

| PARAMETER | Sampling Frequency | Reporting Frequency |
|---|---|---|
| Flow | once/quarter | once/year |
| TSS | once/quarter | once/year |
| Iron | once/quarter | once/year |
| Sulfate + Chloride | once/quarter | once/year |
| pH | once/quarter | once/year |
| Oil & Grease | once/quarter | once/year |

**Sampling Frequency Justification:**
Sampling Frequency was changed from once per month to once per quarter as previous discharge monitoring has shown consistent compliance with permit limits. Reporting Frequency was changed from once per month to once per year because of consistent previous performance.

**Sampling Type Justification**
Sampling type is grab. There is no indication that a 24-hr. composite is necessary to capture changes in production or influent quality at the facility

**Permitted Features #004, #005, #008, #009, #010 –** Emergency Discharge

There are no effluent limits associated with Permitted Features #004, #005, #008, #009, #010 for the no-discharge facility. However, the following is required for an emergency discharge. Monitoring requirement only based on best professional judgment.

**EMERGENCY DISCHARGE TABLE:**

| PARAMETER | UNIT | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MODIFIED | PREVIOUS PERMIT LIMITATIONS |
|---|---|---|---|---|---|---|
| Flow | MGD | * | | | YES | *** |
| Biochemical Oxygen Demand$_5$ | mg/L | * | | | YES | *** |
| Total Suspended Solids | mg/L | * | | | YES | *** |
| Ammonia as N | mg/L | * | | | YES | *** |
| pH | SU | * | | | YES | *** |
| Oil & Grease | mg/L | * | | | YES | *** |
| E.coli | ** | * | | | YES | *** |
| Monitoring Frequency | Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below. | | | | | |

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

- **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/day while discharging | |
| Total Suspended Solids | once/day while discharging | |
| Ammonia as N | once/day while discharging | |
| pH | once/day while discharging | |
| Oil & Grease | once/day while discharging | |
| E.coli | once/day while discharging | |

**PERMITTED FEATURE #004 AND #005– STORAGE BASIN AND IRRIGATED WASTEWATER MONITORING**
Irrigation limitations derived and established in the below Irrigation Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit

**STORAGE BASIN OPERATIONAL MONITORING TABLE:**

| PARAMETER | UNIT | BASIS FOR LIMITS | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MODIFIED | PREVIOUS PERMIT LIMITATIONS |
|---|---|---|---|---|---|---|---|
| STORAGE BASIN | | | | | | | |
| Freeboard | feet | 1 | * | | | NO | |
| Precipitation | inches | 1 | * | | | NO | |
| WASTEWATER AND SLUDGE | | | | | | | |
| Total Kjeldahl Nitrogen | mg/L | 1 | * | | | NO | |
| Ammonia Nitrogen as an | mg/L | 1 | * | | | NO | |
| Total Phosphorous as P | mg/L | 1 | * | | | NO | |
| Monitoring Frequency | Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below. | | | | | | |

* - Monitoring requirement only.

**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 #004, #005 – DERIVATION AND DISCUSSION OF LIMITS:**

- **Freeboard.** Monitoring requirement only.
- **Precipitation.** Monitoring requirement only.
- **Total Kjeldahl Nitrogen.** Monitoring requirement only. Monitoring for Total Kjeldahl Nitrogen as N is included to determine nutrient loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]
- **Ammonia Nitrogen as N.** Monitoring requirement only. Monitoring for Ammonia Nitrogen as N is included to determine nutrient loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]
    - **Total Phosphorous as P**. Monitoring requirement only. Monitoring for Total Phosphorous as P is included to determine nutrient loading rates on the land application fields. [10 CSR 20-8.020(15)(F)7.]

**Minimum Sampling and Reporting Frequency Requirements**.

| PARAMETER | SAMPLING FREQUENCY | REPORTING FREQUENCY |
|---|---|---|
| STORAGE BASIN | | |
| Freeboard | once/month | once/year |
| Precipitation | once/day | once/year |
| WASTEWATER AND SLUDGE | | |
| pH | once/year | once/year |
| Total Kjeldahl Nitrogen | once/year | once/year |
| Ammonia Nitrogen as an | once/year | once/year |
| Fecal Coliform | once/year | once/year |
| Percent Solids | once/year | once/year |

**PERMITTED FEATURE #023- #028 – LAND APPLICATION OF WASTEWATER AND/OR SLUDGE AND SOIL MONITORING**

| PARAMETER | UNIT | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MODIFIED | PREVIOUS PERMIT LIMITATIONS |
|---|---|---|---|---|---|---|
| WASTEWATER LAND APPLIED | | | | | | |
| Irrigation Period | Hours | * | | | NO | |
| Volume Irrigated | Gallons | * | | | NO | |
| Application Area | Acres | * | | | NO | |
| Application Rate | Gal./acre | * | | | NO | |
| SOIL MONITORING | | | | | | |
| pH - Units | SU | * | | | NO | |
| Available Phosphorus as P (Bray 1-P method) | mg/kg | * | | | NO | |

* - Monitoring requirement only.

**PERMITTED FEATURE #023- #028 – DERIVATION AND DISCUSSION OF LIMITS:**

- **Irrigation Period.** Monitoring requirement only. Monitoring for the Irrigation Period is included to determine if proper application is occurring on the land application fields.

- **Volume Irrigated**. Monitoring requirement only. Monitoring for the Volume Irrigated is included to determine if proper application is occurring on the land application fields.

- **Application Area.** Monitoring requirement only. Monitoring for the Application Area is included to determine if proper application is occurring on the land application fields.

- **Application Rate**. Monitoring requirement only. Monitoring for the Application Rate is included to determine if proper application is occurring on the land application fields.

**PERMITTED FEATURE #023- #028 – LAND APPLICATION FIELD SOIL MONITORING**

| PARAMETER | UNIT | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MODIFIED | PREVIOUS PERMIT LIMITATIONS |
|---|---|---|---|---|---|---|
| pH - Units | SU | * | | | NO | |
| Available Phosphorus as P (Bray 1-P method) | mg/kg | * | | | NO | |

**PERMITTED FEATURE #023- #028 – DERIVATION AND DISCUSSION OF LIMITS:**

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

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

## 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.

- ✓ *This permit will become synchronized by expiring the end of the 4th quarter, 2021.*

**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 16, 2017 to July 17, 2017. One response was received.

**DATE OF FACT SHEET**: SEPTEMBER 13, 2017

**COMPLETED BY:**

**GREG CALDWELL, ENVIRONMENTAL SCIENTIST**
**MISSOURI DEPARTMENT OF NATURAL RESOURCES**
**WATER PROTECTION PROGRAM**
**OPERATING PERMITS SECTION – INDUSTRIAL PERMITS UNIT**
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# STANDARD CONDITIONS FOR NPDES PERMITS
# ISSUED BY
# THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
# MISSOURI CLEAN WATER COMMISSION
# REVISED
# AUGUST 1, 2014

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

## Part I – General Conditions
## Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. **Monitoring Requirements**.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. **Test Procedures**. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

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

## Section B – Reporting Requirements

1. **Planned Changes.**
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
      iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

2. **Non-compliance Reporting.**
   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.

c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. **Anticipated Noncompliance**. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

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

6. **Other Information**. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

## Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   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, 2015

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

### SECTION A – GENERAL REQUIREMENTS

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

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

a. Biosolids shall be monitored to determine the quality for regulated pollutants

b. The number of samples taken is directly related to the amount of sludge produced by the facility (See Section I of these Standard Conditions). Report as dry weight unless otherwise specified in the site specific permit. Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to reach the maximum concentration of pollutants allowed.

c. Table 1 gives the maximum concentration allowable to protect water quality standards

**TABLE 1**

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

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

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

**TABLE 2**

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

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

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

**TABLE 3**

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

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

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

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

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

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

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

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

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

a. Use best management practices when applying biosolids.
b. Biosolids cannot discharge from the land application site
c. Biosolid application is subject to the Missouri Department of Agriculture State Milk Board concerning grazing restrictions of lactating dairy cattle.
d. Biosolid application must be in accordance with section 4 of the Endangered Species Act.
e. Do not apply more than the agronomic rate of nitrogen needed.
f. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.
    i. PAN can be determined as follows and is in accordance with WQ426
    (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization 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 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.
i. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
j. Do not apply biosolids to sites with soil that is snow covered, frozen or saturated with liquid without prior approval by the Department.
k. Biosolids / sludge applicators must keep detailed records up to five years.

## SECTION H – CLOSURE REQUIREMENTS

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

        (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, 2, and 3) | | | |
|---|---|---|---|---|
| | Metals, Pathogens and Vectors | Nitrogen TKN [1] | Nitrogen PAN [2] | Priority Pollutants and TCLP [3] |
| 0 to 100 | 1 per year | 1 per year | 1 per month | 1 per year |
| 101 to 200 | biannual | biannual | 1 per month | 1 per year |
| 201 to 1,000 | quarterly | quarterly | 1 per month | 1 per year |
| 1,001 to 10,000 | 1 per month | 1 per month | 1 per week | --[4] |
| 10,001 + | 1 per week | 1 per week | 1 per day | --[4] |

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

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

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

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

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.
Note 2: Total Phosphorus: Total phosphorus and total potassium shall be tested at the same monitoring frequency as metals.
Note 3: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

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. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
        ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
        iii. Report the method used for compliance with pathogen and vector attraction requirements.
        iv. Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.

C10230
AP13402

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**

| CHECK NUMBER | |
|---|---|
| NO FEE required | |
| DATE RECEIVED | FEE SUBMITTED |
| 10/9/12 | Ø |

(E)

**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- 0118079 — Expiration Date 12/14/11
- ☐ An operating permit modification: ~~permit #~~ MO- _____ — Reason: _____

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

| NAME | | TELEPHONE WITH AREA CODE |
|---|---|---|
| PSF - Coffey Feed Mill | | (660) 533-2006 |
| | | FAX (660) 533-2011 |
| ADDRESS (PHYSICAL) | CITY | STATE / ZIP CODE |
| 18115 State Hwy B | Coffey | MO 64636 |

| NAME | E-MAIL ADDRESS | TELEPHONE WITH AREA CODE |
|---|---|---|
| Premium Standard Farms, LLC | | (660) 748-7239 |
| | | FAX (660) 748-7186 |
| ADDRESS (MAILING) | CITY | STATE / ZIP CODE |
| Hwy 65 N | Princeton | MO 64673 |

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

| NAME | | TELEPHONE WITH AREA CODE |
|---|---|---|
| Same as above | | |
| | | FAX |
| ADDRESS (MAILING) | CITY | STATE / ZIP CODE |
| | | |

| NAME | CERTIFICATE NUMBER | TELEPHONE WITH AREA CODE |
|---|---|---|
| Kevin Meinecke | | (660) 533-2006 |
| | | FAX (660) 533-2011 |
| ADDRESS (MAILING) | CITY | STATE / ZIP CODE |
| 18115 State Hwy B | Coffey | MO 64636 |

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| NAME | TITLE | TELEPHONE WITH AREA CODE |
|---|---|---|
| Brandon Merseal | Feed Mill Manager | (660) 533-2006 |
| | | FAX (660) 533-2011 |

**7.1** Legal Description of Outfalls. (Attach additional sheets if necessary.) See Attachment 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 2048 and NAICS 311119 002 – SIC 4952 and NAICS 22132
003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

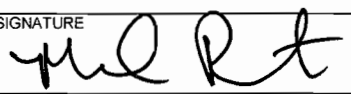
| | | | |
|---|---|---|---|
| A. | Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility?<br>If yes, complete Form C (unless storm water only, then complete U.S. Environmental Protection Agency Form 2F per Item C below). | YES ☑ | NO ☐ |
| B. | Is your facility considered a "Primary Industry" under EPA guidelines:<br>If yes, complete Forms C and D. | YES ☐ | NO ☑ |
| C. | Is application for storm water discharges only?<br>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?<br>If yes, complete Form R. | YES ☐ | NO ☑ |

NAME

Luetta Vogel, Dale Farms

| ADDRESS | CITY | STATE | ZIP CODE |
|---|---|---|---|
| Hwy B, 25645 E Hwy 65 | Coffey, Bethany | MO | 64636, 64424 |

**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 |
|---|---|
| Michael Rainwater, General Manager | (660) 748-4647 |
| SIGNATURE  | DATE SIGNED 10/4/12 |

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.

## Attachment A

### Coffey Feed Mill Outfalls

Outfall #001 – Agricultural/Feed – SIC #2048
Boiler blow down/reverse osmosis/backwash discharge to drainage ditch located northeast of feed mill.
Design Flow is 27,400 gallons per day.
Legal Description: NW1/4, SW1/4, SW1/4, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006258/-09403529

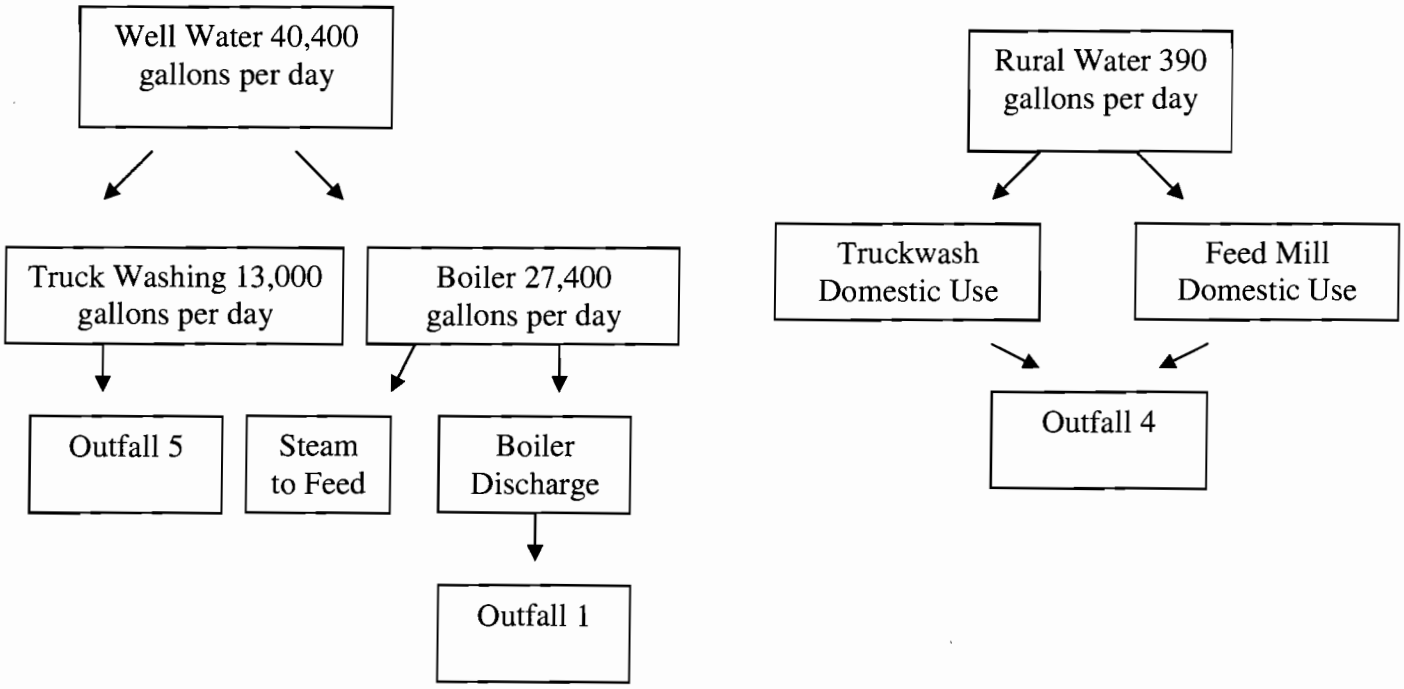
Outfall #004 – Domestic Wastewater – SIC #4952
No-discharge domestic wastewater treatment systems serving employee restrooms, cafeteria, and showers consisting of one septic tank and a single cell lagoon. Wastewater is irrigated and sludge is land applied.
Design population equivalent is 4.
Design flow is 390 gallons per day.
Legal Description: SW1/4, SW1/4, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006222/-09403454

Outfall #005 – Site #1 – Truck Wash
System Type: Solids Separation/Solids Storage/Anaerobic Lagoon
Design Number of Animals: Equivalent to 200 finishing hogs (80 animal units)
Design Population Equivalent: 450
Design Waste Volume: 13,000 gallons per day.
Maximum Operating Level (Safety Volume Depth): one foot below overflow level.
Minimum Operating Level: 15.9 feet below overflow level.
Land Application: Rates are based on the plant available nitrogen approach.
Legal Description: SW1/4, SW1/4, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006277/-09403453

Outfall #006 – Stormwater
Legal Description: SE1/4, SE1/4, SW1/4, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006181/-09403328
Unnamed Tributary to Cypress Creek at property line.

Outfall #007 – Stormwater
Legal Description: NE1/4, SE1/4, SW1/4, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006311/-09403252
Unnamed Tributary to Cypress Creek at property line.

Coffey Feed Mill and Truck Shop Water Flow Chart



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

# FORM I – PERMIT APPLICATION FOR CONSTRUCTION AND OPERATION OF WASTEWATER IRRIGATION SYSTEMS

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

**INSTRUCTIONS: The following forms must be submitted with Form I: FORM B** for domestic wastewater. **Submit FORMS E and G** for land disturbance permit if construction areas total one acre or more.

## 1.00 FACILITY INFORMATION

1.10 Facility Name

PSF - Coffey Feed Mill

1.20 Application for:
- ☐ Construction Permit (attach Engineering report, Plans and Specifications per 10 CSR 20-8)
- ☐ Operating Permit (if no construction permit, attach engineering documents)
  Date Irrigation System Began Operation: _____
- ☑ Operating Permit Renewal

1.30 Type of wastewater to be irrigated: ☑ Domestic ☑ Municipal ☐ State/National Park ☐ Seasonal business
☐ Municipal with Pretreatment Program or Significant Industrial Users ☐ Other (explain) _____
SIC Codes (list all that apply, in order of importance) _____

1.40 Months when the business or enterprise will operate or generate wastewater:
☑ 12 months per year ☐ Part of year (list Months): _____

1.50 This system is designed for:
☑ No-discharge ☐ Partial irrigation when feasible and discharge rest of time.
☐ Irrigation during recreation season (April – October) and discharge during November – March.
☐ Other (explain) _____

1.60 List the Facility outfalls which will be applicable to the irrigation system from outfalls listed on Form B.
Outfall Nos. 004,005 ___ ___ ___ ___ ___

## 2.00 STORAGE BASINS

2.10 Number of storage basins: 2 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)

| | Length | Width | Depth | Freeboard | Berm Width | % Slope |
|---|---|---|---|---|---|---|
| Basin #1: | _____ | _____ | _____ | 1' | _____ | 3:1 |
| Basin #2: | 250 | 250 | 20 | 1' | _____ | 3:1 |

2.30 Storage Basin operating levels (report as feet below emergency overflow level)
Basin #1: Maximum water level 1 ft. Minimum operating water level _____ ft.
Basin #2: Maximum water level 1 ft. Minimum operating water level 15.9 ft.

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2.40 Depth of sludge in lagoons and storage basins 0 ft.
Total sludge stored 0 dry tons 0 cu. ft.

## 3.00 LAND APPLICATION SYSTEM

3.10 Number of irrigation sites 1 Total Acres 66 Maximum % field slopes 10
Location: ___ ¼, ___ ¼, SW ¼, 4 Sec. 61N T 28W R DVS County 66 Acres
Location: ___ ¼, ___ ¼, ___ ¼, ___ Sec. ___ T ___ R _____ County ___ Acres

3.11 Type of vegetation: ☑ Grass hay ☐ Pasture ☐ Timber ☐ Row crops ☐ Other (describe) _____

3.20 Wastewater flow (dry weather) gallons/day:
Average annual: 13,300 Seasonal _____ Off-season _____
Months of seasonal flow: _____
Human Population Equivalent: 454

3.21 Land Application rate per acre (design flow including 1 in 10 year storm water flows):
Design: 2.7 inches/year .25 inches/hour 1 inches/day 2 inches/week
Actual: 1 inches/year .25 inches/hour 1 inches/day 1 inches/week
Total Irrigation per year (gallons): _____ Design _____ Actual
Actual months used for Irrigation (check): ☐ Jan ☐ Feb ☑ Mar ☑ Apr ☑ May ☑ Jun ☑ Jul ☑ Aug ☑ Sep ☑ Oct ☑ Nov ☐ Dec

3.22 Land Application Rate is based on:
☑ Nutrient Management Plan (N&P)
☐ Hydraulic Loading
☐ Other (describe) _____

3.30 Equipment type: ☐ Sprinklers ☐ Gated pipe ☐ Center pivot ☐ Traveling gun ☑ Other (describe) Toolbar
Equipment Flow Capacity: _____ Gallons per hour _____ Total hours of operation per year

3.40 Public Access Restrictions for irrigation sites: ☑ Site is Fenced ☐ Wastewater disinfection prior to irrigation
☐ Other (describe): _____

3.50 Separation distance (in feet) from the outside edge of the wetted irrigation area to down gradient features:
100 Permanent flowing stream 300 Losing Stream 100 Intermittent (wet weather) stream 50 Lake or pond
50 Property boundary 150 Dwellings 300 Water supply well ____ Other (describe) _____

3.60 SOILS INFORMATION: Use information from the County Soil Survey, NRCS, or professional soil scientist.
Soil Series Name Grundy Silt loam Depth of bedrock 200 Feet Depth of water table 200 Feet
Soil Infiltration rate in inches/hour (in/hr) for most restrictive layer within the following soil depth ranges:
.80 In/hr for 0-12 in soil depth .40 In/hr for 12-24 inch soil depth .20 In/hr for 24-60 inch soil depth

3.70 Include a recent Geologic Report by the Department's Geological Survey and Resource Assessment Division with your construction permit.

3.80 Attach a current copy of the Operation and Maintenance (O&M) Plan for the irrigation system. Date of O&M Plan: 05/14

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

3.82 Attach a facility sketch showing treatment units, storage basins, pipelines, irrigation equipment, application sites and other features.

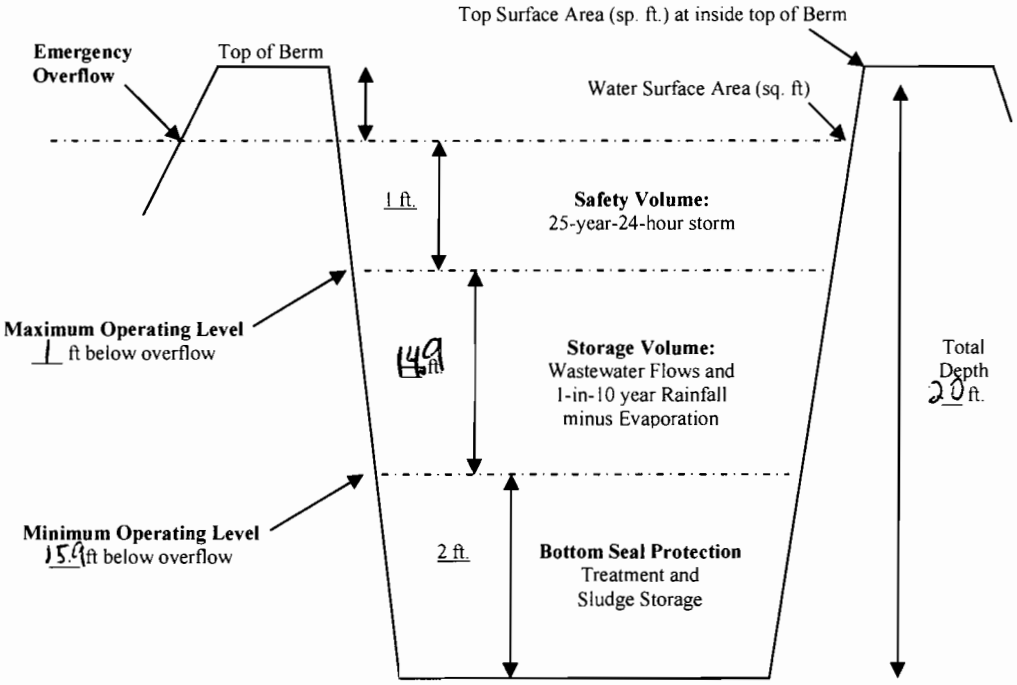
**4.00 CERTIFICATION**

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 imprisonment.

| **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) |
| Michael Rainwater, General manager | (660) 748-4647 |
| SIGNATURE | DATE SIGNED |
| | 10/4/12 |

**ATTACHMENT A** Basin 2
(To be included with Form I)

**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.

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

PSF - Coffey Feed Mill

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

MO-0118079

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 2048 B. SECOND 4952

C. THIRD _____ D. FOURTH _____

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

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

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

Feed Mill operation, processing of food and kindred products for the use of swine feed for company-owned farms. Facility consists of 5 outfalls- 001, 004, 005, 006 and 007.

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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 |
| 001 | Boiler Discharge | 27,400 gallons/day | reverse osmosis | 1-S |
| 004 | Domestic Wastewater | 390 gallons/day | septic tank/lagoon | 3-C |
| 005 | Truck Wash | 13,000 gallons/day | Anaerobic Lagoon | 3-C |
| 006 | Stormwater | N/A | | |
| 007 | Stormwater | N/A | | |
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**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 |
|---|---|---|---|
| Oil and Grease | Boiler | | |
| Iron | Boiler | | |
| Manganese | Boiler | | |
| Sulfate | Boiler | | |
| Chloride | Boiler | | |
| Total Suspended Solids | Boiler | | |
| | | | |
| | | | |
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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)

All outfalls are monitored according to the MDNR permit.

3.20 CONTRACT ANALYSIS INFORMATION

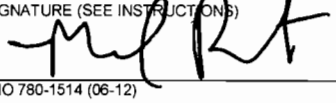
WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

☑ **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)* |
|---|---|---|---|
| Midwest Laboratories, LLC. | 13611 B St. Omaha, NE 68144 | (402) 334-7770 | Oil and Grease, Iron, Manganese, Sulfate, Chloride, Total Suspended Solids |

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 |
|---|---|
| Michael Rainwater, General Manager | (660) 748-4647 |
| SIGNATURE (SEE INSTRUCTIONS) | DATE SIGNED |
|  | 10/4/12 |

**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. 001

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) | | | | | | | | | | | | |
| B. Chemical Oxygen Demand (COD) | | | | | | | | | | | | |
| C. Total organic Carbon (TOC) | | | | | | | | | | | | |
| D. Total Suspended Solids (TSS) | 144 | | | | 8.4 | | 131 | mg/l | | | | |
| E. Ammonia *(as N)* | | | | | | | | | | | | |
| F. Flow | VALUE | | VALUE | | VALUE | | | | | VALUE | | |
| G. Temperature *(winter)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| H. Temperature *(summer)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| I. pH | MINIMUM 6.9 | MAXIMUM 9.0 | MINIMUM | MAXIMUM | | | | 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) | | | | | | | | | | | | | | |
| B. Chlorine Total Residual | | | | | | | | | | | | | | |
| C. Color | | | | | | | | | | | | | | |
| D. Fecal Coliform | | | | | | | | | | | | | | |
| E. Fluoride (16984-48-8) | | | | | | | | | | | | | | |
| F. Nitrate—Nitrate *(as N)* | | | | | | | | | | | | | | |

| 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)* | | | | | | | | | | | | | | |
| H. Oil and Grease | | | 10 | | | | .26 | | 131 | mg/l | | | | |
| I. Phosphorus *(as P)* Total (7723-14-0) | | | | | | | | | | | | | | |
| J. Sulfate *(as $SO^4$)* (14808-79-8) | | | 144 | | | | 91.2 | | 131 | mg/l | | | | |
| K. Sulfide *(as S)* | | | | | | | | | | | | | | |
| L. Sulfite (as $SO^3$) (14265-45-3) | | | | | | | | | | | | | | |
| M. Surfactants | | | | | | | | | | | | | | |
| N. Aluminum Total (7429-90-5) | | | | | | | | | | | | | | |
| O. Barium Total (7440-39-3) | | | | | | | | | | | | | | |
| P. Boron Total (7440-42-8) | | | | | | | | | | | | | | |
| Q. Cobalt Total (7440-48-4) | | | | | | | | | | | | | | |
| R. Iron Total (7439-89-6) | | | 9.16 | | | | .80 | | 131 | mg/l | | | | |
| S. Magnesium Total (7439-95-4) | | | | | | | | | | | | | | |
| T. Molybdenum Total (7439-98-7) | | | | | | | | | | | | | | |
| U. Manganese Total (7439-96-5) | | | 1.35 | | | | .45 | | 131 | mg/l | | | | |
| V. Tin Total (7440-31-5) | | | | | | | | | | | | | | |
| W. Titanium Total (7440-32-6) | | | | | | | | | | | | | | |

| 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 | |
| **METALS, AND TOTAL PHENOLS** | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-9) | | | | | | | | | | | | | | |
| 2M. Beryllium, Total (7440-41-7) | | | | | | | | | | | | | | |
| 3M. Magnesium, Total (7439-95-4) | | | | | | | | | | | | | | |
| 4M. Molybdenum, Total (7439-98-7) | | | | | | | | | | | | | | |
| 5M. Tin, Total (7440-31-5) | | | | | | | | | | | | | | |
| 6M. Titanium, Total (7440-32-6) | | | | | | | | | | | | | | |
| 7M. Mercury, Total (7439-97-6) | | | | | | | | | | | | | | |
| 8M. Selenium, Total (7782-49-2) | | | | | | | | | | | | | | |
| 9M. Thallium, Total (7440-28-0) | | | | | | | | | | | | | | |
| 10M. Phenols, Total | | | | | | | | | | | | | | |
| **RADIOACTIVITY** | | | | | | | | | | | | | | |
| (1) Alpha Total | | | | | | | | | | | | | | |
| (2) Beta Total | | | | | | | | | | | | | | |
| (3) Radium Total | | | | | | | | | | | | | | |
| (4) Radium 226 Total | | | | | | | | | | | | | | |

## 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.

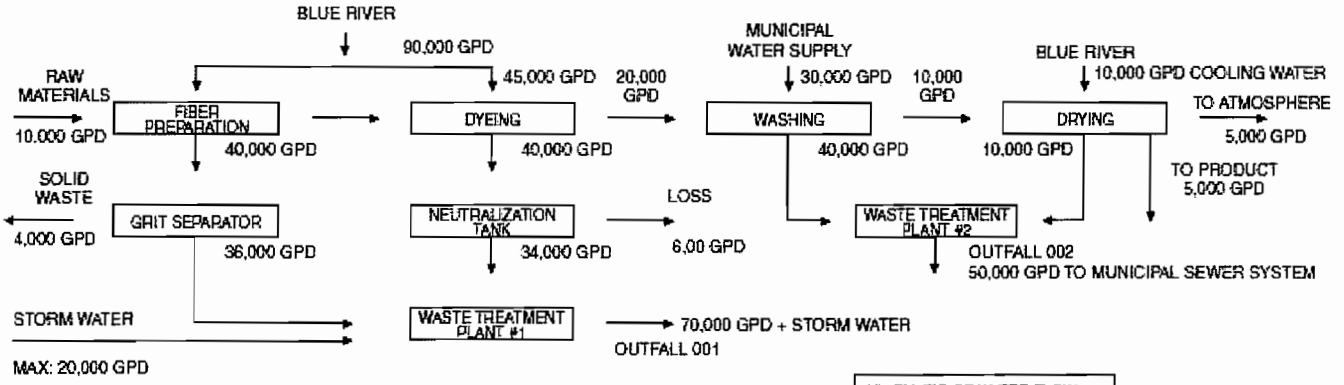
SIC code numbers are descriptions that may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, that is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual. If 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

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**

Asbestos

**HAZARDOUS SUBSTANCES**

Acetaldehyde
Allyl alcohol
Allyl chloride
Amyl acetate
Aniline
Benzonitrile
Benzyl chloride
Butyl acetate
Butylamine
Captan

**HAZARDOUS SUBSTANCES**

Dichlorvos
Diethylamine
Dimethylamine
Dintrobenzene
Diquat
Disulfoton
Diuron
Epichlorohydrin
Ethion
Ethylene diamine
Ethylene dibromide
Formaldehyde
Furfural
Guthion

**HAZARDOUS SUBSTANCES**

Nalad
Napthenic acid
Nitrotoluene
Parathion
Phenolsulfonate
Phosgene
Propargite
Propylene oxide
Pyrethrins
Quinoline
Resorcinol
Strontium
Strychnine
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.

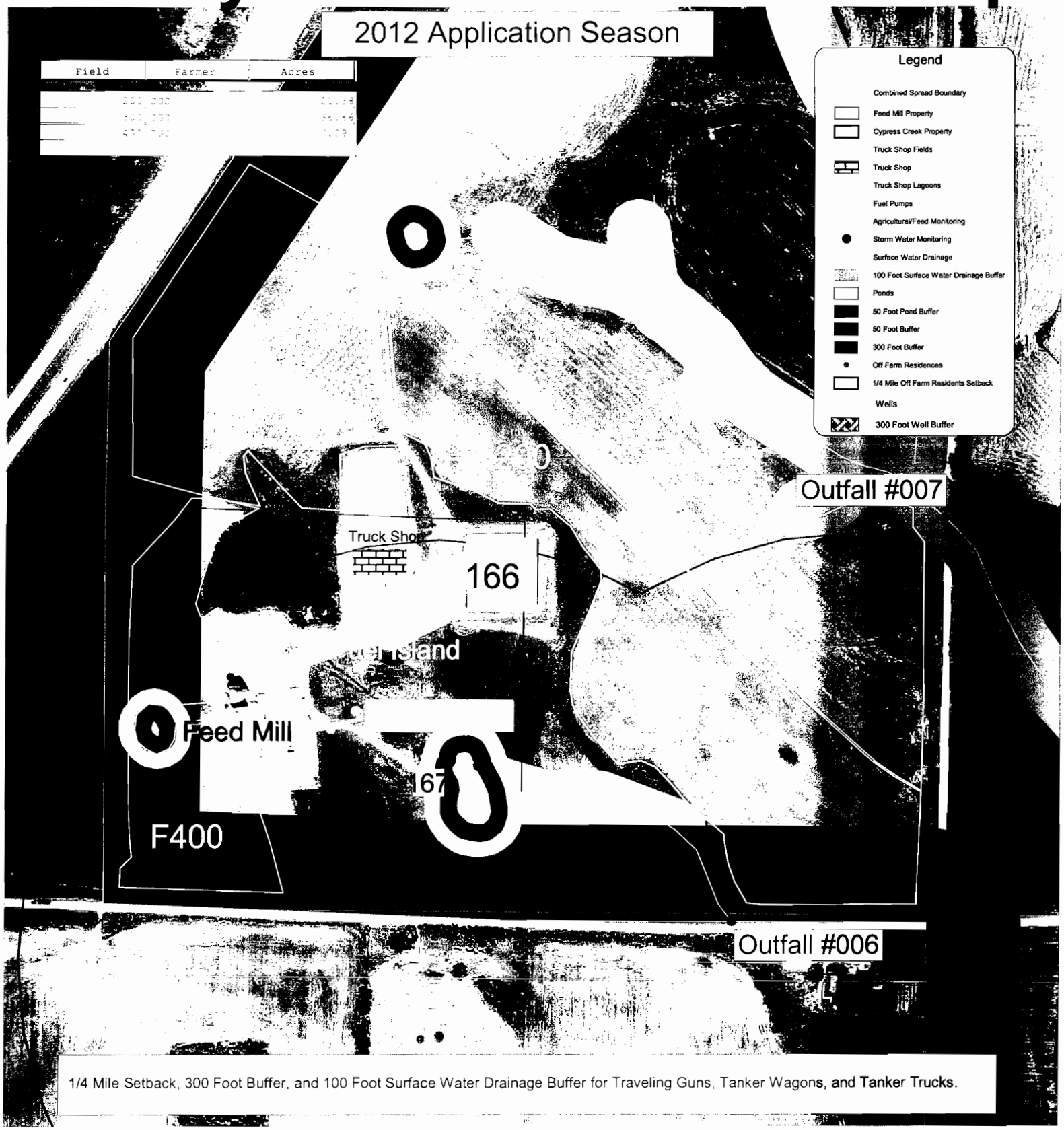
All applications must be signed as follows and the signature must be original.

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.

# Coffey Feed Mill & Truck Shop




1/4 Mile Setback, 300 Foot Buffer, and 100 Foot Surface Water Drainage Buffer for Traveling Guns, Tanker Wagons, and Tanker Trucks.

0 0.3 Miles

N W E S

This map has been prepared from public data and private gps. It should not be used for legal surveys or documents
MAP UNDER REVIEW-THIS IS NOT THE FINAL RELEASE

September 8, 2011

# DISCHARGE RESPONSE PROCEDURES – MDNR AND NEIGHBOR NOTIFICATION

**DEPARTMENT:** Environmental Regulatory Compliance

**PERSON(S) ACCOUNTABLE:** ERC Personnel

**WHEN:** As required in the event of a reportable discharge or release of effluent to a neighbors property.

**GOAL / PURPOSE:** To notify the Missouri Department of Natural Resources (MDNR) of a reportable release or discharge of effluent in accordance with the operating permits. Any discharge that crosses a property line shall be reported to the MDNR and the affected neighbor. Any release or discharge that enters waters of the state, or exceeds 1,000 gallons, shall be reported to the MDNR as soon as practicable and in no case more than twenty-four (24) hours from the incident. Our company goal is to report within two hours.

***PPE Assessment:***

- None needed

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Notification Report Form

***Procedure Steps***:

1. Any discharge or release of effluent, regardless of size, shall be reported immediately to Johnson Controls (748-7209).
2. Johnson Controls shall contact the "on-call" ERC person or subsequent personnel designated by a contact sheet of ERC and LRM management personnel.
3. Any release or discharge of effluent, regardless of size, that leaves PSF property or leaves the spreading agreement property and **crosses the property line** onto the neighbor must be reported to the MDNR and to the neighbor onto whose property the effluent ran. Unless otherwise directed, ERC shall be responsible for contacting MDNR and the neighbor. MDNR's phone numbers are listed on the *Notification Response Form*. During normal business hours, call the appropriate MDNR Regional Office at the phone number listed on the *Notification Response Form*. After hours or on the weekends, call the MDNR Emergency Response phone number listed on the *Notification Response Form*. Document on the attached *Notification Report Form* all personal contacts or phone calls to MDNR and when required, any neighbor calls or contacts. With regards to the call to the MDNR, tell them whatever you know about the incident and that you will call with more information, as it becomes available. Document the time of call and the person with whom you spoke.
4. Any spill or release of effluent that enters **waters of the state** or exceeds **1,000 gallons** must be reported to the Missouri Department of Natural Resources at the number listed on the attached *Notification Response Form*. Unless otherwise directed, ERC shall be responsible

for contacting MDNR. Tell MDNR whatever you know about the incident and that you will call with more information, as it becomes available. Document the time of call and the person with whom you spoke.

5. Ensure that all sampling requirements are met in accordance with ERC SOP 38.

***Follow-up:***

1. Complete the *Notification Response Form* along with any additional documentation pertinent to the incident and return to the Environmental Compliance Coordinator in the Princeton office.
2. A written account of the incident circumstances and the details of the response are to be submitted by ERC to the Missouri Department of Natural Resources within 5 days.

## *Notification Report Form*

If effluent has crossed the property line, contact MDNR and the neighbor. If the release or discharge of effluent enters waters of the state, or if the release exceeds 1,000 gallons, contact the MDNR. During normal business hours, contact the appropriate MDNR Regional Office at the number listed below. After hours, contact the Jefferson City Emergency Response number listed below.

| Location | Phone Numbers | Person Contacted | Date | Time |
|---|---|---|---|---|
| MDNR – Macon (Princeton farms) | (660) 385-8000 | | | |
| MDNR – Kansas City (Coffey farms) | (816) 622-7000 | | | |
| MDNR – Emergency Response (24 hours) | (573) 634-2436 | | | |
| Neighbor | | | | |
| Neighbor (if effluent crosses onto more than one neighbor) | | | | |

*Complete the questions below and respond to MDNR and Upper Management with the information:*

- ✓ This is _____with Premium Standard Farms.
- ✓ My telephone number is _____.
- ✓ I am calling to report a release at _____ (facility name).
- ✓ The amount of the release is (known/unknown) and is _____ gallons.
- ✓ The release was discovered at _____ (time) _____ (date).
- ✓ The release (is ongoing) or (has been terminated).
- ✓ The release (has) (has not) reached a waterway.
- ✓ If so, which waterway? _____
- ✓ We are taking the following precautions/actions: _____
- ✓ Did release stay on the company's property? Yes No
- ✓ Type of release: Barn, Application, Riser
- ✓ Land application contact and people involved at the scene: _____
- ✓ Have the appropriate samples been collected and sent to the lab? Yes N/A
- ✓ Who collected the samples? _____
- ✓ This report is (complete) (incomplete with more information to follow).
- ✓ MDNR reference number: _____

Signature of caller: _____

# INSPECTIONS – LAND APPLICATION AUDITS

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Environmental and/or LRM Employees |

**WHEN:** Random audit of land application crews during land application.

**GOAL / PURPOSE:** To inspect and audit land application associates to ensure that the MDNR Permit, SOPs and other company policies are being followed.

***PPE Assessment:***

- Appropriate footwear
- Safety Glasses (if using ATV)
- Helmet (if using ATV)

***Hazards Associated with Task:***

- Slips, trips and falls associated with wet and/or uneven terrain
- Slips, trips and falls due to drag hoses and equipment in field
- Vehicle incidents due to uneven field terrain

***Preparation / Supplies*:**

- Land Application Audit Checklist
- Maps
- Knowledge of SOPs and location
- MDNR Permit for farm

***Procedure Steps***:

1. Audit personnel shall arrive unannounced at the site. They should find the area(s) in which land application is taking place and monitor conditions as discreetly as possible. Before approaching the land application crew, auditors will observe whether the land application crew members are monitoring the systems and fields and that there are no visually evident problems occurring.
2. Auditors will then approach members of the crew to ensure that all Work Orders, Checklists and Daily Run Sheets are on-site and currently complete. Auditors will interview crew members about their line pressure, gallons/minute, inches/acre, etc. and compare their calculations to the work order.
3. Auditors may check perimeters of application fields to ensure that buffers are being maintained, that there is no run-off, and that soil conditions are favorable for continued application.
4. If an auditor sees an action that falls below the desired level of performance, the auditor has the authority to shut down that crew immediately. Depending on the severity of the issue, the auditor may immediately notify the Superintendent, LRM Manager and the Environmental Compliance Coordinator.
5. Complete the Inspection Checklist and include any other pertinent information. The auditor will keep the completed checklist unless recommended actions are needed.

***Follow-up:***

1. When deemed appropriate, ERC and LRM Management will coordinate any additional investigation of issues phoned into the Environmental Compliance Coordinator or raised on the Land Application Audit Checklist. The individuals investigating the issue will sign the completed checklist.

# Land Application Audit Checklist

| Date: | Tract: | Crew Foreman: | |
|---|---|---|---|
| Time: | Equipment ID: | | |
| Work Order #: | Nozzle Size: | GPM: | Inches/Acre: |

| | YES | Needs Improvement |
|---|---|---|
| 1. Are Class A and B operators able to respond within the required timeframe? | | |
| 2. Has all equipment been set and adjusted to ensure that effluent does not enter the buffer areas? | | |
| 3. Has buffer distance been verified? How? | | |
| 4. Are crewmembers monitoring the pump(s)? | | |
| 5. Have the safety switches been set properly and operational or is a crew member stationed at the pump? | | |
| 6. Are crew members monitoring underground line(s)? | | |
| 7. Are crew members monitoring aboveground line(s)? | | |
| 8. Are crew members monitoring turn-arounds? | | |
| 9. Are crew members continuously monitoring field perimeter? | | |
| 10. Does the work order match the work being done? e.g., correct field, lagoon, crop, equipment, etc. | | |
| 11. Has the Checklist and Daily Run Sheet been completed up to the current application? | | |
| 12. Have proper startup and/or shut down procedures been followed? | | |
| 13. Has crew correctly calculated the proper application rate? | | |
| 14. Is bucket loader tractor present and in a proper position? | | |
| 15. Do all crew members have properly working radios? | | |
| 16. Are required safety caps in place for the system in operation? | | |
| 17. Are line pressure guidelines being followed? | | |
| 18. Has soil moisture feel method been performed to ensure that soil conditions are suitable to start or continue land application? | | |
| 19. Is the field application rate consistent with the maximum slope for the field? | | |
| 20. Are weather conditions favorable to start or continue land application? | | |
| 21. Are color maps updated with the previous day's application? | | |
| 22. Has crew consulted the field notebook prior to land application? | | |
| 23. Do all crew members understand the emergency response procedures? | | |
| 24. Have crew members received CAFO training? | | |
| 25. Are all employees working in a safe manner? i.e., helmet, protective eyewear, adequately clothed, etc. | | |
| 26. Does the crew have a shovel? | | |
| **Inspector(s) Signature(s):** | | |
| **Supervisor/Crew Leader(s) Signature(s):** | | |

****Attach another sheet if needed for Recommended Actions****

Signed off by:
LRM Superintendent: _____
LRM Manager: _____
ERC Manager: _____

# MAINTENANCE – EROSION CONTROL

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE** | ERC, LRM, and R&M Utility Crew |
| **WHEN:** | According to inspection specification | | |
| **GOAL / PURPOSE:** | To minimize soil loss from our property and ensure structural integrity of the lagoons and secondary containment structures. | | |

***PPE Assessment:***

- Appropriate footwear

***Hazards Associated with Task:***

- Slip/Trip/Falls associated with wet, uneven, and or icy terrain.

***Preparation /Supplies:***

- Weekly inspection checklist
- Monthly inspection checklist

***Procedure Steps***:

1. LRM personnel continuously look for erosion problems. Deficiencies are documented on the weekly and monthly inspections. Land application associates should always be looking for potential erosion problems and do a thorough review of lagoons, secondary containment structures and farms to identify any erosion or location with potential for erosion.
2. Inspectors and the person(s) who do monthly inspections have a location on their respective checklists to identify erosion problems. If either of these entities identifies erosion the Environmental Compliance Coordinator should be notified. A work order will then be issued to the Utility Crew by the ERC Administrative Assistant through the work order system.
3. Personnel should continue to monitor locations that have been reported to ensure that corrective actions are taken. Continue to report and document if repairs are not made within a reasonable time.

***Follow-up:***

1. The Department of Environmental and Regulatory Compliance can, at any time, print a work order progress report and monitor the progress being made. The work order system also serves as a reference point to detail any work that has been done to minimize erosion on any specific farm.

# NUTRIENT MANAGEMENT - DATABASE

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Environmental Compliance Coordinator and Environmental Analysts |
| **WHEN:** | Continuously | | |
| **GOAL / PURPOSE:** | To provide a centralized system that manages all sampling data and day-to-day events of the land application department. | | |

***PPE Assessment:***

- None needed

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Nutrient Management Database

***Procedure Steps***:

1. Premium Standard Farms has developed a comprehensive nutrient management database to manage the day-to-day operations of the ERC and LRM Departments.
2. This database manages all sample results, and prints quarterly and annual reports. The database also manages information pertaining to PAN Planning, Lagoon Levels, Work Orders, Rainfall and the Land Application daily run data as detailed in related procedures.
3. The nutrient management database is managed by the ERC and is password protected to prevent unauthorized use or changes to information in the database.
4. The PAN equation has been programmed into the nutrient management database. Each land application field is identified by number and includes the number of acres, soil type and intended crop. The Work Order provides LRM field crews instruction on the number of gallons of effluent to apply to a specific field and from which lagoon to draw the effluent.
5. All computer programs are kept on a secure company computer network and all information is backed up nightly.

***Follow-up:***

6. A hard copy of all information stored in the database is retained by the Princeton Office.

# NUTRIENT MANAGEMENT – PAN PLANNING

**DEPARTMENT:** Environmental Regulatory Compliance **PERSON(S) ACCOUNTABLE:** ERC Management

**WHEN:** The process begins in the late summer for October 1st application and is reevaluated during the winter months as more yields are received.

**GOAL / PURPOSE:** To ensure that there is a nutrient balance on each tract of land based on estimated volumes, lagoon nutrient data, yield predictions, and soil test data and to use that data to best manage land application timing.

***PPE Assessment:***

- None Needed

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Nutrient Management Database
- Lagoon Levels
- Lagoon Analysis
- Soil Analysis
- Yield averages per field
- Field Acreage and Crops

***Procedure Steps***:

## *Annual Planning*

1. Within the nutrient management database, there is a nutrient application planner. The program compiles data from the lagoon analysis, soil analysis, yield data, field acres and crops to calculate the allowable nitrogen application for each field. The total nitrogen capacity of each facility is also totaled. The program compiles the PAN that can be applied based on the formulas detailed in the MDNR Operating Permits. All tracts are managed using the PAN approach.
2. The program is operated using an application year of October 1 – September 30.
3. Using the current lagoon levels and volumes calculated from the as-built lagoon drawings, the ERC staff projects the total gallons available for land application. This tool is used to manage water use on the farms, land application processes, land resources, etc. This tool also makes it possible to compare the gallons of effluent and total pounds of PAN that needs to be land applied versus the pounds of PAN that can be applied on the available land.

4. The initial planning for individual field PAN goals is done in the late summer in preparation of the October 1st year beginning. The initial numbers are typically conservative, allowing for safe fall application where feasible. These numbers are then finalized over the winter months, as the final yields are collected and current sample results are received. Reference: NMTS-Nutrient Management Technical Standard.
5. Using the information above, Premium Standard Farms strives to manage land application practices to best achieve a balance between:
   - Optimizing the timing of nutrient applications to match crop uptake.
   - Maintaining adequate storage in the lagoons to handle extreme rainfall events without overtopping.
   - Conducting land application at rates and amounts so that no runoff occurs from land application fields.
6. Land application typically occurs during the period of March through November when climatic conditions are favorable.

***Alternate Volatilization Rate***

This section is included for MDNR review and approval of an alternate volatilization rate as provided for in the Special Conditions of the current operating permits.

The following tables detail the calculations and methodology for determining inorganic nitrogen availability based on site specific soil conditions using the table below. An appendix of the soil drainage classifications for each field is maintained by the ERC Department in Princeton.

Table 1 below lists the percent organic N remaining in the soil after denitrification. The table values are the median of the values listed in Table 11-8 of the USDA-NRCS, National Engineering Handbook, Part 651(AWMFH).

**Table 1**

| **Manure N Denitrification Estimates by Soil Drainage Classification** | | | | | |
|---|---|---|---|---|---|
| Soil Organic Matter % | Excessively well drained | Well Drained | Moderately well drained | Somewhat poorly drained | Poorly drained |
| | % of inorganic N available | | | | |
| < 2 | 94 | 88 | 82 | 74 | 60 |
| 2-5 | 88 | 80 | 74 | 65 | 40 |
| > 5 | 84 | 74 | 65 | 50 | 25 |
| Median values used from USDA-NRCS, National Engineering Handbook, Part 651(AWMFH), Table 11-8. | | | | | |

Table 2 below lists the volatilization rates for the different land application methods used by the company.

**Table 2**

| **Volatilization Rates by Equipment Type** | |
|---|---|
| % of inorganic N available | |
| Injection/Incorporation | 95* |
| Spray Application | 75* |
| • From USDA-NRCS, National Engineering Handbook, Part 651(AWMFH), Table 11-6. | |

Table 3 below shows the resulting total inorganic nitrogen available after considering volatilization and denitrification losses. The values listed below were calculated by multiplying values in Table 1 by the spray application value in Table 2.

**Table 3**

| **Alternate VR for Spray Application** | | | | | |
|---|---|---|---|---|---|
| Soil Organic Matter % | Excessively well drained | Well Drained | Moderately well drained | Somewhat poorly Drained | Poorly |
| % of inorganic N available | | | | | |
| < 2 | 71 | 66 | 62 | 56 | 45 |
| 2-5 | 66 | 60 | 56 | 49 | 30 |
| > 5 | 63 | 56 | 49 | 38 | 19 |
| Alternate VR equals denitrification factor multiplied by the equipment specific volatilization rate. | | | | | |

Table 4 below shows the resulting total inorganic nitrogen available after considering volatilization and denitrification losses. The values listed below were calculated by multiplying values in Table 1 by the injection/incorporation in Table 2.

**Table 4**

| **Alternate VR for Injection/Incorporation** | | | | | |
|---|---|---|---|---|---|
| Soil Organic Matter % | Excessively well drained | Well Drained | Moderately well drained | Somewhat poorly Drained | Poorly |
| % of inorganic N (manure., precip.) available | | | | | |
| < 2 | 89 | 84 | 78 | 70 | 57 |
| 2-5 | 84 | 76 | 70 | 62 | 38 |
| > 5 | 80 | 70 | 62 | 48 | 24 |
| Alternate VR equals denitrification factor multiplied by the equipment specific volatilization rate. | | | | | |

The alternate VR factor will be used on a field and equipment specific basis. The factors will be used for the entire land application season (Oct 1 – Sept 30). When assigning an effluent application rate for each field, the nutrient management database has input fields for equipment type, soil organic matter, and soil drainage classification. Based on these three variables, a site specific alternate VR rate will be selected and used in calculating the allowable gallons of effluent that can be applied to meet the PAN requirements of the crop.

# NUTRIENT REQUIREMENTS FOR COW/CALF GRAZING

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE** | Environmental Analysts |
| **WHEN:** | Annually, when figuring yields | | |
| **GOAL / PURPOSE:** | To set an application rate based the cow day formula taking into account the nitrogen supplied by the cattle. | | |

***PPE Assessment:***

- None Needed

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Information pertaining to nutrient requirements of cattle, forage analysis, stocking rate and days grazed.

***Procedure Steps***:

**Pasture Nitrogen Needs**

1. Calculate the average cattle weight (CW) while on pasture.
2. Determine the average stocking ratio (SR) per acre.
3. Determine the average consumption of dry matter (DM) per head per day (3% of body weight)
4. Determine by the number of days of grazing (DAYS).
5. Determine the average percent protein (PP) found in pasture for the grazing period.
6. Assume protein is 16% nitrogen.
7. The nitrogen requirement for the pasture is:
    - Pasture Nitrogen Requirement (lbs PAN/acre) = CW*SR*DM*DAYS*PP*0.16

**Cattle Contribution**

1. Cattle contribute .396 lbs. of Nitrogen per day at 1200 lbs. of animal (CC). (NRCS Agricultural Waste Management Field Handbook, Table 4-8 Beef Waste Characterization using average of Feeder, Yearling on a high forage diet).
2. Volatilization Rate of 37.5% (VR) (NRCS Agricultural Waste Management Field Handbook, Table 11-5).
3. De-nitrification rate of 20% (DN) (NRCS Agricultural Waste Management Field Handbook, Table 11-8).
4. The cattle nitrogen remaining available to the pasture is:
    - Cattle contribution (lbs PAN/acre) = CC*SR*DAYS*(1-VR)*(1-DN)

Set the application rate at the pasture nitrogen requirement minus the cattle contribution.

# NUTRIENT MANAGEMENT-WORK ORDER SYSTEM

**DEPARTMENT:** Environmental Regulatory Compliance

**PERSON(S) ACCOUNTABLE** Environmental Analysts

**WHEN:** As needed throughout the land application season.

**GOAL / PURPOSE:** To manage and track all land application for each field.

***PPE Assessment:***

- None Needed

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Nutrient Management Database

***Procedure Steps***:

1. A nutrient management database has been developed for use in collecting and analyzing data on all tracts, fields, crops, nitrogen requirements, and permit required analysis. A work order is issued by an Environmental Analyst to a specific crew, from a specific lagoon, using a specified type of equipment to apply a given amount of effluent. The program calculates gallons of effluent to apply based on the lagoon analysis from the specified lagoon, the volatilization rate for the given piece of equipment, soil type, and the nitrogen or phosphorus requirements from the specified field.
2. An ERC Environmental Analyst can produce a work order only at the request of a Land Application Superintendent, or acting Supervisor.
3. After the work order is created, it is sent to the specified crew foreman. The crews apply according to the details of the work order and log all of the application data on a daily run sheet. (See Land Application Checklist and Daily Run Sheet).
4. At the completion of the work order, the crew foreman turns the work order in, along with all of the daily checklists and daily run sheets, to their supervisor. At this point, each individual application run is entered by ERC staff into the database, and the work order is then closed. The database tracks application amounts for each field and reports are printed periodically. If a field is shown to have remaining nitrogen capacity, a new work order can be issued to complete application. Typically one open work order is produced for a field at any given time.

# NUTRIENT MANAGEMENT – YIELD MONITORING

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE** | Land Application Associates |
| **WHEN:** | As crops are removed from field where land application has occurred | | |
| **GOAL / PURPOSE:** | To collect accurate yield information for nutrient management planning the following year(s). | | |

***PPE Assessment:***

- None Needed

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Yield Monitoring Worksheet

***Procedure Steps***:

1. As crops are removed from a field, yield information should be documented on the following pages.
2. Previous season crop yields should be obtained, documented, and turned into the Department of Environmental Regulatory Compliance before December 1st.

***Follow-up:***

1. ERC keeps a hard copy of all information in the Princeton office.

# Hay Progress Report

**Tenant Name:**_____

| Date | Farm | Cutting | Field # | # of Bales | lbs/Bale | *Office Use* |
|---|---|---|---|---|---|---|
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**Please submit this form by August 1st and December 1st**

Premium Standard Farms, LLC.
PO Box 194, Hwy 65 N.
Princeton, MO 64673
Attn: LRM Department

Fax #: 660-748-7186

# Pasture Stocking Report

**Tenant Name:**_____

| Farm | Field # | Type * | # of Head IN | Date IN | Weight IN | Date OUT | # Head OUT | Weight OUT |
|---|---|---|---|---|---|---|---|---|
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**Please submit this form August 1st and December 1st**

* Type: (Cows, Calves, Bulls, or Heifers)

Premium Standard Farms, LLC.
PO Box 194, Hwy 65 N.
Princeton, MO 64673
Attn: LRM Department

Fax #: 660-748-7186

## Instructions to tenants for completing the Pasture Stocking Report:

Column 1: Farm

Enter the Farm name on which cattle are placed.

Column 2: Field

Enter the field number(s) on which cattle are placed. You may include multiple fields if cattle are allowed to run in more than 1 field. List all fields that apply.

Column 3: Type *

Enter the type of cattle (cows, calves, bulls, heifers). Use a separate line for each type.

Column 4: # of Head

Enter the number of head moved to this field(s).

Column 5: Date IN

Enter date cattle were placed on this field(s).

Column 6: Weight IN

Provide the average weight per head.

Column 7: Date OUT

Enter date cattle were moved from the field(s).

Column 8: # of Head OUT

Enter number of head moved from field(s) on the date in Column 5

Column 9: Weight OUT

Enter the average weight of the cattle moved from this field(s) on the date in Column 5.

# Planting and Harvest Report

**Tenant Name:**_____

| Date | Farm | Field # | Crop Type | Yield | *Office Use* |
|---|---|---|---|---|---|
| | | | | | |
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**Please submit this form by December 1st**

Premium Standard Farms, LLC.
PO Box 194, Hwy 65 N.
Princeton, MO 64673
Attn: LRM Department

Fax #: 660-748-7186

# LAND APPLICATION – SOIL MOISTURE AND CLIMATIC CONDITIONS

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Application Associates. |

**WHEN:** Before initiating and throughout the land application process.

**GOAL / PURPOSE:** To ensure that effluent is land applied during acceptable soil moisture and climatic conditions

***PPE Assessment:***

- Appropriate footwear

***Hazards Associated with Task:***

- Slips, Trips, and Falls associated with wet, uneven and/or icy terrain

***Preparation / Supplies*:**

- Paperwork (or a working knowledge) detailing the "Feel Method"
- Soil Moisture Probe (if available)
- Startup Checklist

***Procedure Steps***:

## SOIL MOISTURE CONDITIONS

1. All employees will use the "Feel Method" as outlined in the "Certification Training for Operators of Animal Waste Management Systems" by the North Carolina State University Cooperative Extension Service and visual inspection procedures to minimize potential runoff. The feel method provides a method of estimating soil moisture by feeling the soil and comparing the soil texture and behavior to the established guidelines. These guidelines provide an estimate of the amount of moisture that can be applied.
2. To use the feel method, collect a small soil sample from the upper few inches of the field and place the soil between your fingers. Roll the soil between your fingers and attempt to shape it into a ball or thin ribbon. The shape and texture of the soil can be used to estimate moisture conditions and a land application amount can be estimated using Table 5-2 "Feel guidelines for estimating the amount of plant-available water to be replaced with wastewater irrigation as a function of soil texture." Table 5-2 is provided at the end of this section.
3. Land Application Superintendents, Supervisors, and Crew Foreman should utilize the feel method before the start of all land application. The amount of land application for a particular field will generally follow the estimated allowable land application as determined by the feel method. After completion of land application, conduct the feel method again to obtain another estimate of soil moisture. If conditions are acceptable, additional land application may be conducted.

## CLIMATIC CONDITIONS

4. The Land Application Supervisor(s) will check the weather each morning and decide if conditions are favorable for land application.
5. Avoid surface application when there is a local, applicable weather forecast or observation by staff of an imminent or impending storm event that is likely to produce runoff. No surface application of manure is allowed if precipitation, likely to create runoff, is forecasted to occur within 24 hours of the planned application. Manure will not be surface applied to frozen, snow-covered or saturated soils.
6. Cease land application when LRM associates observe an imminent or impending storm event likely to produce runoff.
7. Anytime land application is stopped or postponed due to rainfall, the feel method must be used again to monitor soil moisture conditions and decide when to resume land application. In the event of rainfall, the land application crews must remain at their assigned locations until released by the Supervisor. There may be times when rainfall occurs for only a few minutes and does not significantly affect soil moisture conditions. In these situations, after conducting a feel method check of soil conditions, the Land Application Supervisor may direct application to resume.

**Table 5-2.** "Feel" guidelines for estimating the amount of plant-available water to be replaced with wastewater irrigation as a function of soil texture.

| Available Water Remaining in The Soil | Sands Loamy Sand | Sandy Loam | Clay, Clay Loam Sandy Clay Loam | All Other Textures |
|---|---|---|---|---|
| | Maximum Recommended Wastewater Irrigation (per foot of effective root zone depth) | | | |
| 100 percent (I.e., field capacity) | When ball is squeezed, no free water appears on soil but wet outline of ball is left in hand. | | | |
| Wastewater Irrigation | None | None | None | None |
| 75 to 100% | Sticks together only slightly | Forms a ball that breaks easily | Forms a ball: very pliable | Easily ribbons between thumb and forefinger; feels slick |
| Wastewater Irrigation | 0.1 to 0.2 inch | 0.2 to 0.3 inch | 0.2 to 0.4 inch | 0.2 to 0.4 inch |
| 50 to 75% | Appears dry, will not form a ball | Forms a weak ball that falls apart | Forms ball; slightly plastic; slightly sticky | Forms ball; forms ribbon |
| Wastewater Irrigation | 0.2 to 0.3 inch | 0.3 to 0.4 inch | 0.3 to 0.5 inch | 0.3 to 0.6 inch |
| 25 to 50% | Appears dry, will not form a ball | Appears dry, will not form a ball | Somewhat crumbly but holds under pressure | Forms ball; under pressure; somewhat pliable |
| Wastewater Irrigation | 0.3 to 0.5 inch | 0.3 to 0.6 inch | 0.3 to 0.6 inch | 0.3 to 0.7 inch |
| O to 25% | Dry, loose, single-grained, flows through fingers | Dry, loose, flows through fingers | Powdery, dry; easily breaks into powdery condition | Hard, cracked; may have lose crumbs on the soil surface |
| Wastewater Irrigation | 0.3 to 0.5 inch | 0.3 to 0.6 inch | 0.3 to 0.7 inch | 0.3 to 0.7 inch |

*North Carolina Cooperative Extension Service*

# LAND APPLICATION – STARTUP

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Application Associates |
| **WHEN:** | Every time a piece of land application equipment is started. | | |
| **GOAL / PURPOSE:** | To ensure that no problems in the system occur during startup of land application equipment and to be able to respond immediately if a problem should arise. | | |

***PPE Assessment:***

- Helmet
- Safety glasses
- Appropriate footwear

***Hazards Associated with Task:***

- Slips, Trips, and Falls associated with wet, uneven and/or icy terrain
- Vehicle Accidents

***Preparation / Supplies*:**

- Two-way Radio
- Work order & maps needed
- Startup Checklist - Daily Run Sheet
- Field notebook
- ATV

## Daily Startup

1. The following factors shall be considered before land application on a daily basis:
   - Irrigation shall not be conducted during or within 24 hours of a rainfall event that may result in runoff.
   - Irrigation shall not be conducted on frozen, snow covered or saturated ground.
   - Irrigation shall be conducted during daylight hours unless adequate lighting is available to monitor conditions and an operator is available to provide continuous monitoring.
2. Prior to startup, land application employees must check the work order and field map to ensure that they are in the proper location. Land application rates shall be calculated each day of operation by confirming operational parameters such as pressure, nozzle size, speed and other parameters. Calibration of all Land Application equipment occurs annually.
3. Prior to startup, check soil moisture to assure the soil will allow land application infiltration and do not begin land application if there is an imminent or impending storm event approaching the immediate area.
4. Valves on any secondary containment in the area of application must be closed and a cap in place.

5. Crew members are responsible for making sure that only the section of underground line that needs to be charged with effluent is open. Close all valves that protect sections of line that do not need to be charged prior to starting the pump.
6. During the entire land application season, install and maintain safety riser caps on irrigation risers that are within 500 feet of a stream, pond, lake, or a property line where PSF does not own the property or does not have a spreading agreement covering the property on the other side of the property line. The land application season shall commence with the date of the earliest land application and run continuously through the last land application in a given year.*
7. When crossing roads or surface water bodies with temporary piping, do not use aluminum irrigation piping.* Instead, use flexible pressure rated hoses that are long enough to place the connection couplings away from the road or surface water body.*
8. A complete inspection of machinery including center pivots, drag hose systems (includes chisels, tool bars and Aerways) and pumps must be performed prior to startup. The following parameters must be inspected:

- Drag Hose Systems
  - ✓ No holes, tears, or knots in hose
  - ✓ Hose well secured to equipment
  - ✓ All knives on injector are secure

- Center Pivots
  - ✓ Pins in wheels
  - ✓ Nozzles unplugged
  - ✓ Motion light is working
  - ✓ Switch set for desired direction

- Pump
  - ✓ Gas & oil level
  - ✓ All gauges in working order
  - ✓ Flow meter in working order
  - ✓ Inspect discharge hose
  - ✓ Set murphy switch
  - ✓ Grease (as needed)

- Underground/Above ground line
  - ✓ Buckles secure
  - ✓ Riser tops are closed
  - ✓ Safety Caps on Risers (500ft)*
  - ✓ Do not use aluminum pipe to cross roads or surface water bodies*

9. A crew member must be present both at the pump and at the piece of equipment during startup procedures. All associates must have a two-way radio to communicate with each other. Another associate should be checking the line and all risers that are being charged. The pump person must communicate with the others to let them know when the pump has started and what the pressure is. The person at the equipment must be ready to document the time that the effluent reaches the equipment for inclusion on the Daily Run Sheet.
10. Adhere to the applicable buffer distances described in *Land Application – Buffers.*
11. Do not exceed the maximum application rate described in special conditions of the farm's permit. Therefore, refer to the farm's permit before beginning application. The application rate is typically found in the permits at Special Conditions- Hydraulic application rate limit.

12. Record all information required on the Startup Checklist and the Daily Run Sheet.

13. Start pumps and slowly pressurize the irrigation system until all air is purged from the system. The person monitoring the equipment shall watch and report until air pockets no longer remain in the liquid flow.

14. Start the equipment and set into motion.

15. Notify the person monitoring the pump to bring up the pressure slowly to the appropriate pressure to attain the correct application rate.

16. Adjust the automatic shut-off switch to the proper position on the pump. This switch will shut the pump off if a decrease in pressure occurs.

***Follow-up:***

Information from each run is included on the Startup Checklist / Daily Run Sheet as detailed in those procedures. If problems should arise during a startup, the incident should be documented on the Daily Run Sheet. ***If effluent leaves the system, it must be reported immediately to the farm's Supervisor, area Superintendent and JCI.***

* *Operating condition denoted by an asterisk are required by a Consent Decree with the U.S. Environmental Protection Agency and CLEAN. It is not a state NPDES permit requirement nor is it a condition of the Operation and Maintenance Manual required to be maintained by PSF's NPDES operating permits. This requirement is only included in this SOP for the convenience of PSF associates.*

# LAND APPLICATION – SHUT-DOWN PROCEDURE

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Application Associates |
| **WHEN:** | After daily running has been completed. | | |
| **GOAL / PURPOSE:** | Ensure all equipment and systems have been properly shut down so no discharges from idle systems will occur. | | |

***PPE Assessment:***

- Helmet
- Safety glasses
- Appropriate footwear

***Hazards Associated with Task:***

- Slips, Trips, and Falls associated with wet, uneven and/or icy terrain
- Vehicle Accidents

***Preparation / Supplies:***

- Two-way Radio
- Work order & maps needed
- Startup checklist – Daily Run Sheet
- Field notebook
- ATV

***Procedure Steps***:

**Daily Shut-Down Procedure**

The following procedures shall be used to shut-down the irrigation systems. Two people shall be utilized to shut-down the irrigation system. One person shall monitor the irrigation equipment and one person shall operate the pump located at the lagoon. The following procedure shall be used to shut-down the system:

1. For drag hose systems (tool bars, chisels and Aerways) and center pivots, notify the second operator monitoring the pump when the field is nearing completion or the meter reading approaches the gallons requested on the work order.
2. The operator monitoring the irrigation equipment shall notify the pump operator to slowly decrease the pressure until the engine is at an idle.
3. The pump operator should make sure to disengage the automatic shut-off switch (e.g. Murphy switch) before slowing down the pump or the automatic shut-off switch will stop the pump.
4. Once the pump reaches an idle, the operator shall disengage and stop the pump engine.
5. After the pressure has dropped, the ATV operator or other crew member shall shut the field riser valve and when the flow of effluent coming out of the equipment has ceased, the operator can then shut down the equipment or stop the tractor/drag hose system.

6. Record the ending time for the run and calculate the minutes of operation and enter the information on the "Daily Run Sheet".
7. Record the ending water meter reading on the "Daily Run Sheet."
8. After shutdown, check the fields that received application for conditions that could result in delayed runoff.
9. Work Orders and Daily Run Sheets should be kept in the office on location and turned in to ERC when the Work Order is completed or sooner if requested by ERC.
10. The equipment should be moved to the next field location and start-up procedure followed to continue the irrigation process.

# LAND APPLICATION – CHECKLIST AND DAILY RUN SHEET

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Application Associates |

**WHEN:** Daily, documenting each land application event.

**GOAL / PURPOSE:** To document each land application "run" and provide an accurate documentation of the day-to-day activities in the field.

***PPE Assessment:***

- Appropriate footwear

***Hazards Associated with Task:***

- Slips, Trips, and Falls associated with wet, uneven and/or icy terrain

***Preparation / Supplies*:**

- Checklist and Daily Run Sheet
- A working knowledge and understanding of the land application equipment
- Watch/Clock

***Procedure Steps***:

1. Complete the Pre-Startup portion of the checklist.
2. After the Pre-Startup portion of the check has been completed, the land application crew members may begin land application as described in the SOP for *Land Application – Startup*.
3. Post-Startup (After reaching operating pressure) portion of the checklist must be filled out immediately after completion of each task on the checklist.
4. Complete a single column in the Daily Run Sheet for each run. The Daily Run Sheet may contain only runs for a single work order. If a crew begins land application on a different Work Order, the crew must begin a new Checklist/Daily Run Sheet for that work order. ***Only record information from one Work Order number on the Checklist/Daily Run Sheet.***
5. A crew member must always document the type of equipment used, the equipment ID number, the time the application equipment was started and stopped, the application rate, and the beginning meter reading and the ending meter reading from the flow meter if applicable.
6. If a crew, in a single day, completes more "runs" than there are columns on the Daily Run Sheet, the crew must continue on page 2 of the Daily Run Sheet. If this is the case, Pre-Startup conditions have already been met and do not need to be completed again.
7. A Daily Run Sheet may not include more than one day's work on it.
8. The Shut-down portion of the checklist must be completed after shut-down is accomplished in accordance with the SOP for *Land Application-Shut down Procedure*.

9. Any deficiencies found as a result of inspections should be documented on page 2 of the Daily Run Sheet and corrected as soon as possible. If no deficiencies are discovered, record an N/A (Not Applicable) on this section.
10. Each Daily Run Sheet must be reviewed and signed at the end of the day by the crew leader. By signing the Daily Run Sheet, the crew leader acknowledges that the information is correct.
11. A copy of each Daily Run Sheet that is associated with a given Work Order must be kept with that Work Order and the crew leader is responsible for ensuring that the gallons applied do not exceed the amount indicated in the Work Order. At the end of the day, the daily amount of gallons should be subtracted from the total gallons allowed.

***Follow-up:***

1. As a Work Order is closed, the crew leader will review the finished Work Order with his supervisor and the supervisor will sign off on the Work Order. The supervisor must then turn in the signed Work Order along with the original Daily Run Sheet to the ERC Environmental Analysts. This information will be entered into the Nutrient Management Database and the Work Order will be closed.

# Checklist and Daily Run Sheet

| | | | | | |
|---|---|---|---|---|---|
| Date: | | Field #: | | Tract #: | |
| Work Order #: | | Lagoon #: | | Crew #: | |

***Crew Members***: _____, _____, _____, _____

| **Pre-Start Up:** | YES | NO |
|---|---|---|
| Does the information on the work order (i.e. Lagoon ID, Tract, Field, Acres, Crop and Equipment) match the work being done? | | |
| Are weather conditions favorable for land application? | | |
| Are soil conditions such that you can land apply and prevent runoff from entering a buffer area? | | |
| Are all valves in secondary containments that protect land application areas closed with cap in place? | | |
| Do you have functional radios for appropriate personnel? | | |
| Has Crew Leader checked the field notes for field-specific precautions and reviewed with crew members? | | |
| Has the distribution system and risers to be charged during the day been inspected for defects or problems and have all lines not needed in the system you are using been properly closed off at the appropriate valves? | | |
| Has someone checked underground line pressure maps and checked all pumps, hoses, etc. to ensure all are in proper working condition? | | |
| Is all land application equipment in good working condition? | | |
| Has Crew Leader determined the applicable buffer distance for the application equipment? | | |
| ***Field notes, Pre-Startup distribution system, Equipment, Pumps, Hoses and Buffer Distances checked. Crew Leader's initial:_____*** | | |

| **Post-Start Up (After reaching operating pressure):** | | |
|---|---|---|
| Has the pump(s) Murphy Switch been set? (before leaving pump) | | |
| Have buffer areas been checked to ensure that effluent/effluent mist is not entering designated area? | | |
| Has Crew Leader inspected the charged distribution system at least once/day to ensure proper operation? | | |
| ***Buffer areas and Distribution System checked. Crew Leader's initial:_____*** | | |

| **Shut-down:** | | |
|---|---|---|
| After shutdown, have the pumps been shut down and the field been checked for delayed runoff? | | |
| Were all deficiencies recorded? | | |

## Daily Run Sheet

Complete Run Columns for each run.

| | | | | |
|---|---|---|---|---|
| Type of Equipment *(i.e. CP, INJ, AER, TKRS & TB)* | | | | |
| Machine Number: | | | | |
| Application Rate (Inches/Acre): | | | | |
| Start Time: *(All equipment)* | | | | |
| Stop Time: *(All equipment)* | | | | |
| Total Minutes: | | | | |
| Ending Meter Reading: | | | | |
| Beginning Meter Reading: | | | | |
| Total Gallons per run: | | | | |
| GPM: | | | | |

**Has map been colored for the daily application? Yes ☐ No ☐**

Crew Leader's Signature: _____ Certification #:_____
*I certify that all information is correct.*

Supervisor's Signature: _____
*I certify that all information is correct.*

| Date: | | Field #: | | Tract #: | |
|---|---|---|---|---|---|
| Work Order #: | | Lagoon #: | | Crew #: | |

## Daily Run Sheet – Continued

Complete Run Columns for each run.

| Type of Equipment *(i.e. CP, INJ, AER, TNKS & TB)* | | | | |
|---|---|---|---|---|
| Machine Number: | | | | |
| Application Rate (Inches/Acre): | | | | |
| Start Time: *(All equipment)* | | | | |
| Stop Time: *(All equipment)* | | | | |
| Total Minutes: | | | | |
| Ending Meter Reading: | | | | |
| Beginning Meter Reading: | | | | |
| Total Gallons per run: | | | | |
| GPM: | | | | |

Note any deficiencies that occur during land application

| Date | Equipment *(i.e. hose, toolbar, tractor)* | Deficiency | Corrective Action |
|---|---|---|---|
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Crew Leader's Signature: _____ Certification #:_____

*I certify that all information is correct.*

Supervisor's Signature: _____

*I certify that all information is correct.*

# LAND APPLICATION – BUFFERS

**DEPARTMENT:** Environmental Regulatory Compliance

**PERSON(S) ACCOUNTABLE:** Land Application Associates

**WHEN:** Buffers are applicable during all land application processes.

**GOAL / PURPOSE:** To ensure that the potential for run-off is minimized and to protect the natural resources and neighbors' property.

***PPE Assessment:***

- Helmet
- Safety glasses
- Appropriate footwear

***Hazards Associated with Task:***

- Slips, trips and falls
- Vehicle accidents

***Preparation / Supplies*:**

- Range finder or measuring wheel
- Flags/marking tape

***Procedure Steps***:

1. Separation distances (buffer zones) shall be maintained between the land application site and other features as follows:

Table A1. Manure application setback distances. For streams, lakes and wetlands the setback distance is measured from the defined edge of the water feature.

| Setback Feature | Application Conditions | Setback Distance (feet) |
|---|---|---|
| Public or private drinking water well or other wells including un-plugged abandon wells | All applications methods | 300 |
| Public or private drinking water lake or impoundment | All applications methods | 300 |
| Public or private drinking water intake structure | All applications methods | 300 |
| Classified waters of the state not used as a water supply as defined in 10 CSR 20-7.031(1)F | Permanently vegetated buffer[1] | 35 |
| | No or insufficient vegetated buffer | 100 |
| Other public and privately owned lakes and impoundments not used as a water supply including impoundments with no outlet | Permanently vegetated buffer[1] | 35 |
| | Up-gradient, no or insufficient vegetated buffer | 100 |
| | Down-gradient, no or insufficient vegetated buffer | 35 |
| Other perennial streams, other intermittent streams, canals, drainage ditches and wetlands | Permanently vegetated buffer[1] | 35 |
| | Up-gradient, no or insufficient vegetated buffer | 100 |
| | Down-gradient, no or insufficient vegetated buffer | 35 |
| Tile line inlet (if left un-plugged during manure application) | Up-gradient, Permanently vegetated buffer[1] | 35 |
| | Up-gradient, no or insufficient vegetated buffer | 100 |
| | Down-gradient | 0 |

| | | |
|---|---|---|
| Losing stream | All applications methods | 300 |
| Cave entrance | All applications methods | 300 |
| Spring | All applications methods | 300 |
| Active sinkhole | All applications methods | 300 |
| Non-owned occupied residence | Spray irrigation only | 150 |
| Public use area including non-owned businesses | Spray irrigation only | 150 |
| Public road | All applications methods | 50 |
| Property boundary | All applications methods | 50 |

[1] See definition of vegetative buffer in the definitions section of NMTS

- Tanker Wagons or Tanker Trucks
    1. One-fourth (1/4) mile of a residence which is not owned by PSF or not within the property boundaries of a spreading agreement*
    2. 300 feet from a property line*
    3. 100 feet from surface water drainages* and classified gaining streams for Class P and Class C streams listed in 10 CSR 20-7.031

- Land application equipment shall be operated in such a manner that wastes will not reach an adjoining property line, public use area or into waters of the state. There shall be no visual spray drifts across public roads or property boundaries or into waters of the state. If the employee detects wind blown mist within 100 feet of an adjoining property line or public use areas or waters of the state the application equipment shall be either moved farther away or shut down.

- Continuous monitoring of the buffers is required.

Irrigation equipment operators shall shut down equipment if the proper buffer distance is not being maintained and corrective action shall be taken before land application recommences.

* These operating conditions are required by a Consent Decree with the U.S. Environmental Protection Agency and CLEAN. They are not state NPDES permit requirements nor conditions of the Operation and Maintenance Manual required to be maintained by PSF's and CGC's NPDES operating permits. This requirement is only included in this SOP for the convenience of PSF associates.

# LAND APPLICATION – SLOPES GREATER THAN 10%

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Application Associates |

**WHEN:** When land applying on slopes greater than 10% but less than or equal to 20%.

**GOAL / PURPOSE:** To ensure that the application process remains safe on slopes where the potential for run-off is greater.

***PPE Assessment:***

- None

***Hazards Associated with Task:***

- None

***Preparation / Supplies:***

- Topographic Map (NMP)

***Procedure Steps***:

1. For slopes greater than 10% but less than or equal to 20%, reduce the surface application rate to ½ the rate for slopes less than 10%.
2. Verify field slopes by using the average slope per USGS topography maps.
3. At least one hour after the first application of the day, you may perform a soil moisture check to decide if a second application can be made on the same field so long as you do not exceed the daily application amount referenced in the MDNR permit.

# LAND APPLICATION – EQUIPMENT LIST

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Resource Management |
| **WHEN:** | Weekly | | |
| **GOAL / PURPOSE:** | To document that enough land application equipment is available to land apply effluent in a realistic time frame. | | |

***PPE Assessment:***

- None

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Excel Spreadsheet: Equipment List

***Procedure Steps***:

1. Equipment inventory shall be conducted weekly by land application associates to determine what land application equipment they have available on site.

2. Tool bars and center pivots shall be calibrated at least once per land application year using a rain gauge. This information should be documented on the Calibration Record form.

## LAND APPLICATION EQUIPMENT INVENTORY

Location:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ATV | | | | | | | | | | |
| Hose Cart | | | | | | | | | | |
| Pump | | | | | | | | | | |
| Hours | | | | | | | | | | |
| Flow Meter | | | | | | | | | | |
| Tractor | | | | | | | | | | |
| Hours | | | | | | | | | | |
| Quik Hitch | | | | | | | | | | |
| Center Pivots* | | | | | | | | | | |
| Aerway | | | | | Trash Pump | | | | | |
| Chisel Injector | | | | | Cat Walk | | | | | |
| Tool Bar* | | | | | Auger | | | | | |
| Air Purge | | | | | Auger Extension | | | | | |
| Hours | | | | | Tamper | | | | | |
| Chainsaw | | | | | Auger Wagon | | | | | |
| Number of Drag Hoses | | | | | Bale Wrapper | | | | | |
| Number of Supply Hoses | | | | | Dirt Scraper | | | | | |
| Hose Mover | | | | | Disk | | | | | |
| Stabber | | | | | Drill | | | | | |
| Pallet Forks | | | | | Dozer | | | | | |
| Generator | | | | | Field Cultivator | | | | | |
| Hours | | | | | Harrow | | | | | |
| Agitator | | | | | Lawn Tractor | | | | | |
| Killbox | | | | | Hours | | | | | |
| Blade | | | | | Post Digger | | | | | |
| Loader | | | | | Rotary Cutter | | | | | |
| Trailer | | | | | Sander Box | | | | | |
| Honey Wagon | | | | | Seeder | | | | | |
| Snow Blower | | | | | Sprayer | | | | | |
| Man Basket | | | | | Sweeper | | | | | |
| Tiller - rear tine | | | | | Tree shearer | | | | | |
| Transit | | | | | Tree spade | | | | | |
| Load Stands | | | | | Trimmer | | | | | |

*** Equipment must be calibrated once per land application season**

**LEASED EQUIPMENT**

| | |
|---|---|
| Pumps | Trash Pumps |
| Skid Loaders | Frac Tanks |
| Semi Tanks | |

**Comments: Please indicate the type of equipment and unit number on any equipment that is missing or loaned to another area. Any unit that should be removed from service should also include serial number, make, model, and reason for change.**

**Signature:** _____

**Date:** _____

# Calibration Record

Location: _____ Person(s) conducting calibration: _____

_____

| Equipment Type | Equipment # | Date | Speed | Wetted Diameter | Gallons Per Minute | Calculated Application Rate | Measured Application Rate |
|---|---|---|---|---|---|---|---|
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*Once calibrations have been completed, this form should be turned into the LRM department at the office.

# LAND APPLICATION – MONITORING

**DEPARTMENT:** Environmental Regulatory Compliance

**PERSON(S) ACCOUNTABLE:** Land Application Associates

**WHEN:** Monitor land application equipment, processes and field perimeters during land application.

**GOAL / PURPOSE:** To monitor equipment and land application to minimize potential discharge risks. To be proactive, not reactive and shutdown land application before runoff, spills, or windblown mist become a problem.

***PPE Assessment:***

- Helmet
- Safety Glasses
- Appropriate Footwear

***Hazards Associated with Task:***

- Slips, Trips, and Falls
- Vehicle Accidents

***Preparation / Supplies*:**

- ATV
- Shovel
- Two-Way Radio

***Procedure Steps***:

1. Field Perimeter Monitoring. During land application, continuously monitor the perimeter of the application fields to ensure that applied effluent does not run off the fields where applied. The field's "perimeter" does not necessarily mean monitoring at the field's edge if monitoring closer to the land application equipment will be more effective at detecting runoff before it exits the field. The crew leader or farm supervisor shall determine the most efficient method to monitor fields during post shutdown inspections and pre-startup inspections.
2. Equipment Monitoring: Land application equipment shall be monitored in a manner to discover and prevent process waste from reaching adjoining property line, public use areas or into waters of the state.
    a. Drag Hose Systems (chisel, tool bar or Aerway). A crewmember shall monitor turn arounds at the end of fields. During inspections, the employee will observe the field surface and adjacent buffer area to verify that run-off is not entering the buffer areas. If run-off is entering the buffer areas, the turn around locations shall be relocated or the equipment shut down.*

b. Center Pivot. A crew member shall monitor the field application perimeter, observe the path, motion and travel of the pivot to include, where practical, pivot wheels and areas where effluent may pool, puddle or run off.

3. Charged Aboveground Line Monitoring. Aboveground irrigation pipelines or supply hoses (in use or pressurized) and equipment shall be checked at least once per hour to ensure wastewater is contained within the system.
4. Charged Underground Line Monitoring. Underground lines in use or pressurized shall be checked immediately after start up and twice per day thereafter to ensure wastewater is contained within the system.
5. Uncharged Underground Line Monitoring. Sections of underground irrigation line not in use (not pressurized) shall be checked after startup each day to verify no pressure is in the lines not being used.
6. If the person who is monitoring encounters a significant problem or potential problem, he or she should radio for someone to shut down the pump. The problem must be investigated and solved or remediated before continuing land application.
7. Monitoring shall be accomplished by riding an ATV unless an ATV is not available or riding an ATV is not the best practical alternative. Under these limited circumstances and when approved by the farm LRM supervisor, monitoring may be accomplished by using a different motor vehicle such as a truck or tractor or by foot.

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* *The operating condition in this paragraph is required by a Consent Decree with the U.S. Environmental Protection Agency and CLEAN. It is not a state NPDES permit requirement nor is it a condition of the Operation and Maintenance Manual required to be maintained by PSF's and CGC's NPDES operating permits. This requirement is only included in this SOP for the convenience of PSF associates.*

# MONITORING - DAILY PRECIPITATION RECORDS

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE** | Land Application Associates |
| **WHEN:** | The weekly precipitation report shall be turned in each week to LRM at the main office. | | |
| **GOAL / PURPOSE:** | Documented every time a precipitation event occurs / turned in weekly.<br>To monitor precipitation amounts per MDNR permits. | | |

***PPE Assessment:***

- Appropriate Footwear

***Hazards Associated with Task:***

- Slips, Trips, and Falls

***Preparation / Supplies*:**

- There shall be only one official rain gauge per farm. Only the amount in this rain gauge is recorded.
- Precipitation Data Form

***Procedure Steps***:

1. When precipitation has occurred, each supervisor shall note the start and stop time of precipitation and the amount of precipitation for each farm in inches for that day.
2. When precipitation occurs but is not measurable, "trace" shall be recorded for that day.
3. When no precipitation has occurred each supervisor shall note "no rainfall" for each farm on that day.
4. Snowfall should be recorded as both inches of snow and equivalent inches of precipitation by melting of snow. This may be accomplished by taking a representative sample of the snow at an average depth and placing it inside for melting then recording the melted precipitation.
5. If precipitation occurs after dark, the precipitation may be recorded as "nighttime" without specifying the hour in which it occurred; however the amount of precipitation still must be recorded for this day.

***Follow-up:***

Weekly precipitation reports are collected by the LRM Department weekly. These records may be audited by ERC or DNR.

# MONITORING - LAGOON LEVELS

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE** | Land Application Associates |
| **WHEN:** | Weekly | | |
| **GOAL / PURPOSE:** | To ensure that lagoon levels remain between the minimum and maximum pumpdown levels. | | |

***PPE Assessment:***

- Appropriate Footwear
- Helmet-if using ATV
- Safety Glasses-if using ATV

***Hazards Associated with Task:***

- Slips, Trips, and Falls
- Vehicle Accidents

***Preparation / Supplies*:**

- Weekly Inspection Checklist
- Lagoon Level Report
- Transportation (ATV, Truck, Tractor)

***Procedure Steps***:

1. The lagoon level report details the minimum and maximum operating levels for each lagoon per MDNR operating permits. Members of the land application team will report the level of each lagoon weekly.
2. ERC Management personnel will use weekly readings to monitor lagoon levels and for MDNR operating permit reporting. They will also average the level of all lagoons on each tract of land.
3. Annually, land application associates will verify that pumpdown markers are correct by using a transit. If a pumpdown marker is found to be incorrect, the marker will be reset.

***Annual Pumpdown***

Minimum pumpdown levels are indicated on the Lagoon Level Report. The minimum operating level shall be achieved each year to maintain DNR permit requirements. Lagoons shall be managed as to reach this minimum pumpdown level during the calendar year.

- Weekly lagoon level readings shall be taken and recorded on the Weekly Inspection Checklist

**Procedure for recording a lagoon level reading:**

1. Locate the pumpdown stake at each lagoon: normally located at the spillway.
2. Count the number of holes in the pvc pipe and multiply this number by six (6) (the distance between each hole).
3. Take this number and add 12" (this represents the metal rod above the pvc)
   NOTE: This rod represents the maximum level; should the lagoon level reach this point, immediate steps should be taken to ensure the maximum level of 12" is maintained.
4. Lastly, add the number of inches the lagoon level is below the last hole to the number obtained from step #3. This final addition gives the lagoon level which is to be recorded on the Weekly Inspection Checklist.

***Follow-up:***

1. Lagoon level reports should be turned in to the LRM Department.

# MONITORING – SECONDARY CONTAINMENT RELEASE

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Resource Management Associate |

**WHEN:** As required after storm events.

**GOAL / PURPOSE:** To maintain secondary containment structures designed to capture 24 hours of flow from the recycle flushing to prevent a release to waters of the state.

***PPE Assessment:***

- Appropriate Footwear
- Chemical Goggles
- Chemical Resistant Gloves

***Hazards Associated with Task:***

- Slips, Trips, and Falls
- Contact with Nessler Reagent

***Preparation / Supplies*:**

- NI-8 Ammonia Test Kit
- Containment Release Form

***Procedure Steps***:

## Secondary Containment Valves – Draining Stormwater

1. The valves in all containments that could receive a discharge from the recycle system or gravity sewers must be closed and the discharge line from the containment shall be capped at all times, except when draining.

2. Collect two 5 ml grab samples just above the containment's drain pipe using the sample tubes from the NI-8 Ammonia Test Kit.

3. Add three drops of Nessler Reagent to one tube and swirl to mix.

4. Insert the tube of the prepared sample into the right top opening of the color comparator. Insert the sample tube containing the untreated sample into the left top opening of the comparator. Hold the comparator up to a light source and view the openings in the front. Rotate the disc to obtain a color match. Read the mg/L ammonia nitrogen through the scale window. Document the reading on the containment release form.

5. If the ammonia reading is less than or equal to 2.0 mg/L, you may release the containment by opening the containment valve. Record the time the valve was opened on the Containment Release Form.

6. Once the containment has been drained, close the containment valve and record the time on the Containment Release Form. The valve must remain closed at all times, except when draining.

7. While the containment is being drained, the containment shall be monitored on a periodic basis to ensure that the containment is not contaminated by effluent from a barn or recycle line while the containment is being drained.

8. **If the sample has an ammonia reading of greater than 2.0 mg/L, DO NOT DRAIN THE CONTAINMENT.**

9. If a secondary containment has collected effluent or storm water that has an ammonia level above 2.0 mg/L, the containment valve should be tagged and the contaminated water must be pumped into the lagoon or directly land applied so that there is no discharge. The tag serves as a warning to others that the containment has tested outside of permitted parameters and it is not to be opened. Document the ammonia level reading, the action taken and the suspected reason why the containment tested greater than 2.0mg/L on the Containment Release Form. The tag should be removed when the containment tests less than 2.0mg/L.

10. All containments that are greater than 2.0 mg/L ammonia using the NI-8 test kit must have an outside lab analysis to verify the ammonia level prior to the release of the containment water.

11. Containments with an ammonia reading of greater than 2.0 mg/L must be evaluated by ERC staff. ERC staff shall consult the laboratory analysis.

***Follow-up:***

Document all readings on Containment Release Form and turn in to the ERC staff and kept on file in the Premium Standard Farms' Princeton office.

# CONTAINMENT RELEASE FORM

## CONTAINMENTS DRAINED

| Containment ID | Outfall ID | Initials | Time Opened | NH3 Ammonia Reading | Time Closed | Initials | Action Taken: Pumped back to lagoon, Land applied or Waiting analysis |
|---|---|---|---|---|---|---|---|
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# MONITORING – ANIMAL INVENTORY

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE** | Production |
| **WHEN:** | Weekly | | |
| **GOAL / PURPOSE:** | To ensure that animal populations are meeting required limitations. | | |

***PPE Assessment:***

- None

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Animal Inventory Spreadsheet (prepared by accounting)

***Procedure Steps***:

1. Weekly, the Environmental Compliance Coordinator or an Environmental Analyst reviews the animal inventory spreadsheet with the current grower information from each farm.
2. Animal inventory is analyzed on a weekly "total head per tract" basis as well as a yearly "average per farm" basis.
3. If a particular farm or tract is approaching or exceeds a population limitation, the Environmental Compliance Coordinator and the Manager of Environmental Affairs meet with the Directors of Production to formulate an immediate plan for correction.
4. The production team is responsible for implementing the plan and the populations will continue to be monitored by ERC.

***Follow-up:***

1. The Environmental Compliance Coordinator keeps a copy of all information pertaining to the Animal Inventory Report in the Princeton Office.
2. Animal Units are based on the maximum number and weight classification of animals in the permit application. As an operational guideline, the design number of animal units is calculated by averaging the weekly inventory number on a rolling 12 month average.

# MONITORING – SUITABLE DAYS

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE** | LRM Supervisors |
| **WHEN:** | Each work day | | |
| **GOAL / PURPOSE:** | Each supervisor will be provided a Land Application Conditions Report to report days suitable for land application. | | |

***PPE Assessment:***

- None

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Land Application Conditions Report

***Procedure Steps***:

1. On each workday, the LRM Supervisor will record on the Suitable Day form whether or not conditions were favorable for land application including weekend days.

2. LRM Supervisors shall submit the Land Application Conditions Report to the LRM Department at Princeton on a weekly basis.

***Follow-up:***

3. A copy of the Land Application Conditions Report will be maintained by the LRM Department in the Princeton Office.

# MONITORING – APPLICATION LOCATION

**DEPARTMENT:** Environmental Regulatory Compliance

**PERSON(S) ACCOUNTABLE** Land Application Associates

**WHEN:** Daily, After Land Application

**GOAL / PURPOSE:** To ensure that land application locations are tracked.

***PPE Assessment:***

- None

***Hazards Associated with Task:***

- None

***Preparation / Supplies*:**

- Site Map
- Yellow, Blue and Red pencils

***Procedure Steps***:

1. After land applying effluent to the land application fields, return to the land application office and color in the field that any crew has land applied on that day.
2. Color in the part of the field by how much has been applied on it that day:
    a) The color yellow indicates that less than half the application rate was applied on a particular part of the field
    b) The color blue indicates that more than half the land application rate was applied
    c) The color red indicates the full application rate has been applied to that field for the year.
3. After each land application season, the maps shall be filed with ERC and a new map must be issued for the next land application season.

***Follow-up:***

1. The ERC department and DNR will periodically visit the land application offices to verify the color-coding.

# SAMPLING - SOILS

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Application Associates |
| **WHEN:** | Soil samples will be collected in the spring before planting. Samples are collected at least once every 5 years. | | |
| **GOAL / PURPOSE:** | To collect a representative soil sample from the land application field. | | |

***PPE Assessment:***

- Appropriate footwear
- Safety Glasses (ATV use)
- Helmet (ATV use)

***Hazards Associated with Task:***

- Slips, trips and falls associated with wet and/or uneven terrain
- Vehicle accidents

***Preparation / Supplies*:**

- Soil probe or auger
- Clean plastic pail
- Soil sampling boxes and soil bags
- Chain-of-Custody form
- Soil Sampling Map

***Procedure Steps***:

## SAMPLING (GENERAL):

1. The average field area represented by a soil sample should be approximately 20 acres or less.

2. Each soil sample should be comprised of a well-mixed subsample derived from at least 15 representative cores from the sampled field area; collect each core in a random zigzag pattern across the field. Thoroughly mix the cores in the plastic pail and retain approximately 1-2 cups for analysis.

3. Soil sampling should be at a depth of 6 to 8 inches.

4. Fields should be re-sampled before manure application when:
   a. The soil test is greater than five years old
   b. Phosphate surplus for the field has exceeded 500 lbs/acre since the last soil test

## RECORDING OF DATA:

For each sample collected, record on the Chain-of-Custody form and the sample label the following information:

1. Tract/Field name and number
2. Date and time of sampling
3. Person(s) who performed the sampling

***Follow-up:***

## SAMPLE HANDLING AND SHIPMENT:

1. Always use proper sampling equipment. Visually inspect containers used for sampling and the sample supplies provided by Midwest Laboratories, Inc. for cleanliness.

2. Return samples to the central office where samples will be transported to Midwest Labs.

   Midwest Laboratories, Inc.
   13611 "B" Street
   Omaha, NE 68144-3693
   (402) 334-7770 Fax (402) 334-9121

3. Responsibility for proper packaging, labeling and transferring of possessions of the sample lies with the person collecting it or the last person to sign off on the Chain-of-Custody.

4. A completed, signed and dated chain-of-custody record must accompany all sample shipments. A copy of the chain-of-custody should be retained by the originator.

5. When transferring possession of the samples, the transferee must sign and record the date and time on the chain-of-custody record. In general, custody transfers are made for each sample, although samples may be transferred as a group. Each person who takes custody must fill in the appropriate section of the chain-of-custody record.

6. Soil samples should be analyzed at soil testing laboratories accredited by the Missouri Soil Testing Association, using procedures recommended by the University of Missouri Soil Testing Laboratory

## Exhibit C

## Rent and Payment Terms
## (Cash Rent)

As annual rent, Lessee shall pay Lessor the sum of **$0.00** (to be adjusted).

Lessee shall pay base amount of the rent on or before April 1, 2012. The fall payment will be adjusted to reflect the actual amount of nutrients applied to fields that you lease. You will be billed and payment expected before December 1, 2012.

## Exhibit C

## Rent and Payment Terms
## (Cash Rent)

As annual rent, Lessee shall pay Lessor the sum of **$0.00** (to be adjusted).

Lessee shall pay base amount of the rent on or before April 1, 2012. The fall payment will be adjusted to reflect the actual amount of nutrients applied to fields that you lease. You will be billed and payment expected before December 1, 2012.

# SAMPLING - LAGOONS

| | | | |
|---|---|---|---|
| **DEPARTMENT:** | Environmental Regulatory Compliance | **PERSON(S) ACCOUNTABLE:** | Land Application Associates |
| **WHEN:** | At least once per year prior to land application | | |
| **GOAL / PURPOSE:** | To collect a representative lagoon sample for nutrient analysis to determine land application rates. | | |

***PPE Assessment:***

- Appropriate footwear

***Hazards Associated with Task:***

- Slips, trips and falls associated with wet, uneven and/or icy terrain
- Vehicle Accidents

***Preparation / Supplies*:**

- Sample bottles from lab
- Hose
- Clean pitcher (plastic)
- Stop watch
- Grab sampling pole
- Transportation (truck or ATV)

***Procedure Steps***:

## SAMPLE COLLECTION:

One composite sample should be collected from the by-pass line at the recycle pump-house using the following procedure:

1. Fill out the labels on the sample bottles prior to filling the bottles.
2. Attach the hose to the valve.
3. Turn on the valve and allow effluent to run for a few minutes to clear the line of old effluent.
4. Rinse a plastic pitcher with effluent to be sampled from the recycle pump.
5. Turn on the valve and collect effluent for a few seconds leaving the valve open, wait for 2 minutes.
6. Every two minutes, repeat the above step 6 more times until a total of 7 grab samples have been collected.
7. Use swirling motion while filling pitcher to ensure a well-mixed sample.
8. Take a pH and temperature from the pitcher.
9. Make sure valve is shut off completely before leaving the pump-house.

10. Divide the pitcher between the sample collection bottles provided, taking special care not to overfill the bottle containing the acid.
11. Ensure all effluent not collected is returned to the lagoon.

*If the recycle pump is not working or when sampling a treatment cell, take 7 grab samples with the grab sampling pole, from 7 different locations around the lagoon.

**RECORDING OF DATA:**

1. For each sample taken record the date, time of sampling and who performed the sampling on the chain-of-custody form and the sample label.

***Follow-up:***

**SAMPLE HANDLING AND SHIPMENT:**

1. Always use proper sampling equipment. Visually inspect containers used for sampling and the sample bottles provided by Midwest Laboratories, Inc. for cleanliness.
2. Refrigerate samples immediately to maintain sample integrity.
3. Return samples to the central office where samples will be repackaged and transported, to Midwest Laboratories.

Midwest Laboratories, Inc.
13611 "B" Street
Omaha, NE 68144-3693
(402) 334-7770 fax (402) 334-9121

4. Responsibility for proper packaging, labeling and transferring of possession of the sample lies with the person taking it or the last person to sign off on the chain of custody.
5. A completed, signed and dated chain-of-custody record must accompany all sample shipments. A copy of the chain-of-custody should be retained by the originator.

When transferring possession of the samples, the transferee must sign and record the date and time on the chain-of-custody record. In general, custody transfers are made for each sample, although samples may be transferred as a group. Each person who takes custody must fill in the appropriate section of the chain-of-custody record.

# SAMPLING –STREAM MONITORING

**DEPARTMENT:** Environmental Regulatory Compliance **PERSON(S) ACCOUNTABLE:** ERC Associate

**WHEN:** 1st Friday of April and October

**GOAL / PURPOSE:** To collect and analyze stream samples per MDNR operating permit requirements

***PPE Assessment:***

- Appropriate footwear
- Chemical Goggles
- Chemical Resistant Gloves

***Hazards Associated with Task:***

- Slips, trips and falls associated with wet, uneven and/or icy terrain
- Chemical burn from contact with $H_2SO_4$*
- Vehicle accidents

***Preparation / Supplies*:**

- Chain of custody sheets
- Sampling map
- pH pen
- Thermometer
- Sampling kit provided by lab

***Note: Some sample bottles contain a sulfuric acid ($H_2SO_4$) preservative** that acts as a preservative to stabilize certain chemical compounds until the lab can analyze the sample. **Safety Glasses and Gloves MUST be Worn When Sampling**. If acid comes in contact with skin or eyes, flush with water for a minimum of 10-15 minutes.

***Procedure Steps*:**

1. Samples shall be only collected from flowing water. Samples from riffles are preferred. Do not collect a sample from pools that do not have water flowing into or out of the pool. If there is no flow on the first Friday of the month, an alternate date shall be chosen.
2. Please note on the Stream Monitoring – Chain of Custody sheet any other information that may negatively impact water quality.
3. Record the depth and width in inches. Record in seconds the time a floating object takes to travel 10 feet.
4. Measure pH (calibrate pH meter prior to use) and temperature by submerging the Celsius thermometer in the water for 60 seconds.
5. In addition to the above data, include the following information: date, time of sampling and person(s) who sampled on the chain-of-custody.

***Follow-up:***

1. Ensure all samples are sent to Midwest Laboratories.

# SAMPLING - EMERGENCY OR UNAUTHORIZED DISCHARGES

**DEPARTMENT:** Environmental Regulatory Compliance

**PERSON(S) ACCOUNTABLE:** ERC Associate

**WHEN:** Should effluent overflow a lagoon, enter waters of the state or whenever wastewater leaves PSF or spreading agreement property, sample once per calendar day for the duration of the discharge (once/day until cleanup completed).

**GOAL / PURPOSE:** To obtain samples that accurately characterize the concentration of the given parameters where the discharge crosses the property line or enters waters of the state, upgradient in the receiving waters and in the receiving waters below the point at which the discharge was contained.

***PPE Assessment:***

- Appropriate footwear
- Chemical Goggles
- Chemical Resistant Gloves

***Hazards Associated with Task:***

- Slips, trips and falls associated with wet, uneven and/or icy terrain
- Chemical burns from contact with $H_2SO_4$*

***Preparation / Supplies*:**

- Three sample kits provided by lab
- DO Meter
- pH Meter
- Thermometer

***Note: Some sample bottles contain a sulfuric acid ($H_2SO_4$) preservative** that acts as a preservative to stabilize certain chemical compounds until the lab can analyze the sample. **Safety Glasses and Gloves MUST be Worn When Sampling**. If acid comes in contact with skin or eyes, flush with water for a minimum of 10-15 minutes.

***Procedure / Steps*:**

## SAMPLING:

1. Sample all emergency discharges or unauthorized discharges of wastewater that cross PSF property or spreading agreement property.
    a. An emergency discharge is a discharge from a lagoon that overflows its berm.
    b. An unauthorized discharge is a discharge that either enters waters of the state or leaves PSF or spreading agreement property.
2. In the event effluent enters waters of the state or leaves PSF property or spreading agreement property, collect a sample of wastewater at the down gradient PSF or spreading agreement property boundary once per calendar day. Also collect samples from any defined drainage or stream at locations above and below the down gradient property

boundary (below point at which the discharge was contained). If the receiving drainage is dry above the discharge point, report as "No Stream flow above the discharge point." The site selected should allow the collection of a sample representative of the discharge.

3. Fill out the labels on the sample bottles prior to filling the bottles.
4. Collect a grab sample directly into clean bottles. Place the open end of the bottle towards the current flow and tip the bottle slightly upward to allow air to exit and the bottle to fill. Be careful not to collect sediment.
5. After filling the sample bottles, reseal them (twist cap on tight) and immediately place in the cooler with ice.

## RECORDING DATA:

For each sample taken record on the chain-of-custody form and the sample label the following information:

1. Date, exact place and time of sampling.
2. Person(s) who performed the sampling.
3. Flow – if there is no flow present in the ditch, record total gallons of effluent.
4. Dissolved Oxygen
5. pH
6. Temperature

***Follow-up:***

## SAMPLE HANDLING AND SHIPMENT:

1. Always use proper sampling equipment. Visually inspect containers used for sampling and the sample bottles for cleanliness.
2. Immediately refrigerate or store samples in an iced color to maintain sample integrity.
3. All sample shipments must be accompanied by a completed, signed and dated chain-of-custody record. A copy of the chain-of-custody should be retained by the originator.

When transferring possession of the samples, the transferee must sign and record the date and time on the chain-of-custody record. In general, custody transfers are made for each sample, although samples may be transferred as a group. Each person who takes custody must fill in the appropriate section of the chain-of-custody record.