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-0131041
Owner:	PSM Associates, LLC
Address:	1801 W. Austin, Suite F, P.O. Box 566, Nevada, MO 64772
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Murphy Family Ventures LLC Doylesport Pyramid
Address:	Hwy. C at Hwy. A, Lamar MO64759
Legal Description:	See pages 2 - 3
Latitude/Longitude:	See pages 2 - 3
Receiving Stream:	See pages 2 - 3
First Classified Stream and ID:	See pages 2 - 3
USGS Basin & Sub-watershed No:	See pages 2 - 3

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

Operation of this facility shall not cause a violation of water quality standards.

FACILITY DESCRIPTION

Outfalls #001 - #007 – Class IB Concentrated Animal Feeding Operation - SIC #0213. No discharge of process waste. Six single cell anaerobic lagoons and mortality refrigeration unit. Domestic wastewater flow through a septic tank to anaerobic lagoons.
Design flow is 24,202,055 gallons per year. (0.067 mgd)
Design number of animals is 3,410 animal units of swine over 55 pounds.

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.

October 1, 2019
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

June 30, 2024
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (continued)

Doylesport Pyramid has three farrow to wean sow farms. Each farm is served by two single stage anaerobic lagoons. Each lagoon serves a different set of barns. Secondary containments are in place at all farms but are not required. Confinement buildings at all farms have pull plug systems and use recycled lagoon water to flush manure to the lagoons. Mortalities are held in refrigeration units until removed off site for rendering.

Outfall 001 – Wheat Run East Anaerobic Lagoon.
Legal Description: SW ¼, SE ¼, Sec.14, T33N, R30W, Barton County.
UTM Coordinate: X = 394836, Y = 4162380
Receiving Water: Tributary to Hyder Branch
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10290106-0802
Design Waste Volume: 5,139,565 gallons/year.
Design Storage: 145 days.
Upper Operating Level: 1 foot below overflow level
Lower Operating Level: 3.5 feet below overflow level

Outfall #002 – Wheat Run West Anaerobic Lagoon.
Legal Description: SW ¼, SE ¼, Sec. 14, T33N, R30W, Barton County
UTM Coordinate: X = 394725, Y = 4162429
Receiving Water: Tributary to Hyder Branch
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10290106-0802
Design Waste Volume: 2,838,240 gallons/year
Design Storage: 218 days
Upper Operating Level: 1 foot below overflow level
Lower Operating Level: 4.5 feet below overflow level

Outfall #003 – Eagles Nest East Anaerobic Lagoon.
Legal Description: SE ¼, SW ¼, Sec. 23, T33N, R30W, Barton County
UTM Coordinate: X = 394462, Y = 4160791
Receiving Water: Tributary to Hyder Branch
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10290106-0802
Design Waste Volume: 5,097,225 gallons/year
Design Storage: 144 days
Upper Operating Level: 1 foot below overflow level
Lower Operating Level: 3.5 feet below overflow level

Outfall #004 – Eagles Nest West Anaerobic Lagoon.
Legal Description: SE ¼, SW ¼, Sec. 23, T33N, R30W, Barton County
UTM Coordinate: X = 394361, Y = 4160883
Receiving Water: Tributary to Hyder Branch
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 10290106-0802
Design Waste Volume: 2,807,215 gallons/year
Design Storage: 217 days
Upper Operating Level: 1 foot below overflow level
Lower Operating Level: 4.5 feet below overflow level

FACILITY DESCRIPTION (continued)

Outfall #005 – Quail Ridge North Anaerobic Lagoon.
Legal Description: SW ¼, NE ¼, Sec. 23, T33N, R30W, Barton County
UTM Coordinate: X = 394699, Y = 4161650
Receiving Water: Tributary to Hyder Branch
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (7630)
USGS Basin & Sub-watershed No.: 10290106-0802
Design Waste Volume: 2,953,580 gallons/year
Design Storage: 206 days
Upper Operating Level: 1 foot below overflow level
Lower Operating Level: 4.5 feet below overflow level

Outfall #006 – Quail Ridge South Anaerobic Lagoon.
Legal Description: SW ¼, NE ¼, Sec. 23, T33N, R30W, Barton County
UTM Coordinate: X = 394714, Y = 4161556
Receiving Water: Tributary to Hyder Branch
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (7630)
USGS Basin & Sub-watershed No.: 10290106-0802
Design Waste Volume: 5,366,230 gallons/year
Design Storage: 136 days
Upper Operating Level: 1 foot below overflow level
Lower Operating Level: 3.5 feet below overflow level

Outfall #007 – Mortality Holding Station. Refrigeration units for temporary storage of mortalities.
Legal Description: SE 1/4, NE 1/4, Sec 23, T33N, R30W, Barton County
UTM Coordinate: X = 395254, Y = 4161367
Receiving Water: Tributary to Hyder Branch
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (7630)
USGS Basin & Sub-Watershed No. 10290106-0802

Outfall #008 – Deleted – Storm Water

Outfall #009 – Deleted – Stream Monitoring

Outfall #010 – Deleted – Stream Monitoring

Outfall #011 – Deleted – Stream Monitoring

Outfall #012 – Deleted – Stream Monitoring

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfalls #001 - #006 *Emergency Discharge* *(see Special Condition 2.e.)*	**TABLE A-1** **FINAL MONITORING REQUIREMENTS**		
The permittee is authorized to discharge from these specified features, but only under the conditions listed in Special Conditions 2(e) and 40 CFR 412.43 and 412.31. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:			
EFFLUENT PARAMETERS	UNITS	MONITORING REQUIREMENTS		
		DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: U				
PHYSICAL				
Flow	MGD	*	once/event‡	event total
Duration	Hours	*	once/event‡	event total
CONVENTIONAL				
Biological Oxygen Demand, 5 Day	mg/L	*	once/event‡	grab
Dissolved Oxygen (Minimum◊)	mg/L	*	once/event‡	grab
pH †	SU	*	once/event‡	grab
Total Suspended Solids	mg/L	*	once/event‡	grab
NUTRIENTS				
Ammonia as N	mg/L	*	once/event‡	grab
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING DISCHARGE CESSATION.				

* Monitoring and reporting requirement only.

◊ The facility shall report the minimum value obtained if more than one sample was taken.

† The facility shall report the range (minimum to maximum values) if more than one sample is obtained.

‡ Once per event means the facility must take a sample at least once per discharge event. If there was no discharge, a report is not necessary; if a discharge occurred, the facility must report all results of sampling into the eDMR system by the 28th day of the month following the completion of the discharge.

B. STANDARD CONDITIONS

In addition to other conditions stated herein, this permit is subject to the attached Part I STANDARD CONDITIONS dated August 1, 2014 and hereby incorporated as though fully set forth herein.

C. GENERAL CONDITIONS

1. Unauthorized Discharges.
   a. Unauthorized Discharges. Discharge for any other reason than what is stated in 2(e) of Special Conditions shall constitute a permit violation and shall be reported in accordance with Standard Conditions Part 1 Section B.2. Unauthorized discharges are to be reported to the Southwest Regional Office during normal business hours or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours.

   b. Monitoring. Any unauthorized discharge shall be monitored for the parameters in the table below at least once during the discharge event. Additional monitoring may be required by the Department on a case-by-case basis. The facility shall submit test results, along with the number of days the storage basin(s) has discharged during the month, to the Southwest Regional Office by the 28th day of the month after the discharge ceases. Permittee shall monitor for the following constituents:

C. GENERAL CONDITIONS (continued)

Constituent	Units
Flow	MGD
Biochemical Oxygen Demand$_5$	mg/L
Ammonia as N	mg/L
pH – Units	SU
Dissolved Oxygen	mg/L
Duration	Hours

2. 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).
   d. See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
   e. 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).

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

4. Definitions are as listed in the "Missouri Concentrated Animal Feeding Operation Nutrient Management Technical Standard" and in State Regulations in 10 CSR 20 Chapter 2, Chapter 6.300, Chapter 8.300, and Chapter 14.

5. Construction Permit Requirements

   a. A construction permit is required for any point source that proposes to construct an earthen storage structure to hold, convey, contain, store or treat domestic, agricultural, or industrial process wastewater.
   b. Any point source system designed to hold, convey, contain, store or treat domestic, agricultural or industrial process waste shall be designed by a professional engineer registered in Missouri in accordance with 10 CSR 20-8.300 and constructed according to the design plans.

6. Reopener Clause

   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.

7. Electronic Discharge Monitoring Report (eDMR) Submission System.
   The permittee shall submit an eDMR Permit Holder and Certifier Registration form within **30 days** of the effective date of this permit. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure a timely, complete, accurate, and nationally-consistent set of data. Visit http://dnr.mo.gov/pubs/pub2474.pdf to access the Facility Participation Package which contains the eDMR Permit Holder and Certifier Registration form.

   Once the permittee is activated in the eDMR 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: 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);

(3) No Exposure Certifications (NOEs);
(4) Low Erosivity Waivers and Other Waivers from Stormwater Controls (LEWs); and
(5) Bypass reporting, See Special Condition #XX for 24-hr. bypass reporting requirements.

(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.

D. SPECIAL CONDITIONS

1. Effluent Limitations

The permittee is authorized to discharge process wastewater and storm water in accordance with the effluent limitations in this permit and 40 CFR 412. The effluent limitations shall become effective upon issuance and remain in effect until such time this permit is no longer effective. Such discharges shall be managed, controlled, limited and monitored by the permittee as specified below.

2. CAFO Production Area Requirements

Requirements applicable to all CAFO production area(s) as defined in 10 CSR 20-6.300:

a. There shall be no discharge of manure, litter, or process wastewater into waters of the state from production area point sources except as provided in subsection e. below.

b. A chronic weather event is a series of wet weather events and conditions that can delay planting, harvesting, and prevent land application and dewatering practices at wastewater storage structures. When wastewater storage structures are in danger of an overflow due to a chronic weather event, CAFO owners shall take reasonable steps to lower the liquid level in the structure through land application, or other suitable means, to prevent overflow from the storage structure. Reasonable steps include those described in the Department's current guidance (PUB2422) entitled "Wet Weather Management Practices for CAFOs." Other measures may be used with prior approval by the Department. The chronic weather determination will be based upon an evaluation of the 1 in 10 year return rainfall frequency over a 10-day, 90-day, 180-day, and 365-day operating period.

c. Manure, litter or wastewater management activities occurring outside the production area but upon land controlled by the permittee shall be addressed in the permittee's Nutrient Management Plan (NMP). Activities that should be addressed include, but are not limited to, stockpiling of raw materials, manure, or litter or other animal feeding related items that have the potential to contribute pollutants to waters of the state. As necessary, the NMP shall identify controls, measures or BMPs to manage stormwater runoff and meet applicable water quality standards. This paragraph applies only to activities on land that is under the control of the CAFO owner or operator, whether it is owned, rented, or leased.

d. Stockpiling of uncovered dry process waste within the production area without runoff collection is not allowed.

e. Additional Requirements for Uncovered Liquid Storage Structures:
Whenever a precipitation related event causes an overflow of manure, litter, or process wastewater; pollutants may be discharged through the emergency spillway of the lagoon or uncovered storage structure provided:

(1) The storage structure is properly designed, constructed, operated and maintained to contain all manure, litter, process wastewater plus the runoff and direct precipitation from the 25-year, 24-hour design storm event for the location of the CAFO.

(2) The design storage volume is adequate to contain all manure, litter, and process wastewater accumulated during the storage period including the following:

(a) The volume of manure, litter, process wastewater, and other wastes accumulated during the storage period;
(b) 1 in 10 year 365 day annual rainfall minus evaporation during the storage period;
(c) 1 in 10 year 365 day normal runoff during the storage period;
(d) The direct precipitation from the 25-year, 24-hour storm;
(e) The runoff from the 25-year, 24-hour storm event;
(f) A minimum treatment volume for treatment lagoons.

D. SPECIAL CONDITIONS (continued)

(3) Discharge is allowed via overflow through the emergency spillway of the lagoon or uncovered storage structure when caused by a storm event that exceeds the design storm event(s). Only that portion of storm water flow, which exceeds the design storm event(s) may be discharged. Process wastewater discharge is not allowed by pumping, siphoning, cutting of berms, or by any other method, except as authorized herein, unless prior approval is obtained from the department.
(4) If a discharge occurs, monitor the discharge at the point immediately prior to entering the receiving stream or at the property boundary, whichever occurs first.
(5) All open storage impoundments shall maintain a visual reference gauge showing the depth of liquids in the structure, the lower operating level, and the upper operating level.
(6) Upper and Lower Storage Operating Levels:
  (a) During normal weather conditions, the liquid level in the storage structure shall be maintained below the upper operating level, as identified in the FACILITY DESCRIPTION, so that adequate storage capacity is available for use during adverse weather periods when conditions are not suitable for proper land application. The lower operating level shall be used as an operational guideline; however, under normal operating conditions the level should not be lower than two feet above the lagoon floor.
  (b) The liquid level in the storage structure should be lowered on a routine schedule based on the design storage period and Nutrient Management Plan. Typically this should be accomplished prior to expected seasonal wet and winter climate periods.
  (c) The upper operating level for uncovered storage structures is one foot below the emergency overflow level unless specified otherwise in the FACILITY DESCRIPTION.
  (d) The operation shall be managed so that the level of liquids in the storage structure does not exceed the upper operating level except when a 25-year, 24-hour storm or a 1 in 10-year chronic storm occurs.
(7) Storage Safety Volume:
  (a) When a chronic or catastrophic design storm event occurs, the "safety volume" may be used to contain the stormwater until conditions are suitable for land application.
  (b) The required safety volume shall be maintained between the overflow level and the upper operating level.
(8) Monitoring is conducted and reported in accordance with Table A-1 above.

3. CAFO Land Application Areas

These requirements are applicable to all land application areas as defined in 10 CSR 20-6.300:

a. There shall be no discharge of manure, litter, process wastewater, or mortality by-products to surface waters of the state or that crosses property boundaries from a CAFO as a result of the land application of manure, litter, process wastewater, or mortality-by-products to land application areas, except where it is an agricultural storm water discharge. When manure, litter, process wastewater, or mortality by-products has been land applied in accordance with the CAFOs Nutrient Management Plan (NMP), and the *Missouri Concentrated Animal Feeding Operation Nutrient Management Technical Standard* (NMTS), a precipitation related discharge of manure, litter, process wastewater, or mortality-by-products from land application is considered to be an agricultural storm water discharge.
b. All land application areas must be included in the CAFO's nutrient management plan before any land application of manure, litter or process wastewater can occur. When manure litter or process wastewater generated by the permitted CAFO is sold, given away, or applied to agricultural lands that do not meet the land application area definition, the permittee shall comply with the requirement of Special Condition #5.
c. Land application may occur during nighttime hours provided staff is present at all times to monitor the irrigation system during irrigation periods. The irrigation system shall be inspected once per night for equipment malfunctions. If an automated system is in place that is capable to send notification to staff in the event of a pressure drop or an equipment malfunction, staff is not required to be present at all times. Regardless of the application system utilized, the inspections in Special Condition 7.f shall be conducted during a nighttime application even if previously conducted earlier in the day. Nighttime application includes the period between one half hour before sunset and one half hour after sunrise except for an application the begins in daylight and extends no more than two hours after sunset.

4. Nutrient Management Plan

a. In accordance with 10 CSR 20-6.300(3)(G) and the *Missouri Concentrated Animal Feeding Operation Nutrient Management Technical Standard* (NMTS), the permittee shall implement a Nutrient Management Plan (NMP) that at a minimum addresses the following.
  (1) Ensures adequate storage of manure, litter and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities.
  (2) Ensures proper management of mortalities.
  (3) Ensures that clean water is diverted from the production area.

D. SPECIAL CONDITIONS (continued)

(4) Prevents direct contact of confined animals with waters of the state.
(5) Ensures that chemicals and other contaminants handled on site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
(6) Identifies appropriate site specific conservation practices to be implemented including, at a minimum, appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the state.
(7) Identifies protocols for appropriate testing of manure, litter, process wastewater, and soil.
(8) Establishes protocols to land apply manure, litter, or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater.
(9) Identifies specific records that will be maintained.

b. The permittee shall maintain the NMP in accordance with 10 CSR 20-6.300(3)(G)2. Revisions of the NMP made after the effective date of this permit must be submitted to the department for review and approval prior to implementing those revisions.

5. Transfer of Manure, Litter, and Process Wastewater

In cases where manure, litter, or process wastewater generated by the permitted CAFO is sold, given away, or applied on lands that do not meet the land application area definition, the permittee shall comply with the following conditions:

a. Maintain records showing the date and amount of manure, litter, and/or process wastewater that leaves the permitted operation.
b. Record the name and address of the recipient. (The recipient is the broker or end user, not merely the truck driver.)
c. Provide the recipient(s) with representative information on the nutrient content of the manure, litter, and/or process wastewater.
d. Provide the recipient(s) with a copy of the NMTS.
e. These records must be retained on-site, for a period of five (5) years.

6. Mortality Management

a. Mortalities must not be disposed of in any liquid manure or process wastewater system that is not specifically designed to treat animal mortalities. Animals shall be disposed of in a manner to prevent contamination of waters of the state or creation of a public health hazard. Class I operations may not use burial as their primary mortality management method to dispose of routine mortalities.
b. There shall be no-discharge from dead animal collection areas or holding areas (dumpsters, holding tanks, stockpiles within livestock production buildings, refrigeration units, etc.).
c. In the event of significant numbers of unexpected mortalities (i.e. mass mortalities), operations shall first receive approval of proposed burial sites from the departments' Missouri Geological Survey prior to burial. Approval of burial sites can be obtained prior to a mass mortality event by contacting the Missouri Geological Survey. Rendering, composting, incineration, or landfilling, are acceptable options and do not require prior approval from the department.

7. Inspections

The following minimum visual inspections shall be conducted by the CAFO operator.

a. Daily inspections must be conducted of water lines including wastewater, drinking water, and cooling water lines that can be visually observed within the production area. The inspection of the drinking water and cooling water lines shall be limited to the lines that possess the ability to leak or drain to wastewater storage structures or may come in contact with any process waste.
b. Weekly inspections of all storm water diversion devices, runoff diversion structures, and devices channeling contaminated storm water to the process wastewater storage.
c. Weekly inspections of the manure, litter, and process wastewater impoundments. The inspection will note the level in liquid impoundments as indicated by the depth marker
d. Daily inspections of the collection or holding areas for dead animals. Equipment and devices used for the transfer of dead animal for delivery and disposal off-site are not considered a collection or holding area, therefore, are not required to be part of the daily inspection requirement.
e. Quarterly inspections, prior to use, of equipment used for land application of manure or process wastewater.
f. Inspections during land application as follows:

D. SPECIAL CONDITIONS (continued)

(1) Monitor the perimeter of the application fields to insure that applied wastewater does not run off the fields where applied.
(2) Monitor for drifting from spray irrigation. If drift from spray irrigation of wastewater is observed crossing property boundaries, the irrigation equipment shall be moved or the irrigation stopped until conditions are more favorable.
(3) Hourly inspections of aboveground irrigation pipelines when in use.
(4) Hourly inspections of aboveground irrigation pipelines when in use.
(5) Twice daily inspections of pressurized underground lines including one inspection that should be completed immediately following startup.

Any deficiencies found as a result of inspections shall be documented and corrected as soon as practicable.

9. Record Keeping

The following records shall be kept on-site by the CAFO operator. The records for inspections for Special Condition 8.a. shall be maintained for a period of three (3) years from the date they are created, all other records shall be maintained for a period of five (5) years from the date they are created. All records shall be made available to the department upon request:

a. A copy of this permit including a current copy of the facility's Nutrient Management Plan and documentation of changes/modifications made to the Nutrient Management Plan.
b. The daily and weekly visual inspections required in Special Condition #8, shall be recorded once per week. This includes the depth of the process wastewater in liquid impoundments as indicated by the depth marker. Report the liquid level as feet below the emergency overflow level.
c. Records documenting any actions taken to correct deficiencies. Deficiencies not corrected within thirty (30) days shall be accompanied by an explanation of the factors preventing immediate correction.
d. Records of mortalities management used by the operation.
e. Records of the date, time, location, duration and estimated volume of any emergency or unauthorized process waste overflow from a lagoon or any spill exceeding 1000 gallons. Report flow as cubic feet per second (CFS) based on an instantaneous estimate of the flow at the time of sampling. CFS = flow width in feet x flow depth in feet x flow velocity in feet per second. Estimates of stream channel width and depth may be used and flow velocity can be measured by timing how many feet a floating object moves within a one-second interval. Small flows may also be estimated based on gallons per minute (GPM) measurement using a container and stop watch; 450 gpm = 1.0 CFS. Other similar means of estimating may also be used.
f. Additional record keeping requirements are found in the NMTS that document implementation of appropriate Nutrient Management Plan protocols. In addition to the requirements found in the Nutrient Management Technical Standard, the CAFO shall also test and record the potassium levels in the soils while testing nitrogen and phosphorus.
g. The inches of precipitation received at the production site with an uncovered liquid impoundment, recorded daily and reported for daily amounts, monthly totals, and cumulative total.

10. Reporting Requirements

a. Any wastewater discharge into waters of the state or a release that crosses property boundaries shall be reported to the Department as soon as practicable but no later than 24 hours after the start of the discharge.
b. Within seven (7) days of the date that a lagoon's level comes within four (4) inches of the upper operating level, the permittee shall notify the department with information that identifies the lagoon(s), the lagoon level in inches below the emergency spillway and actions taken to reduce the lagoon levels.
c. The permittee shall notify the Water Protection Program as soon as practicable but no less than 24 hours in advance of implementing the department's "Wet Weather Management Practices for CAFOs" during a chronic weather event.
d. An Annual Report shall be submitted by January 28 of each year for the previous growing season from October 1 through September 30 or an alternate 12 month period approved by the Department. The report shall include:
   (1) The number and type of animals confined at the operation.
   (2) The estimated amount of manure, litter, and process wastewater generated in the previous twelve months.
   (3) The estimated amount of manure, litter, and process wastewater transferred to other persons in the previous twelve months.
   (4) The total number of acres for land application covered by the Nutrient Management Plan.
   (5) The total number of acres under control of the operation that were used for land application of manure, litter and process wastewater in the previous twelve months.
   (6) A summary of all manure, litter, and process wastewater discharges from the production area that have occurred in the previous twelve months, including date, time, and approximate volume. Report as no-discharge, if a discharge did not occur during the monitoring period.

D. SPECIAL CONDITIONS (continued)

(7) A statement indicating whether the current Nutrient Management Plan was developed or approved by a certified nutrient management planner.
(8) The crops planted and actual yields, the amount and nutrient content of the manure, litter, and process wastewater applied to the land application area(s) and the results of any soil testing from the previous twelve months.
(9) The daily and weekly records of the wastewater depth in the liquid impoundments as required in Special Condition #8d.
(10) The actual operation numbers compared to the permitted design parameters described in Special Condition #12.
(11) All monitoring results from an emergency or unauthorized discharge as required in General Condition #1.

h. The reports shall include a cover sheet with an original signature of a company representative. The reports may be printed or, saved as .pdf files or locked spreadsheets on compact disc (CDs) and shall be submitted to the Southwest Regional Office and the Water Protection Program, Industrial Permits Unit.

11. Design Parameters

The facility's design flow in the Facility Description is an estimated parameter that is used to help predict nutrient generation and storage periods. The design flow is based on the maximum annual flows including storm water flows during the one-in-ten year return frequency for annual or 365 day rainfall minus evaporation. The design flow is based on the time period when the flows are generated at the production site and not when flows are land applied. Permittee may exceed the design flow when precipitation in any 365 day period exceeds the one-in-ten year annual precipitation amount. Any proposed increases may require a permit modification prior to the proposed change. Portions of the design flow may be stored and carried over into the following year for land application, as necessary.

12. Domestic sludge shall be removed as needed and land applied in accordance with 40 CFR 503 sludge standards for septage and University of Missouri Water Quality Guide publication #WQ422. Underground tile inlets for field terraces or subsurface field drainage tiles shall be shown on the site maps for all land application sites.

13. Operating Capacity

This permit authorizes operation of the CAFO waste management system as described in the "FACILITY DESCRIPTION" along with the permit application and associated engineering plans. The Facility Description lists a total design capacity in animal units. The CAFOs animal unit operating level at any given time shall be based on a "rolling 12 month average". The rolling 12 month average is determined by averaging the weekly facility wide inventory for the last 12 months. The CAFO may change animal numbers and weights, and the rolling 12 month average may exceed the total design capacity in the Facility Description but shall not subsequently violate applicable effluent limitations in 10 CSR 20-6.300(4) or adversely impact the storage and handling capacities of the waste management system. If the waste management system is adversely impacted by increased animal units or animal weight, the facility shall increase storage capacity, increase land application, or reduce the animal unit operating level.

14. Sample Collection, Preservation and Testing Methods

Testing shall be in accordance with the most current version of *Standard Methods for the Examination of Waters and Wastewaters* or other approved methods listed in 10 CSR 20-7.015(9)(A).

15. Closure of Waste Storage Structures

Class I CAFOs which cease operation shall continue to maintain a valid operating permit until all lagoons and waste storage structures are properly closed according to a closure plan approved by the Department. CAFOs that plan to close a lagoon or other liquid waste storage structure shall submit for Department review and approval a closure plan that complies with the following minimum closure requirements:

a. Lagoons and waste storage structures shall be closed by removal and land application of wastewater and sludge.
b. The removed wastewater and sludge shall be land applied at agricultural rates for fertilizer not to exceed the maximum nutrient utilization of the land application site and vegetation grown and shall be applied at controlled rates so that there will be no discharge to waters of the state; and
c. After removal and proper land application of wastewater and sludge, the earthen basins may be demolished by removing the berms, grading, and revegetation of the site so as to provide erosion control, or the basin may be left in place for future use as a farm pond or similar uses when water quality monitoring shows such uses are attainable.

16. Terms of the NMP

D. SPECIAL CONDITIONS (continued)

a. 40 CFR 122.23 requires portions of the NMP pertaining to land application protocols to be incorporated into the operating permit as terms of the NMP. Revisions of the NMP after the effective date of this permit that result in significant changes to the terms of the NMP as outlined in 40 CFR 122.23 require a modification of the permit prior to implementing those revisions.

TERMS OF THE NUTRIENT MANAGEMENT PLAN

Field Name	Legal Description	Spreadable Acres	P Loss Risk [1]	N or P Based Application	Crop #1		Crop #2	
					Crop	Yield Goal[2]	Crop	Yield Goal[2]
A	Sec. 14 Twn. 33N Rng. 30W	84	Medium	N	Corn	130 bu/a	Soybean	40 bu/a
A1	Sec. 14 Twn. 33N Rng. 30W	34	Medium	N	Corn	130 bu/a	Soybean	40 bu/a
B	Sec. 14 Twn. 33N Rng. 30W	112.3	Medium	N	Soybean	40 bu/a	Corn	130 bu/a
C	Sec. 23 Twn. 33N Rng. 30W	67	Medium	N	Soybean	40 bu/a	Corn	130 bu/a
C1	Sec. 23 Twn. 33N Rng. 30W	142	Medium	N	Soybean	40 bu/a	Corn	130 bu/a
C2	Sec. 23 Twn. 33N Rng. 30W	48.5	Medium	N	Soybean	40 bu/a	Corn	130 bu/a
D	Sec. 23 Twn. 33N Rng. 30W	103	Medium	N	Corn	130 bu/a	Soybean	40 bu/a
D1	Sec. 23 Twn. 33N Rng. 30W	28	Medium	N	Corn	130 bu/a	Soybean	40 bu/a
F	Sec. 23 Twn. 33N Rng. 30W	60	Medium	N	Corn	130 bu/a	Soybean	40 bu/a
G	Sec. 26 Twn. 33N Rng. 30W	139	Medium	N	Corn	130 bu/a	Soybean	40 bu/a
H	Sec. 26 Twn. 33N Rng. 30W	143.3	Medium	N	Corn	130 bu/a	Soybean	40 bu/a
I	Sec. 27 Twn. 33N Rng. 30W	39	Medium	N	Corn	130 bu/a	Soybean	40 bu/a
J	Sec. 24 Twn. 33N Rng. 30W	31	Medium	N	Corn	130 bu/a	Soybean	40 bu/a

[1] Soil Test P Rating or P Index Rating may be used.
[2] Express yield in Bu=Bushels or T=Tons per acre.

b. The table below lists alternative crops with yield goals. These crops may be planted in any field listed in the table in Special Condition 18a.

Crop	Yield Goal
Corn	130 bu/a
Corn	150 bu/a
Corn silage	12 t/a
Corn silage	15 t/a
Soybeans	40 bu/a
Alfalfa	4 t/a
Fescue	3 t/a
Fescue	2 t/a
Matua	4 t/a
Bermuda	5 t/a
Bermuda	3 t/a
Orchard grass	4 t/a
Rye	3 t/a
Sudan grass	5 t/a
Wheat	60 bu/a
Cool season grass	3 t/a
Warm season grass	3 t/a

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO- 0131041
MURPHY FAMILY VENTURES, LLC DOYLESPORT PYRAMID

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

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.] a factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or operating permit) listed below. A factsheet is not an enforceable part of an operating permit.

PART I. FACILITY INFORMATION

Facility Type: Industrial – CAFO
SIC Code(s): 0213
Application Date: 01/02/2019
Expiration Date: 06/30/2019
Last Inspection: 03/27/2019

FACILITY DESCRIPTION:
No discharge Class IA Concentrated Animal Feeding Operation

The charter number for the continuing authority for this facility is FL0035323; this number was verified by the permit writer to be associated with the facility and precisely matches the continuing authority reported by the facility.

In accordance with 40 CFR 122.21(f)(6), the Department evaluated/the permittee reported other permits currently held by this facility. This facility does not have any other permits.

PERMITTED FEATURES TABLE:

OUTFALL	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001- #007	0.0081 – 0.015 MGD	Land Application	Animal wastewater

FACILITY PERFORMANCE HISTORY & COMMENTS:
The facility was last inspected on March 27, 2019 and was found to be in compliance.

PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY'S WATER QUALITY:
The receiving waterbody has no concurrent water quality data available.

303(D) LIST:
Section 303(d) of the federal Clean Water Act requires each state identify waters 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 impaired waters not addressed by normal water pollution control programs.
http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm

✓ Applicable. Horse Creek is listed on the 2010 Missouri 303(d) List for aquatic macroinvertebrate bioassessment and low dissolved oxygen.
- This facility is not considered a source of the above listed pollutant(s) or considered to contribute to the impairment.

TOTAL MAXIMUM DAILY LOAD (TMDL):
A TMDL is a calculation of the maximum amount of a given pollutant a water body 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 or TMDL may be developed. The TMDL shall include the WLA calculation. http://dnr.mo.gov/env/wpp/tmdl/

✓ Applicable; (Receiving water body's name or watershed) is associated with the (YEAR) EPA approved TMDL for (pollutant).
- This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment.

UPSTREAM OR DOWNSTREAM IMPAIRMENTS:
The permit writer has reviewed upstream and downstream stream segments of this facility for impairments.

✓ This facility is located at the top of the watershed therefore no upstream is present at this location/outfalls.

✓ The permit writer has noted downstream of the facility the Horse Creek is on the 303(d) list.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:
Per Missouri's Effluent Regulations [10 CSR 20-7.015(1)(B)], waters of the state are divided into seven categories. This facility is subject to effluent limitations derived on a site specific basis which are presented in each outfall's effluent limitation table and further discussed in Part IV: Effluents Limits Determinations

Missouri or Mississippi River
Lake or Reservoir
Losing
Metropolitan No-Discharge
Special Stream
Subsurface Water

✓ All Other Waters

RECEIVING WATERBODY TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC**
Tributary to Hyder Branch	N/A	N/A	General Criteria	10290106-0802
8-20-13 MUDD V1.0	C	7630	AQL, IRR, LWW, SCR, WBCB, HHP	
8-20-13 MUDD V1.0	C	3960	AQL, IRR, LWW, SCR, WBCB, HHP	

n/a not applicable

Classes are hydrologic classes as defined in 10 CSR 20-7.031(1)(F). L1: Lakes with drinking water supply - wastewater discharges are not permitted to occur to L1 watersheds per 10 CSR 20-7.015(3)(C); L2: major reservoirs; L3: all other public and private lakes; P: permanent streams; C: streams which may cease flow in dry periods but maintain pools supporting aquatic life; E: streams which do not maintain surface flow; and W: wetland. Losing streams are defined in 10 CSR 20-7.031(1)(O) and are designated on the Losing Stream dataset or determined by the Department to lose 30% or more of flow to the subsurface.

WBID = Waterbody Identification: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 8-20-13 MUDD V1.0 or newer; 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; New C streams described on the dataset per 10 CSR 20-7.031(2)(A)3. as 100K Extent Remaining Streams.

Per 10 CSR 20-7.031, 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 are to be maintained in the receiving streams 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.: **ALP** = Aquatic Life Protection (formerly AQL; current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, 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 ALP effluent limitations in 10 CSR 20-7.031 Table A1-A2 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 supporting swimming uses and has public access;
WBC-B = whole body contact recreation not supported in WBC-A;
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 and drinking of water;
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 Tables A1-B3 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

RECEIVING WATERBODY MONITORING REQUIREMENTS:
No receiving water monitoring requirements are recommended at this time.

PART III. RATIONALE AND DERIVATION OF 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.

ANTIBACKSLIDING:
Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(l)] require a reissued permit to be as stringent as the previous permit with some exceptions. Backsliding (a less stringent permit limitation) is only allowed under certain conditions.

✓ Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

- ✓ The secondary containment structure and inspection requirement associated with the wet handling flush systems were removed from the permit as they are required by state statute for Class IA operations only.
- ✓ The Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
  - The previous permit special conditions contained a specific set of prohibitions related to general criteria (GC) found in 10 CSR 20-7.031(4); however, there was no determination as to whether the discharges have reasonable potential to cause or contribute to excursion of those general water quality criteria in the previous permit. This permit assesses each general criteria as listed in the previous permit's special conditions. Federal regulations 40 CFR 122.44(d)(1)(iii) requires instances where reasonable potential (RP) to cause or contribute to an exceedance of a water quality standard exists, a numeric limitation must be included in the permit. Rather than conducting the appropriate RP determination, the previous permit simply placed the prohibitions in the permit. These conditions were removed from the permit. Appropriate reasonable potential determinations were conducted for each general criterion listed in 10 CSR 20-7.031(4)(A) through (I) and effluent limitations were placed in the permit for those general criteria where it was determined the discharge had reasonable potential to cause or contribute to excursions of the general criteria. Specific effluent limitations were not included for those general criteria where it was determined the discharges will not cause or contribute to excursions of general criteria. Removal of the prohibitions does not reduce the protections of the permit or allow for impairment of the receiving stream. The permit maintains sufficient effluent limitations, monitoring requirements and best management practices to protect water quality while maintaining permit conditions applicable to permittee disclosures and in accordance with 10 CSR 20-7.031(4) where no water contaminant by itself or in combination with other substances shall prevent the water of the state from meeting the following conditions:

(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 putrescent bottom deposits preventing full maintenance of beneficial uses because the permit does not allow manure, litter, or process wastewater to be discharged from the facility.
- For all outfalls, there is no RP for unsightly or harmful bottom deposits preventing full maintenance of beneficial the permit does not allow manure, litter, or process wastewater to be discharged from the facility.

(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 oil in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because the permit does not allow manure, litter, or process wastewater to be discharged from the facility.
- 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 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 indicates unsightly color or turbidity will be present in sufficient amounts to impair beneficial uses.
- For all outfalls, there is no RP for offensive odor in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates offensive odor 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.
- For all outfalls, there is no RP for toxicity to human, animal or aquatic life because the permit does not allow manure, litter, or process wastewater to be discharged from the facility

(E) There shall be no significant human health hazard from incidental contact with the water.
- This criterion is very similar to (D) above. See Part IV, Effluent Limits Derivation below.

(F) There shall be no acute toxicity to livestock or wildlife watering.
- This criterion is very similar to (D) above. See Part IV, Effluent Limits Derivation below.

(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 impairing the natural biological community because nothing disclosed by the permittee indicates this is occurring.
- For all outfalls, there is no RP for hydrologic changes impairing the natural biological community because nothing disclosed by the permittee indicates this is occurring.

(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 which has reasonable potential to cause or contribute to the materials listed above being discharged through any outfall.

ANTIDEGRADATION REVIEW:
Process water discharges with new, altered, or expanding flows, the Department is to document, by means of antidegradation review, if the use of a water body's available assimilative capacity is justified. In accordance with Missouri's water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm

✓ Not applicable; the facility has not submitted information proposing expanded or altered process water discharge; no further degradation proposed therefore no further review necessary.

This permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which must include an alternative analysis (AA) of the BMPs. The SWPPP must be developed, implemented, updated, and maintained at the facility. Failure to implement and maintain the chosen alternative, is a permit violation. The AA is a structured evaluation of BMPs to determine which are reasonable and cost effective. Analysis should include practices designed to be 1) non-degrading, 2) less degrading, or 3) degrading water quality. The chosen BMP will be the most reasonable and cost effective while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The analysis must demonstrate why "no discharge" or "no exposure" are not feasible alternatives at the facility. Existing facilities with established SWPPPs and BMPs need not conduct an additional alternatives analysis unless new BMPs are established to address BMP failures or benchmark exceedances. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.015(9)(A)5 and 7.031(3). For stormwater discharges with new, altered, or expanding discharges, the stormwater BMP chosen for the facility, through the AA performed by the facility, must be implemented and maintained at the facility. Failure to implement and maintain the chosen BMP alternative is a permit violation; see SWPPP.

✓ Not applicable; the facility does not have stormwater discharges or the stormwater outfalls onsite have no industrial exposure.

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:
This special condition reiterates the federal rules found in 40 CFR 122.44(f) and 122.42(a)(1). In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "…any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the clean water act then refers to those parameters found in 40 CFR 401.15. The permittee should also consider any other toxic pollutant in the discharge as reportable under this condition.

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.

DOMESTIC WASTEWATER, SLUDGES, AND BIOSOLIDS:
Domestic wastewater is defined as wastewater (i.e., human sewage) originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste.
✓ Applicable, this permit authorizes a no discharge lagoon and land application of wastewater.

Sewage sludge is solid, semi-solid, 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 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. Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer) and after having pathogens removed.

Additional information: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74 (WQ422 through WQ449).
✓ Not applicable; sludge is retained in the lagoon.

EFFLUENT LIMITATION GUIDELINE:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.
✓ The facility has an associated ELG (40 CFR 412) but does not discharge wastewater to waters of the state; stormwater discharges are not addressed by the ELG.

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. A request must be made for each facility. If more than one facility is owned or operated by a single entity, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is not transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

To assist the facility in entering data into the eDMR system, the permit describes limit sets in each table in Part A of the permit. The data entry personnel should use these identifiers to assure data entry is being completed appropriately.
✓ The permittee/facility is currently is not required to use the eDMR data reporting system.

GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, §644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state it shall be unlawful for any person to cause or allow 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.
✓ Not applicable; this permit does not contain effluent limitations based on the narrative criteria.

GROUNDWATER MONITORING:
Groundwater is a water of the state according to 10 CSR 20-2.010(82), and is subject to regulations at 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6) and must be protected accordingly.
✓ This facility is not required to monitor groundwater for the water protection program.

MAJOR WATER USER:
Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. All major water users are required by law to register water use annually (Missouri Revised Statues Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). https://dnr.mo.gov/pubs/pub2337.htm
✓ Not applicable; this permittee cannot withdraw water from the state in excess of 70 gpm/0.1 MGD.

REASONABLE POTENTIAL (RP):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants which are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times; however, acute toxicity criteria may be exceeded by permit in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit in mixing zones. If the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for the pollutant per 40 CFR Part 122.44(d)(1)(iii) and the most stringent limits per 10 CSR 20-7.031(9)(A). Permit writers may use mathematical reasonable potential analysis (RPA) using the Technical Support Document for Water Quality Based Toxics Control (TSD) methods (EPA/505/2-90-001) as found in Section 3.3.2, or may also use reasonable potential determinations (RPD) as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD.
✓ Not applicable; a mathematical RPA was not conducted for this facility because no discharge is allowed.

SAMPLING FREQUENCY AND TYPE JUSTIFICATION:
No sampling is required for this no discharge facility

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, 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. SOCs are allowed under 40 CFR 122.47 providing certain conditions are met.
A SOC is not allowed:

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

In order to provide guidance in developing SOCs, and to attain a greater level of consistency, the Department issued a policy on development of SOCs on October 25, 2012. The policy provides guidance to permit writers on standard time frames for schedules for common activities, and guidance on factors to modify the length of the schedule.
✓ Not applicable; this permit does not contain a SOC.

SPILL REPORTING:
Per 260.505 RSMo, 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. http://dnr.mo.gov/env/esp/spillbill.htm

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

STANDARD CONDITIONS:
The standard conditions Part I attached to this permit incorporate all sections of 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the permittee to

ascertain compliance with this permit, state regulations, state statues, federal regulations, and the Clean Water Act. Standard Conditions Part III, if attached to this permit, incorporate all requirements dealing with domestic sludges.

STORMWATER PERMITTING: LIMITATIONS AND BENCHMARKS:
Because of the fleeting nature of stormwater discharges, the Department, under the direction of EPA guidance, has determined monthly averages are capricious measures of stormwater discharges. The *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001; 1991) Section 3.1 indicates most procedures within the document apply only to water quality based approaches, not end-of-pipe technology-based controls. Hence, stormwater-only outfalls will generally only contain a maximum daily limit (MDL), benchmark, or monitoring requirement as dictated by site specific conditions, the BMPs in place, past performance of the facility, and the receiving water's current quality.

Sufficient rainfall to cause a discharge for one hour or more from a facility would not necessarily cause significant flow in a receiving stream. Acute Water Quality Standards (WQSs) are based on one hour of exposure, and must be protected at all times. Therefore, industrial stormwater facilities with toxic contaminants present in the stormwater may have the potential to cause a violation of acute WQSs if toxic contaminants occur in sufficient amounts. In this instance, the permit writer may apply daily maximum limitations.

Conversely, it is unlikely for rainfall to cause a discharge for four continuous days from a facility; if this does occur however, the receiving stream will also likely sustain a significant amount of flow providing dilution. Most chronic WQSs are based on a four-day exposure with some exceptions. Under this scenario, most industrial stormwater facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

A standard mass-balance equation cannot be calculated for stormwater because stormwater flow and flow in the receiving stream cannot be determined for conditions on any given day or storm event. The amount of stormwater discharged from the facility will vary based on current and previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on climatic conditions, size of watershed, area of surfaces with reduced permeability (houses, parking lots, and the like) in the watershed, hydrogeology, topography, etc. Decreased permeability may increase the stream flow dramatically over a short period of time (flash).

Numeric benchmark values are based on site specific requirements taking in to account a number of factors but cannot be applied to any process water discharges. First, the technology in place at the site to control pollutant discharges in stormwater is evaluated. The permit writer also evaluates other similar permits for similar activities. A review of the guidance forming the basis of Environmental Protection Agency's (EPA's) *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP) may also occur. Because precipitation events are sudden and momentary, benchmarks based on state or federal standards or recommendations use the Criteria Maximum Concentration (CMC) value, or acute standard may also be used. The CMC is the estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The CMC for aquatic life is intended to be protective of the vast majority of the aquatic communities in the United States. If a facility has not disclosed BMPs applicable to the pollutants for the site, the permittee may not be eligible for benchmarks.

40 CFR 122.44(b)(1) requires the permit implement the most stringent limitations for each discharge, including industrially exposed stormwater; and 40 CFR 122.44(d)(1)(i) and (iii) requires the permit to include water-quality based effluent limitations where reasonable potential has been found. However, because of the non-continuous nature of stormwater discharges, staff are unable to perform statistical Reasonable Potential Analysis (RPA) under most stormwater discharge scenarios. Reasonable potential determinations (RPDs; see REASONABLE POTENTIAL above) using best professional judgment are performed.

Benchmarks require the facility to monitor, and if necessary, replace and update stormwater 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 conditions of the permit.

BMP inspections typically occur more frequently than sampling. Sampling frequencies are based on the facility's ability to comply with the benchmarks and the requirements of the permit. Inspections should occur after large rain events and any other time an issue is noted; sampling after a benchmark exceedance may need to occur to show the corrective active taken was meaningful.

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer, if there is no RP for water quality excursions.
✓ Not applicable; this facility's SIC code does not require stormwater monitoring per 40 CFR 122.26(b)(14).

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k), Best Management Practices (BMPs) must be used to control or abate the discharge of pollutants when: 1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent

limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

A SWPPP must be prepared by the permittee if the SIC code is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

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

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. For further guidance, consult the antidegradation implementation procedure (http://dnr.mo.gov/env/wpp/docs/AIP050212.pdf).

Alternative Analysis (AA) evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The AA evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of AIP defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The AA evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure* (AIP), Section II.B.

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

✓ Not applicable; this facility's SIC code does not require stormwater monitoring per 40 CFR 122.26(b)(14).

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:

Please review Standard Conditions Part 1, section A, number 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 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 the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations 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 quantifies the pollutant below the level of the applicable water quality criterion 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 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 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established. A permittee is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive. 40 CFR 136 lists the approved methods accepted by the Department. Tables A1-B3 at 10 CSR 20-7.031 shows water quality standards.

UNDERGROUND INJECTION CONTROL (UIC):
The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health based standards, or may otherwise adversely affect human health. If the director finds the injection activity may endanger USDWs, the Department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: http://dnr.mo.gov/forms/780-1774-f.pdf

- ✓ Not applicable; the permittee has not submitted materials indicating the facility will be performing UI at this site.

VARIANCE:
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 permit is not drafted under premise of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:
As per [10 CSR 20-2.010(78)], the WLA is the amount of pollutant each discharger is allowed to discharge into the receiving stream without endangering water quality. Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. If one limit does not provide adequate protection for the receiving water, then the other must be used per 10 CSR 20-7.015(9)(A).

- ✓ Not applicable; wasteload allocations were not calculated.

WASTELOAD ALLOCATION (WLA) MODELING:
Permittees may submit site specific studies to better determine the site specific wasteload allocations applied in permits.

- ✓ Not applicable; a WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARD REVISION:
In accordance with section 644.058, RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

- ✓ This operating permit does not contain requirements for a permit limit based on a water quality standard which has changed twenty-five percent or more since the previous operating permit.

PART IV. EFFLUENT LIMITS DETERMINATIONS

EFFLUENT LIMITATIONS TABLE – Outfalls #001, #002, #003, #004, #005, #006 – Emergency Discharge
Discharge from these outfalls is only authorized when a wet weather event causes an overflow of manure, litter, or process wastewater AND the lagoons have been properly designed, constructed, operated and maintained, in accordance with Special Conditions D. 2.e.

PHYSICAL				
Flow	MGD	*	once/event‡	event total
Duration	Hours	*	once/event‡	event total
CONVENTIONAL				
Biological Oxygen Demand, 5 Day	mg/L	*	once/event‡	grab
Dissolved Oxygen (Minimum◊)	mg/L	*	once/event‡	grab
pH †	SU	*	once/event‡	grab
Total Suspended Solids	mg/L	*	once/event‡	grab
NUTRIENTS				
Ammonia as N	mg/L	*	once/event‡	grab
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING DISCHARGE CESSATION.				

* Monitoring and reporting requirement only.
◊ The facility shall report the minimum value obtained if more than one sample was taken.
† The facility shall report the range (minimum to maximum values) if more than one sample is obtained.
‡ Once per event means the facility must take a sample at least once per discharge event. If there was no discharge, a report is not necessary; if a discharge occurred, the facility must report all results of sampling into the eDMR system by the 28th day of the month following the completion of the discharge.

DERIVATION AND DISCUSSION OF LIMITS:

Flow
Monitoring requirement only.

Duration
Monitoring requirement only.

Biochemical Oxygen Demand - 5 Day (BOD_5)
Monitoring requirement only.

Oxygen, Dissolved
Monitoring requirement only.

Total Suspended Solids
Monitoring requirement only.

pH
Monitoring requirement only.

Ammonia as N
Monitoring requirement only.

UNAUTHORIZED DISCHARGES TABLE - All Permitted Features and Land Application Areas
The following is required for an unauthorized discharge. Monitoring requirement only based on best professional judgment.

PARAMETER	UNIT	DAILY MAXIMUM	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE	PREVIOUS PERMIT LIMITATIONS
Flow	MGD	*	once/day while discharging	28th day of the month after the cessation of the discharge	GRAB	*
Biochemical Oxygen Demand$_5$	mg/L	*	once/day while discharging	28th day of the month after the cessation of the discharge	GRAB	*
Ammonia as N	mg/L	*	once/day while discharging	28th day of the month after the cessation of the discharge	GRAB	*
pH	SU	*	once/day while discharging	28th day of the month after the cessation of the discharge	GRAB	*
Dissolved Oxygen	mg/L	*	once/day while discharging	28th day of the month after the cessation of the discharge	GRAB	*
Duration	hours	*	once/day while discharging	28th day of the month after the cessation of the discharge	GRAB	*

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

DERIVATION AND DISCUSSION OF LIMITS:

Flow
Monitoring requirement only.

Biochemical Oxygen Demand - 5 Day (BOD_5)
Monitoring requirement only.

Ammonia as N
Monitoring requirement only.

pH
Monitoring requirement only.

Oxygen, Dissolved
Monitoring requirement only.

Duration
Monitoring requirement only.

PART V. 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 all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. http://dnr.mo.gov/env/wpp/cpp/docs/watershed-based-management.pdf. 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 two years old, such 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 maintain synchronization by expiring the end of the second quarter, 2024.

PUBLIC NOTICE:

The Department shall give public notice a draft permit has been prepared and its issuance is pending. http://dnr.mo.gov/env/wpp/permits/pn/index.html. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in or with 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 July 26, 2019 to August 26, 2019. No responses were received.

DATE OF FACT SHEET: SEPTEMBER 3, 2019

COMPLETED BY:

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

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
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.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM W - CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) OPERATING PERMIT APPLICATION

FOR OFFICE USE ONLY	
CHECK NUMBER:	
DATE RECEIVED: 1-4-19	FEE SUBMITTED: ✓

Complete all applicable sections. Instructions for completing the form are located at the end of the form. Sign, date and return the form and all requested documents along with a check for the appropriate permit fee to the Missouri Department of Natural Resources. Make a copy of this completed form and keep it with your nutrient management plan.

PART 1 – PERMIT OWNERSHIP AND CONTACT INFORMATION

1.1 OPERATION NAME	CURRENT PERMIT NUMBER	COUNTY
Murphy Family Ventures, LLC Doylesport Pyramid	MO- 0131041	Barton
PHYSICAL ADDRESS	**LEGAL DESCRIPTION**	**TELEPHONE NUMBER WITH AREA CODE**
Hwy. C at Hwy. A	Sec.: 23 Twn.: 33N Rng.: 30W	(417) 667-7337
CITY	**STATE**	**ZIP CODE**
Lamar	MO	64759
1.2 OWNER (PROVIDE LEGAL NAME)	**EMAIL ADDRESS**	
PSM Associates, LLC		
MAILING ADDRESS		**TELEPHONE NUMBER WITH AREA CODE**
1801 W. Austin Sutie F, PO Box 566		(417) 667-7337
CITY	**STATE**	**ZIP CODE**
Nevada	MO	64772
1.3 CONTINUING AUTHORITY (IF DIFFERENT THAN THE OWNER)		
MAILING ADDRESS		**TELEPHONE NUMBER WITH AREA CODE**
CITY	**STATE**	**ZIP CODE**

PART 2 – PERMIT TYPE AND PERMIT ACTION

2.1 PERMIT TYPE

☑ NPDES Site Specific Permit
Request review of draft permit prior to public notice. ☑ Yes ☐ No

☐ NPDES General Permit (MOG01)

☐ State No-Discharge General Permit (MOGS1)

2.2 PERMIT ACTION*

☐ New Permit ☒ Renewal
☐ Modification ☐ Ownership Transfer

PREVIOUS OWNERS NAME

ADRESS

CITY STATE ZIP CODE

SIGNATURE DATE

***See instructions for additional requirements and documents for the request permit action.**

PART 3 – DESIGN CAPACITY FOR MANURE STORAGE AND ANIMALS OF EACH CAFO FEATURE

3.1 STORAGE STRUCTURE TYPES, AMOUNT OF STORAGE, AND AMOUNT OF MANURE GENERATED PER YEAR.

List All Manure Storage Structures at each CAFO Feature		Dry Manure Handling System		Wet Manure Handling System			
CAFO Feature	Storage Structure Type(s)	Design Dry Process Waste (tons/yr.)	Days of Storage	Total Storage Capacity (gal)	Design Wastewater per Year (gal./yr.)	Days of Storage	Design Flow MGD
001	See Attachment Part 3						
002							
003							
004							
005							

3.2 LIST EACH TYPE OF ANIMAL IN CONFINEMENT AND THE NUMBER OF EACH ANIMAL TYPE.

CAFO Feature	Animal Category #1	Animal Numbers	Animal Category #2	Animal Numbers	Animal Category #3	Animal Numbers
001	See Attachment Part 3					
002						
003						
004						
005						

PART 4 – OPERATIONAL INFORMATION

4.1 OPERATIONAL INFORMATION (SEE INSTRUCTIONS)
SIC Code(s) 0213 CAFO Class Size 1B

4.2 Is this an export-only operation? ☐ Yes ☑ No

Completing PARTS 5 - 11 will meet the requirements of a Nutrient Management Plan (NMP) for an export only operation.

PART 5 – MANURE STORAGE

5.1 Do all manure storage structures have adequate storage, and operated and maintained as no discharge? ☑ Yes ☐ No

PART 6 – ANIMAL MORTALITY

6.1 PEMANENT METHOD OF DISPOSING OF ROUTINE ANIMAL MORTALITIES.

☐ Composting ☑ Rendering ☐ Send to a Landfill ☐ Incineration ☐ Other (Describe)

6.2 DESCRIBE METHOD OF MORTALITY HANDLING AND STORAGE THROUGH ALL PHASES TO FINAL DISPOSAL. (EXAMPLE: MORTALITIES ARE COMPOSTED WITHIN 24 HOURS OF DEATH AND FINISHED COMPOST PRODUCT IS STORED UNDER ROOF UNTIL LAND APPLIED). ALSO DESCRIBE THE TYPE OF COMPOST STRUCTURE USED, IF APPLICABLE.

See Section 3 of Nutrient Management Plan and Permit Requirements document.

PART 7 – DIVERSION OF CLEAN WATER

7.1 Is clean stormwater diverted from the production area? ☑ Yes ☐ No

7.2 IF YES, DESCRIBE CONTROLS AND MEASURES USED TO DIVERT STORMWATER.

See Section 4 of Nutrient Management Plan and Permit Requirements document.

7.3 IF NO, DESCRIBE HOW CONTAMINATED STORMWATER IS CONTAINED AND INCLUDE THE STORAGE CAPACITY OF THE CONTAINMENT IF NOT PREVIOUSLY PROVIDED.

PART 8 – PREVENT DIRECT CONTACT OF ANIMALS WITH SURFACE WATERS

8.1 Do the animals have access to waters of the state within the production area? ☐ Yes ☑ No

8.2 LIST MEASURES USED TO PREVENT CONFINED ANIMAL FORM HAVING DIRECT CONTACT WITH WATERS OF THE STATE.

See Section 4 of Nutrient Management Plan and Permit Requirements document.

PART 9 – CHEMICAL HANDLING

9.1 Check the appropriate boxed below to indicate method for handling and disposal of chemicals used by the operation:

☑ Chemicals are stored, handled, and disposed of according to manufacturer labels.

☑ Chemical storage and handling areas are protected from precipitation and runoff, and any spillage is contained within these areas.

☑ Emergency procedures and equipment are in place to contain and clean up chemical spills.

☑ Equipment wash areas are designed and constructed to prevent contamination of surface waters.

☐ No chemicals are stored or handled in the production area.

PART 10 – MANURE ANALYSIS TESTING

10.1 LIST EACH TYPE OF MANURE SOURCE. (i. e. MANURE, LITTER, COMPOST, WASTE WATER.)

Swine Effluent Manure

10.2 DESCRIBE PROCEDURES FOR ENSURING EACH MANURE SOURCE IS TESTED ANNUALLY.

See Section 7 of Nutrient Management Plan and Permits Requirements document and attached NMTS.

PART 11 – RECORD KEEPING

11.1 Are records of all inspections, manure transfers, discharges and land application maintained? ☑ Yes ☐ No

PART 12 – SIGNATURE

NAME	TITLE
Kurt L. Strauch	MO Environmental Manager
SIGNATURE	DATE
	12-18-18

Part 13 - Engineer Certification

House Bill 28, which became effective Aug 28, 2013, contained provisions that changed construction permitting requirements. Construction permits are required for the construction of an earthen storage structure to hold, convey, contain, store, or treat domestic, agricultural, or industrial process wastewater. Construction of all other point source systems designed to hold, convey, contain, store, or treat domestic, agricultural, or industrial process waste must be designed by a professional engineer registered in Missouri in accordance with design regulations.

Operation Name Address City	Engineer Firm Address City State Zip Code
I, Project Engineer, certify that above described systems have been designed in accordance with Missouri CAFO design regulations in 10 CSR 20-8.300 PROJECT ENGINEER SIGNATURE	ENGINEER SEAL

DOYLESPORT PYRAMID

PERMIT # MO-0131041

NUTRIENT MANAGEMENT PLAN AND PERMIT REQUIREMENTS DOCUMENT

10-12-18

Table of Contents

Doylesport Nutrient Management Plan and Permit Requirements

Section 1-Pyramid Overview

Doylesport Pyramid Overview

This pyramid has three farrow to wean sow farms. The names of the farms are Eaglesnest, Quailridge, and Wheatrun. Each farm is served by two single stage anaerobic lagoons. One lagoon serves a set barns and the other serves the remaining set of barns for the farm. Secondary containments are in place at all farms. All farms have a recycle pump at the lagoon. All three sow farms have pit-recharge (pull plug) systems.

This pyramid has a total of 1,360 owned acres. Of the total acreage, there are 1,037.9 application acres in the 0-10% slope range. Hay and row crops are planted and harvested on this pyramid for nutrient management. There are 526.6 crop acres that are cash rented out that typically are not used for application of effluent.

Permitted Numbers

	Design/Permit Numbers/Animals	Design/Permit Numbers/AU's	Actual Operation Numbers/Animals	Actual Operation Numbers/AU's
Sows, Litters, Boars	8,526	3,410	7,145	2,858
Nursery Pigs	0	0	0	-
Finishing Hogs	0	0	0	-
Totals	8,526	3,410	7,145	2,858

2015 Actual Numbers

Land Application Equipment

The equipment listed is shared and managed between this pyramid and the Dover, Ozark-Osage, and Bellamy pyramids for land application except the onsite center pivots.

- Four 1000 GMP dragline systems.
- Three 250 GMP traveling guns.
- There are two 800 GPM center pivots on this pyramid.

Nutrient Management Plan

The nutrient management plan was prepared in accordance with the new Missouri CAFO Nutrient Management Technical Standard. Planned crop rotations over the next five years could change due to weather, cropping, or nutrient management constraints. Crops are listed in Table 4. with the nutrient management plan that could be substituted in place of the planned crop. If a change is made, our nutrient management plan will be updated with correct information for that crop. These changes will be noted in our annual reports submitted for the current year of the change.

Section 2- Management of Lagoons

Lagoon management activities are listed below.

- Lagoons are inspected weekly per permit requirements.
- Lagoon levels are managed through pumping effluent on agricultural fields and transfer of effluent to other lagoons to maintain appropriate liquid levels below the safety level down to pumpdown.
- Lagoons volumes are maintained so that the most storage volume is reached by fall to ensure enough storage for winter months.
- Mowing is conducted throughout the summer to maintain grass heights of 8"-12" inches while also ensuring no woody vegetation is present.
- If rodent holes or minor erosion is found during an inspection, then appropriate steps are taken to fill in or regrade the erosion and reseed the area.

Section 3- Mortalities Management

Mortality disposal is in accordance with the Dead Animal Disposal Law and state regulations. Mortalities are collected daily and stored in refrigerated holding sites for a rendering company to pick up multiple times weekly. Each refrigerated holding site is inspected daily. Rendering is our primary disposal method. Burial is used only in emergency cases where there is a constraint with rendering or refrigeration units. Incineration and composting are options we have looked at but have not implemented on this pyramid.

Section 4- Clean and Storm water Diversions

Clean storm water is diverted away from confinement buildings and manure storage structures. All confinement buildings are backfilled and graded to create a slope that directs storm water away from these buildings. Areas around manure storage structures are sloped and graded to ensure diversion of storm water away from these structures. Animals are housed at all times in confinement buildings and have no contact with waters of the state.

Section 5- Chemical Handling and Disposal

Chemicals are stored in the farm office or barn offices of the farm in their original containers. Disposal of empty containers and expired chemicals are per label instructions. If for some reason label instructions are unavailable, then farm employees have available a posted 1-800 MSDS number to call for obtaining proper disposal methods for a chemical. All storage areas are contained and have no direct contact with surface water, storm water, or wastewater. Absorption material and proper PPE are on the farm to clean up any chemical spills.

Section 6- Site Specific Conservation Practices

Below is a list of the specific conservation practices that are current on the permitted land. These practices are maintained to ensure reduced erosion on agricultural lands. When erosion areas are found, one of the practices is used below to reduce that erosion or eliminate it.

- Grassed Waterways
- Terraces
- Grassed Field Borders
- Minimum Till or No Till Plantings
- Cross Slope Plantings

Section 7- Protocols for Testing

Sample Collection and Preservation

The Analytical Laboratory used by Murphy Family Ventures LLC is Midwest Laboratories.

In general, all samples should be packed on ice in an ice chest immediately after collection. Samples are refrigerated until they are shipped on ice for delivery to the laboratory for analysis. Certain analytical tests may require samples to be specially preserved. Preservatives used are in compliance with EPA Standards.

Holding times for samples vary by required tests.

- Dissolved Oxygen - in field
- PH– in field
- Temperature- in field
- Ammonia Nitrogen as N- 28 days
- BOD-48 hours
- Chloride-28 days
- TKN-28 days
- Nitrate & Nitrite as N-28 days
- Total Phosphorus-28 days
- Total Suspended Solids-7 days

The laboratory provides new sampling bottles, preservative, labels, and chains of custody for each event. Laboratory instructions should be followed carefully when using preservatives. The laboratory should be consulted to determine how many samples must be collected at each location to enable the completion of the full range of analyses required.

Midwest Laboratories implement a quality control/quality assurance program to check their work. Laboratories can also be 'checked' by sending in blind or split samples. Blind samples can be anything from a sample from a lagoon, to a sample of tap water. The object of sending a blind sample (especially one that may vary significantly from the other samples sent) is to see if the laboratory results bear out the difference in samples. Conversely, a split sample is one sample that had been taken and split into two different samples. The analysis for these samples should be identical.

Sampling

Lagoons: In order to develop the best overall estimate of nutrient concentration in a lagoon, the lagoon must be carefully sampled at least once every year. When possible, additional lagoon manure samples may be taken just prior to land application of manure so current results are available for calculating manure application rates. Lagoons will be tested for total nitrogen, ammonia nitrogen, total phosphorus, total Potassium, and nitrate nitrogen. Samples shall be collected and handled following the guidelines outlined in MU Guide Publications EQ215 and G9340.

Sludges: If sludges are used in Murphy Family Ventures LLC land application program they must be a composite sample tested for Total Kjeldahl Nitrogen as N, Ammonia Nitrogen as N, Total Phosphorus as P, Total Potassium and Total solids(moisture content) .

Sample Location Criteria:

- Each sample shall be a composite sample consisting of 7 grab samples.
- Samples should be collected from the lagoon, irrigation pump or wet well, irrigation equipment, recycle pump or flush tank.
- Samples collected directly from the lagoon shall be taken from two feet below the lagoon water surface, at least fifteen feet from the water's edge and at least at seven different locations spaced about equally around the perimeter of the lagoon.
- When sampling at the recycle pump, the seven grab samples shall be taken at two to three minute intervals or longer.
- For sampling flush tanks, one or more grab samples shall be taken from each tank.

Soil Monitoring

In order to correctly estimate the available nutrients in the soil, soil tests are re-sampled before manure application when; the soil test is greater than five years old; or phosphate surplus (actual applied phosphate minus actual removed phosphate) for the field has exceeded 500lbs/acre since the last soil test. Sampling locations on all company-owned farms have been determined based on soil type and statistically sound sampling methods. Soil types on the farm have been catalogued and entered into a GPS database, so each sampling event can target the different soil types located in the fields. Soils samples on MFV farms are collected by a professional agronomist and his staff, or LNM Personnel. Soil sampling shall be in accordance with the University of Missouri (MU) Guides G9215 (for pastures) and G9217 (for row crops)

1. Follow Sampling Protocol, Guides G9215 (for pastures) and G9217 (for row crops)
2. The average field area represented by soil sample should be approximately 20 acres or less.
3. Each soil sample should be comprised of a well-mixed subsample derived from as least 15 representative cores.
4. Collect soil sampling depth should be six to eight inches
5. Deliver properly preserved samples to a Missouri Soil Testing Association accredited laboratory for analysis.

Constituent	Unit	Type
Nitrate Nitrogen as N	mg/kg	Composite
Soil pH	Std. Unit	Composite
Percent Organic Matter	%	Composite
Cation Exchange Capacity	Std. Unit	Composite
Potassium as K	mg/kg	Composite
Available Phosphorus as P	mg/kg	Composite
(Bray-1) test method)	mg/kg	Composite

MONITORING EMERGENCY OR UNATHORIZED DISCHARGES

Samples shall be collected once/day during discharge

1. Sample points shall include the following:
   - At down gradient property boundary
   - Receiving waters above and below the discharge point. If receiving drainage is dry above the discharge point, report as no stream flow above the discharge point.
   - If access is available, at points farther downstream until no effects of discharge are noted
   - If discharge does not reach property line, monitor at most downstream point on property possible, or until effects of discharge are not noted

2. Complete "Emergency Discharge Record Sheet," including the following:
   - Time
   - Date
   - Location
   - Duration of the discharge
   - Estimate of the Discharge Volume
   - Reason (if known) for Discharge

Emergency/Unauthorized Discharge Analysis Requirements

Constituent	Unit	Frequency
Flow	MGD	once/day during discharge -24 hr. estimate
Dissolved Oxygen	mg/L	once/day during discharge —grab
Ammonia Nitrogen as N	mg/L	once/day during discharge —grab
BOD	mg/L	once/day during discharge—grab
pH - units	std. Units	once/day during discharge – grab
Temperature	°C	once/day during discharge – grab
Duration	hours	

REQUIRED NOTIFICATION OF RELEASES

In the event of any emergency or unauthorized discharge, it is imperative that actions be taken in a timely manner. Notification of the MDNR is required under the following circumstances:

a) Any wastewater discharge into waters of the state or a release that crosses property boundaries shall be reported to the MDNR as soon as possible and no later than 24 hours after the start of the discharge.
b) Spills or leaks that are contained on the property shall also be reported to the MDNR within 24 hours, **if the spill or leak exceeds 1000 gallons per day.** This includes leaks from sewer lines; recycle lines, flushing systems, lagoons, or irrigation systems.

c) Monitoring results of the discharge must be submitted to the MDNR within 30 days.

Section 8- Land Application Limits, Hydraulic Rates, and Proper Agricultural Utilization

Land applications limits

- Manure will not be applied while it is raining.
- Manure will not be applied on frozen, snow covered, or saturated soils.
- If Manure is being applied and it starts to rain, application will cease.
- Process wastes will be land applied as close as practicable to when plants will utilize nutrients. Fall application for the spring crop will be used when appropriate but is not the primary application period.
- Application will be avoided during an imminent storm event that is likely to produce runoff
- Land application equipment will be operated in such a manner that wastes do not reach adjoining property lines, public use areas, or into waters of the state.

Hydraulic Rates

- Application rates in inches/application pass and inches/day shall not exceed the soil infiltration capacity and soil moisture holding capacity of the soil. In no case shall the application result in the runoff of applied waste during or immediately following application.
- For field slopes less than or equal to ten percent (0-10%), surface application rates other than tool bar application shall not exceed 0.5 inches/application pass and 1.0 inch/day depending on soil conditions.
- For field slopes greater than ten percent (10%), but less than or equal to twenty percent (20%), surface application rates shall bed reduced to one-half the rate for slopes of then percent (10%) or less.

    - This site has no fields with a slope greater than ten percent (10%), but less than or equal to twenty percent (20%).
- Fields with slopes greater than twenty percent (20%) shall not be used for land application.
    - This site has no fields with a slope greater than twenty percent (20%)
- For subsurface injection, application rates shall be based on soil adsorption capacity during land application so that there are no puddles of wastewater on the soil surface. In no case shall the applications rate exceed 1.0 inch/day (27,154 gallons/acre).

Proper Application for Neighbor Considerations

- As part of Murphy Family Ventures LLC ongoing commitment to good neighbor relations, the following program is in place to insure that pumping activities do not unduly impose on neighbors.
    - No pumping is conducted over Holidays/Holiday weekends unless absolutely necessary to meet lagoon management standards.
    - Pumping should be minimized on lands upwind of neighbors on those days when winds are excessively strong.

Proper Agricultural Utilization

Manure is a by-product of any type of livestock operation. Efficient removal of the manure from the barns and subsequent treatment and disposal of the effluent are critical components in ensuring an environmentally sound operation. On the Ozark-Osage Pyramid, barns utilize flush and pit recharge systems to flush waste collection pits to maintain clean barns free of animal waste and to ensure a healthy environment for the animals. Manure and associated wastewater (including flush water) is transported via buried PVC pipe to an anaerobic lagoon.

Anaerobic lagoons provide basic treatment to the animal waste, breaking it down (via the activity of anaerobic bacteria) into its primary components. These components, namely, nitrogen, phosphorus, and potassium, (as well as other trace minerals and nutrients) are beneficial to crops and can be effectively used as replacements for chemical fertilizer in normal farming activities.

The primary responsibility of the LNM personnel is to ensure proper management and operation of the wastewater treatment systems and the timely application of the lagoon water onto farmland. Lagoon water is used to raise conventional crops and to irrigate pasture on farmland within the Murphy Family Ventures LLC Missouri operation.

The goal of Murphy Family Ventures LLC Nutrient Management program is to operate a scientifically sound, agronomically correct, sustainable farming program using treated hog manure as fertilizer for crops. Several factors are considered in the development of a sound nutrient management plan, including: lagoon water volumes, lagoon water nutrient analyses, the amount of fertilizer needed for the crop, amount of land available, soil nutrient analyses, cropping program, and application

procedures. Maximum lagoon pumpdown levels are also used to determine the volume of water to be moved.

Section 9- Records and Reporting

RECORDKEEPING

Murphy Family Ventures LLC will record and keep the following information for five years from the date created.

- A copy of this permit including a current copy of the facility's Nutrient Management Plan and documentation of changes/modifications made to the Nutrient Management Plan.
- The daily and weekly visual inspections required in Special conditions #8, shall be logged and recorded once per week. Included is once per week lagoon level showing feet below emergency overflow level.
- Records documenting any actions taken to correct deficiencies.
- Records of mortalities management.
- Records of the date, time, location, durations and estimated volume of any emergency or unauthorized process waste overflow from a lagoon or any spill exceeding 1000 gallons.
- Inches of precipitation received at the production site, recorded daily and reported for daily amounts, monthly totals, and cumulative total.
- Manure nutrient monitoring for each unique source of manure; date(s) for manure sampling, for each sample date report total N, ammonium N, total phosphate, total potash, percent moisture and dry matter and nitrate N when appropriate.
- Report or identify the actual manure nutrient concentration used for calculating manure application rates.
- Record the year of the last soil test
- Current soil test results reporting at a minimum soil test phosphorus, cation-exchange capacity (CEC) and soil organic matter.
- Fertilizer N and phosphate recommendations.
- Record Transfers
- Record Pumping events
- Any additional record keeping requirements found in Attachment B, "Nutrient Management Technical Standard," not listed above.

REPORTING

Murphy Family Ventures LLC will report the following to Missouri Department of Natural Resources:

- Any wastewater discharge into waters of the state or a release that crosses property boundaries shall be reported as soon as possible and no later than 24 hours after the start of the discharge.
- Spills or leaks that are contained on the property within 24 hours, if the spill or leak exceeds 1,000 gallons per day.
- A lagoon's level coming within (4) inches of the upper operating level within (7) days of the occurrence and actions taken to reduce the level of the lagoon(s).
- Shall notify the Water Protection Program within 24 hrs. in advance of implementing the departments wet weather management practices for CAFO's during a chronic weather event.
- An annual report each year for the previous growing season. The report shall include:
    - Number and type of animals confined at the operation
    - Estimated amount of manure, litter, and process wastewater generated in the past twelve months.
    - Estimated amount of manure, litter, and process wastewater transferred to other persons in the previous twelve months.
    - Total number of acres for land application covered by the Nutrient Management Plan.
    - Total number of acres under control of the operation that were used for land application of manure, litter and process wastewater in the previous twelve months.
    - Summary of all manure, litter, and process wastewater discharges from the production area that have occurred in the previous twelve months, including date, time, and approximate volume. Report as non-discharge if a discharge did not occur during the monitoring period.
    - A statement indicating whether the current Nutrient Management Plan was developed or approved by a certified nutrient management planner.
    - Crops planted and expected yields, amount and nutrient content of the manure, litter, and process wastewater applied on the land application area(s) and the results of any soil testing from the previous twelve months.
    - Daily and weekly records of the wastewater depth in the liquid impoundments as required.
    - Actual operation numbers compared to the permitted design parameters described in Special Condition #6 of current Permit.
    - All monitoring results from an emergency or unauthorized discharge as required in General Condition #1.

- Reports shall include a cover sheet with an original signature of a company representative. The reports may be printed or alternatively, may be saved as pdf files or locked spreadsheets and burned onto two compact discs. The CDs may be sent via mail with the coversheet to the Southwest and Jefferson City offices.

Section 10- Inspections

MONITORING FARM FACILITIES

The farm/farm manager is responsible for weekly inspections of the facility inside the fence of the farm. The LNM personnel is responsible for weekly inspections of the facility of everything located outside of the farm fence.

PERSONNEL: Farm Manager, LNM Personnel or trained employee
FREQUENCY: Weekly, unless noted.
DATA SHEET USED: Facilities Inspection Sheet

1. Inspector should document date of inspection, time and their initials

2. Walk around the barns check for leaks or unusual conditions. If you see a potential environmental problem, follow the Emergency Action Procedure & Contact List posted in the farm office.

3. Check recycle lines to be sure that they are not broken, cracked or leaking.

4. Check Cleanouts to be sure that they are visibly marked, proper height to prevent release, capped, not cracked or broken and no sign of leaks

5. Inspect barn exterior to be sure that there are no foundation cracks larger than a pencil diameter or daylight can be seen or no leaks.

6. Farms with lift stations must inspect them to be sure it is free of trash build up, covered with protection from entry and no leaks.

7. Farms with flush tanks must inspect them to be sure there are no leaks, the tank is filling properly, and overflows are in place.

8. Inspect the recycle lines and pump to be sure they are operating properly.

9. Record findings of the inspection on the "Farm Facilities Inspection sheet." For maintenance problems report to manager and insure a service call is created.

10. Weekly, check general conditions around the dead animal facility. Look for the presence of discharge from the facility into the secondary containment and/or holding tank (where applicable). Check to see that the float system appears intact and is operating

correctly. If a problem is noted, contact the LNM Manager for appropriate remedial actions.

11. Once per day, inspect all fresh water lines for leaks that have the potential to impact wastewater storage.
12. Each sheet holds a weeks worth of daily inspection notes. Every Monday, fax a copy of the previous weeks Farm facilities Inspection Sheet to the LNM Data Coordinator at the main office. Store the original in a file at the farm office.

MONITORING LAGOONS

PERSONNEL: LNM Personnel or other trained employee

FREQUENCY: Weekly, unless less than 12 inches of freeboard
DATA SHEET USED: Lagoon Level and Rainfall Monitoring sheet, Pyramid Facilities Inspection Sheet

1. Visually inspect lagoons for condition and berm integrity. Grass cover on the lagoon berm shall be evaluated to ensure the following:
    a. Adequate coverage—no bare spots
    b. Grass is of appropriate height (under 12")
    c. The presence of rodent burrows/ signs of rodent activities
    d. The presence of encroaching woody species
    e. Signs of erosion (inside and outside slopes)

2. Inspect emergency spillway to be sure that is clear and free from obstruction

3. Check for the presence of debris in the lagoon.

4. Record all results of the inspection on the **Pyramid Facilities Inspection Sheet**. Each sheet holds a week's worth of daily inspection notes. If a problem is found a service call must be requested. If a potential environmental problem is found, use the Emergency Action Procedure & Contact List posted in the farm offices.

5. As part of the lagoon inspection procedure, record the daily rainfall on the **Lagoon Level and Rainfall Monitoring Sheet** by reading the Pyramid's rain gauge. At the end of each week, total the daily rainfall and record the weekly rainfall for the Pyramid.

6. **On A Weekly Basis:** Record lagoon level on the **Lagoon Level and Rainfall Monitoring Sheet**. Read level from the permanent measuring markers in each lagoon. Measure the level to the nearest ½ foot below the bottom of the emergency spillway. Level should be read in terms of number of blocks showing on the post, which indicate how far the water has been pumped down below the full pool level (i.e. bottom of spillway).

7. If the lagoon level comes with within (four) 4 inches of the upper operating level, MDNR shall be notified of the lagoon information including the lagoon level in inches below the emergency spillway, and actions to reduce the lagoon level.

8. When the lagoon level of a wet handling flush system becomes less than (twelve) 12 inches from the emergency spillway, a daily inspection of the lagoon must be completed.

9. Every Monday, fax a copy of the previous week's **Lagoon Level and Rainfall Monitoring sheet & Pyramid Facilities Inspection Sheet,** to the LNM Data Coordinator at the main office. Store the original in a file at the LNM field office.

Secondary Containment Monitoring Sheet

1. Check secondary containments for each farm for the presence of water. If water is present follow the secondary containment protocol.

Land application inspections

1. LNM personnel responsible for pumping are required to monitor above ground irrigation, pipelines and equipment at least once 45 minutes to one hour to insure wastewater is contained within the system.

2. The perimeter of the application fields shall be monitored frequently to insure that applied wastewater does not run off the fields where applied.

3. Sections of underground irrigation lines not in use shall be checked after startup each day to verify no pressure is in the lines not being used. Underground lines in use or pressurized shall be checked immediately after start up and twice per day thereafter to insure wastewater is contained within the system.

4. Application sites shall be monitored for drifting spray irrigation.

Land Application Inspection Procedure

1. Initially before irrigation startup, radio control pump shutoffs or murphy switches should be checked for proper operation.

2. During start up of equipment there should be two inspections of equipment. One during initial startup and one after pump is pressured to desire setting. Inspections should verify that all

equipment is operating correctly, that there are no leaks, and water is coming out of equipment correctly.

3. After startup then inspections of risers, lines, equipment operation, water coming out of equipment, spray drift, and field for runoff where irrigating should be done every 45 minutes to one hour until equipment is shutdown.

Land application equipment

Equipment used for land application of manure or process wastewater shall be inspected quarterly prior to use. Any deficiencies or repairs needed shall be corrected before equipment is used for land application.

Section 11- Secondary Containments

MONITORING SECONDARY CONTAINMENTS

Secondary containment structures have been constructed and shall be maintained down gradient of all wet handling flush system confinement buildings, sewer lines, recycle lines, recycle pump stations to collect and retain discharges from spills or pipeline breaks. The containments have been constructed by placement of an earthen dam (to create a shallow impoundment), or through the excavation of a reservoir. Secondary containments are designed to hold a minimum volume equal to the maximum pumping capacity of the recycle pump in any 24-hour period. There shall be no release of process wastewater from secondary containment structures. Any wastewater spills or leaks collected in the containment structure shall be pumped into the lagoon or directly land applied so there is no discharge of process waste. Storm water maybe released only if it has not came into contact with manure, litter, feed, or silage.

PERSONNEL: LNM Personnel or other trained employee
FREQUENCY: Once per day.
EQUIPMENT: Colorimetric testing or other approved testing methods for testing Ammonia Nitrogen as N, Sample bottle.
DATA SHEET USED: Secondary Containment Monitoring Sheet

1. Check secondary containments for each farm in the Pyramid for the presence of water.

2. If water is present and it has not came into contact with manure, litter, feed, or silage, it may be released. If it has come into contact with process wastes, then it must be land applied or pumped into a lagoon. The next storm water event will be tested before being released after secondary containment has been pumped to ensure no discharge of process wastes.

3. If the water exceeds the 2.5 mg/L criteria, then it must be pumped back into the lagoon, or land-applied according to normal practices, so that no runoff occurs.

4. When the 2.5 mg/L or less reading is achieved, release containment water through valve.

5. Ensure that containment is closed after it is emptied or before the end of the work day.

6. Record all actions on **Secondary Containment Monitoring Sheet**

8. Failure to complete the daily reports shall result in disciplinary action.

Section 12- Transfers of Manures, Litter, or Processed Wastes

When manure, litter, or processed wastes is sold, given away, or land applied on land not under our direct control, then the permit requirements in special condition # 7 will be followed listed below.

- Records will be maintained for five years on site.
- Records will include the date, amount removed from the operation, name and address of recipient.
- The recipient will be provided the nutrient analysis and a copy of the Nutrient Management Technical Standard.

Section 13- Nutrient Management Technical Standard (NMTS)

Development of the Nutrient Management Plan was in accordance with the requirement of the Nutrient Management Technical Standard. The requirements in the NMTS shall be followed in accordance with the following activities. The NMTS is attachment B in this document to provide the methods and protocols for the listed activities.

- Soil sampling and testing.
- Manure sampling and testing.
- Fertilizer recommendations.
- Field specific manure nutrient application criteria.
- Field specific phosphorus loss assessment.
- Missouri P Index use.
- Criteria for the timing, soil conditions, and placement of manure applications.
- Manure application setbacks
- Manure Storage Operational Monitoring
- Manure Nutrient Monitoring

- Field Testing Monitoring
- Land Application Operational Monitoring

Section 14- Nutrient Management Plan

Attachment A contains the following tables for the nutrient management plan.

- Table 1. -Planned crop, fertilizer requirements, and estimated nutrient removal for years 2017-2021.
- Table 2. - Field nutrient balance based on estimated manure applications and crop removal for years 2017-2021.
- Table 3. - Field Soil analysis information, phosphorus rating, and planned nutrient base management.
- Table 4. -List of crops that could be planted in place of planned crop due to weather, cropping, or NMP constraints.
- Table 5. - Planned Transfers, Imports, or Exports.
- Table 6. -Summary of projected manure generation, imports, exports, transfers and end of year totals.

Section 15- Maps

Aerial maps identifying application fields, lagoon locations, and building locations are located in Attachment C of this document.

Attachment A

PART 3-DESIGN CAPACITY FOR MANURE STORAGE AND ANIMALS OF EACH CAFO FEATURE

3.1 STORAGE STRUCTURE TYPES, AMOUNT OF STORAGE, AND AMOUNT OF MANURE GENERATED PER YEAR.

LIST ALL MANURE STORAGE STRUCTURES AT EACH CAFO FEATURE		DRY MANURE HANDLING SYSTEM		WET MANURE HANDLING SYSTEM			
CAFO FEATURE	STORAGE STRUCTURE TYPES	DESIGN DRY PROCESS WASTE (TONS/YR.)	DAYS OF STORAGE	TOTAL STORAGE CAPACITY (GAL)	DESIGN WASTEWATER PER YEAR (GAL/YR.)	DAYS OF STORAGE	DESIGN FLOW MGD
001	Wheat Run East Sow Farm Anaerobic Lagoon (E)	NA	NA		5,139,565	145	0.014
002	Wheat Run West Sow Farm Anaerobic Lagoon (E)	NA	NA		2,838,240	218	0.008
003	Eagles Nest East Sow Farm Anaerobic Lagoon (E)	NA	NA		5,097,225	144	0.014
004	Eagles Nest West Sow Farm Anaerobic Lagoon (E)	NA	NA		2,807,215	217	0.008
005	Quail Ridge North Sow Farm Anaerobic Lagoon (E)	NA	NA		2,953,580	206	0.0081
006	Quail Ridge South Sow Farm Anaerobic Lagoon (E)	NA	NA		5,366,230	136	0.015

Attachment B

DOYLESPORT PYRAMID

Table 1. Planned crop, crop fertilizer requirements, and crop nutrient removal.

Field ID	Sub Field ID	Legal Description	Year	Acres	P Loss Risk	N or P Based Appl.	Planned Crop	Projected Yield	Tons or Bushels	N Rec. Lbs/A	P2O5 Rec. Lbs/A	K20 Rec. Lbs/A	N Removed Lbs/A	P2O5 Removed Lbs/A	K20 Removed Lbs/A
A		T33N,R30W,Sec. 14	2019	84	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 14	2020	84	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 14	2021	84	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 14	2022	84	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 14	2023	84	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
	A1	T33N,R30W,Sec. 14	2019	34	M	N	Corn	130	Bushels	189	58.5	39	189	58.5	39
		T33N,R30W,Sec. 14	2020	34	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 14	2021	34	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 14	2022	34	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 14	2023	34	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
B		T33N,R30W,Sec. 14	2019	112.3	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 14	2020	112.3	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 14	2021	112.3	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 14	2022	112.3	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 14	2023	112.3	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
C		T33N,R30W,Sec. 23	2019	67	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2020	67	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2021	67	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2022	67	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2023	67	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
	C1	T33N,R30W,Sec. 23	2019	142	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2020	142	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2021	142	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2022	142	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2023	142	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6

	C2	T33N,R30W,Sec. 23	2019	48.5	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2020	48.5	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2021	48.5	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2022	48.5	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2023	48.5	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
D		T33N,R30W,Sec. 23	2019	103	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2020	103	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2021	103	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2022	103	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2023	103	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
	D1	T33N,R30W,Sec. 23	2019	28	M	N	Corn	130	Bushels	189	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2020	28	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2021	28	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2022	28	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2023	28	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
F		T33N,R30W,Sec. 23	2019	60	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2020	60	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2021	60	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 23	2022	60	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 23	2023	60	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
G		T33N,R30W,Sec. 26	2019	139	M	N	Corn	130	Bushels	189	58.5	39	189	58.5	39
		T33N,R30W,Sec. 26	2020	139	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 26	2021	139	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 26	2022	139	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 26	2023	139	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
H		T33N,R30W,Sec. 26	2019	143.3	M	N	Corn	130	Bushels	189	58.5	39	189	58.5	39
		T33N,R30W,Sec. 26	2020	143.3	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 26	2021	143.3	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 26	2022	143.3	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 26	2023	143.3	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39

I		T33N,R30W,Sec. 27	2019	39	M	N	Corn	130	Bushels	189	58.5	39	189	58.5	39
		T33N,R30W,Sec. 27	2020	39	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 27	2021	39	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 27	2022	39	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 27	2023	39	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39

J		T33N,R30W,Sec. 24	2019	31	M	N	Corn	130	Bushels	189	58.5	39	189	58.5	39
		T33N,R30W,Sec. 24	2020	31	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 24	2021	31	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39
		T33N,R30W,Sec. 24	2022	31	M	N	Soybean	40	Bushels	160	33.6	57.6	160	33.6	57.6
		T33N,R30W,Sec. 24	2023	31	M	N	Corn	130	Bushels	159	58.5	39	189	58.5	39

Planned crops could be substituted for other crops listed in Table 4 due to weather, cropping , or nutrient management constraints. Fields A1,D1,B, G, H, I, and J are cash rented to a local farmer and typically are not applied on. They are included in the NMP in case they are needed for land application purposes.

References:

MWPS-18

Soil Test Interpretations and Recommendations Handbook

Agricultural Waste Management Field Handbook Part 651

MU Guide G9110

Managing Nitrogen For Groundwater Quality & Farm Profitability

DOYLESPORT PYRAMID

Table 2. Field nutrient balance based on estimated manure applications and crop removal.

Field ID	Sub Field ID	Year	Acres	Planned Crop	Projected Yield	Tons or Bushels	Total Applied Nutrients Lbs/A			Crop Removal Lbs/A			N Balance/yr. Lbs/A	P2O5 Balance/yr. Lbs/A
							N	P2O5	K20	N	P2O5	K20		
A		2019	84	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2020	84	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2021	84	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2022	84	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2023	84	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
												Total	**-90**	**-104.8**
B		2019	112.3	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2020	112.3	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2021	112.3	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2022	112.3	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2023	112.3	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
												Total	**-60**	**-79.7**
C		2019	67	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2020	67	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2021	67	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2022	67	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2023	67	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
												Total	**-60**	**-79.7**
	C1	2019	142	Soybean	40	Bushels	160	32.5	404.4	160	33.6	57.6	0	-1.1
		2020	142	Corn	130	Bushels	159	32.3	401.9	189	58.5	39	-30	-26.2
		2021	142	Soybean	40	Bushels	160	32.5	404.4	160	33.6	57.6	0	-1.1
		2022	142	Corn	130	Bushels	159	32.3	401.9	189	58.5	39	-30	-26.2
		2023	142	Soybean	40	Bushels	160	32.5	404.4	160	33.6	57.6	0	-1.1
												Total	**-60**	**-55.7**
	C2	2019	48.5	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2020	48.5	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2021	48.5	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2022	48.5	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2023	48.5	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
												Total	**-60**	**-79.7**
D		2019	103	Corn	130	Bushels	159	32.3	401.9	189	58.5	39	-30	-26.2
		2020	103	Soybean	40	Bushels	160	32.5	404.4	160	33.6	57.6	0	-1.1
		2021	103	Corn	130	Bushels	159	32.3	401.9	189	58.5	39	-30	-26.2
		2022	103	Soybean	40	Bushels	160	32.5	404.4	160	33.6	57.6	0	-1.1
		2023	103	Corn	130	Bushels	159	32.3	401.9	189	58.5	39	-30	-26.2
												Total	**-90**	**-80.8**
F		2019	60	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2020	60	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2021	60	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
		2022	60	Soybean	40	Bushels	160	27.7	344.5	160	33.6	57.6	0	-5.9
		2023	60	Corn	130	Bushels	159	27.5	342.3	189	58.5	39	-30	-31
												Total	**-90**	**-104.8**

Crop	N Fert	P fert	K fert	N Rem	P Rem	K Rem	Yield	POP	N Fert	P fert	K fert	N Rem	P Rem	K Rem
Corn grain	pop*4/1000+ Yield*.9-OM	0.45	0.3	0.9	0.45	0.3	130	33000	189	58.5	39	117	58.5	39
Corn silage	same as corn	4.1	9	10	3.6	9								
Soybeans	4	0.84	1.44	4	0.84	1.44	40		130	33.6	57.6			
Alfalfa	56	11	53	56	11	53								
Fescue	54	12	34	46	12	34								
Matua	52	12	34	52	12	34								
Bermuda	50	12	34	50	12	34								
Orchard	49	12	34	50	12	34								
Rye	40	2	14.6	40	2	14.6								
Sudangrass	40	6.9	19	40	6.9	19								
Wheat	1.26	0.6	0.3	1.26	0.6	0.3								

Table 3. Field Soil analysis information, phosphorus rating, and planned nutrient management.

Farm	Field ID	Sub Field ID	OM	P1	K	CEC	MO soil Test Rating	MO Phosphorus Index Rating	P or N management
Doylesport	A		2.56	21.40	498.60	7.66	M		N
	B		2.36	15.71	170.00	9.29	M		N
	C		2.56	29.00	521.80	8.26	H	M	N
		C1	2.43	22.00	696.38	7.90	H	M	N
		C2	1.87	35.00	431.33	7.57	VH	M	N
	D		2.60	24.33	657.17	7.58	H	M	N
	F		2.30	31.25	439.25	6.68	VH	M	N

VL = Very Low

L = Low

M = Medium

H = High

VH = Very High

Table 4. List of crops that could be planted in place of planned crop due to weather, cropping, or NMP constraints.

Crops	Yield bu./tons
Corn grain	130 bu.
Corn grain	150 bu.
Corn silage	12 tons
Corn silage	15 tons
Soybeans	40 bu.
Alfalfa	4 tons
Fescue	3 tons
Fescue	2 tons
Matua	4 tons
Bermuda	5 tons
Bermuda	3 tons
Orchardgrass	4 tons
Rye	3 tons
Sudangrass	5 tons
Wheat	60 bu.
Cool season grass	3 tons
Warm season grass	3 tons

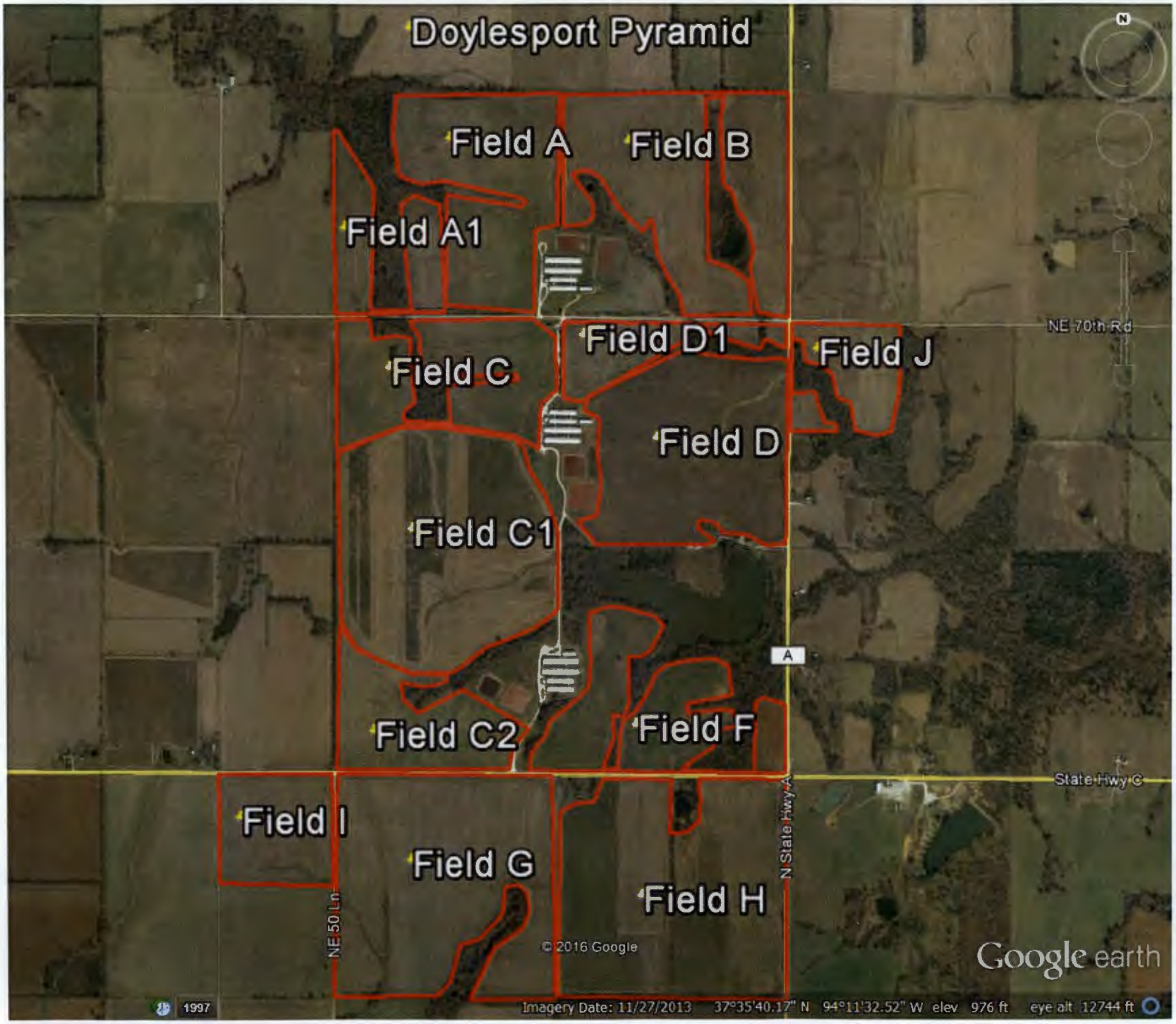
Table 5. Planned Transfers, Imports, or Exports.

Month	Year	Manure Source Storage ID or Operation	Target Import Amount	Target Export Amount	Target Transfer Amount	Units	Receiving Storage ID or Operation	Manure Type
	2019		None	None	None			
	2020		None	None	None			
	2021		None	None	None			
	2022		None	None	None			
	2023		None	None	None			

Table 6. Summary of projected manure generation, imports, exports, transfers and end of year totals.

Manure Source ID	Plan Period	Estimated Total Gals. Generated	Total Gals. Imported	Total Gals. Transferred In	Total Gals. Applied	Total Gals. Exported	Total Gals. Transferred Out	Total Gals. Left At Period End
Wheatrun West	Jan. 2019-Dec. 2019	2,838,240	None	None		None	None	
Wheatrun East	Jan. 2019-Dec. 2019	5,139,565	None	None		None	None	
Quailridge North	Jan. 2019-Dec. 2019	2,953,580	None	None		None	None	
Quailridge South	Jan. 2019-Dec. 2019	5,366,230	None	None		None	None	
Eaglesnest West	Jan. 2019-Dec. 2019	2,807,215	None	None		None	None	
Eaglesnest East	Jan. 2019-Dec. 2019	5,097,225	None	None		None	None	

Attachment C


Doylesport Pyramid
Field A
Field B
Field A1
Field D1
Field J
Field C
Field D
Field C1
Field C2
Field F
Field I
Field G
Field H
NE 70th Rd
A
State Hwy C
N State Hwy A
NE 50 Ln
© 2016 Google
Google earth
1997
Imagery Date: 11/27/2013 37°35'40.17" N 94°11'32.52" W elev 976 ft eye alt 12744 ft