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-0119580
Owner:	Gilster-Mary Lee Corporation
Address:	P.O. Box 227 Chester IL 62233
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Gilster-Mary Lee Corporation
Facility Address:	8366 Highway 51 North, McBride MO 63776
Legal Description:	See Page 2
UTM Coordinates:	See Page 2
Receiving Stream:	See Page 2
First Classified Stream and ID:	See Page 2
USGS Basin & Sub-watershed No.:	See Page 2

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

FACILITY DESCRIPTION

Industrial Facility – SIC #2043, 2099

See page 2.

This permit authorizes only land application of wastewater and sludge 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.

January 1, 2020
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

December 31, 2024
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

PERMITTED FEATURE #001
Industrial and domestic wastewater- SIC 2043, 2099 Process wastewater from manufacture of cereal, popcorn, and cardboard box assembly; domestic wastewater; one earthen aerated basin/one earthen settling basin/one earthen holding basin/wastewater irrigation/sludge is retained in lagoon until land applied. This is a no discharge facility.

Legal Description:	Sec.09, T36N, R11E, Perry County
UTM Coordinates:	X = 779267, Y = 4193245
Receiving Stream:	Tributary to tributary Boise Brule Ditch
First Classified Stream and ID:	Tributary Boise Brule Ditch (P) WBID# 1783
USGS Basin & Sub-watershed No.:	Boise Brule Creek (07140105-0301)
Design population equivalent:	420
Design flow:	42,000 gpd (1-in-10 year design including net rainfall minus evaporation)
Design dry weather flows:	25,000 gpd
Storage Capacity for Dry Flows:	480 days
Average flow:	25,000 gpd (dry weather flows)
Actual flow:	15,000 gpd
Design sludge production:	200 dry tons per year
Freeboard for basin	1.0 foot
Maximum Operating Depth (feet):	1 foot freeboard
Maximum Operating Storage Volume (gallons):	12 Million Gallons
Storage Capacity, 1-in-10 Year Wet Weather (days):	286

PERMITTED FEATURE #002 – Land Application field - 53 acres.
Industrial and Domestic Wastewater – SIC #2043, 2099

Legal Description:	Sec.09, T34N, R11E, Perry County
UTM Coordinates:	X = 778865, Y = 4193149
USGS Basin & Sub-watershed No.:	07140105-0301

Wastewater

Irrigation Volume/year:	36,480,000 gallons at design loading (including 1-in-10 year flows)
Irrigation areas:	53.6 acres at design loading
Design application rates:	0.4 inches/hour; 1.0 inch/day; 3.0 inches/week; 24 inches/year
Actual application rates:	0.1 inches/hour; 0.2 inches/day; 1.0 inch/week; 9.5 inches/year
Field slopes:	less than 5 percent
Equipment type:	center pivot and sprinklers
Vegetation:	row crops

Application rate is based on: hydraulic loading rate/quantity of wastewater in lagoons is less than hydraulic loading.

PERMITTED FEATURE #003 – This lagoon is now connected to, recirculated with and discharged with lagoon Permitted Feature 1.
Industrial and domestic wastewater- SIC 2043, 2099 Process wastewater from manufacture of cereal, popcorn, and cardboard box assembly; domestic wastewater; one earthen aerated basin/one earthen settling basin/one earthen holding basin/wastewater irrigation/sludge is retained in lagoon until land applied.

Legal Description:	Sec.09, T36N, R11E, Perry County
UTM Coordinates:	X = 778865, Y = 4193149
Receiving Stream:	Tributary to Boise Brule Ditch
First Classified Stream and ID:	Boise Brule Ditch (P) WBID# 1783
USGS Basin & Sub-watershed No.:	Boise Brule Creek (07140105-0301)
Design population equivalent:	317
Design flow:	32,000 gpd (1-in-10 year design including net rainfall minus evaporation)
Storage Capacity for wet flows:	238 days
Design dry weather flows:	26,250 gpd
Storage capacity for dry flows:	291 days
Actual flow:	18,000 gpd
Design sludge production:	210 dry tons per year.
Freeboard for basin:	1.0 foot
Storage volume:	7.67 MG

PERMITTED FEATURE #004- ELIMINATED

Land application field; removed in 2018 modification; permittee no longer has authority to apply wastewater to this area.

Legal Description:	Land Grant 3163, Perry County
UTM Coordinates:	X = 778868, Y= 4192836

PERMITTED FEATURE #005 – Land Application field – 12.9 acres.

Industrial and Domestic Wastewater – SIC #2043, 2099

Legal Description:	Sec.09, T34N, R11E, Perry County
UTM Coordinates:	X = 778865, Y = 4193149
USGS Basin & Sub-watershed No.:	07140105-0301

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMITTED FEATURE #001	TABLE A-1 STORAGE BASIN LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to conduct irrigation of wastewater and sludge as specified in the application for this permit. The final limitations shall become effective on **January 1, 2020** and remain in effect until expiration of the permit. The irrigation of wastewater shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
STORAGE BASINS **SB**					
Freeboard †	Feet	*		once/week	measured
Precipitation	Inches	*		daily	measured
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE FEBRUARY 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					
The permittee is authorized to discharge from these permitted features only under the Wet Weather Conditions listed in Special Conditions D.1. Emergency discharges shall be controlled, limited, and monitored as specified below:					
STORAGE BASIN-EMERGENCY DISCHARGE					
Effluent Flow	MGD	*		once/event	measured
Biochemical Oxygen Demand$_5$	mg/L	*		once/event	grab
Total Suspended Solids	mg/L	*		once/event	grab
Ammonia as N	mg/L	*		once/event	grab
pH – Units	SU	*		once/event	grab
Oil & Grease	mg/L	*		once/event	grab
E. coli*	#/100mL	*		once/event	grab
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING DISCHARGE CESSATION. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					
WASTEWATER LAND APPLIED (††,⁑,) **LA**					
Ammonia as N	mg/L	*		once/quarter ◊	grab
Nitrate as N	mg/L	*		once/quarter ◊	grab
Organic Nitrogen	mg/L	*		once/quarter ◊	grab
Total Kjeldahl Nitrogen	mg/L	*		once/quarter ◊	grab
Total Phosphorus	mg/L	*		once/quarter ◊	grab
Potassium	mg/L	*		once/quarter ◊	grab
Arsenic	mg/L	*		once/quarter ◊	grab
Cadmium	mg/L	*		once/quarter ◊	grab
Copper	mg/L	*		once/quarter ◊	grab
Chromium (III)	mg/L	*		once/quarter ◊	grab
Chromium (VI)	mg/L	*		once/quarter ◊	grab
Lead	mg/L	*		once/quarter ◊	grab
Mercury	mg/L	*		once/quarter ◊	grab
Molybdenum	mg/L	*		once/quarter ◊	grab
Nickel	mg/L	*		once/quarter ◊	grab
Selenium	mg/L	*		once/quarter ◊	grab
Zinc	mg/L	*		once/quarter ◊	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

PERMITTED FEATURE #003	**TABLE A-2 STORAGE BASIN LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to conduct land application of wastewater and sludge as specified in the application for this permit. The final limitations shall become effective on **January 1, 2020** and remain in effect until expiration of the permit. The land application of wastewater shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
STORAGE BASINS **SB**					
Freeboard †	Feet	*		once/week	measured

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE FEBRUARY 28, 2020.
THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

The permittee is authorized to discharge from these permitted features only under the Wet Weather Conditions listed in Special Conditions D.1. Emergency discharges shall be controlled, limited, and monitored as specified below:

STORAGE BASIN-EMERGENCY DISCHARGE					
Effluent Flow	MGD	*		once/event	measured
Biochemical Oxygen Demand$_5$	mg/L	*		once/event	grab
Total Suspended Solids	mg/L	*		once/event	grab
Ammonia as N	mg/L	*		once/event	grab
pH – Units	SU	*		once/event	grab
Oil & Grease	mg/L	*		once/event	grab
E. coli	#/100mL	*		once/event	grab

MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING DISCHARGE CESSATION.
THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

PERMITTED FEATURES #001 & #003 Sludge Monitoring	**TABLE A-3 SLUDGE LIMITATIONS AND MONITORING REQUIREMENTS**			
The permittee is authorized to conduct land application of sludge as specified in the application for this permit. The final limitations shall become effective on **January 1, 2020** and remain in effect until expiration of the permit. The irrigation of wastewater shall be controlled, limited and monitored by the permittee as specified below				
PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
INDUSTRIAL SLUDGE APPLICATION ‡‡					
Nutrients ‡					
Ammonia as N	mg/kg-dry	*		once/application ∞	Composite Φ
Nitrate as N	mg/kg-dry	*		once/application ∞	Composite Φ
Organic Nitrogen	mg/kg-dry	*		once/application ∞	Composite Φ
Total Kjeldahl Nitrogen	mg/kg-dry	*		once/application ∞	Composite Φ
Total Phosphorus	mg/kg-dry	*		once/application ∞	Composite Φ
Potassium	mg/kg-dry	*		once/application ∞	Composite Φ
Metals ‡					
Arsenic	mg/kg-dry	*		once/application ∞	Composite Φ
Cadmium	mg/kg-dry	*		once/application ∞	Composite Φ
Copper	mg/kg-dry	4300		once/application ∞	Composite Φ
Chromium (III)	mg/kg-dry	*		once/application ∞	Composite Φ
Chromium (VI)	mg/kg-dry	*		once/application ∞	Composite Φ
Lead	mg/kg-dry	*		once/application ∞	Composite Φ
Mercury	mg/kg-dry	*		once/application ∞	Composite Φ
Molybdenum	mg/kg-dry	75		once/application ∞	Composite Φ
Nickel	mg/kg-dry	*		once/application ∞	Composite Φ
Selenium	mg/kg-dry	*		once/application ∞	Composite Φ
Zinc	mg/kg-dry	*		once/application ∞	Composite Φ
Pathogens‡					
Fecal Coliform	Cfu/g-dry	*		once/application ∞	Composite Φ
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING LAND APPLICATION. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE MOUNTS.					

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

PERMITTED FEATURES #002 & #005	**TABLE A-4 LAND APPLICATION FIELD LIMITATIONS AND MONITORING REQUIREMENTS**				
The permittee is authorized to conduct land application of wastewater and sludge as specified in the application for this permit. The final limitations shall become effective on **January 1, 2020** and remain in effect until expiration of the permit. The land application of wastewater and sludge shall be controlled, limited and monitored by the permittee as specified below:					
LAND APPLICATION MONITORING	UNITS	MONITORING REQUIREMENTS			
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
WASTEWATER APPLICATION					
Application Area	Acres	*		once/day	measured ††
Application Rate	Inches/Acre	*		once/day	measured ††
Irrigation Period	Hours	*		once/day	measured ††
Volume Irrigated	Gallons	*		once/day	measured ††
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING LAND APPLICATION. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					
INDUSTRIAL SLUDGE APPLICATION					
Application Area	Acres	*		once/application ∞	Composite Φ
Application Rate	Inches/Acre	*		once/application ∞	Composite Φ
Volume Irrigated	Gallons	*		once/application ∞	Composite Φ
Solids	%	*		once/application ∞	Composite Φ
pH (salt)	SU	*		once/application ∞	Composite Φ
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING LAND APPLICATION. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE MOUNTS.					

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

PERMITTED FEATURES #002 & #005	**TABLE A-5 LAND APPLICATION FIELD LIMITATIONS AND MONITORING REQUIREMENTS**			
The permittee is authorized to conduct land application of wastewater and sludge as specified in the application for this permit. The final limitations shall become effective on **January 1, 2020** and remain in effect until expiration of the permit. The land application of wastewater and sludge shall be controlled, limited and monitored by the permittee as specified below:				
LAND APPLICATION SOIL MONITORING	UNITS	FINAL EFFLUENT LIMITATIONS	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
SOIL MONITORING **SM▼**				
pH (salt) Ξ	SU	*	once / permit	Composite ⌗
Ammonia as N	mg/kg-dry	*	once / permit	Composite ⌗
Nitrate, Nitrogen as N	mg/kg-dry	*	once / permit	Composite ⌗
Organic Nitrogen	mg/kg-dry	*	once / permit	Composite ⌗
Total Kjeldahl Nitrogen	mg/kg-dry	*	once / permit	Composite ⌗
Phosphorus, Bray P1 method	ppm	*	once / permit	Composite ⌗
Sodium Adsorption Ratio	ratio	*	once / permit	Composite ⌗
Electrical Conductivity	µS/cm	*	once / permit	Composite ⌗
Arsenic	ppm ϡ	*	once / permit	Composite ⌗
Cadmium	ppm ϡ	*	once / permit	Composite ⌗
Copper	ppm ϡ	*	once / permit	Composite ⌗
Chromium	ppm ϡ	*	once / permit	Composite ⌗
Lead	ppm ϡ	*	once / permit	Composite ⌗
Molybdenum	ppm ϡ	37.5 ppm (75lbs/acre)	once / permit	Composite ⌗
Nickel	ppm ϡ	*	once / permit	Composite ⌗
Selenium	ppm ϡ	*	once / permit	Composite ⌗
Zinc	ppm ϡ	*	once / permit	Composite ⌗
MONITORING REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE REPORT IS DUE OCTOBER 28, 2023. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.				

* Monitoring requirement only

† Storage Basin freeboard shall be reported as Storage Basin water level in feet below the overflow level.

†† Wastewater that is land applied shall be sampled at the irrigation pump, wet well, or application equipment prior to land application. Sample must be representative of the effluent from both lagoons prior to land application.

⁑ Sludge that is land applied shall be sampled at the storage basin or application equipment prior to land application. Report as "Conditional Monitoring- Not required this Period" when land application of sludge does not occur during the report period.

Φ Sludge Composite Sampling: The facility shall obtain aliquots from the sludge in a manner which represents the characteristics of the sludge being land applied and have the analysis conducted as one sample. Sludge shall be sampled from each storage basin prior to land application. Sludge composite samples must consist of at least 7 grab samples at a one-foot depth. Collect the samples during the same week from different locations throughout the basin(s).

⌗ Soil Composite sampling: Shall be conducted in accordance with Missouri Extension guidance on "Soil Sampling Hayfields and Row Crops" G9217.

∞ Table A-3 reporting is only required for when sludge application occurred during the month. If no land application of sludge occurs at a permitted feature, no reporting is required. These are unscheduled parameters. Sludge sampling shall be a representative sample collected prior to application to the field.

▼ Sample the upper 6 to 8 inches of soil. Composite samples shall be collected from each permitted land application site. See Section D. Land Application System Condition #4(m) Soil Monitoring for additional guidance.

ɤ Use a factor of 0.5 to convert the pounds per acre of a nutrient or pollutant in its elemental form into ppm, if needed (e.g. 120 lbs/acre = 60ppm.)

Ξ Soil pH shall be maintained in a range that is optimal for plant growth.

◊ See table below for quarterly sampling

MINIMUM QUARTERLY SAMPLING REQUIREMENTS			
QUARTER	**MONTHS**	**EFFLUENT PARAMETERS**	**REPORT IS DUE**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

B. STANDARD CONDITIONS

In addition to specified 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. LAND APPLICATION CONDITIONS

These special conditions do not apply to fertilizer products that have a received a current exemption under the Missouri Clean Water Law and regulations in 10 CSR 20-6.015(3)(B)8 and are land applied in accordance with that exemption.

1. Requirements for land application of Sludge and Wastewater
   (a) Land application is for the agricultural application of materials.
   (b) Land application fields must be maintained in continued agricultural production. Fields are not allowed to be left in a non-agricultural productive state.
   (c) Application of materials that lead to phytotoxicity is prohibited.

2. Storage Basin.
   (a) The berms of the storage basin(s) shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.
   (b) The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the storage basin(s) and to divert stormwater runoff around the storage basin(s) and protect embankments from erosion.
   (c) The minimum and maximum operating water levels for the storage basin(s) shall be clearly marked. Each storage basin shall be operated so that the maximum water elevation does not exceed upper operating level except due to exceedances of the 1-in-10 year or 25-year, 24-hour storm events. Storage basins shall be lowered to the minimum operating level prior to November 30 each year. Storage basins shall be inspected monthly for structural integrity and leaks.
   (d) A least one gate, constructed of materials comparable to the fence, must be provided to access any storage basin and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform maintenance or mowing.
   (e) At least one sign shall appear on the fence on each side of each facility. Minimum wording shall be "SEWAGE TREATMENT FACILITY – KEEP OUT", in letters at least 2 inches high.
   (f) Earthen storage basins shall have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. It is a violation of this permit to place material in the emergency spillway or otherwise cause it to cease to function properly, as this may result in a catastrophic failure of the storage basin.
   (g) Storage basins must be regularly recycled or blended to ensure consistent wastewater in both lagoons. With the planned regular basin mixing, representative effluent sampling may be conducted at the lagoon discharge prior to land application. Wastewater need only be reported for Permitted Feature #001, as it must be a representative sample of the wastewater in both lagoons.

3. Land Application Equipment.
   (a) Spray application equipment shall minimize the formation of aerosols.
   (b) Provisions shall be made for draining pipes and other equipment to prevent freezing.
   (c) Portable pumping unit or permanent pumping installation.
      (1) A suitable structure shall be provided to house the pump.
      (2) The intake pumping system shall provide the capability for varying the withdrawal depth.

C. LAND APPLICATION CONDITIONS (continued)

(3) The intake elevation should be maintained 12-24 inches below the wastewater elevation.
(4) The intake shall be screened so as to minimize clogging of the sprinkler nozzle or distribution system orifices.
(5) For use of a potable pump, a stable platform and flexible intake line with flotation device to control depth of intake will be acceptable.

(d) Thrust blocking of pressure pipes shall be provided.

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

4. Land Application Fields.

(a) This special condition does not apply to fertilizer products that are exempted under the Missouri Clean Water Law and regulations, 10 CSR 20-6.015(3)(B)8.

(b) If land application sites listed in this permit are also included as land application sites in another permit, the wastewater and sludge applications from other sources shall be included in the application rates in the facility description. Records of the amount and application rate of wastewater or sludge from other sources must be kept.

(c) Public Access Restrictions. This permit does not authorize application of wastewater to public use areas.

(d) Grazing and harvesting deferment. Grazing of animals or harvesting of forage crops should be deferred for up to 30 days following wastewater irrigation depending upon ambient air temperature and sunlight conditions. The following deferments shall be considered:
(1) During the period from May 1 to October 30 of each year, the minimum deferment from grazing or forage harvesting shall be fourteen (14) days;
(2) During the period from November 1 to April 30 of each year, the minimum deferment from grazing or forage harvesting shall be thirty (30) days;
(3) Grazing of sewage irrigated land is not recommended for lactating dairy animals unless there has been a much longer deferment period; and
(4) Deferment may not be required for irrigation water that has been disinfected so that the water contains less than four hundred (400) fecal coliform organisms per one hundred milliliters (100 ml).

(e) No land application shall occur when the soil is frozen, snow covered, or saturated. There shall be no application during a precipitation event or if a precipitation event that is likely to create runoff is forecasted to occur within 24 hours of a planned application.

(f) Land application shall occur only during daylight hours.

(g) Land application fields shall be checked daily during land application for runoff. Sites that utilize spray irrigation shall monitor for the drifting of spray across property lines.

(h) Setback distances from sensitive features. There shall be no land application within:
(1) 300 feet from any sinkhole, losing stream, or any other physiographic structure with a conduit to groundwater;
(2) 300 feet of any potable water supply well not located on the property, adequate protections shall be implemented and maintained for any potable water supply well located within the application area;
(3) 150 feet of an occupied residence, public building, or public use area;
(4) 100 feet of any classified or unclassified gaining perennial or intermittent stream, any wetland, or any public or privately owned pond or lake;
(5) 50 feet of gaining perennial or intermittent stream, public or privately owned pond or lake;
(6) 50 feet of property line or public road;
(7) Within the 10 year floodplain.

(i) Wastewater application on slopes exceeding 10%, the hourly application rate shall not exceed one-half (1/2) the design sustained permeability and in no case shall exceed one-half (1/2) inch per hour.

(j) Sludge application slope limitations for application sites are as follows;
(1) Slopes of 6 percent or less there are no limitations.
(2) Slopes of 7 to 12 percent, biosolids when may be applied with no limitation when soil conservation practices are used to meet the minimum erosion levels.
(3) Slopes greater than 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less

(k) Sludge shall not be applied to fields used to grow food crops for human consumption to be eaten raw, such as leafed vegetables or root crops.

(l) Sludge shall not be applied to within thirty (30) days of grazing or forage harvesting. The recommendations of the State Milk Board shall be followed.

(m) Soil Monitoring.

C. LAND APPLICATION CONDITIONS (continued)

(1) Composite soil samples shall be collected in 2023 (4th year of permit) from each field listed in this permit where land application has occurred in the last 12 months. No land application shall occur on fields listed in this permit if soil sample results are more the five (5) years old.
(2) Soil sampling shall be in accordance with University of Missouri (MU) Guides G9215, Soil Sampling Pastures; or G9217, Soil Sampling Hayfields and Row Crops or other methods approved by the department. The recommendation of one composite sample per 20 acres in G9215 and G9217 is not required by this permit, however, this is a useful method to identify soil fertility fluctuations in large fields due to past management practices, soil type, and variability of crop yields. There shall be at least one composite sample per 80 acres.
(3) Testing shall conform to Recommended Chemical Soil Testing Procedures for North Central Region (North Central Regional Research Publication 221 Revised), or Soil Testing in Missouri (MU Extension Guide EC923), or other methods approved by the Department.
(4) Upon renewal, soil sampling may be required for additional pollutants of concern if elevated concentrations of pollutants are present in any wastewater sampling results.
(5) Soil sampling monitors cumulative loading to prevent excessive pollutant concentrations in soil. Land application cannot continue if soil samples indicate pollutants in excess of the following maximum cumulative loading rates:

Parameter	cumulative loading*: kg/ha	cumulative loading*: lbs/ac
Aluminum	3567	4000
Arsenic	41	37
Boron	**	**
Cadmium	39	35
Chloride	**	**
Copper	1500	1339
Lead	300	268
Nickel	420	375
Selenium	100	89
Zinc	2800	2499

* If the cumulative loading rate is met for any one parameter, the facility shall cease to apply wastewater containing such pollutant to all affected areas.
** Will be re-assessed at the next permit renewal.

(6) If mercury is detected in any wastewater or sludge sample, the regularly scheduled soil sampling must also include mercury. If mercury sampling results remain not detect (conducted in accordance with Standard Conditions I), then no soil sampling for mercury is required.

(n) Wastewater and sludge land applications shall not exceed agronomic rates to ensure agricultural use of nutrients and prevent contamination of surface and groundwater. The agronomic rate is the amount of wastewater and sludge applied to a field to meet the fertilizer recommendation.

5. Hydraulic Loading Rate. The application rate shall not exceed the design hydraulic loading rate listed in the facility description.
(a) If hydraulic application rates exceed 24 inches per acre per year, the permittee shall calculate nitrogen loading rates and include results in the annual report. The calculation procedures are as follows: (Total N) x (0.226) x (inches per acre irrigated) = pounds total N per acre. Where Total N = [Total Kjeldahl Nitrogen (TKN) as N] + [Nitrate Nitrogen as N].

6. Nutrient Loading Rate. Land application to fields listed in this permit shall use the following protocols to determine the amount of wastewater and sludge to be applied.
(a) The fertilizer recommendation shall be based on the following:
(1) The nutrient recommendation (nitrogen or phosphorus) for each crop. Recommendations can be found in University of Missouri Extension Guide WQ430 Crop/Nutrient Considerations for Biosolids or from publications by other land grant universities in adjoining states,
(2) Realistic yield goal for each crop. Yield goals should be based on actual crop yield records from multiple years for each field. Good judgment should be used to counteract unusually high or low yields. If a field's yield history is not available the USDA county wide average or other approved source may be used, and
(3) The most recent soil test.
(b) Wastewater and Sludge applications shall be conducted according to one the following nutrient based management practices.
(1) Plant Available Nitrogen (PAN) based application. This method can be used when soil test phosphorus (P) levels are 120 pounds or less per acre using Bray P-1 test method, or if the field has been assessed by Missouri Phosphorus Index (P-index) with a low or medium rating. The amount of wastewater and sludge to be applied shall be adjusted annually based

C. LAND APPLICATION CONDITIONS (continued)

on the PAN calculation using the current wastewater and sludge nutrient analysis and the following:

(i) For non-legume crops, the nitrogen fertilizer recommendation shall be adjusted to account for nitrogen credits from a preceding legume crop and residual nitrogen from the previous year's application. Nitrogen removal rates can be found in WQ430.

(ii) For legume crops, the nitrogen removal capacity of the legume crops should be based on the estimated nitrogen content of the harvested crop as defined in WQ430 and a realistic yield goal. The estimated nitrogen content of the crop must be adjusted using nitrogen credits for residual nitrogen fertilizer from the previous year's application.

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

(2) Phosphorus based application. This method must be used when soil test phosphorus (P) levels are above 120 pounds per acre using Bray P-1 test method, or if the P-index rating is high. The amount of wastewater and sludge to be applied shall be adjusted annually based the phosphorus content of the current wastewater and sludge nutrient analysis and may be done applied according to one of the following methods;

(i) The annual amount of phosphorus applied shall not exceed the planned crop's phosphorus removal estimate from WQ430, or from publications by other land grant universities in adjoining states or,

(ii) Multi-year phosphorus applications. Wastewater and sludge applications can exceed the annual planned phosphate removal estimate for the crop when a multi-year phosphorus application is utilized. The multi-year application must comply with the following conditions:

(a) The amount of wastewater and sludge applied shall not exceed the nitrogen fertilizer recommendation or the estimated nitrogen removal capacity of the planned crop during the year of the application;

(b) The amount of phosphorus banked shall not exceed four years of the estimated crop removal rate for the planned crop rotation;

(c) The actual application rate shall not exceed the multi-year application rate; and

(d) No additional sludge applications shall occur until the applied phosphorus has been removed from the field by crop removal or harvest.

(3) No land application shall occur if the P-index rating for a field is very high.

7. Other Pollutant Limitations and Loading Rates. Molybdenum and copper concentrations must not exceed concentrations and soil limits established in Section A. Should sample results indicate concentrations of either pollutant in excess of the limits established in Section A, land application shall not occur and alternative disposal options must be used.

8. Record Keeping

(a) A daily land application log shall be prepared and kept on file at the permittee office location for each application site showing dates of application, weather condition (sunny, overcast, raining, below freezing etc…), soil moisture condition, application method.

(b) A record of monthly visual storage structure inspections shall be maintained.

(c) A record of land application equipment inspections and calibrations as well as land application field inspections shall be maintained.

(d) All records and monitoring results shall be maintained for at least five years and shall be made available to the department upon request.

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

(a) Record of maintenance and repairs during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year.

(b) The number of days the storage structure discharged during the year, the discharge flow, reason the discharge occurred and effluent analysis performed.

(c) A summary for each field used for land application showing number of acres used number of days application occurred, crop grown and yield, and total amount of wastewater and/or sludge applied (gal. or tons/acre).

(d) For fields where the total nitrogen application exceeds 150 lbs./acre, submit PAN calculations to document that the applied nitrogen will be utilized.

(e) Narrative summary of any problems or deficiencies identified, corrective action taken and improvements planned.

D. SPECIAL CONDITIONS

1. This permit does not authorize the discharge of wastewater or sludge, except during emergency discharge conditions. A chronic wet weather event is a series of wet weather events and conditions that can delay planting, harvesting, and prevent land

D. SPECIAL CONDITIONS (CONTINUED)

application and dewatering practices at wastewater storage structures. When wastewater storage structures are in danger of an overflow due to a chronic weather event, owners shall take reasonable steps to lower the liquid level in the structure through land application, or other suitable means, to prevent overflow from or damage to the storage structure. 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. Other materials, chemicals and substances not considered wastewater or sludge being treated and disposed of by the land application system are not authorized to be discharged regardless of weather conditions.

2. Unauthorized Discharges.
   (a) Discharges, spills, or overflows for any reason not authorized above 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 Southeast Regional Office during normal business hours or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours within 24 hours of becoming aware of the discharge.
   (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, via the Electronic Discharge Monitoring Report (eDMR) Submission System by the 28th day of the month after the discharge ceases. Permittee shall monitor for the following constituents:

Constituent	Units
Effluent Flow	MGD
Biochemical Oxygen Demand$_5$	mg/L
Total Suspended Solids	mg/L
Ammonia as N	mg/L
pH – Units	SU
Oil & Grease	mg/L
E. coli*	#/100mL

*Sampling for E. coli is only required during the recreational months of April – October.

3. Electronic Discharge Monitoring Report (eDMR) Submission System.
   (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
   (b) Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:
      (1) Wastewater Irrigation Annual Reports;
      (2) Sludge/Biosolids Annual Reports;
      (3) Additional representative sampling;
      (4) Mercury soil sampling, if required in accordance with C. Land Application Conditions (m)(4);
      (5) Any additional report required by the permit excluding bypass reporting.

      After such a system has been made available by the department, required data shall be directly input into the system by the next report due date.
   (c) Other actions. The following shall be submitted electronically after such a system has been made available by the department:
      (1) General Permit Applications/Notices of Intent to discharge (NOIs);
      (2) Notices of Termination (NOTs);
      (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 (CONTINUED)

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

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

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

7. Water accumulated in secondary containment areas can be land applied, so long as the presence of hydrocarbons will not cause an exceedance of applied oils and greases values listed in D. Land Application System Condition 11(c). Records of all testing and treatment, including land application, of water accumulated in secondary containment shall be maintained on site and made available to the department upon request.

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

9. 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.

10. All permitted features, including emergency outfalls, must be clearly marked in the field. The permitted features and land application fields shall also be marked on the aerial or topographic site map included with the Operation and Maintenance manual.

11. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems, including key operating procedures, an aerial or topographic site map with the permitted features, land application fields, and irrigation buffer zones

D. SPECIAL CONDITIONS (CONTINUED)

marked,and a brief summary of the operation of the facility. The O & M manual shall be made available to the operator and available to the department upon request. The O&M Manual shall be reviewed and updated at least every five years.

12. An all-weather access road shall be provided to the treatment facility.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0119580
GILSTER-MARY LEE CORPORATION

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of 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.

This Factsheet is for Industrial Land Application activity.

Part I FACILITY INFORMATION

Facility Type:	Industrial
Facility SIC Code(s):	2043, 2099
Facility NAICS Code:	311230, 31199
Application Date:	June 29, 2018
Expiration Date:	December 31, 2018
Last Inspection:	November 3, 2016, in compliance.

FACILITY DESCRIPTION:
Facility is a no-discharge lagoon system which land applies wastewater from the storage lagoons. Wastewater received at this site comes from several sources. At this location is the McBride Plant which manufactures cereal and popcorn as well as produces boxes from corrugated cardboard. Box production at this site consist of assembly of shipping boxes to contain multiple products for shipping. These containers are constructed from sheet corrugated cardboard produced at a facility in Illinois. Only die cutting and assembly of the boxes takes place at this facility. Domestic waste from the McBride Plant is also received at this treatment facility. Industrial waste is brought in by truck from other Gilster-Mary Lee production facilities. This includes waste from the manufacture of breakfast cereal and marshmallows at the Chester Plant, manufacture of breakfast cereal at the Perryville Plant and manufacture of pasta and ready to spread frosting at the Steelville plant.

The storage lagoons consist of two separate three cell lagoon systems. Waste is received at this location and is stored until it is able to be land applied. Sludge from both lagoon systems is removed and land applied to the field (Permitted Feature #005) directly to the east of the lagoon systems.

The McBride Plant which neighbors this land application system and contributes to a portion of the process waste flows to this land application treatment system is exempt from stormwater permitting. The McBride plant holds a no exposure stormwater certification for the McBride manufacturing plant. MONX00194 has an effective date of 11/07/2016 and expires on 11/06/2021. No exposure does not apply to the land application area and wastewater storage basins.

PERMITTED FEATURE(S) TABLE:

PERMITTED FEATURE	STORAGE CAPACITY / DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	12 MG Storage/ 42,000 GPD	3 Cell Storage Basin	Industrial and Domestic wastewater/sludge
#002	36,480,000 gallons/year	Land Application Field	Industrial and Domestic wastewater
#003	7.67 MG Storage/ 32,000 GPD	3 Cell Storage Basin	Industrial and Domestic wastewater/sludge
#004	Eliminated 2018	Eliminated 2018	Eliminated 2018
#005	n/a	Land Application Field	Sludge from both #001 and #003

*gpd = gallons per day

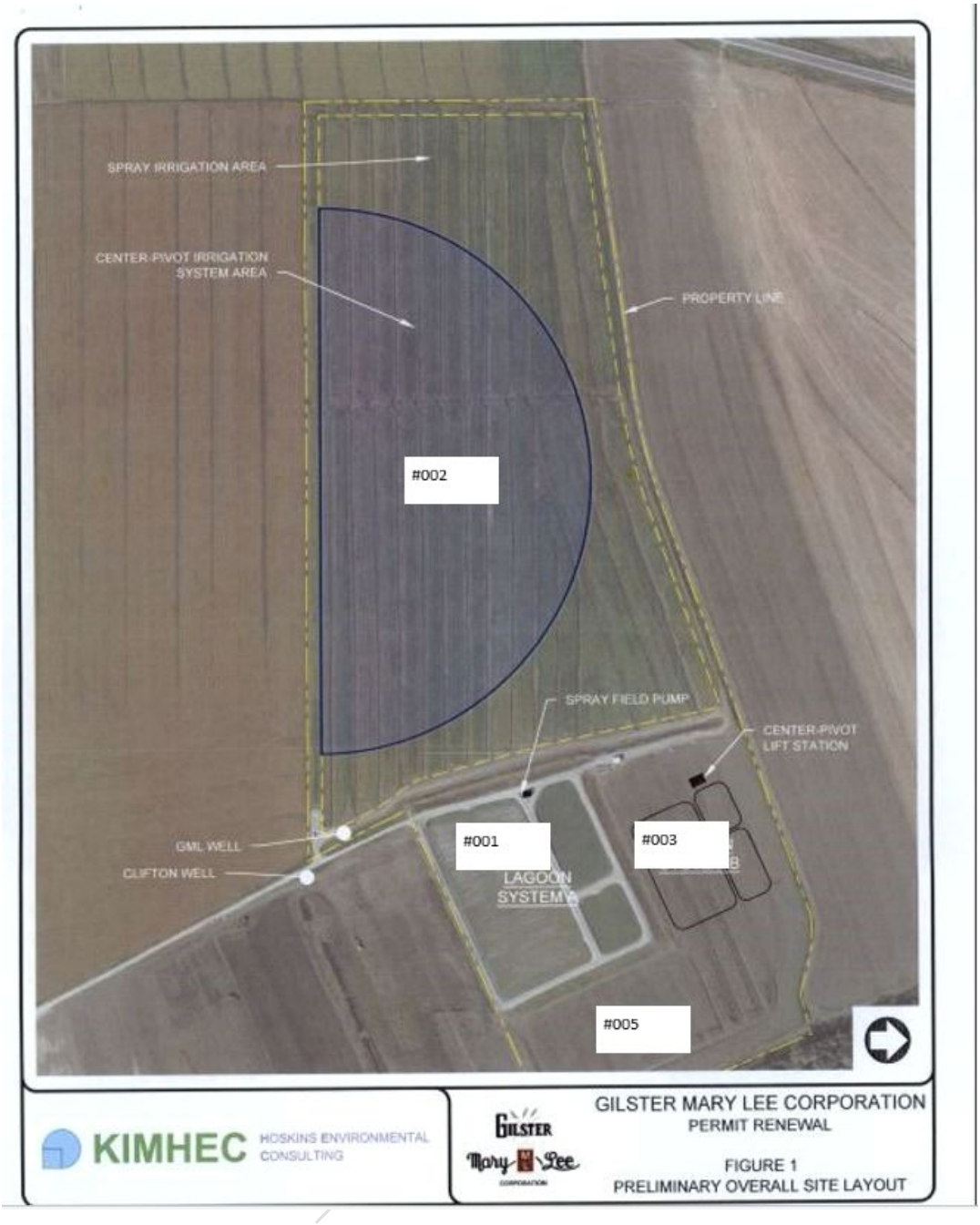
FACILITY PERFORMANCE HISTORY & COMMENTS:
The electronic discharge monitoring reports were reviewed for the last five years. No limit exceedances were reported during this time period.

This facility accepts wastewater and sludge from numerous food production facilities, including microwave popcorn production. Per- and polyfluoroalkyl substances, or PFAS, are chemicals found in food storage products, like microwave popcorn bags and can lead to adverse human health effects. Because of the potential presence of this chemical, it is recommended that the permittee consider sampling the wastewater and sludge for PFAS prior to their next permit application, or at least researching the potential presence of PFAS at their source material locations.

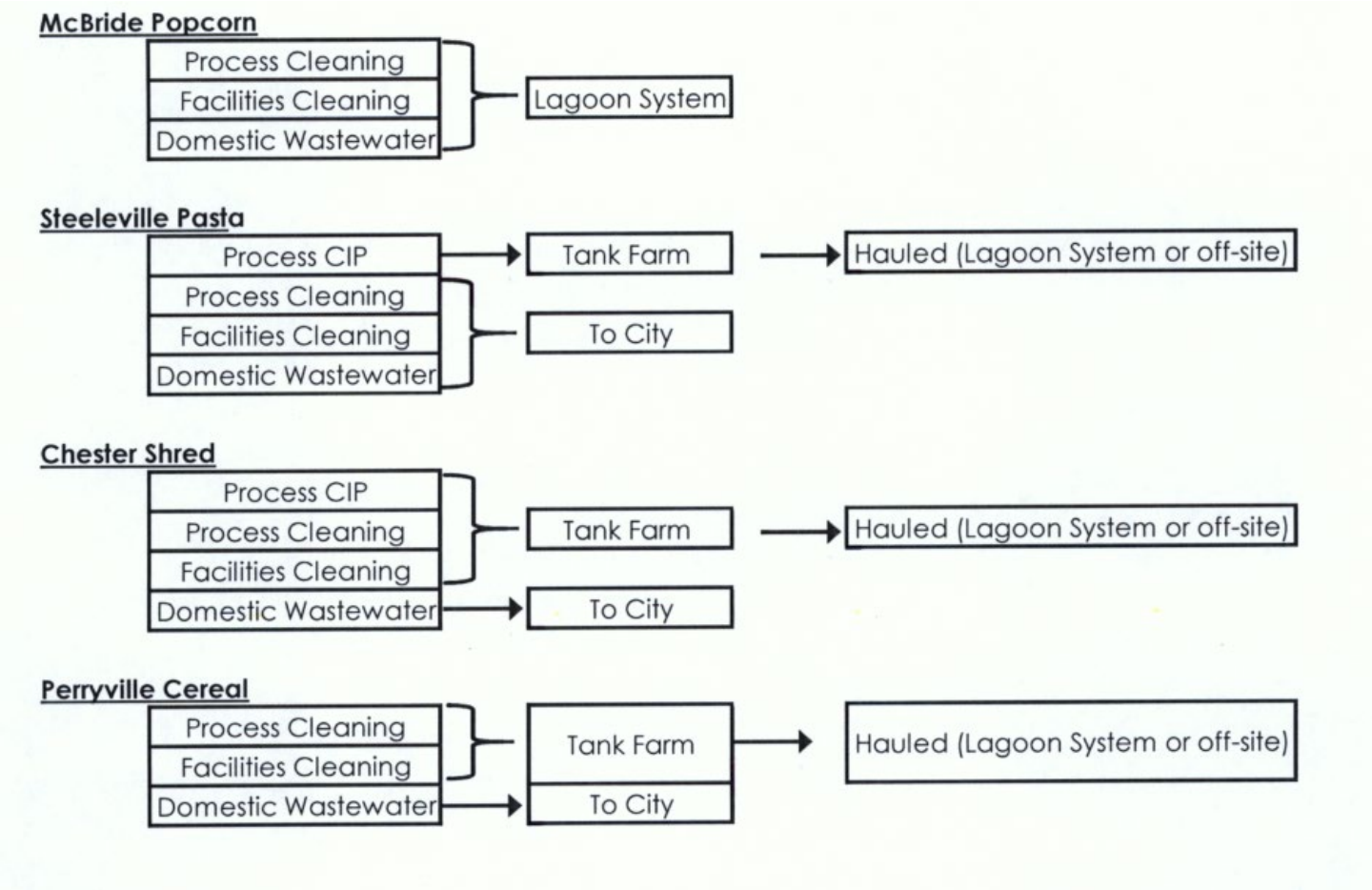
For land application equipment, concrete pads and support bracing should be considered. Automatic or semi-automatic controls should be considered for shut off of the system after a prescribed sludge application period. Manual start-up of the application system is recommended. Land application is for agricultural purposes and, as such, must occur at agronomic rates and not result in phytotoxicity. Land application guidelines provided in the permit ensure proper application, help prevent runoff, and establish setback limits to protect sensitive features. For additional floodplan information, please visit the Federal Emergency Management Agency's (FEMA) webpage at www.fema.gov.

AERIAL FACILITY MAP:

FACILITY MAP:



WATER BALANCE DIAGRAM:



Part II RECEIVING STREAM INFORMATION

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

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

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

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

✓ Applicable; this facility land applies within the Mississippi River Watershed which is associated with the 2002 EPA Approved TMDL for PCB's and Chlordane.

✓ This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment of the Mississippi River. This facility conducts land application activities and discharges are not authorized.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

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

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

RECEIVING STREAMS TABLE:

PERMITTED FEATURE	WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	DISTANCE TO SEGMENT (MILES)	12-DIGIT HUC
#001	Tributary to Tributary to Boise Brule Ditch	n/a	n/a	GEN	0.0	07140105-0301
#001	Tributary to Boise Brule Ditch	P	1785	AQL, HHP, IRR, LWW, SCR, WBCB	0.39	
#002	Tributary to Tributary to Boise Brule Ditch	n/a	n/a	GEN	0.0	
#002	Tributary to Boise Brule Ditch	P	1785	AQL, HHP, IRR, LWW, SCR, WBCB	0.99	
#003	Tributary to Tributary to Boise Brule Ditch	n/a	n/a	GEN	0.0	
#003	Tributary to Boise Brule Ditch	P	1785	AQL, HHP, IRR, LWW, SCR, WBCB	0.26	
#005	Tributary to Tributary to Boise Brule Ditch	n/a	n/a	GEN	0.0	
#005	Tributary to Boise Brule Ditch	P	1785	AQL, HHP, IRR, LWW, SCR, WBCB	0.05	

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

Uses which may be found in the receiving streams table, above:

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

MIXING CONSIDERATIONS:

Mixing zone: not allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)].
Zone of initial dilution: not allowed [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements are recommended at this time.

Part III RATIONALE & DERIVATION OF LIMITATIONS & PERMIT CONDITIONS

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

✓ Not Applicable; The facility is a no-discharge system that does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(O)], or is an existing facility.

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

✓ 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 Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
  - The previous permit contained monitoring requirements for Nitrate +Nitrite, Nitrite, and Total Nitrogen. These have been removed as they are not necessary to calculate plant available nitrogen. Plant available nitrogen calculations will be used to determine if over application of nitrogen is occurring using the nitrogen parameters that have been retained.
  - 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:
    - 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. This facility utilizes irrigation of wastewater to the land surface and does not discharge. Based upon a review of a recent Report of Compliance Inspection for the inspection conducted on November 03, 2016, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, there had been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of the wastewater irrigation. Therefore, based on the information reviewed during the drafting of this permit, and the fact that the facility does not discharge, no reasonable potential to cause or contribute to an excursion of this criterion exists.
    - Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
    - Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
    - Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. Please see (A) above as justification is the same.
    - There shall be no significant human health hazard from incidental contact with the water. Please see (A) above as justification is the same.
    - There shall be no acute toxicity to livestock or wildlife watering. Please see (A) above as justification is the same.
    - Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.
    - 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. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an

excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This permit contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this facility does not have reasonable potential to cause or contribute to an excursion of this criterion.

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.

BENCHMARKS:
When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer. 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 limitations of the permit.

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 determined by the site specific conditions including the receiving water's current quality. While inspections of the stormwater BMPs occur monthly, facilities with no compliance issues are usually expected to sample stormwater quarterly.

Numeric benchmark values are based on water quality standards or other stormwater permits including guidance forming the basis of Environmental Protection Agency's (EPA's) *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP). 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. 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.

✓ Not applicable; this facility does not have any stormwater outfalls.

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

✓ Not applicable; this condition is not applicable to the permittee for this facility. Solids removed from this facility and land applied are not by definition "biosolids" or "sewage sludge" as the solids are produced primarily by industrial process wastewater.

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.

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.

- ✓ Activities conducted at this facility and the associated facilities contributing process wastewater are subject to Effluent Limit Guidelines of Subpart I of 40 CFR 406 Grain Mills point source category. As this facility conducts land application of wastewater and residuals the effluent limitations set forth in 40 CFR 406 subpart I are not included. No discharge requirements of this permit are more stringent than the technology based limits set forth in the ELG.

GROUNDWATER MONITORING:
Groundwater is a water of the state according to 10 CSR 20-7.015(1)11, 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.

REASONABLE POTENTIAL (RP):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are (or may be) discharged at a level 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 that pollutant [40 CFR Part 122.44(d)(1)(iii)].

- ✓ The permit writer reviewed application materials, DMR data, past inspections, and other site specific factors to evaluate general and narrative water quality reasonable potential for this facility. Per the permit writer's best professional judgment, based on available data and full and accurate disclosure on application materials, this facility does not demonstrate reasonable potential for excursions from the general or narrative water quality criteria. See Part IV: Effluent Limit Determinations for specific parameter RP.

DOMESTIC SLUDGE:
Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer). 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. Additional information: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74 (WQ422 through WQ449).

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

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

- ✓ Applicable; Permittee land applies industrial sludge in accordance with this permit and a Department approved sludge management plan.

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

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

LAND APPLICATION RATES:

Hydraulic Loading Rates – wastewater shall be land applied at rates to allow for proper soil absorption and plant uptake. In no case, shall the hydraulic loading rate exceed the soil permeability rate, resulting in a discharge.

WQ421 State and EPA Regulations for Domestic Wastewater Sludge and Biosolids
WQ422 Land Application of Septage
WQ423 Monitoring Requirements for Biosolids Land Application
WQ424 Biosolids Standards for Pathogens and Vectors
WQ425 Biosolids Standards for Metals and Other Trace Substances
WQ426 Best Management Practices for Biosolids Land Application
WQ427 Benefits and Risks of Biosolids
WQ428 Activity and Movement of Plant Nutrients and Other Trace Substances
WQ429 Interpretation of Laboratory Analysis of Biosolids Samples
WQ430 Crop/Nutrient Considerations of Biosolids
WQ431 Collection and Storage of Biosolids
WQ432 Equipment for Off-site Application of Biosolids
WQ433 Equipment for On-site Land Application of Biosolids
WQ434 Operating Considerations for Biosolids Equipment
WQ449 Biosolids Glossary of Terms

Fertilizer recommendations can also be obtained by using one of the following tools:
The University of Missouri Extension online fertilizer recommendation calculator at http://soilplantlab.missouri.edu/soil/scripts/manualentry.aspx.

The Missouri P-Index is a tool to evaluate the potential for phosphorus loss from land application fields. It uses information such as soil test phosphorus result, cropping practices, RUSLE, land cover, and distance to water to calculate a rating for the risk phosphorus transport from the field. The P-index is available at http://nmplanner.missouri.edu/tools/pindex.asp0.

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

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.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS (TBEL):
One of the major strategies of the Clean Water Act (CWA) in making "reasonable further progress toward the national goal of eliminating the discharge of all pollutants" is to require effluent limitations based on the capabilities of the technologies available to control those discharges. Technology-based effluent limitations (TBELs) aim to prevent pollution by requiring a minimum level of effluent quality attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the United States. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and water quality-based effluent limitations (WQBELs).
✓ Not applicable; this facility does not discharge process wastewater therefore is not subject to TBEL POC analysis.

VARIANCE:
As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.
✓ Not applicable; this operating permit is not drafted under premises of a petition for variance.

Part IV PERMIT LIMITS & MONITORING DETERMINATION

Effluent limitations derived and established for this permit are based on current operations of the facility. Effluent means both process water and stormwater. Any flow through the outfall is considered a discharge and must be sampled and reported as provided below. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

PERMITTED FEATURE #001& #003– STORAGE BASINS

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

STORAGE BASIN LIMITATIONS TABLE (PERMITTED FEATURES #001 AND #003- TABLES A-1 AND A-2):

PARAMETERS	UNIT	DAILY MAX	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
STORAGE BASIN						
FREEBOARD	Feet	*	same	daily	once/month	measured
PRECIPITATION	Inches	*	same	daily	once/month	measured

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

PERMITTED FEATURE #001 & #003 – DERIVATION AND DISCUSSION OF LIMITS:

STORAGE BASIN:

Freeboard

Monitoring requirement only. In order to determine the facility is being properly operated within capacity.

Precipitation

Monitoring requirement only. Additionally, precipitation monitoring allows the permittee to operate the land application activity to prevent over application during saturated conditions that may result in a discharge.

PERMITTED FEATURE #001 – WASTEWATER LAND APPLICATION

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

STORAGE BASIN MONITORING AND LIMITATIONS TABLE #001:

PARAMETERS	UNIT	DAILY MAX	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
WASTEWATER APPLICATION						
APPLICATION AREA	Acres	*	same	once/day	once/month	measured
APPLICATION RATE	Inches/Acre	*	same	once/day	once/month	measured
IRRIGATION PERIOD	Hours	*	same	once/day	once/month	measured
VOLUME IRRIGATED	Gallons	*	same	once/day	once/month	measured
WASTEWATER						
AMMONIA AS N	mg/L	*	same	once/quarter	once/quarter	grab
NITRATE NITROGEN AS N	mg/L	*	same	once/quarter	once/quarter	grab
ORGANIC NITROGEN	mg/L	*	same	once/quarter	once/quarter	grab
NITROGEN, TOTAL KJELDAHL	mg/L	*	same	once/quarter	once/quarter	grab
PHOSPHORUS	mg/L	*	New	once/quarter	once/quarter	grab
POTASSIUM	mg/L	*	New	once/quarter	once/quarter	grab
ELECTRIC CONDUCTIVITY	dS/m	*	New	once/quarter	once/quarter	grab
SODIUM ADSORPTION RATIO	ratio	*	same	once/quarter	once/quarter	grab
PLANT AVAILABLE NITROGEN	mg/L	*	new	once/quarter	once/quarter	grab

* - Monitoring requirement only

NEW - Parameter not previously established in previous state operating permit.
Once/permit – the facility shall sample the field once per permit cycle, the results of the sampling are due…..

PERMITTED FEATURE #001 – DERIVATION AND DISCUSSION OF LIMITS:

WASTEWATER APPLICATION:

Application Area
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015(4)(A) monitoring of application activity is required. Monitoring the area will allow the permittee to ensure compliance with application practices.

Application Rate
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015, monitoring of application activity is required. Monitoring the rate will allow the permittee to ensure appropriate permeability and plant uptake is occurring and will prevent soil saturation that may result in runoff and illicit discharges to waterbodies. This will also prevent sludge buildup that may clog soils, which likewise will cause runoff and illicit discharges of wastewater to waterbodies.

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

Volume Irrigated
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 monitoring of application activity is required. Monitoring the volume irrigated will allow the permittee to ensure over application does not occur and that hydraulic loading is maintained within design levels. This will also help prevent runoff and illicit discharges due to soil saturation. This will also prevent sludge buildup that may clog soils, which likewise will cause runoff and illicit discharges of wastewater to waterbodies.

WASTEWATER:

Nitrogen- Ammonia: Ammonia is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen-Nitrate: Nitrate is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen – Organic: Organic Nitrogen is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen – Total Kjeldahl: Total Kjeldahl nitrogen is necessary to calculate Plant Available Nitrogen. Total Kjeldahl nitrogen includes Organic Nitrogen and Ammonia Nitrogen.

The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Plant Available Nitrogen: Plant Available nitrogen monitoring is necessary to determine if wastewater is being applied at an agronomic rate.

Total Phosphorus
Monitoring requirement only. Wastewater and sludge can contain variable concentration of nutrients. Soils and plants have limited capacity to uptake the nutrients found in the wastewater and sludge being land applied.

Potassium
Monitoring requirement only. Potassium is a macronutrient required for plant growth. As this facility is a no discharge facility which land applies on agricultural fields Potassium monitoring is required to evaluate the rates at which nutrients are being applied.

SALINITY
The negative effects (dispersion of soil particles, impaired permeability) of elevated sodium levels are counter acted by high electrolyte solution (electrical conductivity). SAR and Electrical Conductivity are included due to this relationship.

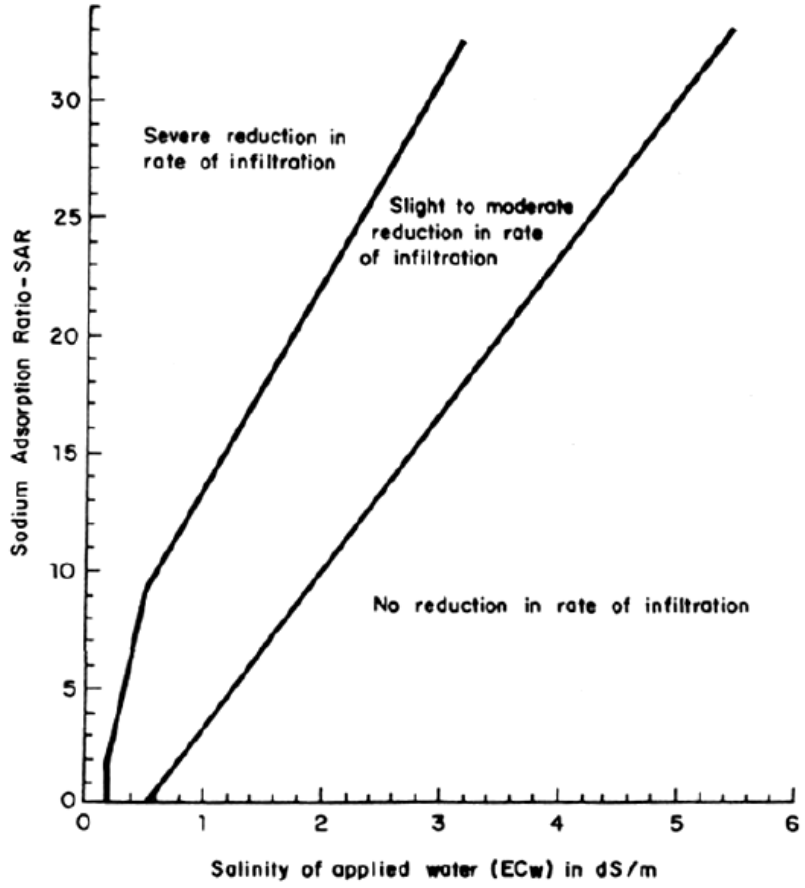
Sodium Adsorption Ratio:
SAR is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. Soils that have an SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced saturated hydraulic conductivity (Ksat) and aeration and the general degradation of soil structure.

SAR is the ratio of Na concentrations divided by the square root of one half of the Ca + Mg concentrations
Salination of soils can become an issue in situations where frequent irrigation takes place. As water is irrigated salts are built up in the soil faster than can be leached out.

Electrical Conductivity (dS/m):
Electrical conductivity is expressed as dS/m (decisiemens per metre) Electrical conductivity can impact the ability for crops to uptake water as well as certain nutrient. Electrical conductivity is a measure of dissolved particles in soil water, mostly salts which can affect soil structure as well as decrease crop yields. The facility has identified on Form I row crops for type of vegetation on the land application site. Crops have salt tolerance thresholds which identify a point at which the salt

concentrations decrease yields. For corn this threshold is 1.7 dS/M at which a decrease in productivity will occur. As this site is land applying on row crops any application of water with 1.7 dS/M or greater is expected to decrease crop productivity.

Effect of SAR and EC on soil structure:



PERMITTED FEATURE #001 AND #003 – Sludge Monitoring
Limitations derived and established in the below Sludge Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

SLUDGE LIMITATIONS TABLE A-3 AND/OR A-4:

PARAMETERS	UNIT	DAILY MAX	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	SAMPLE TYPE
INDUSTRIAL SLUDGE APPLICATION					
Application Area	Acres	*	same	once/application	composite
Application Rate	Inches/Acre	*	same	once/application	composite
Volume Irrigated	Gallons	*	same	once/application	composite
Solids	%	*	same	once/application	composite
pH (salt)	SU	*	same	once/application	composite
Sodium Adsorption Ratio	%	*	new	once/application	composite
Electric Conductivity	dS/m	*	new	once/application	composite
Nutrients					
Ammonia as N	mg/kg-dry	*	same	once/application	composite
Nitrate, Nitrogen as N	mg/kg-dry	*	same	once/application	composite
Organic Nitrogen	mg/kg-dry	*	same	once/application	composite
Total Kjeldahl Nitrogen	mg/kg-dry	*	same	once/application	composite
Phosphorus, Total	mg/kg-dry	*	same	once/application	composite
Potassium, Total	mg/kg-dry	*	same	once/application	composite
Plant Available Nitrogen	mg/kg-dry	*	same	once/application	composite
Metals					
Arsenic	mg/kg-dry	*	same	once/application	composite
Cadmium	mg/kg-dry	*	same	once/application	composite
Chromium, total	mg/kg-dry	*	same	once/application	composite
Copper	mg/kg-dry	*	same	once/application	composite
Lead	mg/kg-dry	*	same	once/application	composite
Mercury	mg/kg-dry	*	same	once/application	composite
Molybdenum	mg/kg-dry	75	monitoring	once/application	composite
Nickel	mg/kg-dry	*	same	once/application	composite
Selenium	mg/kg-dry	*	same	once/application	composite
Zinc	mg/kg-dry	*	same	once/application	composite
Pathogen Reduction					
Fecal Coliform	Cfu/g-dry	*	same	once/application	grab

Application Area
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015(4)(A), monitoring of application activity is required. Monitoring the area will allow the permittee to ensure compliance with land application requirements and prevent illicit discharges to waterbodies.

Application Rate
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015(4)(A), monitoring of application activity is required. Monitoring the rate will allow the permittee to ensure appropriate permeability and plant uptake is occurring and will prevent soil saturation that may result in runoff and illicit discharges to waterbodies. This will also prevent sludge buildup that may clog soils, which likewise will cause runoff and illicit discharges of wastewater to waterbodies.

Irrigation Period
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015(4)(A), monitoring of application activity is required. Monitoring the irrigation period will also ensure that soils to not get saturated and result in runoff and illicit discharges to waterbodies.

Volume Irrigated
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015(4)(A), monitoring of application activity is required. Monitoring the volume irrigated will allow the permittee to ensure over application does not occur and that hydraulic loading is maintained within design levels. This will also help prevent runoff and illicit discharges due to soil saturation. This will also prevent sludge buildup that may clog soils, which likewise will cause runoff and illicit discharges of wastewater to waterbodies.

Solids:
Percent solids is to be reported. This is important to determine concentration of the sludge being applied as well as for determining agronomic rates of land application.

NUTRIENTS

Nitrogen- Ammonia: Ammonia is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen-Nitrate: Nitrate is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen – Organic: Organic Nitrogen is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen – Total Kjeldahl: Total Kjeldahl nitrogen is necessary to calculate Plant Available Nitrogen. Total Kjeldahl nitrogen includes Organic Nitrogen and Ammonia Nitrogen.

The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Plant Available Nitrogen: Plant Available nitrogen monitoring is necessary to determine if sludge is being applied at an agronomic rate.

Total Phosphorus
Monitoring requirement only. Wastewater and sludge can contain variable concentration of nutrients. Soils and plants have limited capacity to uptake the nutrients found in the wastewater and sludge being land applied.

Potassium
Monitoring requirement only. Potassium is a macronutrient required for plant growth. As this facility is a no discharge facility which land applies on agricultural fields Potassium monitoring is required to evaluate the rates at which nutrients are being applied.

Arsenic, Cadmium, Copper, Lead, Mercury, Nickel, Selenium, Zinc
These metals are being included as monitoring requirements. These metals are listed on table 1 of 40 CFR 503.13 for ceiling concentration limited metals. While 40 CFR 503 applies to sewage sludge from domestic sources it is the permit writer's best professional judgement to include monitoring requirements for these metals in order to quantify the level at which these metals

are being land applied. In addition these metals will be sampled for and limited in the soil of the land application area. Sampling of the material being applied will be used to determine appropriate rates for application should accumulation in the soil to harmful levels occurs.

Chromium
Chromium is a potential pollutant at this site.

Fecal Coliform- Fecal coliform monitoring is required to ensure pathogen reduction is met in accordance with the sludge management plan submitted to the department January 2018. The facility stated pathogens will remain less than either 2 million MPN or 2 million colony forming units (CFU) per gram total solids (dry weight basis).

Molybdenum: The facility reported the sludge from this system contains molybdenum levels of 75 mg/kg, which is the limit listed in table 1 of 40 CFR 503.13 for ceiling concentration limited metals. While 40 CFR 503 applies to sewage sludge from domestic sources it is the permit writer's best professional judgement to use the concentration limits to ensure appropriate land application rates and preventive over-application excess molybdenum in the soil.

Salinity (Electrical Conductivity and Sodium Adsorption Ratio)
See previous discussion on EC and SAR under Permitted Feature #001.

PARAMETERS REMOVED:

Nitrate +Nitrite, Nitrite, and Total Nitrogen
Plant available nitrogen will be evaluated at the time of renewal. Parameters necessary for this calculations include Ammonia as N, Nitrogen as Nitrate TKN, and Total Organic Nitrogen.

PERMITTED FEATURE #002 &005 – Land Application Field Soil Monitoring.
Limitations derived and established in the below Land Application Field Monitoring Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

SLUDGE AND IRRIGATION AREAS APPLICATION AREA SOIL MONITORING REQUIREMENTS – TABLE A-5:

PARAMETERS	UNIT	DAILY MAX	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	SAMPLE TYPE
Soil Monitoring					
pH (salt)	SU	*	New	once / permit	composite
Ammonia as N	mg/kg-dry	*	New	once / permit	composite
Nitrate, Nitrogen as N	mg/kg-dry	*	New	once / permit	composite
Organic Nitrogen	mg/kg-dry	*	New	once / permit	composite
Total Kjeldahl Nitrogen	mg/kg-dry	*	New	once / permit	composite
Plant Available Nitrogen	mg/kg-dry	*	New	once / permit	composite
Phosphorus, Bray P1 method	ppm	*	New	once / permit	composite
Sodium Adsorption Ratio	ratio	*	New	once / permit	composite
Electrical Conductivity	dS/m	*	New	once / permit	composite
Arsenic	lbs/acre ɤ	37	New	once / permit	composite
Cadmium	lbs/acre ɤ	35	New	once / permit	composite
Chromium	lbs/acre ɤ	35	New	once / permit	composite
Copper	lbs/acre ɤ	1339	New	once / permit	composite
Lead	lbs/acre ɤ	268	New	once / permit	composite
Molybdenum	lbs/acre ɤ	75	New	once / permit	composite
Nickel	lbs/acre ɤ	375	New	once / permit	composite
Selenium	lbs/acre ɤ	89	New	once / permit	composite
Zinc	lbs/acre ɤ	2499	New	once / permit	composite

MONITORING REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE REPORT IS DUE OCTOBER 28, 2023.
THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

SOIL MONITORING

pH
Monitoring requirement only. Monitoring for pH is included to determine nutrient loading rates on the land application fields. Soil monitoring will ensure that soils pH is in the optimal range for plant growth and nutrient uptake.

NUTRIENTS

Nitrogen- Ammonia: Ammonia is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen-Nitrate: Nitrate is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen – Organic: Organic Nitrogen is necessary to calculate Plant Available Nitrogen. The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Nitrogen – Total Kjeldahl: Total Kjeldahl nitrogen is necessary to calculate Plant Available Nitrogen. Total Kjeldahl nitrogen includes Organic Nitrogen and Ammonia Nitrogen.

The calculation for Plant Available nitrogen will be used to determine if nitrogen is applied at an appropriate level. Plant available nitrogen is calculated by the following: PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]

*Volatilization factor is 0.7 for surface application and 1 for subsurface application.

Plant Available Nitrogen: Plant Available nitrogen monitoring is necessary to determine if sludge is being applied at an agronomic rate.

Phosphorus, Bray P1 method
Monitoring requirement only. Wastewater and sludge can contain variable concentration of nutrients. Soils and plants have limited capacity to uptake the nutrients found in the wastewater and sludge being land applied. Soil monitoring will ensure that soils do not contain excess amounts of total nitrogen, thus preventing proper treatment of wastewater. The Bray P1 method is an accepted industry standard for evaluating phosphorus in soil.

Salinity (Electrical Conductivity and Sodium Adsorption Ratio)
See previous discussion on EC and SAR under Permitted Feature #001.

Arsenic; The facility reported the sludge from this system contains Arsenic levels of 12 mg/kg. The cumulative pollutant loading rate established in 40 CFR 503 for cadmium is 41 kg/ha or 37 lbs/acre. While this facility land applies industrial waste and is therefore not subject to 40 CFR 503, the permit writer used best professional judgment to establish a similar limit for a similar activity. Metals can be accumulative in soils; as this is dependent on many factors, arsenic monitoring and soil limits will be included to ensure a buildup of this metal does not occur in the soil.

Cadmium; The facility reported the sludge from this system contains cadmium levels of 0.6 mg/kg. The cumulative pollutant loading rate established in 40 CFR 503 for cadmium is 39 kg/ha or 35 lbs/acre. While this facility land applies industrial waste and is therefore not subject to 40 CFR 503, the permit writer used best professional judgment to establish a similar limit for a similar activity. Metals can be accumulative in soils; as this is dependent on many factors, cadmium monitoring and soil limits will be included to ensure a buildup of this metal does not occur in the soil.

Chromium (total): The facility reported a chromium value of 25.7 mg/kg. Chromium is included ensure accumulation in the soils does not occur above a level protective of health and the environment. Chromium can be toxic to aquatic and plant life, as well as harmful to human health. This facility has opted to monitor for total chromium and, as such, the permit writer used best professional judgment to establish a cumulative loading rate for total chromium. Metals can be accumulative in soils; as this is dependent on many factors, chromium monitoring and soil limits will be included to ensure a buildup of this metal does not occur in the soil.

Copper: The facility reported the sludge from this system contains copper levels of 622 mg/kg. The cumulative pollutant loading rate established in 40 CFR 503 for copper is 1500 kg/ha or 1339 lbs/acre. While this facility land applies industrial waste and is therefore not subject to 40 CFR 503, the permit writer used best professional judgment to establish a similar limit for a similar activity. Metals can be accumulative in soils; as this is dependent on many factors, copper monitoring and soil limits will be included to ensure a buildup of this metal does not occur in the soil.

Lead: The facility reported the sludge from this system contains lead levels of 16.3 mg/kg. The cumulative pollutant loading rate established in 40 CFR 503 for cadmium is 300 kg/ha or 268 lbs/acre. While this facility land applies industrial waste and is therefore not subject to 40 CFR 503, the permit writer used best professional judgment to establish a similar limit for a similar activity. Metals can be accumulative in soils; as this is dependent on many factors, lead monitoring and soil limits will be included to ensure a buildup of this metal does not occur in the soil.

Mercury: If mercury is detected in any wastewater or sludge sample, the regularly scheduled soil sampling must also include mercury. If mercury sampling results remain not detect (conducted in accordance with Standard Conditions I), then no soil sampling for mercury is required.

Molybdenum: The facility reported the sludge from this system contains molybdenum levels of 75 mg/kg, which is the maximum concentration for land application established in 40 CFR 503. While this facility land applies industrial waste and is therefore not subject to 40 CFR 503, the permit writer used best professional judgment to establish a maximum cumulative loading rate to prevent over-application, potential accumulation in the soil and impacted runoff.

Nickel: The facility reported the sludge from this system contains Nickel levels of 23.2 mg/kg. The cumulative pollutant loading rate established in 40 CFR 503 for nickel is 420 kg/ha or 375 lbs/acre. While this facility land applies industrial waste and is therefore not subject to 40 CFR 503, the permit writer used best professional judgment to establish a similar limit for a similar activity. Metals can be accumulative in soils; as this is dependent on many factors, nickel monitoring and soil limits will be included to ensure a buildup of this metal does not occur in the soil.

Selenium: The facility reported the sludge from this system contains Selenium levels of <3.86 mg/kg. The cumulative pollutant loading rate established in 40 CFR 503 for selenium is 100 kg/ha or 89 lbs/acre. While this facility land applies industrial waste and is therefore not subject to 40 CFR 503, the permit writer used best professional judgment to establish a similar limit for a similar activity. Metals can be accumulative in soils; as this is dependent on many factors, selenium monitoring and soil limits will be included to ensure a buildup of this metal does not occur in the soil.

Zinc: The facility reported the sludge from this system contains Zinc levels of 2090 mg/kg. The cumulative pollutant loading rate established in 40 CFR 503 for cadmium is 2800 kg/ha or 2499 lbs/acre. While this facility land applies industrial waste and is therefore not subject to 40 CFR 503, the permit writer used best professional judgment to establish a similar limit for a similar activity. Metals can be accumulative in soils; as this is dependent on many factors, zinc monitoring and soil limits will be included to ensure a buildup of this metal does not occur in the soil.

Part V SAMPLING & REPORTING REQUIREMENTS

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

ELECTRONIC DISCHARGE MONITORING 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. This 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 non-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.

✓ The permittee/facility is currently using the eDMR data reporting system.

SAMPLING FREQUENCY JUSTIFICATION:
Sampling and reporting frequency was generally retained from previous permit. 40 CFR 122.45(d)(1) indicates all continuous discharges shall be permitted with daily maximum and monthly average limits. Sampling frequency for stormwater-only outfalls is typically quarterly even though BMP inspection occurs monthly. The facility may sample more frequently if additional data is required to determine if best management operations and technology are performing as expected.

SAMPLING TYPE JUSTIFICATION:
Sampling type was continued from the previous permit. The sampling types are representative of the land application system, Grab samples are appropriate for wastewater being land applied as the quality of the effluent is not expected to vary significantly through a 24 hour period. Composite sampling is required for sludge as contaminant concentrations may vary throughout the storage basin due to changes in the quality of the wastewater being discharged to the lagoon systems over time. Also these lagoon systems are different ages so the constituents of the sludge in each system could be different.

Part VI ADMINISTRATIVE REQUIREMENTS

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

PERMIT SYNCHRONIZATION:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. 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 three years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

✓ This permit will maintain synchronization by expiring the end of the 4th quarter, 2023.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

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

✓ The Public Notice period for this operating permit began on November 23, 2019 and ended on December 23, 2019. No comments were received.

DATE OF FACT SHEET: OCTOBER 18, 2019

COMPLETED BY:

HEATHER PETERS, ENVIRONMENTAL SUPERVISOR
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION – INDUSTRIAL PERMITS UNIT
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STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

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

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

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

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

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

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

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

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

Section B – Reporting Requirements

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

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

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

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

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

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

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

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

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

Section C – Bypass/Upset Requirements

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

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. **Upset Requirements.**
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permitted facility was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

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

imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. **Duty to Reapply.**
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
   c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. **Proper Operation and Maintenance**. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. **Permit Actions.**
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. **Permit Transfer.**
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
    a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
    b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
    a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

3020

RECEIVED
JUN 29 2018
Water Protection Program

Permit Modification Package
~~MO-0119580~~

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

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED 6-29-18	FEE SUBMITTED 0 Bb

Note ► PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

☐ An operating permit for a new or unpermitted facility:
Please indicate the original Construction Permit # _____

☑ An operating permit renewal:
Please indicate the permit # MO- 0119580 Expiration Date 12/31/2018

☐ An operating permit modification:
Please indicate the permit # MO-_____ Modification Reason: _____

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

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE / FAX	
GILSTER-MARY LEE CORPORATION		(573) 547-1083 /	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
8366 HWY 51 NORTH	McBRIDE	MO	63776

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE / FAX	
GILSTER-MARY LEE CORPORATION	jhutchinson@gilstermarylee.com	(618) 826-2361 / (618) 826-1058	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
P.O. BOX 227	CHESTER	IL	62233

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

4. CONTINUING AUTHORITY

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

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE / FAX	
RICK HAYDEN	NA	(573) 547-1083 /	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
8366 HWY 51 NORTH	McBRIDE	MO	63776

6. FACILITY CONTACT

NAME	TITLE / E-MAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE / FAX
STAN HADLER	PLANT MANAGER / shadler@gilstermarylee.com	(573) 547-1083 /

7. ADDITIONAL FACILITY INFORMATION

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

001 ____¼ NW ¼ Sec 9 T 36N R 11E Perry County
UTM Coordinates Easting (X): _____ Northing (Y): _____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

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

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

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

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

001 – SIC 2043 and NAICS 311230 002 – SIC 2099 and NAICS 311990
003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

MO 780-1479 (09-16)

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

A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C or 2F. (2F is the U.S. EPA's Application for Storm Water Discharges Associate with Industrial Activity.)	YES ☑	NO ☐
B.	Is application for storm water discharges only? If yes, complete Form C or 2F.	YES ☐	NO ☑
C.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C or 2F and D.	YES ☑	NO ☐
D.	Is wastewater land applied? If yes, complete Form I.	YES ☑	NO ☐
E.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R.	YES ☑	NO ☐
F.	If you are a Class IA CAFO, please disregard part D and E of this section. However, please attach any revision to your Nutrient Management Plan.		
F.	Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale. *Refer to Supplemental Information Item 8.F.*		

9. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

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 timely, complete, accurate, and nationally consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please visit http://dnr.mo.gov/env/wpp/edmr.htm to access the Facility Participation Package.

☐ - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.

☑ - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.

☐ - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

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

NAME			
See Supplemental Information for Form A, Item 10			
ADDRESS	CITY	STATE	ZIP CODE

11. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law to the Missouri Clean Water Commission.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Ronald L. Tretter, V.P. of Operations	618.826.2361
SIGNATURE	**DATE SIGNED**
Ronald L Tretter	6-25-18

MO 780-1479 (09-16)

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

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

HAVE YOU INCLUDED:

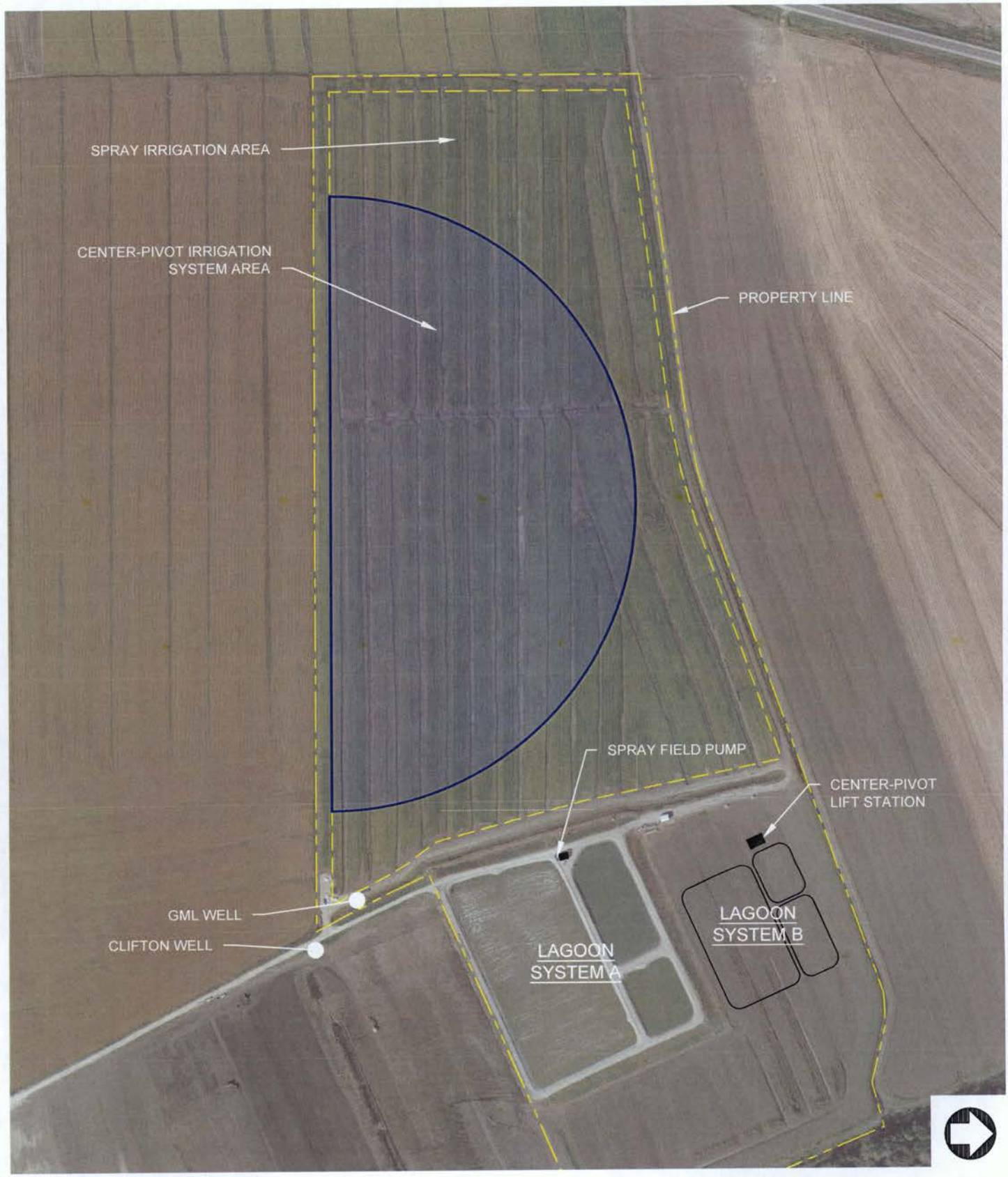
- ☑ Appropriate Fees?
- ☑ Map at 1" = 2000' scale?
- ☑ Signature?
- ☑ Form C or 2F, if applicable?
- ☐ Form D, if applicable?
- ☑ Form I (Irrigation), if applicable?
- ☑ Form R (Sludge), if applicable?
- ☐ Revised Nutrient Management Plan, if applicable?

Description of Permit Modification

In May 2015 Gilster Mary-Lee Corporation submitted a permit package to incorporate a new lagoon system which was constructed adjacent to their existing no-discharge lagoon system for the purpose of receiving their hauled waste from off-site facilities. A permit incorporating the new lagoon system was issued on April 1, 2017 and will expire on December 31, 2018.

The center pivot irrigation system is currently located on leased property; GML is requesting this modification so that the center pivot irrigation system can be re-located onto GML property prior to the termination of the lease. The relocated irrigation system as well as the modifications to the spray irrigation system are shown on Figures 1 and 2. Figure 3 shows the piping modifications necessary for these modifications.

This permit modification is requesting that wastewater be received to either lagoon system and that either irrigation system be permitted to land apply wastewater (from either lagoon system). The permit modification package contained herein reflects these system modifications.

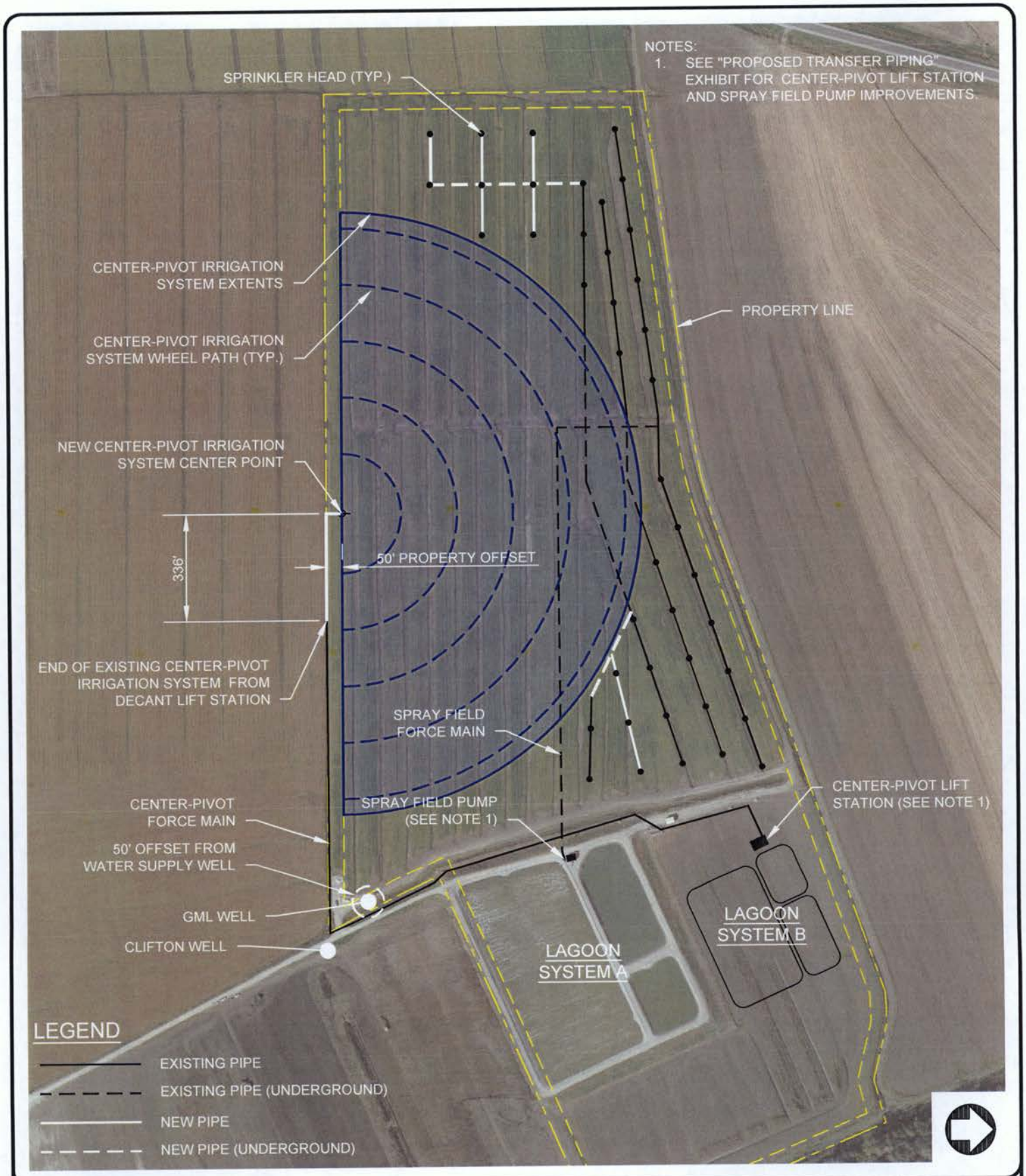


KIMHEC HOSKINS ENVIRONMENTAL CONSULTING

GILSTER Mary Lee CORPORATION

GILSTER MARY LEE CORPORATION
PERMIT RENEWAL

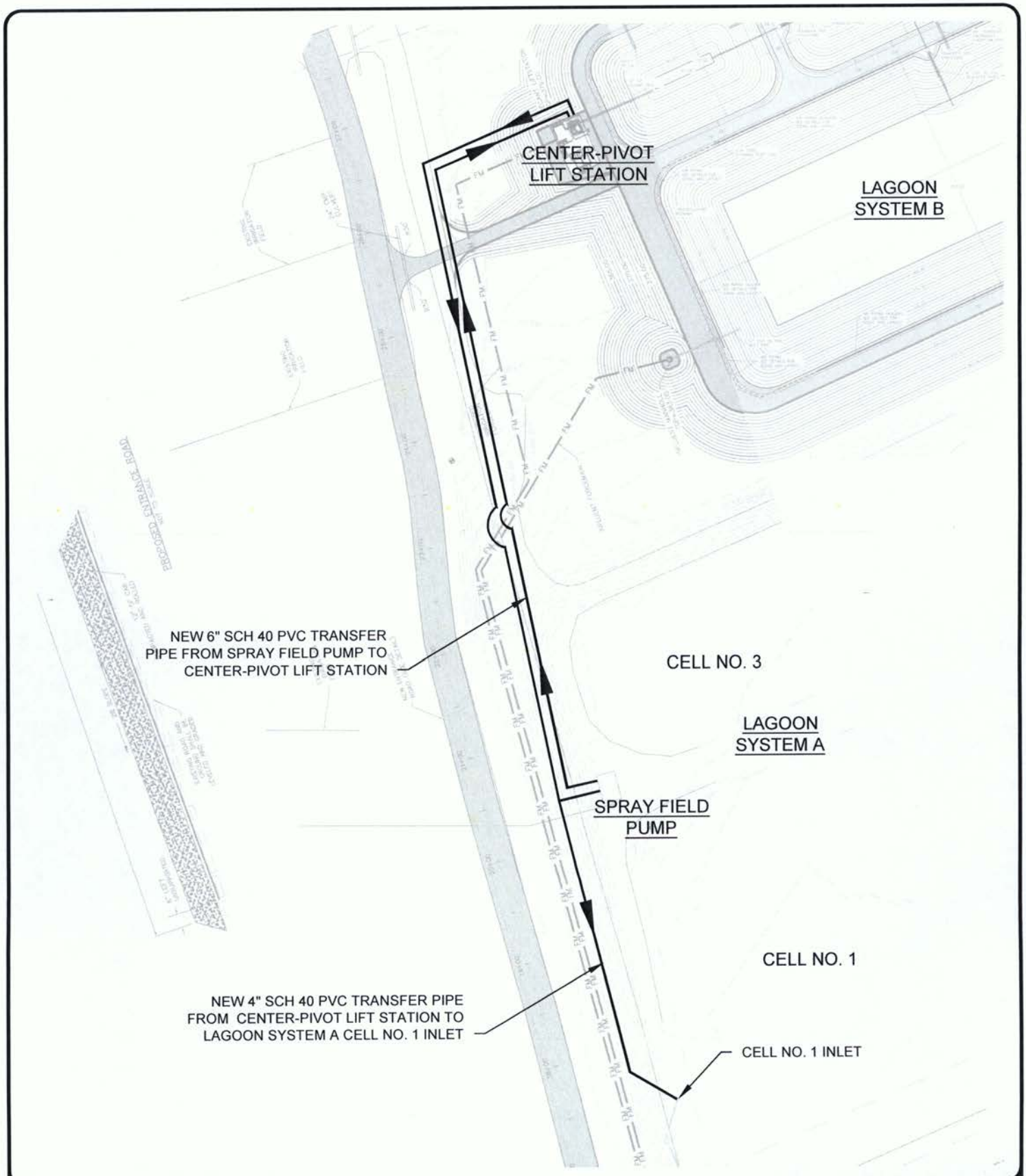
FIGURE 1
PRELIMINARY OVERALL SITE LAYOUT



KIMHEC HOSKINS ENVIRONMENTAL CONSULTING

GILSTER MARY LEE CORPORATION
PERMIT RENEWAL

FIGURE 2
PRELIMINARY DETAILED SITE LAYOUT



KIMHEC HOSKINS ENVIRONMENTAL CONSULTING

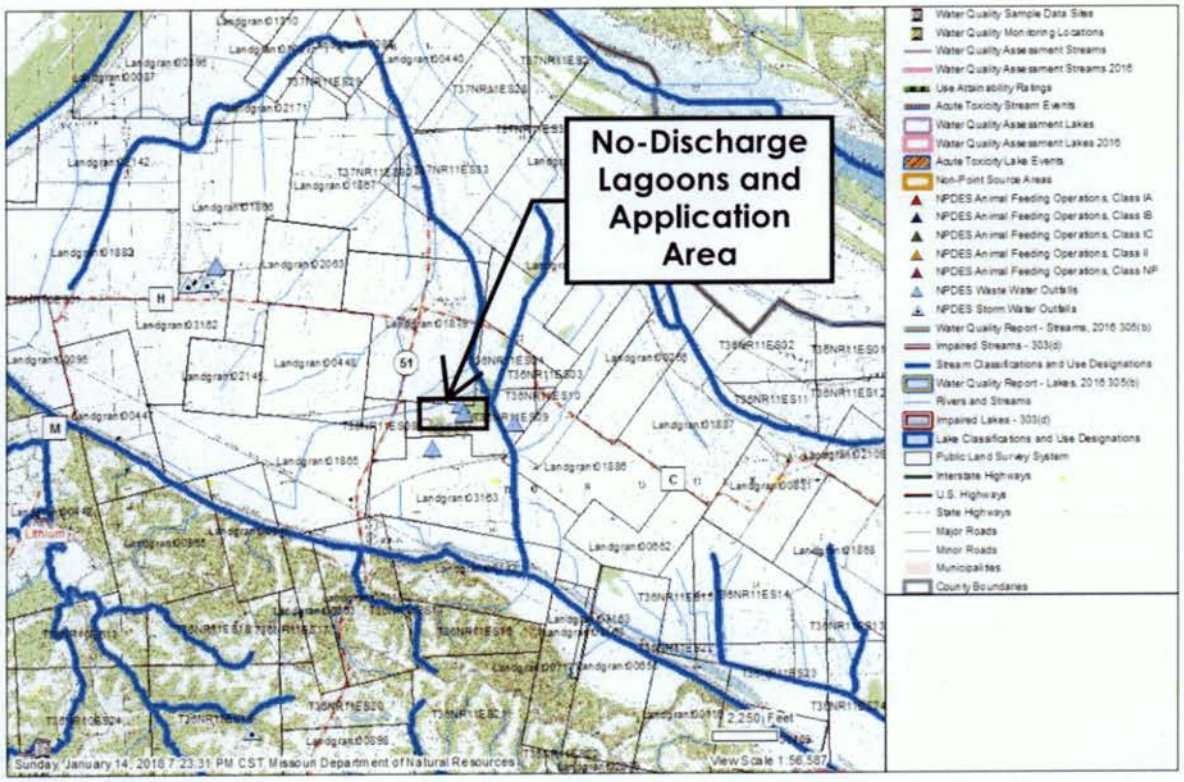
GILSTER MARY LEE CORPORATION
PERMIT RENEWAL

FIGURE 3
PRELIMINARY PROPOSED TRANSFER PIPING

Supplemental Information for Permit Package

Form A Supplemental Information

8.F Map of Area



Missouri Department of Natural Resources

This timestamp indicates the date and time the map was generated. Data layers in the map are updated at a variety of intervals and may not reflect current conditions.
Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

10.0 Downstream Landowners

Anna E. & Bradley J. Hutchison P.O. Box 454 Perryville, MO 63775	Heartland Farms & Land, LP c/o Robert & Jean Dean 311 PCR 804 Perryville, MO 63775
Clifton Living Trust c/o Bernard Clifton 2484 N. Hwy 51 Perryville, MO 63775	Allen & Carolyn Gramenz 4942 Ballpark Rd Steeleville, IL 62288
County of Perry c/o Randy Taylor 321 N. Main St. Ste 2 Perryville, MO 63775	Ray W. & Anitav Hacker 590 Haverhill Rd. Bloom Field Hills, MI 48304

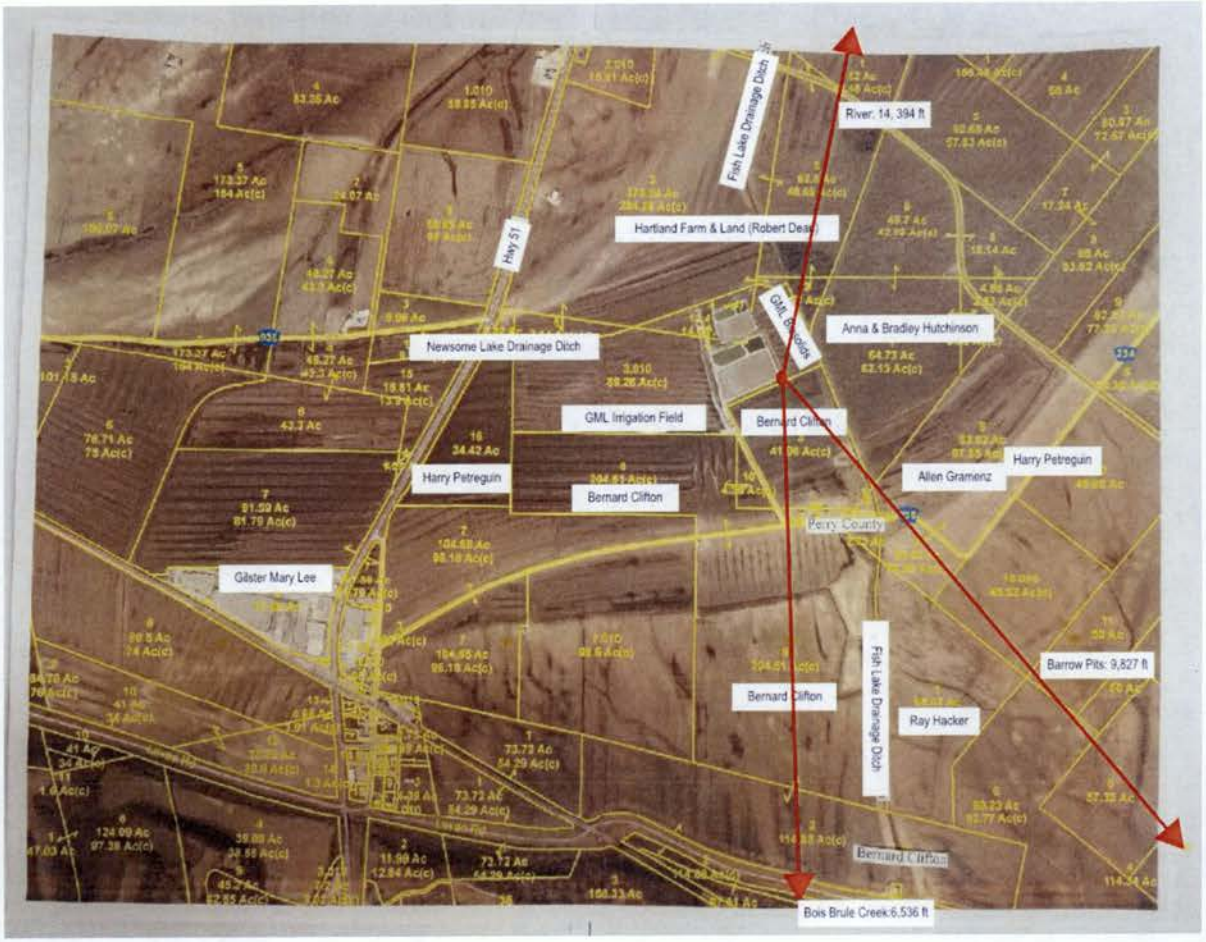


Figure for Form A, Section 10 and Form R, Section 3.5

Gilster Mary-Lee Corporation
2018 Permit Application
Lagoon A and B Cell 1 Data (Form C, Item 3, Table B)

Date	Cell	BOD (mg/L)	NH3 (mg/L)	TOC (mg/L)	TSS (mg/L)	COD (mg/L)	Fecals	Chloride (mg/L)	Phenolics (mg/L)	Surfactants (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Phosporus (mg/L)	O&G (mg/L)	Ca (me/L)	Mg (me/L)	Na (me/L)	SAR (me/L)	Boron (mg/L)	Na (mg/L)
1/1/2017	A1	257	0.05																	
1/11/2017	B1	344	0.05																	
2/1/2017	A1	234	0.05																	
2/1/2017	B1	1400	0.201																	
2/14/2017	A1	95	0.05	140	247	576	20800	122	0.05	1.7	24.2	0.975	2.76	5	4.61	2.29	5	2.7	0.78	115
2/14/2017	B1	4806	0.05	2100	1110	6080	390	129	0.05	2.4	36	0.603	4	5	4.54	1.65	5.83	3.32	0.29	134
3/8/2017	A1	138	0.05																	
3/8/2017	B1	3500	4.18																	
4/12/2017	A1	162	0.05																	
4/12/2017	B1	5760	0.05																	
5/17/2017	A1	33.6	1.98																	
5/17/2017	B1	6510	0.05																	
6/8/2017	A1	50.4	0.05																	
6/8/2017	B1	4640	0.4																	
6/14/2017	B1	4120			468															
6/21/2017	B1	3130			610															
6/28/2017	B1	2360			740															
7/5/2017	A1	34.5	14.5																	
7/5/2017	B1	2220	8.68		900															
8/2/2017	A1	62.9	8.68																	
8/2/2017	B1	234	11.4																	
8/23/2017	B1	138		44	80															
9/6/2017	A1	164	0.05																	
9/6/2017	B1	164	0.05																	
9/13/2017	A1	195		78	265															
9/20/2017	B1	579		38	327															
9/27/2017	B1	90.8		57	173															
10/4/2017	A1	187	0.05																	
10/4/2017	B1	147	6.06																	
11/8/2017	B1	239	15.8																	
12/13/2017	A1	210	0.093																	
12/13/2017	B1	530	0.26																	

Concentration	BOD (mg/L)	NH3 (mg/L)	TOC (mg/L)	TSS (mg/L)	COD (mg/L)	Fecals	Chloride (mg/L)	Phenolics (mg/L)	Surfactants (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Phosporus (mg/L)	O&G (mg/L)	Ca (me/L)	Mg (me/L)	Na (me/L)	SAR (me/L)	Boron (mg/L)	Na (mg/L)
Average	1335	2.9	410	492	3328	10595	126	0.1	2.1	30.1	0.8	3.4	5.0	4.6	2.0	5.4	3.0	0.5	124.5
Max	6510	15.8	2100	1110	6080	20800	129	0.1	2.4	36.0	1.0	4.0	5.0	4.6	2.3	5.8	3.3	0.8	134.0

Mass	BOD (lbs/day)	NH3 (lbs/day)	TOC (lbs/day)	TSS (lbs/day)	COD (lbs/day)	Chloride (lbs/day)	Phenolics (lbs/day)	Surfactants (lbs/day)	TKN (lbs/day)	Nitrate/Nitrite (lbs/day)	Phosporus (lbs/day)	O&G (lbs/day)	Boron (lbs/day)	Na (lbs/day)
Average*	379	0.83	116	140	944	36	0.01	0.58	8.54	0.22	0.96	1.42	0.15	35
Max*	1846	4.48	595	315	1724	37	0.01	0.68	10.21	0.28	1.13	1.42	0.22	38

Less than
Greater Than

Total Irrigated 2017 12,200,000 Gallons
Average (over 365 days) 34,000 gpd

* Based on average flow (over 365 days)

Gilster Mary-Lee Corporation
2018 Permit Application
Lagoon A and B Cell 3 Data (Form C, Item 3, Table B), not effluent data (no-discharge lagoon system)

Note: Data is for a no-discharge lagoon system; data presented below does not reflect the characteristics of the wastewater which was land applied.

Date	Cell	BOD (mg/L)	NH3 (mg/L)	TOC (mg/L)	TSS (mg/L)	COD (mg/L)	Fecals	Chloride (mg/L)	Phenolics (mg/L)	Surfactants (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Phosporus (mg/L)	O&G (mg/L)	Ca (me/L)	Mg (me/L)	Na (me/L)	SAR (me/L)	Boron (mg/L)	K (mg/L)
1/1/2017	A3	23	0.05	35	58	52	20	138	0.05	0.17	9.73	0.11	0.848	5	4.04	1.5	4.78	0.288	0.69	19.4
1/11/2017	B3	113	0.05	45	32	88	2	38.3	0.05	0.17	2.61	0.04	0.332	5	4.95	1.54	1.54	0.82	0.25	5.88
2/1/2017	A3	56.7	0.05	66	76	328	1420	131	0.05	0.3	9.85	0.04	1.2	5	3.89	1.5	5.39	3.29	0.71	12.5
2/1/2017	B3	350	0.05	570	83	1100	400	152	0.05	0.31	3.56	0.04	0.439	5	5.34	1.84	2.1	1.11	0.28	8.92
3/8/2017	A3	53.1	0.05	57	55	168	220	109	0.05	0.48	6.12	0.04	0.817	5	4.06	1.8	7.13	4.16	0.69	11.6
3/8/2017	B3	819	0.05	410	66	1380	20	53.8	0.05	0.47	8	0.4	0.996	5	4.51	1.78	1.63	0.918	0.23	8.2
4/12/2017	A3	26.8	0.05	31	79	132	80	164	0.05	0.14	6.08	0.04	0.861	5	2.89	1.93	5.18	3.34	0.63	12.9
4/12/2017	B3	696	0.05	370	123	1000	20	41.3	0.05	0.25	12.2	0.04	1.51	5	4.57	2.34	5.57	3	0.17	8.44
5/17/2017	A3	14.6	0.05	23	44	128	880	97.1	0.05	0.15	6.31	0.04	0.444	5	0.918	1.43	4.78	4.42	0.48	12.4
5/17/2017	B3	3013	2.38	1100	107	3200	3400	87.8	0.13	0.64	26	0.04	1.27	5	27.2	1	8	2.13	0.12	12.7
6/8/2017	A3	11	0.05	19	27	112	540	98.9	0.05	0.36	4.6	0.12	0.404	5	0.724	1.43	5.18	4.99	0.56	9.44
6/8/2017	B3	2640	31.8	1100	178	1280	5000	94	0.05	0.95	46.1	0.04	0.953	5	21.6	1.45	11.8	3.49	0.21	11.4
6/14/2017	B3	1690			105															
6/21/2017	B3	1760			127															
6/28/2017	B3	1610			120															
7/5/2017	A3	15.2	0.05	33	65	96	36000	102	0.05		7.76	0.04	0.585	5	1.03	1.28	4.28	3.99	0.7	12.9
7/5/2017	B3	1720	31.4	830	144	2400	11600	91.1	0.053	0.57	46.6	0.04	0.917	5	21.2	1.43	10.3	3.05	0.33	15
8/2/2017	A3	32.4	0.05	31	76	136	80	92.6	0.05	0.25	8.24	0.04	0.805	5	0.923	1.45	5.05	4.64	0.71	12.5
8/2/2017	B3	378	21.8	320	162	560	4000	132	0.05	1.2	46.3	0.04	1.9	5	3.87	1.94	9.4	5.51	0.2	73.8
8/23/2017	B3	187		46	100															
9/6/2017	A3	56	6.63		79	140	20	105	0.05	0.24	22.1	0.04	1.24	5	1.91	1.79	8.96	6.59	0.55	47.8
9/6/2017	B3			46					0.05	0.24										
9/6/2017	B3	164	0.05	67	188	300	21600	101	0.05	0.44	25.1	4.28	2.57	5	2.35	2.16	9.05	6.03	0.28	67.8
9/13/2017	A3	160		75	176															
9/20/2017	B3	409		35	216															
9/27/2017	B3	53.8		48	96															
10/4/2017	A3	124	0.05	33	129	264	1020	122	0.05	0.36	8.3	0.709	1.44	5	2.15	1.86	9.05	6.39	0.68	8.45
10/4/2017	B3	81.4	0.05	60	103	192	6800	98.8	0.053	0.54	6.26	1.22	8.62	5	2.49	2.22	7.21	7.21	0.28	68.4
11/8/2017	A3	21.9	0.05	29	79	168	100	107	0.05	0.47	12.8	3.3	1.16	5	3.56	1.68	6.96	4.3	0.43	14.2
11/8/2017	B3					672	40000	134	0.05	3.2	48.8	0.02	3.35	5	4.24	1.88	8.66	4.95	0.29	47
12/13/2017	A3	28.3	0.458	32	80	200	40	144	0.05	0.51	12.3	3.53	1.09	5	4.43	1.76	7.66	4.35		20.8
12/13/2017	B3	243		7.6	303	824	4200	174	0.18	1.2	44.4	0.528	7.36	5	3.55	1.91	11.7	7.11		65.8

	BOD (mg/L)	NH3 (mg/L)	TOC (mg/L)	TSS (mg/L)	COD (mg/L)	Fecals	Chloride (mg/L)	Phenolics (mg/L)	Surfactants (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Phosporus (mg/L)	O&G (mg/L)	Ca (me/L)	Mg (me/L)	Na (me/L)	SAR (me/L)	Boron (mg/L)	K (mg/L)
Average	562	4	212	103	613	5794	106	0.1	0.5	16.8	0.6	1.5	5	5.8	1.7	6.5	3.9	0.4	23
Max	3013	31.8	1100	303	3200	40000	174	0.18	3.2	48.8	4.28	8.62	5	27.2	2.34	11.8	7.21	0.71	73.8

Mass

	BOD (lbs/day)	NH3 (lbs/day)	TOC (lbs/day)	TSS (lbs/day)	COD (lbs/day)	Chloride (lbs/day)	Phenolics (lbs/day)	Surfactants (lbs/day)	TKN (lbs/day)	Nitrate/Nitrite (lbs/day)	Phosporus (lbs/day)	O&G (lbs/day)	Boron (lbs/day)	K (lbs/day)
Average*	159	1.2	60	29	174	30	0.02	0.15	4.76	0.18	0.42	1.42	0.12	6.44
Max*	854	9.0	312	86	907	49	0.05	0.91	13.84	1.21	2.44	1.42	0.20	20.93

* Based on average flow (over 365 days)

Less than
Greater Than

Total Irrigated 2017	12,200,000	Gallons			
Average (over 365 days)	34,000	gpd			
Average (over irrigation period)	110,000	gpd	6/1/2017	9/30/2017	121 irrigation period
Average (actual days irrigated)	270,000	gpd			46 actual days irrigated

Form I Supplemental Information

1.3

No-discharge lagoon system processes wastewater from multiple food processing facilities. Refer to Form R, 4.11 Supplemental Information.

3.1 Land Application System

Total Irrigation Area

- Spray Irrigation Area: 21.6 acres
- Center Pivot Area: 32 acres
- **Total Area: 53.6 acres**

3.2 Site Layout

Exhibit 1 and figure from first form A

Section 3.7 Equipment Capacity

Gallons per hour	
Spray Field Irrigation System	550 gpm
Center Pivot	700 gpm
Spray Field Irrigation System	33000 gallons per hour
Center Pivot	42000 gallons per hour
Total System	**1250 gpm**
	75000 gph

Hours of Operation per year	
Design Capacity	75,000 gallons per hour
Design flow	26,900,000 gallons per year
Hours of Operation	**400 hours per year (design flow divided by design capacity)**

Form R Supplemental Information

Section 1.4 – No discharge lagoon system; biosolids originates from Lagoon A and Lagoon B

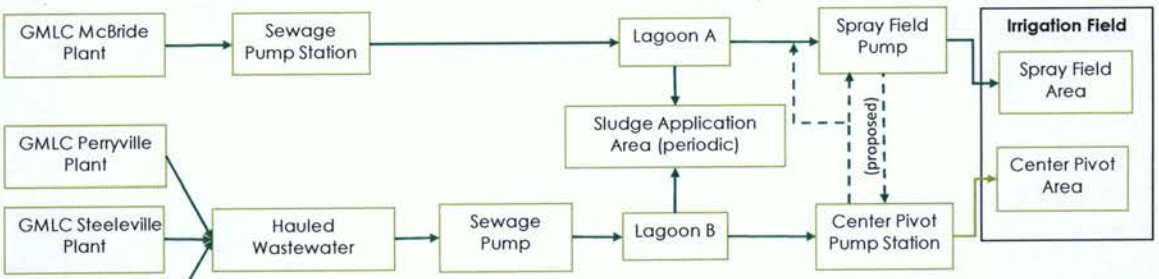
Section 2 – No storage basin as part of biosolids management (system is a no-discharge lagoon system)

Section 3.21 – Periodic land application; biosolids are not anticipated to be disposed of every year.

Section 3.7/3.9 – Refer to attached Biosolids Management Plan, landowner form and soils worksheet

3.91/3.92 – Refer to Figures 1-3 in the Modification Description and Form A Figures.

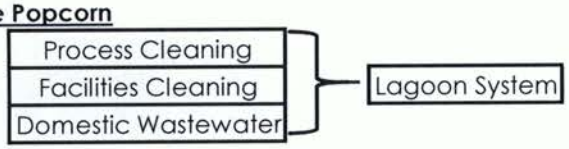
4.10 Treatment schematic



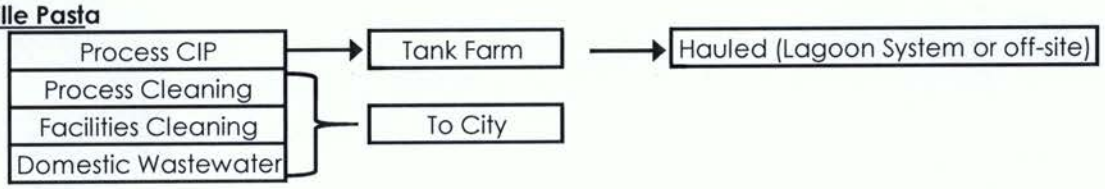
Proposed modifications consist of constructing transfer lines between the two pump stations and relocating the center pivot spray system onto the field with the existing spray field. The spray field will be adjusted to irrigate the area around the center pivot area. Refer to Figure 1 for the general site layout.

4.11 Production Schematic

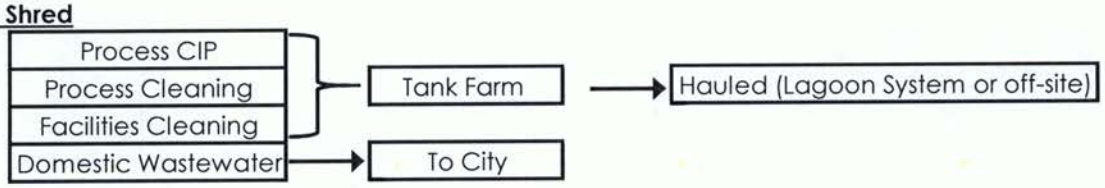
McBride Popcorn



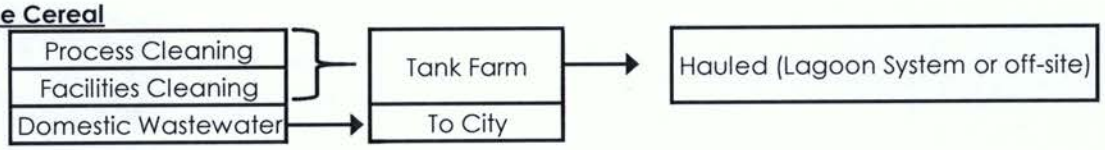
Steeleville Pasta



Chester Shred



Perryville Cereal



Manure/Wastewater Application Worksheet Field ID: 1 Acres: 47

Crop	Crop requirements N	P2O5	K2O
Soybeans	104	6	-8
Yield goal: 35			

When changing crop, clear A5 to D10
copy new crop info from below, see B50

Available nutrients applied

Source	N	P2O5	K2O
Lagoon			
cell 1	0	0	0
cell 2	0	0	0
cell 3	4	1	12
Compost	0	0	0
Limestone	0	0	0
Dredge	0	0	0
Slurry	0	0	0
Total Applied	4	1	12
Remaining need	**100**	**5**	**-20**

Waste application amounts and dates (total amount for whole field)

Source								
Lagoon								
cell 1	K-gallons							
	Date							
cell 2	K-gallons							
	Date							
cell 3	K-gallons	0	979	913	2030	201	0	
	Date	5/31/2016	6/30/2016	7/31/2016	8/31/2016	9/31/2016	10/31/2016	
Compost	Tons							
	Date							
Limestone	Tons							
	Date							
Dredge	K-gallons							
	Date							
Slurry	K-gallons							
	Date							

Manure/Wastewater Application Worksheet Field ID: 1 Acres: 47

Soil test information

pH	6.3
Org. Mat %	4.3
P lb/A	71
K lb/A	744
CEC	45.2

N available from OM by season

warm	cool
40	20

N available from OM by season

For soils with CEC over 18

Org. Mat %	warm	cool
<2	20	10
3	30	15
4	40	20
>5	50	25

For soils with CEC 10.1 to 18

Org. Mat %	warm	cool
<2	40	20
3	60	30
>4	80	40

For soils with CEC under 10

Org. Mat %	warm	cool
<0.5	20	10
1	40	20
>1.5	60	30

Waste application totals

Source	
Lagoon	
cell 1	0 gallons 1,000's
cell 2	0 gallons 1,000's
cell 3	4123 gallons 1,000's
Compost	0 tons
Limestone	0 tons
Dredge	0 gallons 1,000's
Slurry	0 gallons 1,000's

Waste nutrient analysis, ppm as is

Source	NH4-N	NO3-N	TKN	P	K
Lagoon					
cell 1					
cell 2					
cell 3	0.05	0.02	7.34	0.729	14
Compost					
Limestone					
Dredge					
Slurry					

0.6 Ammonia N availability factor
Range 0.2-0.8, DNR uses 0.6

Days until incorporation	Ammonia N factor Available for crops
-2	0.8
-2	0.6
-3	0.4
>7	0.2

0.7 Organic N availability factor
Range 0.35-0.7, DNR uses 0.7
Use 0.35 if you can account for N available from previous 4 years' applications of wastes

From Univ. Extension Guides WQ 201 & 202

Year applied	Organic N factor available this year
this year	-0.25 Total those years that
last year	0.1 manure was applied
2 ago	0.05
3 ago	0.05

Form R
Section 3.7

**Data for Example Purposes Only*

RECEIVED
JUN 29 2018
Water Protection Program

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

FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, PROCESS AND STORMWATER

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

GILSTER-MARY LEE CORPORATION

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

MO-0119580

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

N/A

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

A. FIRST 2034 B. SECOND 2099

C. THIRD _____ D. FOURTH _____

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) NW 1/4 _____ 1/4 SEC 9 T 36N R 11E PERRY COUNTY

Permitted Features - legal description applies to all permitted features

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
1) Land Application/No Discharge (Emergency Discharge only)	Tributary to Bois Brule Creek

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

McBride plant - Manufacturing of cereal, popcorn and box production from corrugated cardboard, sanitary.
Chester plant - Manufacturing of breakfast cereal and marshmallows
Perryville plant - Manufacturing of breakfast cereal.
Steelville plant - Manufacturing of pasta and ready-to-spread frosting.

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

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

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
(LIST)	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
No	Popcorn Plant (McBride)	7,500 GPD (20,000 GPD)		
Discharge	Boxes (McBride)	2,500 GPD (5,000 GPD)		
Lagoon	Cereal (Chester, Perryville)	2,000 GPD (5,000 GPD)		
	Pasta Operations (Steelville)	250 GPD (5,000 GPD)		
	Marshmallow Ops. (Chester)	2,500 GPD (7,500 GPD)		
	Frosting (Steelville)	750 GPD (5,000 GPD)		
	WW from Custom Blenders	up to 5,000 gal per week		
	FOR ALL OPERATIONS	LISTED ABOVE	Aerated Lagoons	3-B
			Spray Irr/Land App	3-F
			Sludge Land App	5-P

2.40 CONTINUED

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

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

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

2.50 MAXIMUM PRODUCTION

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

☐ **YES** *(COMPLETE B.)* ☐ **NO** *(GO TO SECTION 2.60)* No-Discharge lagoon system.

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

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

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

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

2.60 IMPROVEMENTS

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

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

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

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

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

3.00 INTAKE AND EFFLUENT CHARACTERISTICS

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

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

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
N/A	*Pollutants listed in Table B of the instructions for this part are not suspected to be present.*		

3.10 BIOLOGICAL TOXICITY TESTING DATA

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

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

3.20 CONTRACT ANALYSIS INFORMATION

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

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

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
Environmental Analysis South, Inc.	4000 East Jackson Blvd., Jackson, MO 63755	573-204-8817	**Land-Applied Wastewater:** Boron BOD Chloride Nitrate/Nitrite Ammonia Suspended Solids COD Kjeldahl Nitrogen Oil & Grease Calcium Magnesium Sodium Phosphorus Potassium Fecals Surfactants TOC Phenolics

3.30 CERTIFICATION

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Ronald L. Tretter, V.P. of Operations	618.826.2361
SIGNATURE (SEE INSTRUCTIONS)	**DATE SIGNED**
Ronald L. Tretter	2-5-18

MO 780-1514 (06-13)

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

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. *See note below.*

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

1. POLLUTANT	2. EFFLUENT							3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)								mg/L	lbs/day			
B. Chemical Oxygen Demand (COD)	*REFER TO SUPPLEMENTAL INFORMATION PACKAGE, FORM C, 3.00;*											
C. Total organic Carbon (TOC)	*Attached Data is summarized for Cell 1 and Cell 3 of both Lagoon Systems. Data is for a no-discharge lagoon system.*											
D. Total Suspended Solids (TSS)								mg/L	lbs/day			
E. Ammonia *(as N)*								mg/kg	lbs/day			
F. Flow	VALUE		VALUE		VALUE			GPD		VALUE		
G. Temperature *(winter)*	VALUE		VALUE		VALUE			°C		VALUE		
H. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
I. pH	MINIMUM 6.1	MAXIMUM 7.4	MINIMUM	MAXIMUM			5	STANDARD UNITS				

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

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

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

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-9)														
2M. Arsenic, Total (7440-38-2)														
3M. Beryllium, Total (7440-41-7)														
4M. Cadmium, Total (7440-43-9)														
5M. Chromium III (16065-83-1)														
6M. Chromium VI (18540-29-9)														
7M. Copper, Total (7440-50-8)														
8M. Lead, Total (7439-92-1)														
9M. Mercury, Total (7439-97-6)														
10M. Nickel, Total (7440-02-0)														
11M. Selenium, Total (7782-49-2)														
12M. Silver, Total (7440-22-4)														
13M. Thallium, Total (7440-28-0)														
14M. Zinc, Total (7440-66-6)														
15M. Cyanide, Amenable to Chlorination														
16M. Phenols, Total														
RADIOACTIVITY														
(1) Alpha Total														
(2) Beta Total														
(3) Radium Total														
(4) Radium 226 Total														

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM I – PERMIT APPLICATION FOR OPERATION OF WASTEWATER IRRIGATION SYSTEMS

RECEIVED
JUN 29 2018
Water Protection Program

FOR AGENCY USE ONLY	
PERMIT NUMBER	MO -
DATE RECEIVED	

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

1. FACILITY INFORMATION

1.1 Facility Name: GILSTER-MARY LEE CORPORATION

1.2 Permit Number: MO- 0119580

1.3 Type of wastewater to be irrigated: ☐ Domestic ☐ Municipal ☐ State/National Park ☐ Seasonal business
☐ Municipal with Pretreatment Program or Significant Industrial Users ☑ Other (explain) *See Supplemental Information*

SIC Codes (list all that apply, in order of importance) 2043, 2099,

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

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

1.6 List the Facility outfalls which will be applicable to the irrigation system.
Outfall Numbers: N/A

2. STORAGE BASINS

2.1 Number of storage basins: 6 3 for each lagoon system *(No-Discharge Lagoon System)*
Type of basin: ☐ Steel ☐ Concrete ☐ Fiberglass ☑ Earthen (System A)
☑ Earthen with membrane liner (System B)

3. LAND APPLICATION SYSTEM

3.1 Number of irrigation sites 1 Total Acres 53.6 *Refer to Supplemental Information*
Location: NW ¼, ___ ¼, ___ ¼, Sec 9 T 36N R 11E Perry County 57 Acres
Location: ___ ¼, ___ ¼, ___ ¼, Sec ___ T ___ R ___ ___ County ___ Acres
Attach pages as needed.

3.2 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings, and other pertinent features. *Refer to Supplemental Information*

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

3.4 Wastewater flow (dry weather) gallons/day:
Average annual: 34,600 Seasonal 110,000 Off-season N/A
Months of seasonal flow: 4 *Refer to Lagoon Effluent Data from Form C, Section 3, Table B*
Based on 2017 data

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3. LAND APPLICATION SYSTEM (continued)

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

Design:	24 inches/year	0.4 inches/hour	1.0 inches/day	3.0 inches/week
Actual:	9.5 inches/year	0.10 inches/hour	0.2 inches/day	1.0 inches/week

Total Irrigation per year (gallons): 26.9M Design 12.1M Actual *Information from 2017 Annual Report*

Potential irrigation system could be March - October. with cover crops.

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

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

3.6 Land Application Rate is based on:

☐ Nutrient Management Plan (N&P) - monthly TKN

☐ Hydraulic Loading

☑ Other (describe) limiting factor is water level in the lagoons; hydraulic loading and nutrients are not limiting

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

Equipment Flow Capacity: 33K/42K Sprinkler/Center Pivot Gallons per hour 400 Total hours of operation per year *Refer to Supplemental Information*

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

☐ Site is Fenced ☐ Wastewater disinfection prior to irrigation ☐ Site is not for public use

☑ Other (describe): THE SITE IS IN THE MIDDLE OF AN AGRICULTURAL AREA, LAGOON IS FENCED

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

4K Permanent flowing stream NA Losing Stream 50 Intermittent (wet weather) stream .4k Lake or pond

50 Property boundary _1.5k_ Dwellings _0.4k_ Water supply well ____ Other (describe) _____

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

Date of O&M Plan: 06/19/2001

4. CERTIFICATION

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

OWNER OR AUTHORIZED REPRESENTATIVE	OFFICIAL TITLE
Ronald L. Tretter	V.P. of Operations
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE
rtretter@gilstermarylee.com	618.826.2361
SIGNATURE	DATE SIGNED
Ronald L. Tretter	2-5-18

780-1586 (08-14)

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)
JUN 29 2018
Water Protection Program

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

FOR AGENCY USE ONLY
PERMIT NUMBER MO -
DATE RECEIVED

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

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

1.00 FACILITY INFORMATION

1.10 Facility Name
GILSTER-MARY LEE CORPORATION (MO-0119580)

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

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

1.40 List the Facility outfalls which will be applicable to the land application system from outfalls listed on Form A, C, D and F.
Outfall Nos. Not applicable. No outfalls for this facility.

2.00 STORAGE BASINS

No biosolids storage at the facility. This is for a no-discharge lagoon system.

2.10 Number of storage basins: N/A Type of basin: ☐ Steel ☐ Concrete ☐ Fiberglass ☐ Earthen ☐ Earthen with membrane liner

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

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

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

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

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

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

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

3.00 LAND APPLICATION SYSTEM

3.10 Number of application sites 1 Total Available Acres 12.9 Minimum & Maximum % field slopes 0-2%
Location: NW ¼ ___ ¼ ___ ¼ 9 Sec. 36N T 11E R perry County 12.9 Acres
Location: ___ ¼ ___ ¼ ___ ¼ ___ Sec. ___ T ___ R _____ County ___ Acres
Attach extra sheets as necessary.

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

3.20 Annual sludge production (gallons per year): _____ Actual _____ Design *No-Discharge lagoon system*
(dry tons per year): _____ Actual _____ Design *23.24 dry tons of biosolids land applied after 16 years of operation.*
Human Population Equivalent: _____ Actual 737 Design

3.21 Land Application rate per acre:
Design: 2 dry ton/year 2 dry ton/application 1 No. applications/year
Actual: _____ dry ton/year _____ dry ton/application _____ No. applications/year As-Needed Application
Total amount land applied each year (total all sites) Design 2 dry ton/year Actual 1.8 dry ton/year
Actual months used for land application: ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec *As-Needed Application; No-discharge lagoon system*

3.22 Land Application Rate is based on:
☐ Nutrient Management Plan (N&P) ☐ PAN ☑ Conservative < 2 Dry Tons per acre
☐ Hydraulic Loading ☐ Limiting Pollutant (Specify) _____
☐ Other (describe) _____

3.30 Equipment type: ☐ Tank wagon ☐ Tank truck ☐ Subsurface injection ☐ Slinger spreader ☐ Dry spreader
☑ Other (describe) Dump truck/excavator, dozer to spread and cut in to soil with chizzel plow.
Equipment Capacity: _____ Gallons (cubic feet) per hour n/a Total hours of operation per year

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

3.50 Separation distance (in feet) from the outside edge of the biosolids application area to down gradient features: *Refer to Supplemental Info*
5840 Permanent flowing stream _____ Losing Stream 100 Intermittent (wet weather) stream _____ Lake or pond
50 Property boundary _____ Dwellings _____ Water supply well _____ Other (describe) _____

3.60 SOILS INFORMATION: Use information from the County Soil Survey, NRCS, or professional soil scientist.
NOTE: On-site soils classification by a professional soil scientist may be required by the department where appropriate.
Soil Series Name Darwin Depth of bedrock >6 Feet Depth to water table <2 Feet
Soil Infiltration rate in inches/hour (in/hr) for most restrictive layer within the following soil depth ranges:
<.06 In/hr for 0-12 inch soil depth <.06 In/hr for 12-24 inch soil depth <.06 In/hr for 24-60 inch soil depth

3.70 Attach Nutrient Management Plan (NMP) including calculations for plant available nitrogen (PAN) and other nutrients, crop requirements, crop yields and other management factors. Include USDA/NRCS phosphorus recommendations. *See supplemental information.*

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

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

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

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

3.92 Attach a facility sketch showing treatment units, storage basins, pipelines, application sites and other features. *See Supplemental Information*

4.00 INDUSTRIAL PROCESS INFORMATION

4.10 Brief description of treatment processes prior to land application and note any changes made in last five years. (Attach extra sheets as necessary.)
_____
Refer to Supplemental Information, Figure 4.10

4.11 Detailed description of industrial production processes. Also indicate any changes made in last five years. (attach extra sheets as necessary)
Refer to Supplemental Information, Figure 4.11

4.20 List of raw materials, chemicals, additives, products, and by-products (Attach extra sheets as necessary)

_____

4.31 Attach following FORMS for wastewater to be land applied.

FORM C or F is required for all applicants. Use Form F for CAFOs. *Form C is included; Form D Instructions do not include this facility.*

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

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

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

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

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

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

(Attach a copy of testing results for any pollutants that may be present in detectable concentrations.) *See Biosolids Management Plan*

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

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

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

Total area sampled is 12.9 acres. Each composite sample covers 12.9 acres. Each composite consists of 3 subsamples.

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

Pollutant	Concentration (mg/kg or ppm)			Pounds/ Acre	No. Composite Samples	Sample Period
	Minimum	Maximum	Average			
Organic Nitrogen as N	27800	27800			1	Fall 2017
Ammonia Nitrogen as N						
Nitrate Nitrogen as N	4.02	4.02	4.02		1	Fall 2017
Phosphorus as P (Bray 1P)	594	594	594		1	Fall 2017
Exchangeable Sodium %	.016	.016	.016		1	Fall 2017
Organic Matter (percent)	4.57%	4.57%	4.57%		1	Fall 2017
Cation Exchange Capacity	30	30	30		1	Fall 2017
pH (standard units)	7.43	7.43	7.43		1	Fall 2017
Other pollutants present in the material to be land applied: (Attach extra sheets as necessary)						
See Section 6.00 for biosolids						

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

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

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

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

7.00 CERTIFICATION

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

CONSULTING ENGINEER – Name, Official Title and Engineering Firm (TYPE OR PRINT)	TELEPHONE NUMBER (area code and number)
SIGNATURE	DATE SIGNED
OWNER OR AUTHORIZED REPRESENTATIVE – Name and Official Title (TYPE OR PRINT) Ronald L. Trettler, V.P. of Operations	TELEPHONE NUMBER (area code and number) 618.826.2361
SIGNATURE Ronald L. Trettler	DATE SIGNED 2-5-18