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-0115487
Owner:	Smithfield Fresh Meats Corp. – Milan, MO
Address:	22123 Highway 5, Milan, MO 63556
Continuing Authority:	Smithfield Fresh Meats Corp.
Address:	11500 NW Ambassador Drive, Suite 500, Kansas City, MO 64153
Facility Name:	Smithfield Fresh Meats Corp. – Milan, MO
Facility Address:	22123 Highway 5, Milan, MO 63556
Legal Description:	see page 2; Sullivan County
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

Smithfield Fresh Meats Corp. – Milan, MO (formerly Smithfield Farmland Corp/Milan Processing Facility) is a pork processing facility. Operations: slaughter, rendering, plant sanitation, and refrigeration. Wastewater, and stormwater from the animal load-out area, is collected and conveyed to an onsite wastewater treatment facility. Truck washing, water treatment plant flushing activities, and cooling tower discharges also contribute flows to the wastewater treatment facility. Domestic wastewater is sent to the city of Milan's WWTP.

This permit authorizes only stormwater and wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Sections 640.013, 621.250, and 644.051.6 of the Law.

February 1, 2020
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

January 31, 2025
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

OUTFALL #001 – Meat Processing; SIC #2011 – wastewater
Wastewater is treated by: screening, dissolved air floatation, anaerobic digestion, clarification, extended aeration, activated sludge, nitrification, denitrification, secondary clarification, disinfected via chlorine and/or ultraviolet, dechlorination. First flush stormwater from the animal load out area is also treated in this system. Sludge is handled by thickening, gravity consolidation, pressing, and filter pressing. Sludge is hauled off site for land application under a 2018 fertilizer exemption. This permit does not allow land application of industrial sludge.

Legal Description:	Sec. 35, T63N, R20W, Sullivan County
UTM Coordinates:	X = 489747, Y = 4452128
Receiving Stream:	Tributary to Elmwood Branch
First Classified Stream and ID:	8-20-13 MUDD V.1.0 (C) WBID #3960; locally known as Elmwood Branch
USGS Basin & Sub-watershed No.:	Headwaters East Locust Creek (10280103-0601)
Design Flow:	1.08 Million Gallons per Day (MGD)
Average Flow:	0.67 MGD

OUTFALL #002 – historic stormwater outfall from 2/23/2001 permit; removed in the next permit

UTM Coordinates:	X = 489957, Y = 4451279

OUTFALL #003 – NEW – Meat Processing; SIC #2011 – stormwater only

Legal Description:	Sec. 35, T63N, R20W, Sullivan County
UTM Coordinates:	X = 489796, Y = 4452138
Receiving Stream:	Tributary to Elmwood Branch
First Classified Stream and ID:	8-20-13 MUDD V.1.0 (C) WBID #3960; locally known as Elmwood Branch
USGS Basin & Sub-watershed No.:	Headwaters East Locust Creek (10280103-0601)

OUTFALL #004 – NEW – Meat Processing; SIC #2011 – stormwater only

Legal Description:	Sec. 35, T63N, R20W, Sullivan County
UTM Coordinates:	X = 490009, Y = 4452156
Receiving Stream:	Tributary to East Fork Locust Creek
First Classified Stream and ID:	East Fork Locust Creek (C) WBID# 0610
USGS Basin & Sub-watershed No.:	East locust Creek (10280103-0603)

OUTFALL #005 – NEW – Meat Processing; SIC #2011 – stormwater only

Legal Description:	Sec. 35, T63N, R20W, Sullivan County
UTM Coordinates:	X = 490101, Y = 4452021
Receiving Stream:	Tributary to East Fork Locust Creek
First Classified Stream and ID:	East Fork Locust Creek (C) WBID# 0610
USGS Basin & Sub-watershed No.:	East locust Creek (10280103-0603)

OUTFALL #006 – NEW – Meat Processing; SIC #2011 – stormwater only

Legal Description:	Sec. 35, T63N, R20W, Sullivan County
UTM Coordinates:	X = 489977, Y = 4451540
Receiving Stream:	Tributary to East Fork Locust Creek
First Classified Stream and ID:	East Fork Locust Creek (C) WBID# 0610
USGS Basin & Sub-watershed No.:	East locust Creek (10280103-0603)

OUTFALL #007 – NEW – Meat Processing; SIC #2011 – stormwater only

Legal Description:	Sec. 35, T63N, R20W, Sullivan County
UTM Coordinates:	X = 489640, Y = 4452088
Receiving Stream:	Tributary to Elmwood Branch
First Classified Stream and ID:	8-20-13 MUDD V.1.0 (C) WBID #3960; locally known as Elmwood Branch
USGS Basin & Sub-watershed No.:	Headwaters East Locust Creek (10280103-0601)

No Discharge Basins:

BASIN #B01	UTM Coordinates:	X = 489686, Y = 4452197
BASIN #B02	UTM Coordinates:	X = 489763, Y = 4452213
BASIN #B03	UTM Coordinates:	X = 489894, Y = 4452324

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001
main outfall

TABLE A-1
INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. In accordance with 10 CSR 20-7.031, the final effluent limitations outlined in Tables A-2 and A-3 must be achieved as soon as possible but no later than **February 1, 2022 and February 1, 2030** respectively. These interim effluent limitations are effective beginning **February 1, 2020** and remain in effect through **January 31, 2022** or as soon as possible. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M						
PHYSICAL						
Flow	MGD	*		*	once/day	24 hr. total
Temperature	°C	*		*	once/weekday ¥	measured
CONVENTIONAL						
Carbonaceous Biochemical Oxygen Demand$_5$ (CBOD$_5$)	mg/L	30		25	once/weekday ¥	composite ǂ
Chloride	mg/L	*		*	once/month	composite ǂ
Sulfate	mg/L	*		*	once/month	composite ǂ
Chloride plus Sulfate	mg/L	*		*	once/month	calculated
Chlorine, Total Residual ‡	µg/L	16.4 (ML130)		8.2 (ML130)	once/week	grab
E. coli €	#/100 ml	1,030		206	once/week	grab
Oil & Grease	mg/L	46.6		23.3	once/week	grab
Oxygen, Dissolved Ψ	mg/L	Min 5.0		Min 5.0	once/month	grab
pH Ω	SU	6.5 to 9.0		6.5 to 9.0	once/weekday ¥	grab
Total Suspended Solids	mg/L	36		30	once/weekday ¥	composite ǂ
NUTRIENTS						
Ammonia as N (April 1 – Sept 30)	mg/L	8.0		1.6	once/week	grab
Ammonia as N (Oct 1 – March 31)	mg/L	8.4		2.4	once/week	grab
Kjeldahl Nitrogen, Total	mg/L	*		*	once/month	grab
Nitrate plus Nitrite as N	mg/L	*		*	once/month	grab
Nitrogen, Total (TN)	mg/L	194		134	once/month	grab
Phosphorus, Total (TP)	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: Q						
CONVENTIONAL						
Fecal Coliform	#/100 ml	400		400	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.						
LIMIT SET: A						
WET TEST						
Whole Effluent Toxicity, Chronic See Special Condition #1	TU_c	1.6			once/year	composite ǂ
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2021. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring requirement only

ǂ A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #001
main outfall

TABLE A-2
INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. In accordance with 10 CSR 20-7.031, the final effluent limitations outlined in Table A-3 must be achieved as soon as possible but no later than **February 1, 2030**. These interim effluent limitations are effective beginning **February 1, 2022** and remain in effect through **January 31, 2030** or as soon as possible. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M						
PHYSICAL						
Flow	MGD	*		*	once/day	24 hr. total
Temperature	°C	32.2		*	once/weekday ¥	measured
CONVENTIONAL						
Carbonaceous Biochemical Oxygen Demand$_5$ ($CBOD_5$)	mg/L	30		25	once/weekday ¥	composite ǂ
Chloride	mg/L	*		*	once/month	composite ǂ
Sulfate	mg/L	*		*	once/month	composite ǂ
Chloride plus Sulfate	mg/L	*		*	once/month	calculated
Chlorine, Total Residual ‡	µg/L	16.4 (ML130)		8.2 (ML130)	once/week	grab
E. coli €	#/100 mL	1,030		206	once/week	grab
Oil & Grease	mg/L	46.6		23.3	once/week	grab
Oxygen, Dissolved Ψ	mg/L	Min 5.0		Min 5.0	once/month	grab
pH Ω	SU	6.5 to 9.0		6.5 to 9.0	once/weekday ¥	grab
Total Suspended Solids	mg/L	36		30	once/weekday ¥	composite ǂ
NUTRIENTS						
Ammonia as N (April 1 – Sept 30)	mg/L	8.0		1.6	once/week	grab
Ammonia as N (Oct 1 – March 31)	mg/L	8.4		2.4	once/week	grab
Kjeldahl Nitrogen, Total	mg/L	*		*	once/month	grab
Nitrate plus Nitrite as N	mg/L	*		*	once/month	grab
Nitrogen, Total (TN)	mg/L	194		134	once/month	grab
Phosphorus, Total (TP)	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: Q						
CONVENTIONAL						
Fecal Coliform	#/100 ml	400		400	once/quarter ◊	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: A						
WET TEST						
Whole Effluent Toxicity, Chronic See Special Condition #1	TU_c	1.6			once/year	composite ǂ
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2023. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring requirement only

ǂ A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #001 *main outfall*	**TABLE A-3** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **February 1, 2030** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M						
PHYSICAL						
Flow	MGD	*		*	once/day	24 hr. total
Temperature	°C	32.2		*	once/weekday ¥	measured
CONVENTIONAL						
Carbonaceous Biochemical Oxygen Demand$_5$ (CBOD$_5$)	mg/L	30		25	once/weekday ¥	composite ǂ
Chloride	mg/L	278		217	once/month	composite ǂ
Sulfate	mg/L	*		*	once/month	composite ǂ
Chloride plus Sulfate	mg/L	*		*	once/month	calculated
Chlorine, Total Residual ‡	µg/L	16.4 (ML130)		8.2 (ML130)	once/week	grab
E. coli €	#/100 mL	1,030		206	once/week	grab
Oil & Grease	mg/L	46.6		23.3	once/week	grab
Oxygen, Dissolved Ψ	mg/L	Min 5.0		Min 5.0	once/month	grab
pH Ω	SU	6.5 to 9.0		6.5 to 9.0	once/weekday ¥	grab
Total Suspended Solids	mg/L	36		30	once/weekday ¥	composite ǂ
NUTRIENTS						
Ammonia as N (April 1 – Sept 30)	mg/L	8.0		1.6	once/week	grab
Ammonia as N (Oct 1 – March 31)	mg/L	8.4		2.4	once/week	grab
Kjeldahl Nitrogen, Total	mg/L	*		*	once/month	grab
Nitrate plus Nitrite as N	mg/L	*		*	once/month	grab
Nitrogen, Total (TN)	mg/L	194		134	once/month	grab
Phosphorus, Total (TP)	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2030. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: Q						
CONVENTIONAL						
Fecal Coliform	#/100 ml	400		400	once/quarter ◊	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2030. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: A						
WET TEST						
Whole Effluent Toxicity, Chronic See Special Condition #1	TU_c	1.6			once/year	composite ǂ
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2031. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring requirement only

ǂ A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALLS #003, #004, #005, #006, #007 *Stormwater Only*	**TABLE A-4** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **February 1, 2020** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH-MARKS	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE		MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: Q						
PHYSICAL						
Flow	MGD	*		-	once/quarter ◊	24 Hr Est.
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	*		-	once/quarter ◊	grab
E. coli €	#/100 mL	*		-	once/quarter ◊	grab
Oil & Grease	mg/L	**		10	once/quarter ◊	grab
pH Ω	SU	*		-	once/quarter ◊	grab
Total Suspended Solids	mg/L	**		100	once/quarter ◊	grab
NUTRIENTS						
Ammonia as N	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.

** Monitoring requirement with associated benchmark

¥ Once/weekday means once each day on Monday, Tuesday, Wednesday, Thursday, and Friday

Ω The facility will report the minimum and maximum values. pH is not to be averaged.

‡ This permit contains a Total Residual Chlorine (TRC) limit. This effluent limit is below the minimum quantification level (ML) of the most sensitive EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine at this facility to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level will be considered violations of the permit and values less than the minimum quantification level of 130 µg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit. Do not chemically dechlorinate if it is not needed to meet the permit limits.

€ Final limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean.

Ψ Dissolved Oxygen is a minimum value. The facility will report the minimum value for the daily report.

† The measurement frequency once/day means the facility will sample each day of discharge. No report is required if there is no discharge.

◊ Quarterly sampling

MINIMUM QUARTERLY SAMPLING REQUIREMENTS			
QUARTER	**MONTHS**	**QUARTERLY 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. SCHEDULE OF COMPLIANCE

Schedules of compliance are allowed per 40 CFR 122.47. The facility shall attain compliance with final effluent limitations established in this permit as soon as reasonably achievable:

1. Within six months of the effective date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits for temperature.

2. Within 2 years of the effective date of this permit, the permittee shall attain compliance with the final effluent limits at outfall #001 for temperature.

3. While the Department appreciates the efforts to reduce water utilization, recycling water likely contributes, at least in part, to the elevated chloride concentrations at this facility. While the Department values protection of all water resources, the Department is also tasked with protection of water quality and continued beneficial uses of state waters. The permittee must begin efforts to reduce chloride concentrations in the effluent at this facility. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from effective date. The first report is due January 28, 2021.
   a. For the January 28, 2021 report or sooner, along with the other requirements, the facility shall submit a chloride evaluation plan for the discharge of outfall #001.
   b. For the January 28, 2022 report or sooner, along with the other requirements, the facility shall submit the results of the chloride evaluation for outfall #001; including the potential mechanisms for chloride reduction. The mechanisms for chloride reduction evaluated shall include but are not limited to:
      i. Cessation of water recycling,
      ii. Reduction of chlorides used in operational processes,
      iii. Evaluation of source waters,
      iv. Capturing and selling or transfer of blood collected from meat processing; and
      v. Any other potential chloride treatment technologies.
   c. For the January 28, 2023 report or sooner, the facility shall provide a chloride reduction plan and select a method(s) to reduce the chloride discharge from outfall #001.
   d. For the January 28, 2024 report (or sooner) and each following annual report (or sooner), the facility shall provide a summary of steps taken thus far to reduce the chloride discharge at outfall #001. Each report shall provide the facility's updated timeline and selected future plans and timelines for chloride reduction.

4. Within 10 years of the effective date of this permit, the permittee shall attain compliance with the final effluent limits at outfall #001 for chloride.

5. Please submit progress reports via the electronic reporting system. During this schedule for compliance, the facility may choose to submit a request for site-specific criteria and associated site-specific effluent limitations per 10 CSR 20-7.015(9)(A)7. While not specifically granted time to pursue site-specific criteria, the facility may consider this as a feasible response to the effluent limitations contained herein. Should the chloride water quality criteria established in state regulation change, the permittee may request a permit modification and associated chloride limit review.

C. 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.

D. SPECIAL CONDITIONS

1. Chronic Whole Effluent Toxicity (WET) tests shall be conducted as follows:
   (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the most recent edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013; Table IA, 40 CFR Part 136).* The permittee shall concurrently conduct 7-day, static, renewal toxicity tests with the following species:
      - The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
      - The daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).

   (b) Chemical and physical analysis of the effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing required to stabilize the sample during shipping.
   (c) Upstream receiving water is not available for this facility; the laboratory shall use synthetic laboratory control water.
   (d) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
   (e) The Allowable Effluent Concentration (AEC) is 100%, the dilution series is: 100%, 50%, 25%, 12.5%, and 6.25%.
   (f) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
   (g) The laboratory shall not apply sodium thiosulfate (or similar) to remove chlorine.
   (h) The laboratory shall test for chloride in 100% effluent at the same time of conducting the WET test and shall report the results with the WET test report.
   (i) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of chronic toxic units ($TU_c = 100/IC_{25}$) reported according to the *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* chapter on report preparation and test review. The 25 percent Inhibition Effect Concentration (IC_{25}) is the toxic or effluent concentration that would cause 25 percent reduction in mean young per female or in growth for the test populations.
   (j) Accelerated Testing Trigger: If the regularly scheduled chronic WET test exceeds the TU_c limit, the permittee shall conduct accelerated follow-up WET testing as prescribed; results of the follow-up accelerated WET testing shall be reported in TU_c. Follow-up tests do not negate an initial test result. This permit requires the following additional toxicity testing if any one test result exceeds a TU_c limit.
      (1) A follow-up WET test shall be performed for both test species at the specified dilutions within 30 calendar days of becoming aware the regularly scheduled WET test exceeded a TU_c limit, and once every two weeks thereafter until one of the following conditions are met:
         i. Three <u>consecutive</u> multiple-dilution tests are below the TU_c limit. No further tests need to be performed until next regularly scheduled test period.
         ii. A total of three multiple-dilution tests exceed the TU_c limit.
      (2) The permittee shall submit a summary of all accelerated WET test results for the test series along with complete copies of the laboratory reports as received from the laboratory within 14 calendar days of the availability of the third test exceeding a TU_c limit.
   (k) TIE/TRE Trigger: The following shall apply upon the exceedance of the TU_c limit in three accelerated follow-up WET tests. The permittee should contact the Department within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact the Department upon the third follow up test exceeding a TU_c limit, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE within 60 calendar days of the date of the automatic trigger or the Department's direction to perform either a TIE or TRE. The plan shall be based on EPA Methods and include a schedule for completion. This plan must be approved by the Department before the TIE or TRE is begun. If after six months no toxicity is observed, the TIE or TRE may be cancelled.

D. SPECIAL CONDITIONS (CONTINUED)

2. Spills, Overflows, and Other Unauthorized Discharges.
   (a) Any spill, overflow, or other discharge(s) not specifically authorized above are unauthorized discharges.
   (b) Should an unauthorized discharge cause or permit any contaminants to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's 24 hour spill line at 573-634-2436.
   (c) If the unauthorized discharge was from an overflow from a no-discharge wastewater basin, the report must include all records confirming operation and maintenance records documenting proper maintenance.
   (d) Bypasses are not authorized at this facility and are subject to 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3)(i), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Northeast Regional Office within 24 hours or through an electronic reporting system as in special condition #2(c)(5) above when available. The facility must report all bypasses occurring on the weekends to the Department's hotline at 573-634-2436 (if greater than 24 hours will elapse).
   (e) Permittee shall adhere to the following minimum Best Management Practices (BMPs) for no-discharge wastewater holding structures:
      i. To prevent unauthorized discharges, the no-discharge wastewater basins must be properly operated and maintained to contain all wastewater plus run-in and direct precipitation. During normal weather conditions, the liquid level in the storage structure shall be maintained below the upper operating level, so that adequate storage capacity is available for use during adverse weather periods. The liquid level in the storage structure should be lowered on a routine schedule based on the design storage period. Typically this should be accomplished prior to expected seasonal wet and winter climate periods. The upper operating level for uncovered storage structures is 24 inches below the overflow level. Maintain liquid level in the no-discharge wastewater structure at least 24 inches from the discharge pipe or top of the basin, whichever is lower.
      ii. The facility shall notify the Department's Regional Office at the earliest convenience, but no less than 48 hours of discovery, the freeboard in any basin has decreased to at or less than 24 inches from the lowest elevation of the containment berm. The facility shall continue to notify the Department weekly until the freeboard has been increased to equal to or greater than 24 inches from the top of the containment berm. If this occurs after normal business hours, the hotline referenced above shall be used.

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) Schedule of Compliance Progress Reports;
      (2) Wastewater Irrigation Annual Reports;
      (3) Sludge/Biosolids Annual Reports;
      (4) 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 #3.
   (d) Electronic Submissions. To access the eDMR system, use the following link: 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. The facility's SIC code(s) or description is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) hence shall implement a Stormwater Pollution Prevention Plan (SWPPP) which must be prepared and implemented within 90 days from permit effective date. The SWPPP must be kept on-site and should not be sent to the Department unless specifically requested. The SWPPP must be reviewed and updated every five years or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf The purpose of the SWPPP and the Best Management Practices (BMPs) listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective preventing pollution [10 CSR 20-2.010(56)] of waters of the state. Corrective action means the facility took steps to eliminate the deficiency.
   The SWPPP must include:
   (a) A listing of specific contaminants and their control measures (or BMPs) and a narrative explaining how BMPs are implemented to control and minimize the amount of contaminants potentially entering stormwater.
   (b) The facility must assure the stormwater drains are free of debris and will effectively drain industrially exposed stormwater to the treatment plant.
   (c) A schedule for at least once per month site inspections and brief written reports. The inspection report must include precipitation information for the entire period since last inspection, as well as observations and evaluations of BMP effectiveness. Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
      i. Operational deficiencies must be corrected within seven (7) calendar days.
      ii. Minor structural deficiencies must be corrected within fourteen (14) calendar days.
      iii. Major structural deficiencies must be reported to the regional office within seven (7) days of discovery. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including proposed timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. The permittee will work with the regional office to determine the best course of action, including but not limited to temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
      iv. All actions taken to correct the deficiencies shall be included with the written report, including photographs.
      v. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to Department and EPA personnel upon request. Electronic versions of the documents are acceptable.
   (d) A provision for designating an individual to be responsible for environmental matters.
   (e) A provision for providing training to all personnel involved in housekeeping, material handling (including but not limited to loading and unloading), storage, and staging of all operational, maintenance, storage, and cleaning areas. Proof of training shall be submitted upon request by the Department.

5. Permittee shall adhere to the following minimum Best Management Practices (BMPs):
   (a) Close all dumpsters and maintain containment berms around containers as appropriate.
   (b) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of stormwater from these substances.
   (c) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
   (d) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. Any spills should be noted in the SWPPP.
   (e) Provide maintenance as necessary to assure the stormwater collection system is operating as designed and has sufficient capacity to provide acceptance of storm events.
   (f) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
   (g) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property to comply with general water quality criteria, effluent limits, or benchmarks. This could include the use of straw bales, silt fences, or sediment basins, if needed.
   (h) Ensure adequate provisions are provided to prevent surface water intrusion into the storage basins, to divert stormwater runoff around the storage basins, and to protect embankments from erosion.

D. SPECIAL CONDITIONS (CONTINUED)

6. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the CWA section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), §304(b)(2), and §307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not limited in the permit.

7. To protect the general criteria found at 10 CSR 20-7.031(4), before releasing water accumulated in secondary containment areas, it must be examined for hydrocarbon odor and presence of sheen. If the presence of odor or sheen is indicated, the water shall be treated using an appropriate method or disposed of in accordance with legally approved methods, such as being sent to a wastewater treatment facility. Following treatment, the water shall be tested for oil and grease, benzene, toluene, ethylbenzene, and xylene using 40 CFR part 136 methods. All pollutant levels must be below the most protective, applicable standards for the receiving stream, found in 10 CSR 20-7.031 Table A. Records of all testing and treatment of water accumulated in secondary containment shall be stored on-site to be available on demand to DNR and EPA personnel.

8. All outfalls and permitted features must be clearly marked in the field. The facility is granted 60 days from permit issuance to place correct signage in the field for the basins.

9. 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).

10. Report as no-discharge when a discharge does not occur during the report period.

11. 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).

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

13. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the wastewater operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the wastewater facility.

D. SPECIAL CONDITIONS (CONTINUED)

14. The facility must install and maintain a fence with appropriate gates around all wastewater holding structures. These structures must be placarded with a sign stating “Wastewater Treatment – Keep Out” or similar on each side.

15. The lagoon inner and outer berm slopes shall not be steeper than three to one (3:1). Inner berm slopes shall not be flatter than four to one (4:1). Consideration may be given to steeper inner slopes provided special attention is given to stabilizing the slope with rip-rap, concrete, or other rigid materials.

16. Maintenance of berms of storage basins shall include mowing and removal of any trees, muskrat dens, or other potential sources of damage to the berms.

17. The facility shall submit, no less than 180 days from permit expiration, a complete application for renewal. This application must have all of the following: Form A, Forms C and D for outfall #001, and a Form C for each of the stormwater outfalls. Incomplete applications will be returned to the facility. Sampling is required for Form D at outfall #001 in compliance with 40 CFR 122.21(g)(v). Stormwater sampling is required to be in compliance with 40 CFR 122.26(c). At a minimum, the facility must sample each stormwater outfall for every pollutant listed in this permit for outfall #001 and any others promulgated in the rule.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL OF
MO-0115487
SMITHFIELD FRESH MEATS CORP. – MILAN, MO

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.

Part I. FACILITY INFORMATION

Facility Type: Industrial – Major, Primary, Categorical; >1 MGD
SIC Code: 2011
NAICS Code: 311611
Application Date: 12/13/2016
Expiration Date: 06/11/2017
Last Inspection: 03/01/2016 – in compliance

FACILITY DESCRIPTION:
This facility is a pork processing facility. The source water for this facility is the New Milan Reservoir drinking water lake. The sampling point for this facility differs from the outfall location: X = 489753, Y = 4452121. Thermal discharge comes from two 15 Million BTU natural gas fired water heaters. This facility is subject to federal effluent limitation guidelines 40 CFR § 432 Subpart B – Complex Slaughterhouses. A complex slaughterhouse usually includes at least three processing operations. See permit Part A. This facility is not located upstream of the drinking water (L1) watershed therefore 10 CSR 20-7.015(3)(C). Based on a 2006 Water Quality Review Sheet (WQRS), certain ELG limitations were shown to not be protective of water quality and water quality based effluent limitations were established. The WQRS and associated water quality based effluent limits were developed to reflect results of waste load allocation surveys and water quality modeling conducted by MEC Water Resources and Limno Tech, Inc. A use attainability analysis was conducted for East Fork Locust Creek in July 2005 and the whole body contact recreation designated use was retained. Domestic wastewater is sent to the Milan wastewater treatment facility.

PERMITTED FEATURES TABLE:

OUTFALL	AVERAGE FLOW (MGD/CFS)	DESIGN FLOW (MGD/CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.67/1.04	1.08/1.67	Primary/Secondary/Tertiary	industrial process wastewater, stormwater
#002	new	new	BMPs	stormwater only
#003	new	new	BMPs	stormwater only
#004	new	new	BMPs	stormwater only
#005	new	new	BMPs	stormwater only
#006	new	new	BMPs	stormwater only
#007	new	new	BMPs	stormwater only
#B01	no discharge	no discharge	no discharge	wastewater equalization basin
#B02	no discharge	no discharge	no discharge	wastewater emergency holding basin
#B03	no discharge	no discharge	no discharge	wastewater emergency holding basin

FACILITY PERFORMANCE HISTORY & COMMENTS:
The facility was found to be in compliance during the most recent site inspection conducted on March 1, 2016. Compliance issues noted in the Department's database include a letter sent in 2015 addressing a missing operation and maintenance report and delinquent fees in 2012. These issues appear to have been resolved.

New outfalls (#003 through #007) were established in this permit for stormwater discharges associated with industrial activity. During a site visit by permitting staff, the facility showed contaminant sources present at the facility. While the facility has installed a first flush capture system, it can only accept one inch per hour of stormwater influx, per drawings and engineering calculations submitted on behalf of the facility by Shafer, Kline & Warren, Inc. Missouri and Federal regulations are clear, SIC codes 20XX must be covered under a stormwater permit or receive a No-Exposure Exemption. The permit writer has determined the stormwater at the site shows industrial exposure and the first-flush system employed at the site should contain the most contaminated of the stormwater and route it to the treatment facility. Additionally, other areas are outside of the collection system. On the east side of the plant, near outfall #003 there are other areas identified as also containing scrap material. If the collection system is effective in alleviating all stormwater discharges through the newly identified stormwater outfalls in this permit, then the facility may report no discharge for the quarter. If there are a discharge, then additional BMPs may be required to prevent pollution to waters of the state. The permit writer believes the areas and outfall locations submitted by the permittee to be representative of the stormwater discharges coming from the site. The facility has increased the curb height recently to prevent stormwater from jumping out of the collection system area.

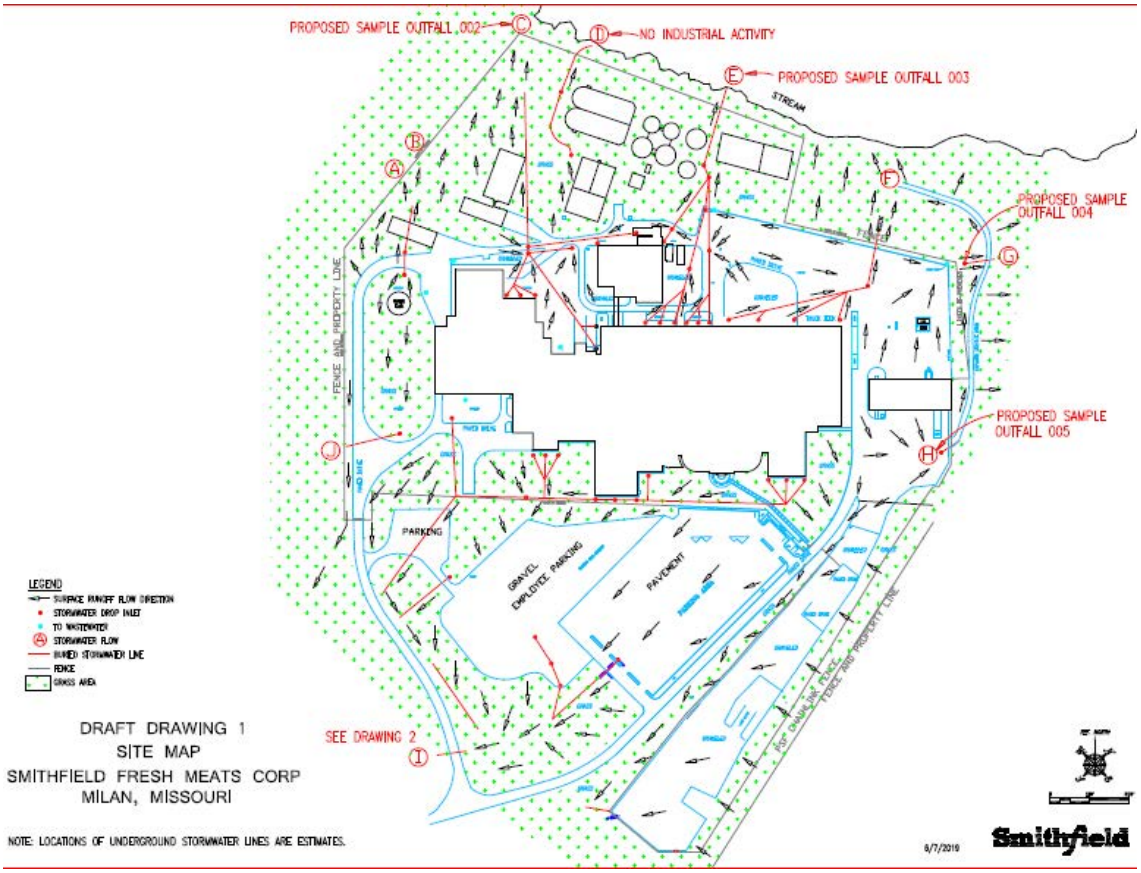
New permitted features #B01, #B02, and #B03 were established in this permit; see map later in the fact sheet. #B01 is listed as an equalization basin in the 2016 inspection, and is the smallest of the three basins, and located most western. #B02 is the center emergency holding basin, and #B03 is the largest emergency holding basin on the eastern side. The facility did not disclose any information about these basins, therefore this permit does not allow any discharge, not even on an emergency basis. Operational monitoring is required. The facility must also report to the Department, within 24 hours, if any of these structures overflows which is considered a bypass of treatment. The permit writer has no evidence the basins have discharged in the past, although aside from the inclusion in the 2016 inspection, there has been no reference to them. There is also a sludge holding basin identified in the 2016 site inspection.

The facility indicated metals were not present in the stormwater at the site even though there is a metals storage area upstream of outfall #004. Previous drafts included zinc monitoring but the facility informed the permit writer the metals at the site were stainless steel. Because of the pre-public notice comment, the permit writer removed zinc monitoring. The facility does not have authorization to discharge metals exceeding water quality standards at any of the stormwater outfalls. The permit writer also notes the facility has vegetative buffers which will likely treat any metals possibly entrained in the stormwater therefore metals limits are not required at this time.

In the application for renewal, the facility did not disclose (believed present or believed absent) the presence of trivalent chromium, hexavalent chromium, cyanide, or phenols. The permit writer has reviewed this application and determined these pollutants are not likely found at a pork processing facility. However, if these pollutants are present, it is the responsibility of the facility to report the presence of these pollutants. Additionally, the facility marked believed present for sulfide, sulfite, surfactants, aluminum, copper, iron, manganese and zinc without providing actual analytical values of these pollutants. This permit contains requirements for the facility to report to the Department any knowledge of a pollutant known to be toxic, in accordance with special condition #9. As the application did not elucidate the actual value of these pollutants, the facility is required to submit the obtained data to the Department because no data was supplied in the application.

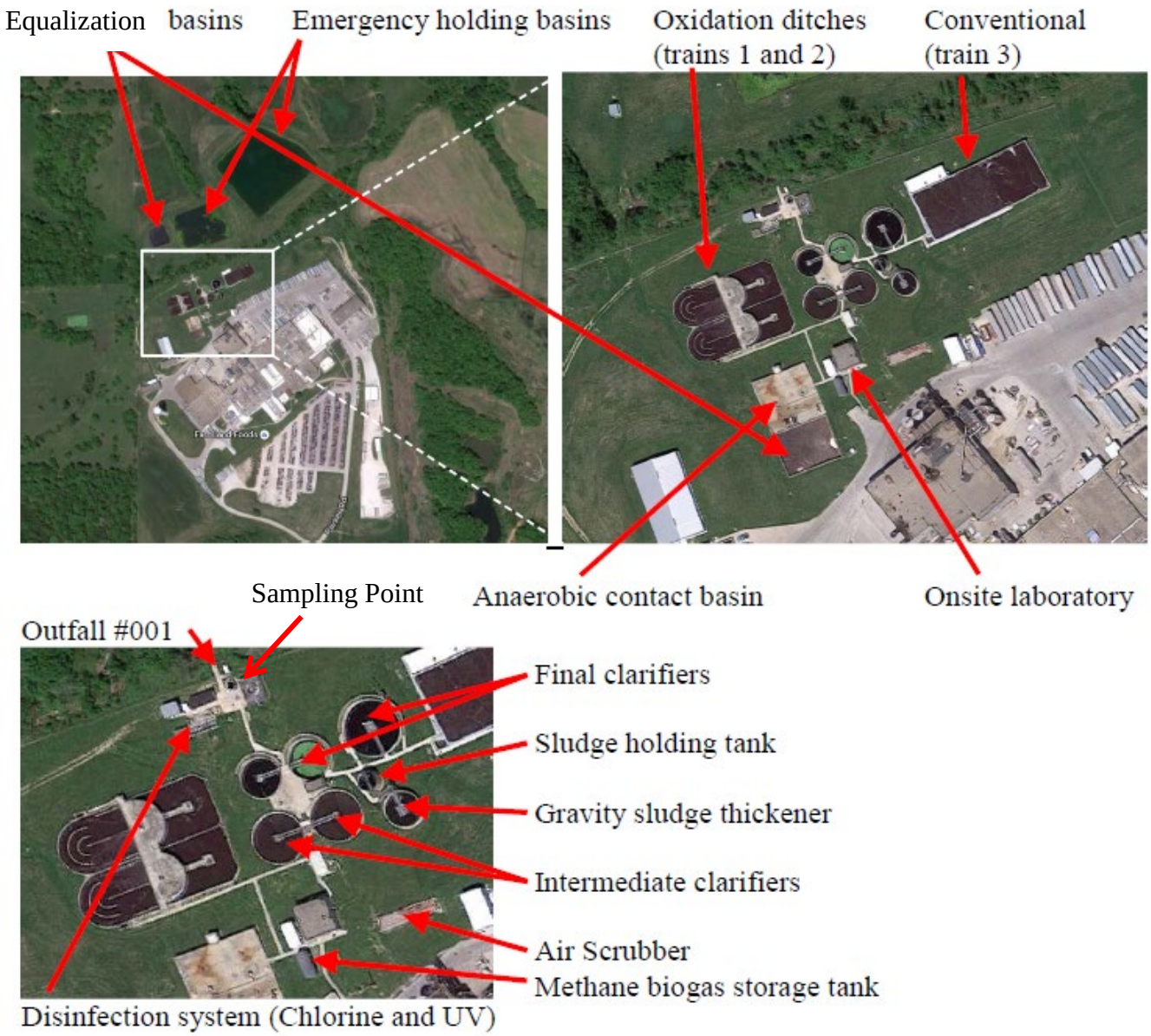
FACILITY OVERVIEW:

FACILITY OVERVIEW CONTINUED:



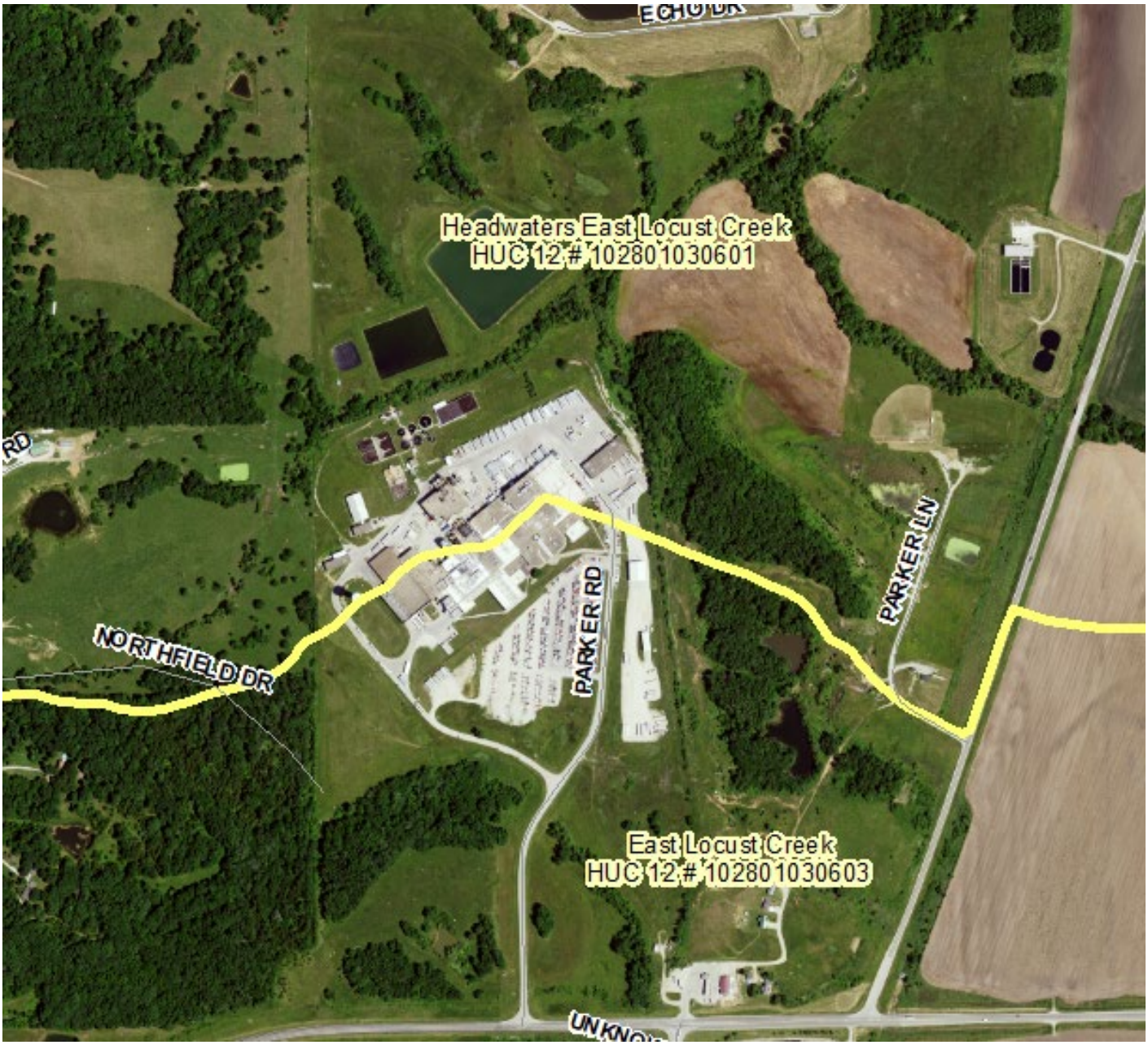
- Outfall #002 in this diagram is outfall #007 in the permit; outfall #002 was historic and therefore the number was not reused.
- The gravel employee parking lot was paved in October 2019.

The following map was taken from the March 1, 2016 site inspection.

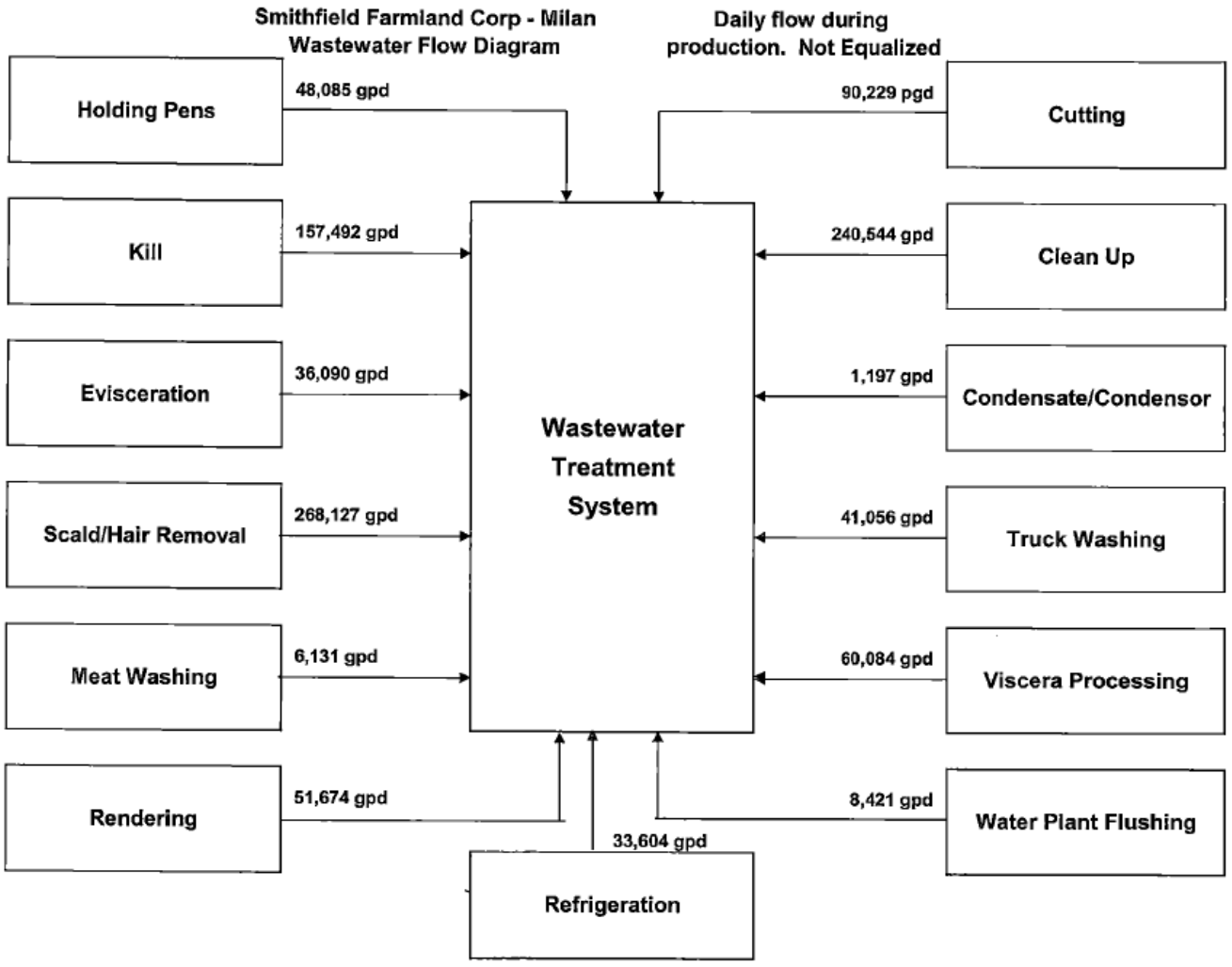


IDENTIFIED FEATURES:

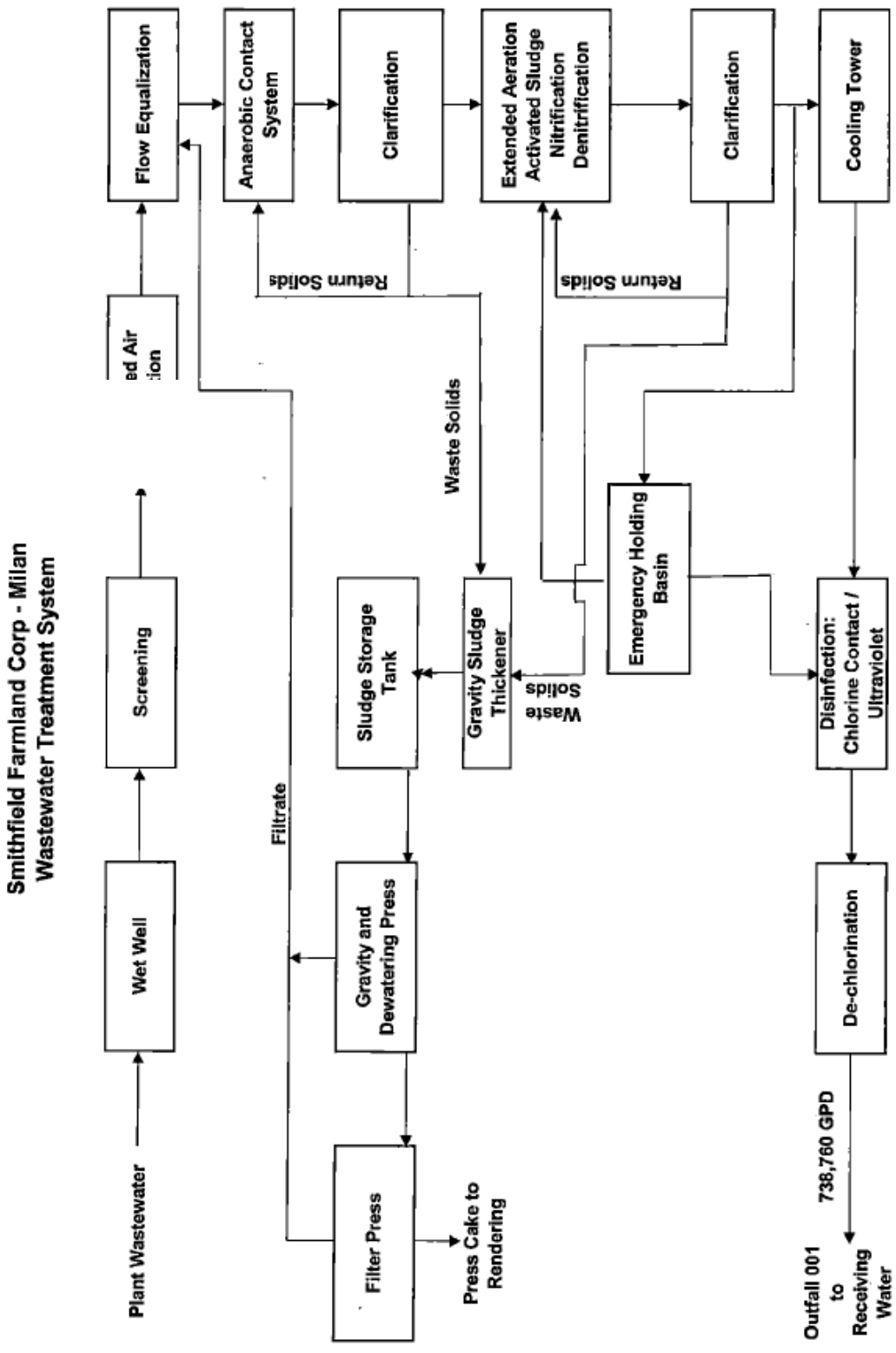
STORMWATER HYDROLOGY:
This map shows the two watersheds the facility is located; essentially bisecting the property laterally. The stormwater management plan will be required to address contributions from both sides of the facility into the different watersheds. The northern watershed is Headwaters East locust Creek (10280103-0601), the southern watershed is East locust Creek (10280103-0603).



POLLUTANT SOURCES:



WATER BALANCE DIAGRAM:



TRANSPORTATION FACILITY:

The facility disclosed this area was not operated by the facility therefore this area was not permitted under this permit. This is a transportation facility and must obtain a separate permit.

Part II. RECEIVING STREAM INFORMATION

RECEIVING WATER BODY'S WATER QUALITY:
There no concurrent water quality data available for the receiving stream, other than the information discussed below. Elmwood Branch is now classified as a (C) (3960) stream, whereas it was not classified in the previous permit, as EPA has approved the Department's new stream classifications. This newly classified stream did not impact effluent limitations for the permit at this time.

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

✓ Not applicable; this facility does not discharge to an impaired segment of a 303(d) listed stream. The third stream that the discharge flows into is on the 2016 303(d) list for *E. coli* and dissolved oxygen impairments from rural non-point sources. This facility is not listed as a source of the impairment.

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/

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

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.
All Other Waters: ☒

RECEIVING STREAMS TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#001	Tributary to Elmwood Branch	n/a	n/a	GEN	0.00	10280103-0601
#001	8-20-13 MUDD V1.0 (Elmwood Branch)	C	3960	HHP, IRR, LWW, SCR, WBC-B, WWH (AQL/ALP)	0.45 mi	

The ecological drainage unit (EDU) for this facility is Central Plains/Grand/Chariton.

n/a not applicable

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

WBID = Waterbody Identification: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 8-20-13 MUDD V1.0 or newer; data can be found as an ArcGIS shapefile on MSDIS at ftp://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip; New C streams described on the dataset per 10 CSR 20-7.031(2)(A)3. As 100K Extent Remaining Streams.

Per 10 CSR 20-7.031, the Department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses are to be maintained in the receiving streams in accordance with [10 CSR 20-7.031(1)(C)]. Uses which may be found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.: **ALP** = Aquatic Life Protection (formerly AQL; current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-A2 for all habitat designations unless otherwise specified.

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = Whole Body Contact recreation where the entire body is capable of being submerged;
WBC-A = whole body contact recreation supporting swimming uses and has public access;
WBC-B = whole body contact recreation not supported in WBC-A;

SCR = Secondary Contact Recreation (like fishing, wading, and boating)
10 CSR 20-7.031(1)(C)3. To 7.:
HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish and drinking of water;
IRR = irrigation for use on crops utilized for human or livestock consumption
LWW = Livestock and Wildlife Watering (current narrative use is defined as LWP = Livestock and Wildlife Protection);
DWS = Drinking Water Supply
IND = industrial water supply
10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Tables A1-B3 currently does not have corresponding habitat use criteria for these defined uses): WSA = storm- and flood-water storage and attenuation; WHP = habitat for resident and migratory wildlife species; WRC = recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = hydrologic cycle maintenance.
10 CSR 20-7.031(6): **GRW** = Groundwater

MIXING CONSIDERATIONS:
For all outfalls, mixing zone and zone of initial dilution are not allowed per 10 CSR 20-7.031(5)(A)4.B.(I)(a) and (b), as the base stream flow does not provide dilution to the effluent.

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

Part III. RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & PERMIT CONDITIONS

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:
As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.
- ✓ Not applicable; the facility does not discharge to a losing stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:
Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] require a reissued permit to be as stringent as the previous permit with some exceptions. Backsliding (a less stringent permit limitation) is only allowed under certain conditions.
- ✓ Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
  - ✓ Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) which would have justified the application of a less stringent effluent limitation.
    - Five years of DMR data were available to the permit writer and support elevated effluent limitations.
      - Site specific data was used to calculate limits for ammonia as N, this resulted in less restrictive effluent limitations. Although the limitations are less stringent, statistical analysis shows the adjusted limits will be protective of water quality in the receiving stream.
      - A reasonable potential determination was conducted on the data for oil and grease. This pollutant behaves differently than toxic pollutants, for this reason, a statistical analysis of reasonable potential could not be conducted. However, the permit writer completed a reasonable potential determination based on the data. The data ranged from 2.5 to 7 mg/L. These values are below the water quality standard of 10 mg/L. The permit writer determined that there is no reasonable potential for the discharge to cause or contribute to excursions of the water quality standard at this time. Therefore, the technology-based effluent limitations from ELG 40 CFR 432 replaced the water quality-based effluent limitations. This resulted in less stringent effluent limitations for oil and grease.
  - ✓ 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 a specific set of prohibitions related to general criteria 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 standards in the previous permit. Federal regulations 40 CFR 122.44(d)(1)(iii) requires that in instances were 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 and establishing numeric effluent limitations for specific pollutant parameters, 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) 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 that 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.

(A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
- There is no RP for putrescent bottom deposits preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates putrescent wastewater would be discharged from the facility.
- There is no RP for unsightly or harmful bottom deposits preventing full maintenance of beneficial uses because all outfalls have TSS limitations; however, they are all based on technology for the processes involved; values discharged from all outfalls are typically below WQ limitations, therefore no RP.

(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.
- There is no RP for oil in sufficient amounts to be unsightly preventing full maintenance of beneficial uses; the facility has data showing the in-stream WQS for oil and grease at outfall #001 has not been exceeded during the last permit term.
- There is no RP for scum and floating debris in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates scum and floating debris will be present in sufficient amounts to impair beneficial uses.

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.
- There is no RP for unsightly color or turbidity in sufficient amounts preventing full maintenance of beneficial uses; outfall #001 has TSS limits but are based on technology requirements and there are no TSS water quality standards.
- There is no RP for offensive odor in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates offensive odor will be present in sufficient amounts to impair beneficial uses.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.
- The permit writer considered specific toxic pollutants when writing this permit. Numeric effluent limitations are included for those pollutants that could be discharged in toxic amounts. These effluent limitations are protective of human health, animals, and aquatic life.

(E) There shall be no significant human health hazard from incidental contact with the water.
- It is the permit writer's opinion that this criterion is the same as (D).

(F) There shall be no acute toxicity to livestock or wildlife watering.
- It is the permit writer's opinion that this criterion is the same as (D).

(G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.
- There is RP for physical changes that would impair the natural biological community because thermal pollution discharged at outfall #001 has reasonable potential (through permit writer's best professional judgment) to cause or contribute to thermal exceedances which indicates physical changes would impair the natural biological community.
- There is RP for chemical changes that may impair the natural biological community; the permit writer believes this is the similar to (D) above.
- There is no RP for hydrologic changes that would impair the natural biological community because nothing disclosed by the permittee at renewal for these outfalls indicates hydrologic changes that would impair the natural biological community.

(H) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
- ✓ There is no reasonable potential for the wastes listed above to be found in the receiving stream at any of the outfalls at this solid waste facility.

- The previous permit contained the special condition "Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability."
  The permit writer has reviewed this condition and determined this condition is only applicable to domestic systems and was therefore removed from this renewal permit.

ANTIDEGRADATION REVIEW:
For process water discharge with new, altered, or expanding discharges, 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.
  - o In 2018, the facility attempted to complete a temporary antidegradation review to allow outfall #001 to discharge into Elmwood lake. However, the lake is a drinking water source and discharge into a drinking water source is prohibited.

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

- ✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

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.

- ✓ Applicable; this facility has stormwater-only outfalls with benchmark constraints.

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:

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

COMPLIANCE AND ENFORCEMENT:

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

- ✓ Not applicable; the permittee/facility is not currently under Water Protection Program enforcement action.

DOMESTIC WASTEWATER:

Domestic wastewater is defined as wastewater (i.e., human sewage) originating primarily from the sanitary conveniences of residences, commercial buildings, factories, and institutions, including any water which may have infiltrated the sewers. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste.

✓ Not applicable, this facility discharges domestic wastewater to an off-site permitted wastewater treatment facility (POTW), to the city of Milan.

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.

EFFLUENT LIMITATIONS:
Effluent limitations derived and established in the below effluent limitations table 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. Daily maximums and monthly averages are required under 40 CFR 122.45(d)(1) for continuous discharges not from a POTW.

EFFLUENT LIMITATION GUIDELINE:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.
✓ The facility has an associated Effluent Limit Guideline (ELG) 40 CFR 432 which is applicable to the wastewater discharge at this facility. Should water-quality derived effluent limits be more protective of the receiving water's quality, the WQS will be used as the limiting factor. The permittee indicated on the application they process 10,500 pounds per day of live weight killed (LWK). LWK is defined as the total weight of animals slaughtered.

GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants which have been determined to cause, have the reasonable potential to cause, or to contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. The previous permit included the narrative criteria as specific prohibitions placed upon the discharge. These prohibitions were included in the permit absent any discussion of the discharge's reasonable potential to cause or contribute to an excursion of the criterion. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether the discharge has reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). In instances where reasonable potential exists, the permit includes numeric limitations to address the reasonable potential. In instances where reasonable potential does not exist the permit includes monitoring of the discharges potential to impact the receiving stream's narrative criteria. Finally, all of the previous permit narrative criteria prohibitions have been removed from the permit given they are addressed by numeric limits where reasonable potential exists. It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission.

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.

MAJOR WATER USER:
Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. All major water users are required by law to register water use annually (Missouri Revised Statues Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). https://dnr.mo.gov/pubs/pub2337.htm

✓ This facility has been identified as a Major Water User. The Major Water Use Identification number is 65149263. The company used 289,660,000 gallons of surface water in 2014.

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 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.

✓ Not applicable; this permit does not authorize operation of a no-discharge land application system to treat wastewater or sludge. This facility's sludge is applied by a licensed fertilizer applicator under permit# 1261 to agricultural crops under a fertilizer exemption. This statement does not confer authorization under this permit and the applicator, permit number, or license number may change without consequence to this permit.

OIL/WATER SEPARATORS:
Oil water separators (OWS) are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separators must be operated according to manufacturer's specifications and authorized in NPDES permits or may be regulated as a petroleum tank.

✓ Not applicable; the permittee has not disclosed the use of any oil water separators at this permitted facility and therefore oil water separator tanks are not authorized by this permit.

REASONABLE POTENTIAL (RP):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants which are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times; however, acute toxicity criteria may be exceeded by permit in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit in mixing zones. If the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for the pollutant per 40 CFR Part 122.44(d)(1)(iii) and the most stringent limits per 10 CSR 20-7.031(9)(A). Permit writers may use mathematical reasonable potential analysis (RPA) using the Technical Support Document for Water Quality Based Toxics Control (TSD) methods (EPA/505/2-90-001) as found in Section 3.3.2, or may also use reasonable potential determinations (RPD) as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD.

✓ Outfalls #001: Applicable; an RPA was conducted on appropriate parameters and was conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request. See Waste Load Allocations (WLA) for Limits in this section.

Parameter *	CMC	RWC Acute	CCC	RWC Chronic	n	Range min; max	CV	MF	RP
Nutrients									
Ammonia as Nitrogen (Summer)	12.1	9.42	0.9	9.42	34.00	2.1/0.04	2.00	4.49	yes
Ammonia as Nitrogen (Winter)	12.1	2.47	0.9	2.47	33.00	0.97/0.05	0.91	2.54	yes

Parameter:	CMC Acute	CCC Chronic	Listing	Daily Max	Monthly Average	n#	CV	n Max	MF	RWC Acute	RWC Chronic	RP
Chloride mg/L	860	230	AQL	278.03	216.71	52	0.175	323	1.18	381.12	381.12	Yes

N/A Not Applicable
* Units are (µg/L) unless otherwise noted.
N number of samples. If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent.
CV Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.
RWC Receiving Water Concentration: concentration of a toxicant or the parameter in the receiving water after mixing (if applicable).
MF Multiplying Factor. 99% Confidence Level and 99% Probability Basis.
RP Reasonable Potential: an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

✓ Applicable; the permit writer conducted an RPD on applicable parameters within the permit. See Part IV: Effluent Limits Determinations below.

✓ Outfalls #003-007: Not applicable; a mathematical RPA was not conducted for the stormwater at this facility. This permit establishes permit limits and benchmarks for stormwater. The Department has determined stormwater is not a continuous

discharge and is therefore not necessarily dependent on mathematical RPAs. However, the permit writer completed an RPD, a reasonable potential determination, using best professional judgment for all of the appropriate parameters in this permit. An RPD consists of reviewing application data and/or discharge monitoring data for the last five years and comparing those data to narrative or numeric water quality criteria.

- ✓ Permit writers use the Department's permit writer's manual (http://dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm), the EPA's permit writer's manual (https://www.epa.gov/npdes/npdes-permit-writers-manual), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding: technology based effluent limitations, effluent limitation guidelines, water quality standards, stream flows and uses, and all applicable site specific information and data gathered by the permittee through discharge monitoring reports and renewal (or new) application sampling. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs. Part IV provides specific decisions related to this permit.

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 discharges, and are protective of water quality. Discharges with altering effluent should have composite sampling; discharges with uniform effluent can have grab samples. Grab samples are usually appropriate for stormwater.

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. SOCs are allowed under 40 CFR 122.47 providing certain conditions are met. A SOC is not allowed:

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

In order to provide guidance in developing SOCs, and to attain a greater level of consistency, the department issued a policy on development of SOCs on October 25, 2012. The policy provides guidance to permit writers on standard time frames for schedules for common activities, and guidance on factors to modify the length of the schedule.

- ✓ Applicable; the time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(12)]. The facility has been given a schedule of compliance to meet final effluent limits. See permit Sections A and B for parameters and compliance dates.
  - o The facility requires two years to assure correct operation of the cooling towers to meet thermal effluent limitations. The cooling towers are currently in-place but non-operational.
  - o The facility has been granted ten years to meet effluent limitations for chloride at outfall #001 which is reasonable in accordance with 40 CFR 122.47(a)(2) due to the difficulty of treating chloride in complex wastewaters. All changes will require varying degrees of operational control, study, or infrastructure changes. The Department is providing the following options for the facility to meet the onus of as soon as practicable while keeping all options open for future compliance. These include but are not limited to: capturing and selling blood; examining source waters and process-specific wastewaters for the source of the chlorides; capturing and treating a portion of the wastewater; or cease recycling of water.
  - o During review, the Department initially determined the facility may move the discharge pipe to a nearby stream to receive mixing considerations. While this is still an option (an antidegradation review would need to be completed), the stream, East Fork Locust Creek, would only afford about 0.04 to 0.14 cfs for mixing. After recalculating the effluent limits, the facility would not be able to meet the slightly elevated limits.
  - o It is because of these permutations, the Department is granting a ten year schedule for compliance as iterative infrastructure and technological changes take time to gather information, plan, and obtain funding approvals.

- During the time granted for infrastructure changes, the facility may choose to provide a request for site-specific criteria and subsequently site-specific effluent limitations per 10 CSR 20-7.015(9)(A)7. While not specifically granted time to pursue site-specific criteria, the facility may consider this as a feasible reaction to the effluent limitations contained herein.
- It is expected the EPA will public notice substantially different CWA § 304(a) criteria in the next year; once Missouri adopts the EPA's revised 304(a) criteria (or some variant thereof), this will likely provide the facility with some, if not all relief from the possibility of exceeding re-established effluent limitations. When in-stream criteria have changed, effluent limitations can be recalculated in the permit by way of a permit modification when requested by the facility.
- If during the pendency of the schedule of compliance, the facility has expectations the final effluent limitations cannot be met at the end of the schedule, the facility should request a further extension of the schedule. The request will need to include measures the facility expects to conduct in the future and a timetable associated with each measure. Upon approval by the Department, the schedule can be extended.

SLUDGE – DOMESTIC BIOSOLIDS:
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).

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

- ✓ Applicable; however, this permit does not authorize land application of industrial sludge. Sludges are removed periodically and used as fertilizer and are regulated by the Missouri Fertilizer Control Board.

SPILL REPORTING:
Per 260.505 RSMo, any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. http://dnr.mo.gov/env/esp/spillbill.htm

STANDARD CONDITIONS:
The standard conditions Part I attached to this permit incorporate all sections of 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the permittee to ascertain compliance with this permit, state regulations, state statues, federal regulations, and the Clean Water Act.

STORMWATER PERMITTING:
A standard mass-balance equation cannot be calculated for stormwater from this facility because the stormwater flow and flow in the receiving stream cannot be determined for conditions on any given day. The amount of stormwater discharged from the facility will vary based on previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on climatic conditions, size of watershed, amount of surfaces with reduced permeability (houses, parking lots, and the like) in the watershed, hydrogeology, topography, etc. Decreased permeability increases the flash of the stream.

It is likely sufficient rainfall to cause a discharge for four continuous days from a facility will also cause some significant amount of flow in the receiving stream. Chronic WQSs are based on a four-day exposure (except ammonia, which is based on a thirty day exposure). In the event a discharge does occur from this facility for four continuous days, some amount of flow will occur in the receiving stream. This flow will dilute stormwater discharges from a facility. For these reasons, most industrial stormwater facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

Sufficient rainfall to cause a discharge for one hour or more from a facility would not necessarily cause significant flow in a receiving stream. Acute WQSs are based on a one hour of exposure, and must be protected at all times in unclassified streams, and within mixing zones of class P streams [10 CSR 20-7.031(4) and (5)(4)4.B.]. Therefore, industrial stormwater facilities with toxic contaminants do have the potential to cause a violation of acute WQSs if those toxic contaminants occur in sufficient amounts.

It is due to the items stated above staff are unable to perform statistical Reasonable Potential Analysis (RPA). However, staff will use their best professional judgment in determining if a facility has a potential to violate Missouri's Water Quality Standards.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k), Best Management Practices (BMPs) must be used to control or abate the discharge of pollutants when: 1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges.

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

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

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

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

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

- ✓ Applicable; a SWPPP shall be developed and implemented for this facility. As this is a new requirement, the facility will have 90 days from the effective date of the renewed permit.

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:
Please review Standard Conditions Part 1, section A, number 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 unless alternates are approved by the department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations 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 quantifies the pollutant below the level of the applicable water quality criterion or; 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough 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 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established. A permittee is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive. 40 CFR 136 lists the approved methods accepted by the department. Table A at 10 CFR 20-7.031 shows water quality standards.

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). The NPDES regulations at Title 40 of the Code of Federal Regulations (CFR) 125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA § 301(b) and § 402(a)(1), represent the minimum level of control that must be imposed in a permit. The regulation also indicates that permit writers must include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality. Regardless of the technology chosen to be the basis for limitations, the facility is not required to install the technology, only to meet the established TBEL.

Case-by-case TBELs are developed pursuant to CWA section 402(a)(1), which authorizes the administrator to issue a permit meeting either, 1) all applicable requirements developed under the authority of other sections of the CWA (e.g., technology-based treatment standards, water quality standards) or, 2) before taking the necessary implementing actions related to those requirements, "such conditions as the administrator determines are necessary to carry out the provisions of this Act." The regulation at §125.3(c)(2) specifically cite this section of the CWA, stating technology-based treatment requirements may be imposed in a permit "on a case-by-case basis under section 402(a)(1) of the Act, to the extent that EPA-promulgated effluent limitations are inapplicable." Further, §125.3(c)(3) indicates "where promulgated effluent limitations guidelines only apply to certain aspects of the discharger's operation, or to certain pollutants, other aspects or activities are subject to regulation on a case-by-case basis to carry out the provisions of the act." When establishing case-by-case effluent limitations using best professional judgment, the permit writer should cite in the fact sheet or statement of basis both the approach used to develop the limitations, discussed below, and how the limitations carry out the intent and requirements of the CWA and the NPDES regulations.

- ✓ Not applicable; the permittee is subject to an ELG therefore those technology limitations will be used instead of an individual TBEL POC analysis.

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

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

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

✓ Not applicable; this permit is not drafted under premise of a petition for variance.

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

✓ Applicable; wasteload allocations were calculated where relevant using water quality criteria or water quality model results and by applying the dilution equation below:

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

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

- Acute wasteload allocations designated as daily maximum limits (MDL) were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).
- Chronic wasteload allocations designated as monthly average limits (AML) were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ).
- Water quality based MDL and AML effluent limitations were calculated using methods and procedures outlined in USEPA's *Technical Support Document For Water Quality-based Toxics Control* or TSD EPA/505/2-90-001; 3/1991.
- Number of Samples "n": In accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance which should be, at a minimum, targeted to comply with the values dictated by the WLA. Therefore, it is recommended the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For total ammonia as nitrogen, "n = 30" is used.

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

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

Part IV. Effluent Limits Determination

Outfall #001 – Main Facility Outfall

Effluent Limitations Table:

PARAMETERS	Unit	Daily Max	Monthly Avg	previous permit limits	Minimum Sampling Frequency	Minimum Reporting Frequency	Sample Type
Physical							
Flow	MGD	*	*	same	once/day	once/month	24 Hr. Tot.
Temperature	°C	*	*	I –same	once/weekday	once weekday	grab
Temperature	°C	32.2	*	F	once/weekday	once weekday	grab
Conventional							
$CBOD_5$	mg/L	30	25	same	once/weekday	once/weekday	composite
Chloride	mg/L	*	*	int, same	once/month	once/month	composite
Chloride	mg/L	278	217	fin, new	once/month	once/month	composite
Sulfate	mg/L	*	*	same	once/month	once/month	composite
Chloride plus Sulfate	mg/L	*	*	new	once/month	once/month	calculated
Chlorine, Total Residual ‡	µg/L	18.5	6.5	17/8	once/week	once/week	grab
E. coli (CFU/100mL)	€	1,030	206	same	once/week	once/week	grab
Fecal Coliform	CFU/ 100mL	400	400	same	once/quarter	once/quarter	grab
Oil & Grease	mg/L	46.6	23.3	15/10	once/week	once/week	grab
Oxygen, Dissolved (DO) Ψ	mg/L	Min 5.0	Min 5.0	same	once/weekday	once/weekday	grab
pH Ω	SU	6.5 to 9.0	6.5to 9.0	6.5 to 9.0	once/weekday	once/ weekday	grab
TSS	mg/L	36	30	same	once/weekday	once/weekday	composite
Nutrients							
Ammonia as N (Apr 1 – Sept 30)	mg/L	8.0	1.6	5.4/1.3	once/week	once/week	grab
Ammonia as N (Oct 1 – March 31)	mg/L	8.4	2.4	12.1/2.4	once/week	once/week	grab
Kjeldahl Nitrogen, Tot, TKN)	mg/L	*	*	new	once/month	once/month	grab
Nitrate plus Nitrite	mg/L	*	*	new	once/month	once/month	grab
Nitrogen, Total N (TN)	mg/L	194	134	*/ *	once/month	once/month	grab
Phosphorus, Total P (TP)	mg/L	*	*	same	once/month	once/month	grab
WET Tests							
Chronic WET Test	TUc	1.6	-	pass/fail	once/year	annually	composite

* Monitoring requirement only
Ψ For DO the Daily Maximum is a Daily Minimum and the Monthly Average is a Monthly Average Minimum.
‡ see permit for compliance language and ML
Ω The facility will report the minimum and maximum pH values; pH is not to be averaged.
€ # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean.
new Parameter not established in previous state operating permit.
int interim limit
fin final limit

Derivation and Discussion of Limits:

Physical:

Flow

In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD).

Temperature

32.2 ºC daily maximum, monitoring only for monthly average. In accordance with 10 CSR 20-7.031(5)(D), water contaminant sources shall not cause or contribute to stream temperature in excess of thirty-two and two-ninths degrees Celsius (32 2/9 °C). DMR Data supplied by the facility range from 17.6 to 34.9 °C, with 11 of the 67 values above the water quality standard of 32.22 °C. Since this facility discharges thermal pollution to waters of the state, the permit writer has included a numeric effluent limitation to prevent physical changes to the stream. A schedule of compliance will be afforded for this parameter; the facility's cooling tower is currently not operational. The facility is required to operate the cooling tower only when it is necessary to meet effluent limitations.

CONVENTIONAL:

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)

Effluent limitations from the previous state operating permit have been reassessed and verified they remain protective of the receiving stream's water quality. The previous permit contained the following discussion related to the established water quality limitations:

"Staff have reviewed and approved a water quality model and $CBOD_5$ wasteload allocation (WLA) for the PSF – Milan Processing Plant submitted by MEC Water Resources and LimnoTech, Inc. The study determined the $CBOD_5$ WLA protective of water quality in East Fork Locust Creek is 30 mg/L. Effluent limitations for the facility are as follows:

Maximum Daily Limit (MDL) = WLA = 30 mg/L
Average Monthly Limit (AML) = 25 mg/L

The maximum daily limit (MDL) shall be equal to the wasteload allocation from the water quality model. The average monthly limit (AML) will be set at 25 mg/L as proposed by Premium Standard Farms. The proposed AML is more stringent than the existing AML and should account for effluent variability at the facility."

The discussion below compares the ELG TBEL's to the WQBEL's from the previous permit:
The ELG established TBEL's for BOD_5 are a maximum daily limit of 0.42 lbs per 1000 lbs of LWK and a maximum monthly average of 0.21 lbs per 1000 lbs of LWK. The permittee disclosed that they slaughter 10,500 head day. Using a value of 250 lbs per head found in the 2001 permit, the facility was found to process 2,625,000 lbs per day of LWK. The daily maximum and monthly average TBEL's are calculated as follows:
DM = (0.42/1,000) * (2,625,000) = 1,102.5 lbs per day
MA = (0.21/1,000) * (2,625,000) = 551.25 lbs per day

This can be converted to concentration limitations using the following formula:
BOD_5, lbs = Flow, MGD * Concentration, mg/L * 8.34;
Which can be rearranged to the formula:
BOD_5 Concentration, mg/L = lbs / (Flow, MGD * 8.34):
DM = 1,102.5 lbs per day / (1.08 MGD * 8.34) = 122.40 mg/L
MA = 551.25 lbs per day / (1.08 MGD * 8.34) = 61.20 mg/L

The previous WQBEL's are more stringent than the calculated TBEL's. For this reason, the WQBEL's will be continued in the permit at this time.

Chloride

Previous permit required monitoring only, which is continued during the schedule of compliance; see Part III, Schedule of Compliance and permit parts A and B for SOC dates and requirements. The permittee reported between 167 and 323 mg/L for this parameter. An RPA conducted for this parameter based on the past five years of DMR data (n=52) shows the discharge contributes to exceedances of chloride water quality standards in the receiving stream. The effluent variability is very low (CV=0.175) compared to the default assumed variability of 0.6, indicating the levels leaving the facility are consistent and the model is precise. There are no livestock watering or wildlife protection numerical standards for chloride although phytotoxicity has been shown to occur in waters containing over 125 mg/L chloride according to *Design of Land Treatment Systems for Industrial Wastes – Theory and Practice* by Overcash and Pal, 1981.

Acute AQL WQS: 860 mg/L
Chronic AQL WQS: 230 mg/L
LTAa: WLAa * LTAa multiplier = 860 * 0.678 = 582.817 [CV: 0.175, 99th %ile]
LTAc: WLAc * LTAc multiplier = 230 * 0.819 = 188.42 [CV: 0.175, 99th %ile]
use most protective LTA: 188.42
Daily Maximum: MDL = LTA * MDL multiplier = 188.42 * 1.476 = 278 mg/L [CV: 0.175, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 188.42 * 1.15 = 217 mg/L [CV: 0.175, 95th %ile, n=4]

Sulfate
There are no water quality standards for sulfate alone. However, there are water quality standards for chloride plus sulfate. Monitoring is required for sulfate to determine compliance with the chloride plus sulfate water quality standard. See below.

Chloride plus Sulfate
The facility will sum the chloride and sulfate measurements and report the values to the department. The facility will sum measurement of sulfate and the measurement of chloride taken on the same day, not the two maximum values. The chronic water quality standard for the protection of aquatic life is 1,000 mg/L, found in the May 31, 2012 version of 10 CSR 20-7.031(4)(L)1., which contains the most recent EPA approved and effective standard for sulfate. To assess compliance with the water quality standard, the permit writer added the reported values for chloride to the reported values for sulfate using the last five years of DMR data. Then, an RPD was conducted for this parameter based on the summed values to determine if the discharge has reasonable potential to cause or contribute to excursions of the water quality standard of 1,000 mg/L. The analysis resulted in a determination of no reasonable potential. For this reason, monitoring only will remain in the permit at this time. Monitoring of chloride and sulfate is continued to determine reasonable potential for compliance with Missouri's water quality standards.

Chlorine, Total Residual (TRC)
16.4 µg/L daily maximum; 8.2 µg/L monthly average. Previous permit was 17.0 µg/L daily maximum; 8.0 µg/L monthly average. An RPA conducted for this parameter based on the past five years of DMR data show the discharge has reasonable potential to cause or contribute to excursions of the water quality standards mainly because the WQS is below the detection limit of the test; see WET test below.
Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background = 0 µg/L. Please see permit language for the Minimum Level (ML).
Acute AQL: 19 µg/L
Chronic AQL: 10 µg/L
LTAa: WLAa * LTAa multiplier = 19 * 0.321 = 6.101 [CV: 0.6, 99th %ile]
LTAc: WLAc * LTAc multiplier = 10 * 0.527 = 5.274 [CV: 0.6, 99th %ile]
use most protective LTA: 5.274
Daily Maximum: MDL = LTA * MDL multiplier = 5.274 * 3.114 = 16.4 µg/L [CV: 0.6, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 5.274 * 1.552 = 8.2 µg/L [CV: 0.6, 95th %ile, n=4]

Escherichia coli (E. coli)
1,030 bacteria/100 mL daily maximum; 206 bacteria per 100 mL monthly average. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's water quality. The discharge is within 2 stream miles of a stream designated with the use Whole Body Contact (B) during the recreational season (April 1 through October 31) [10 CSR 20-7.031(9)(B)D.].
Whole Body Contact Recreation Protection of Level B CCC = 206 bacteria (#)/100mL [10 CSR 20-7.031, Table A].
Whole Body Contact Recreation Protection of Level B CMC = 1,030 bacteria (#)/100mL [10 CSR 20-7.031(9)(B)E.].
The monthly average is implemented as a geometric mean. The geometric mean is calculated by multiplying all of the data points and then taking the n^{th} root of this product, where n = # of samples collected. For example: Five *E. coli* samples were collected with results of 1, 4, 5, 6, and 10 (#/100 mL). Geometric mean = 5^{th} root of (1)(4)(5)(6)(10) = 5^{th} root of 1,200 = 4.1 #/100 mL.

Fecal Coliform
400 CFU/100 mL daily maximum and monthly average. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the ELG TBEL found in 40 CFR 432 Subpart B/40 CFR 432.22(a)(1) which requires that the discharge meet a value of 400 CFU/100mL of Fecal Coliform at all times. The permit will contain a daily maximum and monthly average limit in an effort to implement the TBEL "at all times".

Hardness
Monitoring has been removed. Hardness is now based on ecoregion of the watershed; if the facility wishes to supply local watershed hardness, the Department may use site specific information.

Oil & Grease
46.6 mg/L daily maximum; 23.3 mg/L monthly average. The previous permit limits were 15 mg/L daily maximum and 10 mg/L monthly average. The permit writer completed a reasonable potential determination and found the water quality limitations are not required for this facility as there is no RP. The discussion below compares the ELG TBEL's to the WQBEL's from the previous permit.

The ELG established TBEL's for BOD_5 are a maximum daily limit of 0.16 lbs per 1000 lbs of LWK and a maximum monthly average of 0.08 lbs per 1000 lbs of LWK. The permittee disclosed that they slaughter 10,500 head day. Using a value of 250 lbs per head found in the 2001 permit, the facility was found to process 2,625,000 lbs per day of LWK. The daily maximum and monthly average TBEL's are calculated as follows:

DM = (0.16/1,000) * (2,625,000) = 420 lbs per day
MA = (0.08/1,000) * (2,625,000) = 210 lbs per day

This can be converted to concentration using the formula:
BOD_5, lbs = Flow, MGD * Concentration, mg/L * 8.34
Which can be rearranged to the formula:
BOD_5 Concentration, mg/L = lbs / (Flow, MGD * 8.34):
DM = 420 lbs per day / (1.08 MGD * 8.34) = 46.6 mg/L
MA = 210 lbs per day / (1.08 MGD * 8.34) = 23.3 mg/L

The water quality standard for the protection of warm-water aquatic life is 10 mg/L [10 CSR 20-7.031, Table A]. Since oil and grease does not exhibit the same characteristics as toxic pollutants, a statistical analysis to determine reasonable potential and toxicity-based effluent limitations was not completed. Rather, the pollutant is treated as a conventional pollutant. The standard is set as a monthly average limit. The daily maximum was calculated using alternative methods found in the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001). Section 5.4.2 indicates the waste load allocation can be set to the chronic standard. When the chronic standard is multiplied by 1.5, the daily maximum can be calculated. Hence, 10 * 1.5 = 15 mg/L for the daily maximum. To evaluate impacts to water quality, the permit writer reviewed the DMR data for the past five years for any reported values close to or above the conventional effluent limitations. Only 2 of the 67 values reported were detections. However, these were below the WQBEL's at values of 6 mg/L and 7 mg/L reported in late 2012 and early 2013, respectively. The remaining reported values appear to be below detection. Thus, the permit writer has concluded through use of a reasonable potential determination there is no reasonable potential for the discharge to cause or contribute to excursions of the water quality standards.

Oxygen, Dissolved
5.0 mg/L daily minimum; 5.0 mg/L monthly average minimum, continued from the previous permit. Inclusion of the dissolved oxygen limit is necessary to maintain the WQBEL's for $CBOD_5$ in the permit to assure water quality is being maintained. Effluent limitations from the previous state operating permit have been reassessed and verified they are still protective of the receiving stream's water quality.

pH
6.5 to 9.0 SU – instantaneous grab sample. Water quality limits [10 CSR 20-7.031(5)(E)] are applicable to this outfall. Technology based effluent limitations are less protective. The facility reported from 6.54 to 8.59 for pH. The permit writer has determined this facility has reasonable potential for this parameter; therefore limits are continued from the previous permit.

Total Suspended Solids (TSS)
36 mg/L daily maximum; 30 mg/L monthly average; technology limits. The ELG is a maximum daily limit of 0.50 lbs per 1000 lbs of LWK and a maximum monthly average of 0.25 lbs per 1000 lbs of LWK. The permittee disclosed they slaughter 10,500 head day. Using a value of 250 lbs per head found in the 2001 permit, the facility was found to process 2,625,000 lbs per day of LWK. The daily maximum and monthly average TBEL's are calculated as follows:
DM = (0.50/1,000) * (2,625,000) = 1,312.50 lbs per day
MA = (0.25/1,000) * (2,625,000) = 656.25 lbs per day
This can be converted to concentration using the formula:
TSS, lbs = Flow, MGD * Concentration, mg/L * 8.34
Which can be rearranged to the formula:
TSS Concentration, mg/L = lbs / (Flow, MGD * 8.34):
DM = 1,312.50 lbs per day / (1.08 MGD * 8.34) = 145.72 mg/L
MA = 656.25 lbs per day / (1.08 MGD * 8.34) = 72.86 mg/L

However, Effluent Limit Guidelines promulgated for the Meat Products Point Source Category (40 CFR 432.42(a)(1) note 2, Subpart B); this facility maintains a ratio of 0.84:1 between BOD_5 and TSS. Effluent limitations for TSS have been calculated using the calculated for $CBOD_5$ and this ratio.
MDL = 30.0 mg/L / 0.84 = 35.7 mg/L
AML = 25.0 mg/L / 0.84 = 29.8 mg/L
Therefore, TSS effluent limitations of 30 mg/L average monthly, 36 mg/L daily maximum are required for this facility.

NUTRIENTS:

Ammonia, Total as Nitrogen

Summer: daily maximum 8.0 mg/L; monthly average 1.6 mg/L; winter: daily maximum 8.4 mg/L; monthly average 2.4 mg/L. Early life stages present, salmonids absent (WWH); total ammonia nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3] site specific pH 7.07 SU; thermal average: summer: 30.5 ºC; winter: 26.5 ºC; no mixing considerations, RP present. Previous permit limits were 5.4 mg/L daily maximum; 1.3 mg/L monthly average for summer, and 12.1 mg/L daily maximum; 2.4 mg/L monthly average for winter but were calculated using standard temperatures which are well below the temperature of the effluent at this facility. Limitations recalculated below using site specific data. The facility can meet the new effluent limitations; a schedule of compliance is not provided.

Acute: Salmonids Absent CMC: $[(0.411/1+10^{7.204-pH})]+[58.4/1+10^{pH-7.204})]$
Chronic: Early Stages Present CCC: $[0.0577/1+10^{7.688-pH})]+[2.487/1+10^{pH-7.688})]*MIN(2.85,1.45*10^{0.028*(25-T)})$

Season	Temp (ºC) average	pH (SU) median	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	30.527	7.06	2.046	33.843
Winter	26.486	7.07	2.652	33.843

Summer: April 1 – September 30
Acute WLA: C_e = 33.843
Chronic WLA: C_e = 2.046

LTA_a:	33.843 (0.117) = 3.955	[CV = 1.998, 99th Percentile]
LTA_c:	2.046 (0.468) = 0.936 (most protective)	[CV = 1.998, 99th Percentile, 30 day avg.]
MDL:	0.936 mg/L (8.55) = 7.996 mg/L	[CV = 1.998, 99th Percentile]
AML:	0.936 mg/L (1.68) = 1.572 mg/L	[CV = 1.998, 95th Percentile, n = 34]

Winter: October 1 – March 31
Acute WLA: C_e = 33.843
Chronic WLA: C_e = 2.652

LTA_a:	33.843 (0.222) = 7.494	[CV = 0.911, 99th Percentile]
LTA_c:	2.652 (0.690) = 1.864 (most protective)	[CV = 0.911, 99th Percentile, 30 day avg.]
MDL:	1.864 (4.51) = 8.405 mg/L	[CV = 0.911, 99th Percentile]
AML:	1.864 (1.30) = 2.413 mg/L	[CV = 0.911, 95th Percentile, n = 33]

Technology based limitations for NSPS at 40 CFR 432.35 allow for 0.48 mg/L per 1000 pounds of live weight killed animals daily maximum and 0.24 mg/L per 1000 lbs. The facility disclosed 10,500 head of pigs were processed a day. At a conservative 265 lbs/head, the facility processes 2,782,500 lbs/day. 2782500/1000 *0.48 = 1335.6 lbs/day (/8.34) = 160.1 mg/L. The technology-based limitations are greater than the water quality based effluent limitations. The most stringent limitation must be applied per 40 CFR 122.44(d), therefore water quality limitations are applied.

Nitrogen, Total N (TN)

194 mg/L daily maximum; 134 mg/L monthly average per 40 CFR 432.15; newly applied limits, previous permit was monitoring only. The facility reported between 19.7 and 81.9 mg/L for this parameter.

Nitrogen, Total Kjeldahl (TKN)

Monthly monitoring of total Kjeldahl nitrogen is required per 10 CSR 20-7.015(9)(D)8.B. (1/29/2019) as this facility's design flow is equal to or above 1 MGD and nutrients are present in the discharge.

Nitrate plus Nitrite

Monthly monitoring of nitrate plus nitrite required per 10 CSR 20-7.015(9)(D)8.B. (1/29/2019) as this facility's design flow is equal to or above 1 MGD.

Phosphorous, Total P (TP)

Monthly monitoring of phosphorus is required per 10 CSR 20-7.015(9)(D)8.B. (1/29/2019) as this facility's design flow is equal to or above 1 MGD. The permittee reported between 1.9 and 44 mg/L for this parameter. This is a common pollutant found in the discharge from meat processing facilities. The permittee also indicated they believe the pollutant present in the discharge. Nutrient concentrations can lead to algal blooms which can consume large amounts of dissolved oxygen in the receiving stream. This results in hypoxia in the waterbodies, which reduces dissolved oxygen available to aquatic life, potentially causing death of aquatic life. This facility does not discharge to a lake watershed.

OTHER:

Whole Effluent Toxicity (WET) Test, Chronic

A WET test is a quantifiable method to determine discharges from the facility cause toxicity to aquatic life by itself, in combination with, or through synergistic responses. Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures the provisions in 10 CSR 20-6 and the Water Quality Standards in 10 CSR 20-7 are being met. Under 10 CSR 20-6.010(8)(A)4, the department may require other terms and conditions it deems necessary to assure compliance with the CWA and related regulations of the Missouri Clean Water Commission. The following Missouri Clean Water Laws (MCWL) apply: §644.051.3. requires the department to set permit conditions complying with the MCWL and CWA; §644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits); and §644.051.5. is the basic authority to require testing conditions. WET tests are required by all facilities meeting the following criteria:

- ✓ Facility is a designated a Major
- ✓ Facility handles large quantities of toxic substances, or substances toxic in large amounts
- ✓ Facility has Water Quality-Based Effluent Limitations for toxic substances.

Requirements:

- ✓ The standard Allowable Effluent Concentration (AEC) for facilities discharging to unclassified or Class C streams is 100%.
- ✓ The standard dilution series for facilities discharging to unclassified or Class C streams is 100%, 50%, 25%, 12.5%, & 6.25%.
- ✓ Annual monitoring. Annual testing is the minimum testing frequency; monitoring requirements promulgated in 40 CFR 122.44(i)(2) state "requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once per year."
- ✓ Limitations required to control toxic pollutants present within the discharge; limitations provided within this permit are in accordance with the TSD [EPA/505/2-90-001]. The previous permit contained WET testing using the pass/fail method which is equivalent to the acute test method. This permit will require the permittee to test and report results in chronic toxic units. The facility has shown they can meet a chronic toxicity limit therefore no schedule of compliance is granted.
- ✓ The permit writer has determined, through numerical analysis, the permittee contributes chloride in the receiving stream. Secondly, the permit writer has determined, using RPD, the permittee has reasonable potential to contribute chlorine to the receiving stream, although analytical methods cannot detect at or below established permit limits, the facility uses chlorine in the processes at the plant. Third, the permit provides site specific effluent limitations for ammonia using temperature and pH as variables. Ammonia was calculated using current temperature discharge data although the facility will be using a cooling tower in the future to meet new temperature limitations. These three parameters combined have WET reasonable potential using RPD methods. The permit writer has determined applying WET limitations in accordance with 40 CFR 122.44(d)(i) effectively limits and controls synergistic effects of the pollutants; specifically chlorine and ammonia. Because the actual concentrations of chlorine cannot be effectively detected, and because the ammonia concentrations vary based on pH and temperature of the effluent, then the permit writer has the responsibility to provide effluent limitations for WET.
- ✓ The permittee completed a chronic WET test from samples collected beginning January 7, 2019, and on January 9 and 11; no toxicity was shown therefore no SOC is permissible for this parameter.

WQS: no toxics in toxic amounts [10 CSR 20-7.031(4)(I)2.B.] = 0.3 TUa
WET WLAa: 0.3
WLAa,c: 0.3 TUa * 10 = 3 [ACR: standard acute-to-chronic ratio = 10]

The chronic WLA is converted to a long-term average concentration (LTAa,c) using: WLAa,c = WLAa × ACR. A default acute to chronic ratio (ACR) value of 10 is used based on section 1.3.4 (page 18) and Appendix A of the March 1991 TSD.

LTAa,c: 3 (0.321) = 0.963 [CV = 0.6, 99th Percentile]
LTAc: 0.963 (0.527) = 0.507 [CV = 0.6, 99th Percentile]

Use most protective number of LTAa,c or LTAc. To protect a waterbody from both acute and chronic effects, the more limiting of the calculated LTAa,c and LTAc is used to derive the effluent limits. As shown above, the LTAc value (0.507) was less than the LTAa,c value.

MDL: 0.507 (3.11) = 1.578 = **1.6 TUc** [CV = 0.6, 99th Percentile]

OUTFALLS #003, #004, #005, #006, AND #007 – STORMWATER ONLY

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	24 HR. EST.
CONVENTIONAL							
COD	mg/L	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
E. COLI (CFU/100ML)	€	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
OIL & GREASE	mg/L	**	10	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
PH Ω	SU	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
TSS	mg/L	**	100	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
NUTRIENTS							
AMMONIA AS N	µg/L	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB

* Monitoring and reporting requirement only
** Monitoring with associated benchmark
Ω Report the minimum and maximum pH values; pH is not to be averaged
€ # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean
NEW Parameter not established in previous state operating permit (these are all new outfalls)

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow
In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD).

CONVENTIONAL:

Chemical Oxygen Demand (COD)
Monitoring is included using the permit writer's best professional judgment. There is no numeric water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the permittee to identify increases in COD which may indicate materials such as soaps, solvents, fats, and metals coming in to contact with the stormwater. Increases in COD may indicate a need for maintenance or improvement of BMPs or a thorough review of pollutants in the stormwater.

Escherichia coli (E. coli)
Monitoring required to determine stormwater quality exiting from the eastern portion of the facility. A site visit conducted in June of 2018 showed animal products were visible outdoors and exposed to stormwater on the north side of the plant. A curb on the east side of the rear parking lot was not of sufficient size at the time to prevent discharge of water contaminated with animal waste products. In a comment letter dated 7/1/2019, the commenter indicated the curb size was increased to prevent discharge of the contaminated water; however, it is in the best professional judgment of the permit writer to monitor for e. coli in the effluent, as it is a known pollutant of concern at the facility.

Oil & Grease
Monitoring only; benchmark of 10 mg/L. Oil and grease is considered a conventional pollutant. Oil and grease is a comprehensive test which measures for gasoline, diesel, crude oil, creosote, kerosene, heating oils, heavy fuel oils, lubricating oils, waxes, and some asphalt and pitch. The test can also detect some volatile organics such as benzene, toluene, ethylbenzene, or toluene, but these constituents are often lost during testing due to their boiling points. It is recommended to perform separate testing for these constituents if they are a known pollutant of concern at the site, i.e. aquatic life toxicity or human health is a concern. Monitoring for this parameter at this site is required, as the test detects animal fats as well as petroleum sources. Results do not allow for separation of specific pollutants within the test, they are reported, totaled, as "oil and grease". 10 mg/L is the level at which sheen is expected to form on receiving waters. Oils and greases of different densities will possibly form sheen or unsightly bottom

deposits at levels which vary from 10 mg/L. To protect the general criteria, it is the responsibility of the permittee to visually observe the discharge and receiving waters for sheen or bottom deposits. The benchmark is known to be achievable at a wide variety of industrial sites through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities. Facility inspections should include visual monitoring of all stormwater areas and discharges for the presence of fats and greases. Any fats or greases seen should be removed immediately.

pH
Monitoring required. pH is an indicator of general water quality in stormwater.

Total Suspended Solids (TSS)
Monitoring with a daily maximum benchmark of 100 mg/L. There is no numeric water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. TSS is also a valuable indicator parameter in stormwater. TSS monitoring allows the permittee to identify increases in TSS indicating uncontrolled materials leaving the site from loading or unloading activities or if vegetation is removed for any reason. Increased suspended solids in runoff can lead to decreased available oxygen for aquatic life and an increase of surface water temperatures in a receiving stream. Suspended solids can also be carriers of toxins, which can adsorb to the suspended particles; therefore, total suspended solids are a valuable indicator parameter for other pollution. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities.

NUTRIENTS:

Ammonia, Total as Nitrogen
Monitoring required to determine the ammonia content of the stormwater at the site as nutrients are known contaminants at this site. This parameter is found in the wastewater discharges of this facility; the permit writer is using best professional judgment to use application requirements at 10 CSR 20-6.200(2)(C)(1)E.(I) and (II) to further characterize the stormwater at the site.

PERMITTED FEATURES #B01, #B02, AND #B03 – EQUALIZATION BASIN AND EMERGENCY HOLDING BASINS

Antidegradation reviews were not conducted for these basins therefore they must maintain a no-discharge status. To ensure the basin remains no-discharge, comply with all BMPs listed, the facility must monitor freeboard/liquid levels. Permits only authorize discharges after the permittee has documented compliance with state and federal Clean Water laws and regulations, including antidegradation and construction requirements.

DERIVATION AND DISCUSSION OF LIMITS:

SPECIAL CONDITION:

Freeboard

The facility shall notify the Department's Regional Office at the earliest convenience but no less than 48 hours of discovery, the freeboard in any basin has decreased at or below 24 inches from the lowest elevation of the containment berm. The facility shall continue to notify the Department weekly until the freeboard has been increased to greater than 24 inches from the top of the containment berm. This condition was added in response to a comment letter from Newman Comley and Ruth dated 7/1/2019.

Part V. ADMINISTRATIVE REQUIREMENTS

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

PERMIT SYNCHRONIZATION:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. http://dnr.mo.gov/env/wpp/cpp/docs/watershed-based-management.pdf. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than three years old, 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.

- ✓ Due to the complexity of the permit, the permit will be issued for a period of five years.

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

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

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

- ✓ The first Public Notice period for this operating permit was from 7/26/2019-/26/2019; the Department received one comment from the EPA.
- ✓ Due to significant changes, and in response to EPA's comment, this permit must be re-public noticed; the second public notice period began 11/9/2019 to 12/9/2019 however, due to an administrative error, must be re-public noticed.
- ✓ This permit will be public noticed a third time to correct the administrative processing error. The third PN for this permit is expected to begin in late December.
- ✓ The third public notice period was from 12/20/2019 to 1/21/2020. One comment letter from the permittee's attorney was received.

Comment No. 1: On page 3 under Facility Description, Smithfield requests Outfall #001 also reference "stormwater" in addition to "wastewater." The facility treats both stormwater and process wastewater through outfall #001.

Response #1
Stormwater was added to the description for outfall #001.

Comment No. 2: Page 8, Section B. This section includes a new paragraph 3.e concerning the Schedule of Compliance. This paragraph is new, was not in previous drafts and is contrary to prior discussions with the department. Smithfield has committed to achieving compliance in 10 years. This paragraph contemplates imposing final limits before the end of the compliance period based on subjective criteria. Smithfield requests this paragraph be deleted.

Response #2
Condition 3.e. was removed although the final effluent limitations must be met as soon as possible.

Comment No. 3: Page 17 of the Fact Sheet, at the bottom of the page, the department did not delete the following sentence that Smithfield requested be deleted:

The Department has reason to believe ending the water recycling practice would be an effective strategy to reduce the chloride levels and may be one of the easier infrastructure changes to complete.

There are many factors involved in making this assessment. Ending the recycling practice would not be easy and may have negative

consequences on the facility, especially during a drought. Therefore, Smithfield does not believe there is "reason to believe" that ending the recycling practice would be easy and effective. Therefore, please delete this sentence.

Response #3
This sentence was deleted. However, the Department continues to believe the wastewater recycling practice contributes to concentrating chlorides and should be evaluated. Data show the steady increase of chloride in the discharge over time; partly due to the new line installed, partly due to wastewater recycling.

Comment No. 4: Page 2, the Facility Description says "Domestic wastewater is sent to the regional WWTP." There is no regional WWTP in this area. Instead, Smithfield's domestic wastewater is sent to the city of Milan's WWTF. Therefore, we suggest the sentence read as follows: "Domestic wastewater is sent to the city of Milan's WWTP."

Response #4
The permit reflects the change requested.

Comment No. 5: Page 3, the Facility Description for Outfall #001 says "Sludge is hauled off site for management at the City of Milan's 22 acre sludge disposal pond." This is inaccurate. Smithfield's industrial wastewater sludge is land applied by a contractor as a registered fertilizer and is not regulated by this permit. Please revise this sentence accordingly. In addition, please note that Standard Conditions III only apply to domestic WWTF sludge and Smithfield's facility is an industrial facility. Since Smithfield's industrial wastewater sludge is not regulated by the permit and Standard Conditions III do not apply to industrial sludge, please remove reference to and incorporation of Standard Conditions III.

Response #5
Reference to Standard Conditions Part III was removed.

Comment No. 6: Page 4, per a discussion you had with Mike Keith, the Department has agreed to change the TRC limit back to a ML of 130 from a ML of 50 as listed in the public notice.

Response #6
The Department is currently evaluating existing test methods for TRC; after review of the site specific data, the ML was changed back to 130 for this facility.

Comment No. 7: Page 7, WET testing. Initial draft permits required annual chronic WET testing. The initial public notice required quarterly chronic WET testing in the absence of a chloride limit. Since the current public notice includes a chloride limit and schedule of compliance, Smithfield requests chronic WET testing be reduced to an annual testing frequency.

Response #7
The Department has reevaluated the current discharges and has determined annual frequency is warranted at this time.

DATE OF FACT SHEET: JANUARY 22, 2020

COMPLETED BY:
PAM HACKLER, ENVIRONMENTAL SCIENTIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL UNIT
(573) 526-3386
pam.hackler@dnr.mo.gov

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

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

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

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

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

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

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

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

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

Section B – Reporting Requirements

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

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

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

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

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

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

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

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

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

Section C – Bypass/Upset Requirements

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

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

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

Section D – Administrative Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED 12-13-16	FEE SUBMITTED

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

1. This application is for:
   - ☐ An operating permit for a new or unpermitted facility:
     Please indicate the original Construction Permit # _____
   - ☑ An operating permit renewal:
     Please indicate the permit # MO- 0115487 Expiration Date 06/11/2017
   - ☐ 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	
SMITHFIELD FARMLAND CORP		(660) 265-4061 FAX (214) 414-1157	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
22123 HIGHWAY 5	MILAN	MO	63556

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
SMITHFIELD FARMLAND CORP		(816) 243-2730 FAX (816) 243-3344	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
11500 NW AMBASSADOR DRIVE, SUITE 500	KANSAS CITY	MO	64153

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

4. CONTINUING AUTHORITY

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
SMITHFIELD FARMLAND CORP		(816) 243-2730 FAX (816) 243-3344	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
11500 NW AMBASSADOR DRIVE, SUITE 500	KANSAS CITY	MO	64153

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
Mike Keith	1562	(660) 265-4061 FAX (214) 414-1157	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
22123 HIGHWAY 5	MILAN	MO	63556

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Mike Keith	Plant Environmental Manager	(660) 265-4061
	E-MAIL ADDRESS mlkeith@smithfield.com	FAX (214) 414-1157

7. ADDITIONAL FACILITY INFORMATION

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

001 SW ¼ NW ¼ Sec 35 T 63N R 20W Sullivan 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 2011 and NAICS 311611 002 – SIC _____ and NAICS _____
003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

MO 780-1479 (09-16)

RECEIVED
DEC 13 2016
Water Protection Program

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.

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			
Jim Brinkley			
ADDRESS	**CITY**	**STATE**	**ZIP CODE**
53921 Highway 6	Milan	MO	63556

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
Tim Messman General Manager	660 265 4061
SIGNATURE	**DATE SIGNED**
T. Messman	12-12-16

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?

INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT

1. Check which option is applicable. **Do not check more than one item.** Nondomestic permit refers to permits issued by the Department of Natural Resources' Water Protection Program for all **nondomestic** wastewater treatment facilities, including all industry, stormwater, and Class IA Concentrated Animal Feeding Operations (CAFO). **This includes all nondomestic wastewater treatment facilities that incorporate domestic wastewater into the operating permit.**

1.1 OPERATING PERMIT FEES

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

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

$3,500 for a design flow under 1 mgd

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

A. Discharges covered by section 644.052.5 RSMo. (Secondary or Noncategorical Facilities).

$1,500 for a design flow under 1 million gallons per day (mpg)

$2,500 for a design flow of 1 mgd or more

SITE-SPECIFIC STORMWATER DISCHARGE FEES

A. $1,350 for a design flow under 1 mgd

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

CAFO OPERATING PERMIT FEES

A. $5,000 for site-specific permit (Class IA)

OPERATING PERMIT MODIFICATIONS are subject to the following fees:

A. Major Modifications - 25 percent of annual fee.

B. Minor Modifications (in accordance with 40 CFR 122.63, including transfers) - $100

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

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

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

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

3.1 Prior to submitting a permit to public notice, the department shall provide the permit applicant 15 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice. Check YES to review the draft permit prior to public notice. Check NO to waive the process and expedite the permit.

4. Continuing Authority - Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf or contact the appropriate Department of Natural Resources regional office.

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

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

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

7.2 List only your primary Standard Industrial Classification, or SIC, and North American Industry Classification System code for each outfall. The SIC system was devised by the U.S. Office of Management and Budget to cover all economic activities. To find the correct SIC code, an applicant may check his or her unemployment insurance forms or contact the Missouri Division of Employment Security, 573-751-3215. The primary SIC code is that of the operation that generates the most revenue. If this information is not available, the number of employees or, secondly, production rate may be used to determine your SIC code. Additional information for Standard Industrial Codes can be found at www.osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System at www.census.gov/naics or contact the appropriate Department of Natural Resources regional office.

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

INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT (CONTINUED)

9. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at http://dnr.mo.gov/env/wpp/edmr.htm and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and information about the eDMR system can be found in the Facility Participation Package.

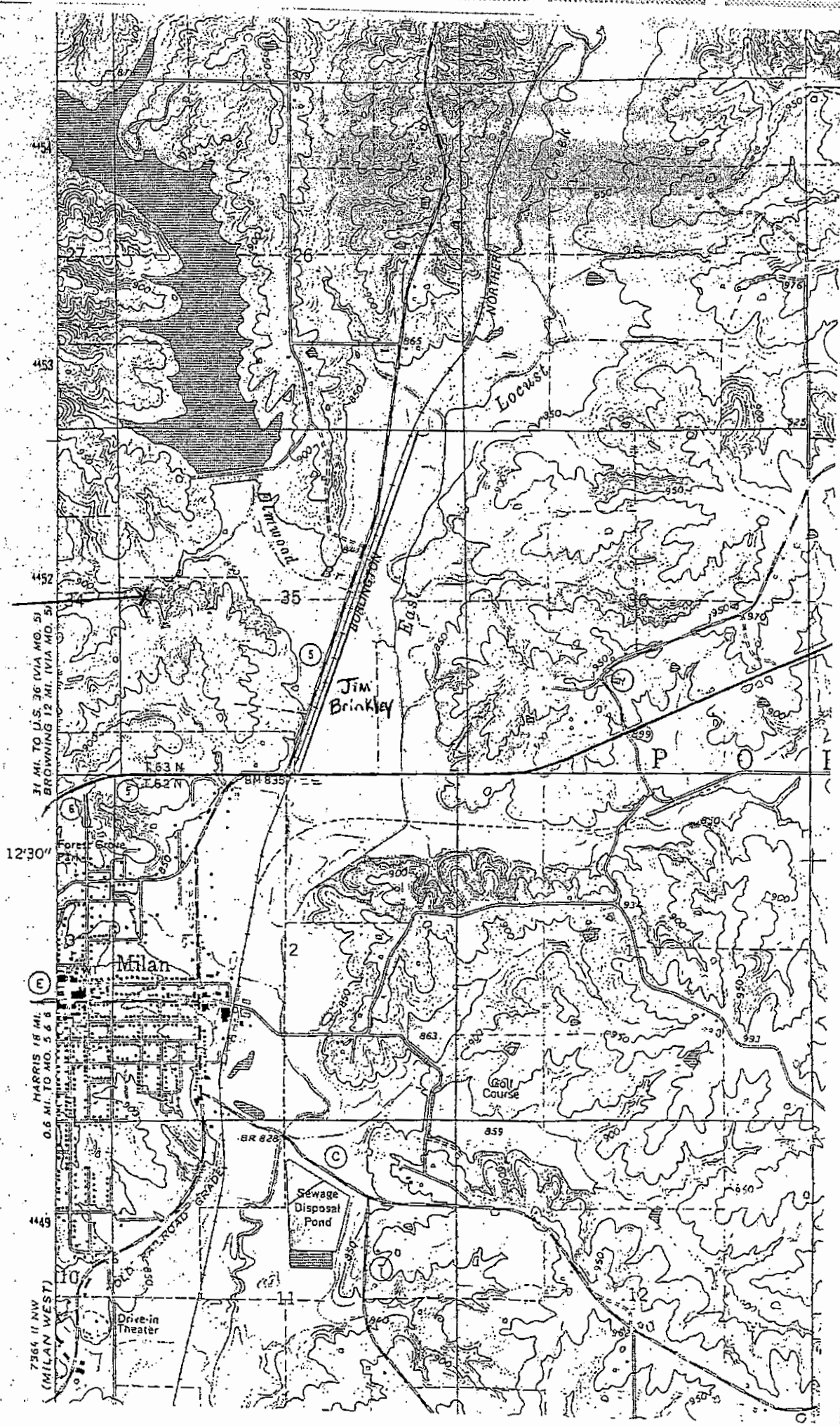
   Waivers to electronic reporting may be granted by the department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the Department for approval. Waivers may be granted to facilities owned or operated by:
   A. members of religious communities that choose not to use certain technologies or
   B. permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: http://www.broadbandmap.gov/. Please contact the department if you need assistance.

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

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

This completed form, along with the applicable permit fees, should be submitted to the Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102-0176. Submittal of an incomplete application may result in the application being returned. A map of the department's regional offices with addresses and phone numbers can be viewed at www.dnr.mo.gov/regions/ro-map.pdf. If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources' Water Protection Program, Operating Permits Section at 800-361-4827 or 573-751-6825.

For More Information
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176
800-361-4827 or 573-751-1300
www.dnr.mo.gov/env/wpp/index.html


Outfall 001
Milan
Forest Grove
Golf Course
Sewage Disposal Pond
Drive-in Theater
Jim Brinkley
East
Locust
Elmwood
BURLINGTON
NORTHERN
RAILROAD GRADE
BM 835
T.63 N.
T.62 N.
12°30"
31 MI. TO U.S. 36 (VIA MO. 5)
BROWNING 12 MI. (VIA MO. 5)
HARRIS 18 MI.
0.6 MI. TO MO. 5 & 6
7364 II NW
(MILAN WEST)

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

SMITHFIELD FARMLAND CORP/MILAN PROCESSING

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

MO-0115487

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

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

A. FIRST 2011 B. SECOND _____

C. THIRD _____ D. FOURTH _____

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) SW 1/4 NW 1/4 SEC 35 T 63N R 20W Sullivan COUNTY

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
001	Tributary to Elmwood Branch, East Fork Locust Creek

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

PORK PROCESSING

RECEIVED
DEC 13 2016
Water Protection Program

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

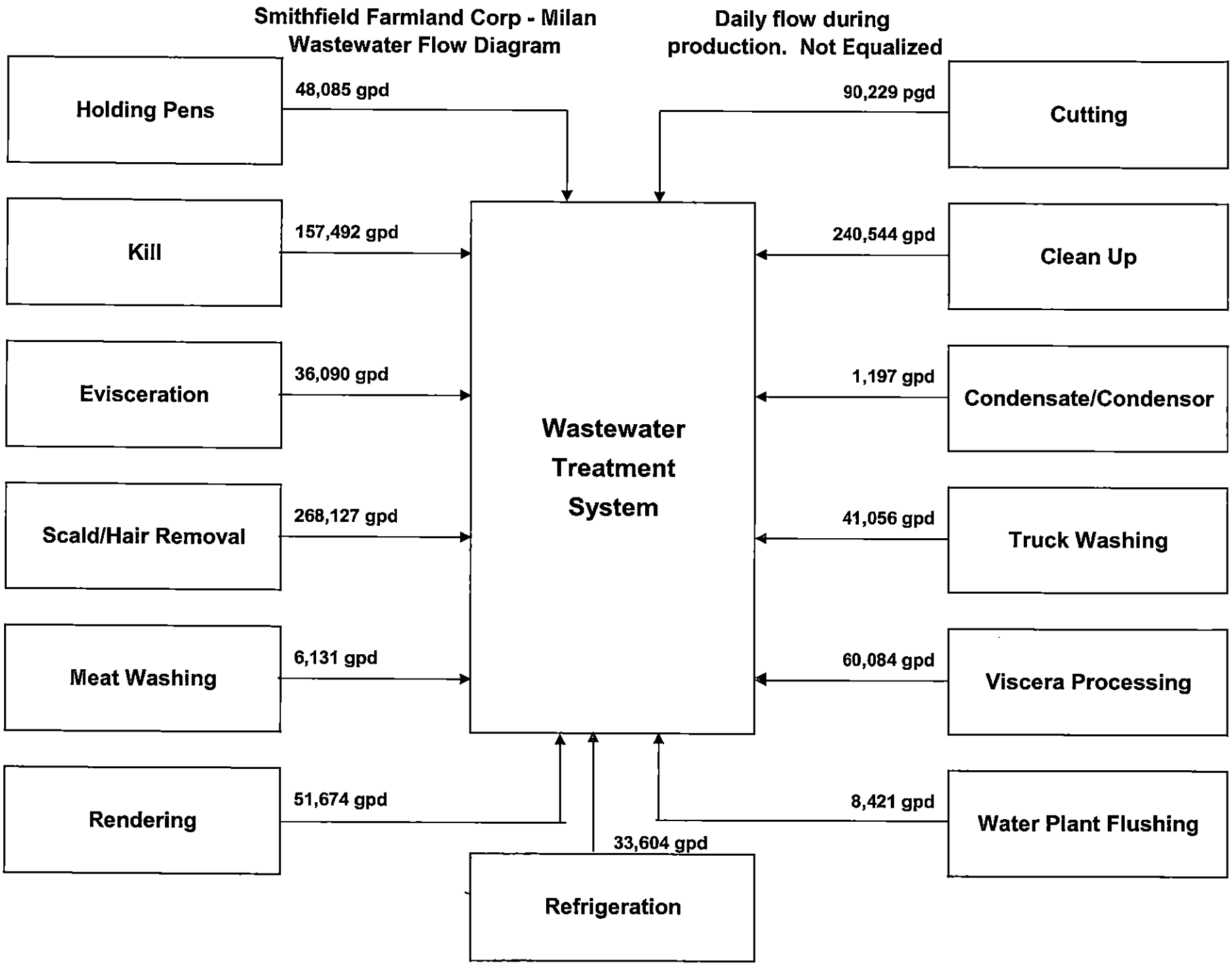
B. For each outfall, provide a description of 1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water and storm water runoff. 2. The average flow contributed by each operation. 3. The treatment received by the wastewater. Continue on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

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
(LIST)	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
001	Holding Pens	48,085 gpd		
001	Water Plant Flushing	8,421 gpd	Anaerobic	3-C
			Activated Sludge	3-A
			Nitrification/Denitri.	3-D
			Disinfection-Chlorine	2-F
			Desinfection-Other	2-H
			Dechlorination	2-E
001	Truck Washing	41,056 gpd	Screening	1-T
			Anaerobic	3-C
			Activated Sludge	3-A
			Nitrification/Denitri.	3-D
			Disinfection-Chlorin	2-F
			Disinfection-Other	2-H
			Recycle	4-C
			Dechlorination	2-E

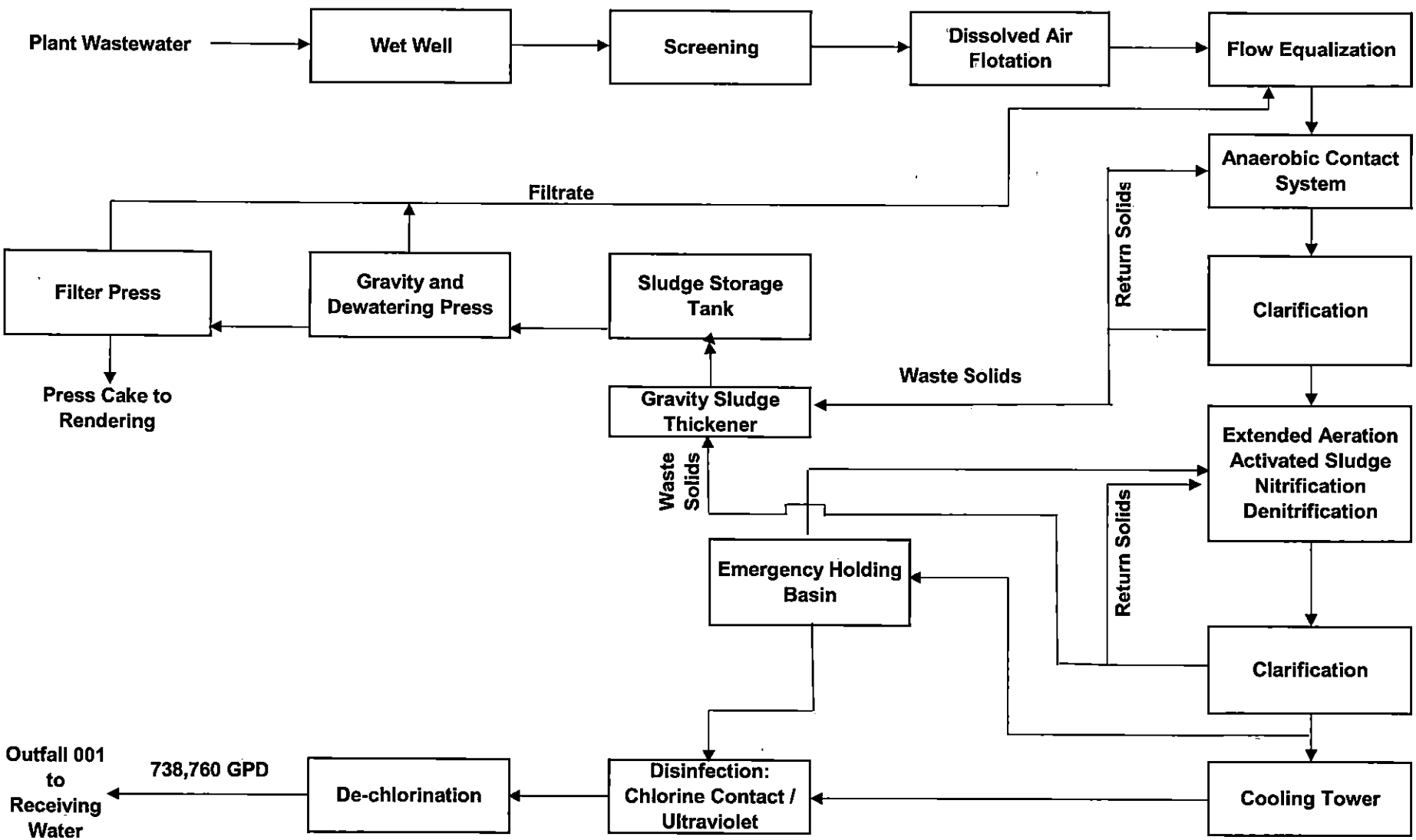
A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average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

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

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
(LIST)	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
001	Kill	157,492 gpd		
001	Evisceration	36,090 gpd		
001	Scald/Hair Removal	268,127 gpd		
001	Meat Washing	6,131 gpd		
001	Rendering	51,674 gpd		
001	Cutting	90,229 gpd		
001	Clean up	240,544 gpd		
001	Condensate / Condensors	1,197 gpd		
001	Viscera Processing	60,084 gpd		
001	Refrigeration	33,604 gpd		
			Screening	1-T
			Floatation	1-H
			Anaerobic	3-C
			Activated Sludge	3-A
			Nitrification/Denitri.	3-D
			Disinfection-Chlorin	2-F
			Disinfection-Other	2-H
			Recycle	4-C
			Dechlorination	2-E


Smithfield Farmland Corp - Milan
Wastewater Flow Diagram
Daily flow during
production. Not Equalized
Holding Pens
48,085 gpd
90,229 pgd
Cutting
Kill
157,492 gpd
240,544 gpd
Clean Up
Evisceration
36,090 gpd
1,197 gpd
Condensate/Condensor
Wastewater
Treatment
System
Scald/Hair Removal
268,127 gpd
41,056 gpd
Truck Washing
Meat Washing
6,131 gpd
60,084 gpd
Viscera Processing
Rendering
51,674 gpd
8,421 gpd
Water Plant Flushing
33,604 gpd
Refrigeration

Smithfield Farmland Corp - Milan
Wastewater Treatment System



2.40 CONTINUED

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

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

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

2.50 MAXIMUM PRODUCTION

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

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

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

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

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

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS *(list outfall numbers)*
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	
10,500 Head	LWK	Pork primal cuts	001

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

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)

Whole Effluent Toxicity analysis as required by permit issued June 12, 2012.

3.20 CONTRACT ANALYSIS INFORMATION

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

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

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
Midwest Laboratories Inc.	13611 B Street Omaha, Nebraska 68144-3693	402-334-7770	Whole Effluent Toxicity Oil & Grease T. Phosphorus T. Nitrogen Chloride Sulfate

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
Tim Messman General Manager	660 265 4061
SIGNATURE (SEE INSTRUCTIONS)	**DATE SIGNED**
T. Messman	12-12-16

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.

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)	12.6	84.0	8.5	45.0	5.6	31.0	261	mg/l	lbs./day			
B. Chemical Oxygen Demand (COD)	24						1	mg/l				
C. Total organic Carbon (TOC)	10.8						1	mg/l				
D. Total Suspended Solids (TSS)	26.6	180.0	15.0	101.7	8.54	60.7	261	mg/l	lbs./day			
E. Ammonia *(as N)*	0.79	4.3	0.30	1.7	0.13	0.7	52	mg/l	lbs./day			
F. Flow	VALUE 1.090		VALUE 0.853		VALUE 0.738		366	MGD		VALUE		
G. Temperature *(winter)*	VALUE 28.7		VALUE		VALUE 19.9		183	°C		VALUE		
H. Temperature *(summer)*	VALUE 34.9		VALUE		VALUE 27.2		183	°C		VALUE		
I. pH	MINIMUM 6.74	MAXIMUM 7.92	MINIMUM 7.19	MAXIMUM 7.45			366	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		.09	.70	.05	.34	.04	.25	12	mg/l	lbs./day			
C. Color		X												
D. Fecal Coliform	X		104		104		68		4	mg/l	lbs./day			
E. Fluoride (16984-48-8)		X												
F. Nitrate - Nitrate *(as N)*	X		39.6	246.5			28.3	195.0	12	mg/l	lbs./day			

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
G. Nitrogen, Total Organic *(as N)*	X		6	51.5			3.0	22.2	12	mg/l	lbs./day			
H. Oil and Grease	X		5.3	35.3	3.2	22.6	2.6	16.6	52	mg/l	lbs./day			
I. Phosphorus *(as P)*, Total (7723-14-0)	X		44	275.1			21.7	148.0	12	mg/l	lbs./day			
J. Sulfate *(as SO^4)* (14808-79-8)	X		39	260.7			33.4	233.4	12	mg/l	lbs./day			
K. Sulfide *(as S)*	X		Negligible											
L. Sulfite (as SO^3) (14265-45-3)	X		Negligible											
M. Surfactants	X		Negligible											
N. Aluminum, Total (7429-90-5)	X		Negligible											
O. Barium, Total (7440-39-3)		X												
P. Boron, Total (7440-42-8)		X												
Q. Cobalt, Total (7440-48-4)		X												
R. Iron, Total (7439-89-6)	X		Negligible											
S. Magnesium, Total (7439-95-4)	X		22.6						1	mg/l				
T. Molybdenum, Total (7439-98-7)		X												
U. Manganese, Total (7439-96-5)	X		Negligible											
V. Tin, Total (7440-31-5)		X												
W. Titanium, Total (7440-32-6)		X												

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)		X												
2M. Arsenic, Total (7440-38-2)		X												
3M. Beryllium, Total (7440-41-7)		X												
4M. Cadmium, Total (7440-43-9)		X												
5M. Chromium III (16065-83-1)														
6M. Chromium VI (18540-29-9)														
7M. Copper, Total (7440-50-8)	X		Neglibilbe											
8M. Lead, Total (7439-92-1)		X												
9M. Mercury, Total (7439-97-6)		X												
10M. Nickel, Total (7440-02-0)		X												
11M. Selenium, Total (7782-49-2)		X												
12M. Silver, Total (7440-22-4)		X												
13M. Thallium, Total (7440-28-0)		X												
14M. Zinc, Total (7440-66-6)	X		Negligible											
15M. Cyanide, Amenable to Chlorination														
16M. Phenols, Total														
RADIOACTIVITY														
(1) Alpha Total		X												
(2) Beta Total		X												
(3) Radium Total		X												
(4) Radium 226 Total		X												

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

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

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

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

1.10 and 1.20 Self-explanatory.

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

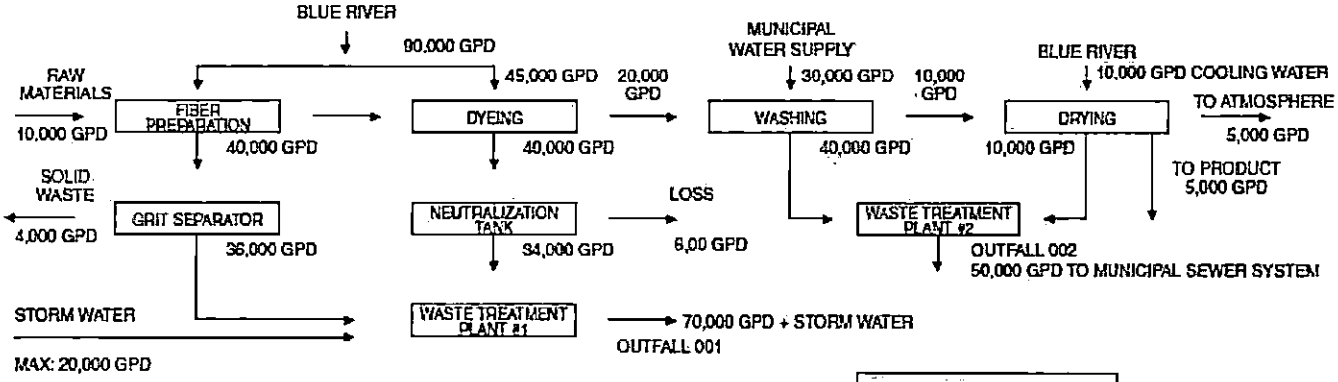
SIC code numbers are descriptions that may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, that is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual. If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

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

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

2.30 Self-explanatory.

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



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

TABLE A – CODES FOR TREATMENT UNITS

PHYSICAL TREATMENT PROCESSES

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

CHEMICAL TREATMENT PROCESSES

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

BIOLOGICAL TREATMENT PROCESSES

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

OTHER PROCESSES

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

SLUDGE TREATMENT AND DISPOSAL PROCESSES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Grab and composite samples are defined as follows:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

TOXIC POLLUTANT

Asbestos

HAZARDOUS SUBSTANCES

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

HAZARDOUS SUBSTANCES

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

HAZARDOUS SUBSTANCES

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

TABLE B – (continued)

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

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

3.20 Self-explanatory.

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

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

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

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

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

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