

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-0104990

Owner: City of Hallsville
Address: P.O. Box 170, Hallsville, MO 65255

Continuing Authority: Same as above
Address: Same as above

Facility Name: Hallsville Wastewater Treatment Facility
Facility Address: 1/3 mile NWW of Route U & MO 124 intersection, Hallsville, MO 65255

Legal Description: See Page 2
UTM Coordinates: See Page 2

Receiving Stream: See Page 2
First Classified Stream and ID: See Page 2
USGS Basin & Sub-watershed No.: See Page 2

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

FACILITY DESCRIPTION

The use or operation of this facility shall be by or under the supervision of a Certified "D" Operator.
Bar screen / single cell aerated lagoon / two storage basins / wastewater is irrigated to the surface / sludge is retained in lagoon.
Design population equivalent is 2,085.
Design Flow is 212,622 gallons per day (Design Flow plus 10-year rainfall minus evaporation, does not account for inflow and infiltration)
Average design flow is 197,650 gallons per day (dry weather flows).
Actual flow is 149,568 gallons per day.
Design sludge production is 30 dry tons per year.

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

January 1, 2020
Effective Date

December 31, 2024
Expiration Date

Edward B. Galbraith, Director, Division of Environmental Quality

Chris Wieberg, Director, Water Pollution Program

Case No. SA-2021-0017
Schedule DES-3, Part 1, Page 1 of 20

FACILITY DESCRIPTION (continued):

Permitted Feature #001, #002 & #003 – POTW – SIC #4952

Permitted Feature #001

Aerated lagoon
 Legal Description: NE ¼, NE ¼, NW ¼, Sec. 15, T50N, R12W, Boone County
 UTM Coordinates: X= 564705, Y= 4330807
 Receiving Stream: Tributary to Kelley Branch
 First Classified Stream and ID: 100K Extent-Remaining Streams (C) (3960)
 USGS Basin & Sub-watershed No.: (10300102-0704)

Permitted Feature #002

Storage basin
 Legal Description: SW ¼, SE ¼, NW ¼, Sec. 22, T50N, R12W, Boone County
 UTM Coordinates: X=564520, Y= 4328720
 Receiving Stream: Tributary to Kelley Branch
 First Classified Stream and ID: 100K Extent-Remaining Streams (C)
 USGS Basin & Sub-watershed No.: (10300102-0704)

Permitted Feature #003

Storage basin
 Legal Description: NE ¼, NE ¼, NW ¼, Sec. 15, T50N, R12W, Boone County
 UTM Coordinates: X= 564682, Y= 4330896
 Receiving Stream: Tributary to Kelley Branch
 First Classified Stream and ID: 100K Extent-Remaining Streams (C)
 USGS Basin & Sub-watershed No.: (10300102-0704)

Storage Basin:

Maximum Operating Level: 2 foot of freeboard (storage basin water level in feet below the overflow level)

Storage volume (min to max water levels, in gallons):	<u>Cell #1</u>	<u>Cell #2</u>	<u>Cell #3</u>	<u>Total</u>
	1,800,000	48,606,218	3,586,208	53,992,426

Storage Capacity (in Days):

Design for Dry weather flows: 273 days
 Design with 1-in 10 year flows: 253 days

Permitted Feature #004, #005, #006, #007, & #008 – Center Pivot Irrigation Field(s)

Permitted Feature #004

Legal Description: NW ¼, Sec. 22, T50N, R12W, Boone County
 UTM Coordinates: X= 563936, Y= 4328972
 Receiving Stream: Tributary to Kelley Branch
 First Classified Stream and ID: 100K Extent-Remaining Streams (C)
 USGS Basin & Sub-watershed No.: (10300102-0704)

Permitted Feature #005

Legal Description: SW ¼, Sec. 22, T50N, R12W, Boone County
 UTM Coordinates: X= 563933, Y= 4328154
 Receiving Stream: Tributary to Kelley Branch
 First Classified Stream and ID: 100K Extent-Remaining Streams (C)
 USGS Basin & Sub-watershed No.: (10300102-0704)

Permitted Feature #006

Legal Description: SE ¼, Sec. 22, T50N, R12W, Boone County
 UTM Coordinates: X=565079, Y= 4328136
 Receiving Stream: Tributary to Varnon Branch
 First Classified Stream and ID: 100K Extent-Remaining Streams (C)
 USGS Basin & Sub-watershed No.: (10300102-0601)

Permitted Feature #007

Legal Description: NE ¼, NE ¼, SW ¼, Sec. 10, T50N, R12W, Boone County
 UTM Coordinates: X=564799, Y= 4331737
 Receiving Stream: Tributary to Kelley Branch
 First Classified Stream and ID: Kelley Branch
 USGS Basin & Sub-watershed No.: (10300102-0704)

Permitted Feature #008

Legal Description: SE ¼, NW ¼, SW ¼, Sec. 22, T50N, R12W, Boone County
 UTM Coordinates: X= 564311, Y= 4328152
 Receiving Stream: Tributary to Varnon Branch
 First Classified Stream and ID: 100K Extent-Remaining Streams (C)
 USGS Basin & Sub-watershed No.: (10300102-0601)

Wastewater Irrigation Design Parameters:

Irrigation volume per year: 276,970,800 gallons (based on annual irrigation rate)
 Minimum irrigation volume per year at Design Flow: 77,607,030 gallons
 Irrigation areas: 395 acres at design loading
 Irrigation rates for Permitted Features #004, #005, #006, and #008: 0.5 inch/hour; 1.0 inch/day; 3.0 inches/week; 24 inches/year
 Irrigation rates for Permitted Feature #007: 0.5 inch/hour; 1.0 inch/day; 3.0 inches/week; 36 inches/year
 Field slopes: less than 5 percent
 Equipment type: Center Pivots
 Vegetation: Row crops and grass / hay fields
 Irrigation rate is based on: Hydraulic loading rate

PERMITTED FEATURE #001, #002 & #003***	TABLE A-1 IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS					
	STORAGE BASIN PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS
		DAILY TOTAL	WEEKLY TOTAL	MONTHLY TOTAL	MEASUREMENT FREQUENCY	SAMPLE TYPE
The permittee is authorized to conduct irrigation of wastewater as specified in the application for this permit. The final limitations shall become effective on January 1, 2020 and remain in effect until expiration of the permit. The irrigation of wastewater shall be controlled, limited and monitored by the permittee as specified below:						
Limit Set: OM						
Storage Basin Freeboard**	feet	*			once/week	measured
Precipitation	inches	*		*	daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>FEBRUARY 28, 2020</u> .						
IRRIGATED WASTEWATER PARAMETER(S)****	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Limit Set: IW						
Total Kjeldahl Nitrogen as N	mg/L	*			once/quarter*****	grab
Nitrate as N	mg/L	*			once/quarter*****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>APRIL 28, 2020</u> .						

PERMITTED FEATURE #004, #005, #006, #007 & #008***	TABLE A-2 IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS
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The permittee is authorized to conduct irrigation of wastewater as specified in the application for this permit. The final limitations shall become effective on **January 1, 2020** and remain in effect until expiration of the permit. The irrigation of wastewater shall be controlled, limited and monitored by the permittee as specified below:

IRRIGATION OPERATIONAL MONITORING PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY TOTAL	WEEKLY TOTAL	MONTHLY TOTAL	MEASUREMENT FREQUENCY	SAMPLE TYPE
Limit Set: LW						
Irrigation Period	hours	*		*	daily	total
Volume Irrigated	gallons	*		*	daily	total
Irrigation Area	acres	*		*	daily	total
Irrigation Rate	inches	*		*	daily	total

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE FEBRUARY 28, 2020.

- * Monitoring requirement only.
- ** Storage Basin Freeboard shall be reported as storage basin water level in feet below the overflow level.
- *** Monitoring data from each Permitted Feature shall be reported separately.
- **** Wastewater that is irrigated shall be sampled at the irrigation pump or wet well. If irrigation did not occur during the report period, report as "No Discharge".
- ***** See table below for quarterly sampling.

Minimum Sampling Requirements			
Quarter	Months	Total Kjeldahl Nitrogen and Nitrate as N	Report is Due
First	January, February, March	Sample at least once during any month of the quarter	April 28 th
Second	April, May, June	Sample at least once during any month of the quarter	July 28 th
Third	July, August, September	Sample at least once during any month of the quarter	October 28 th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28 th

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated August 1, 2014, May 1, 2013, and August 1, 2019, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

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

C. SPECIAL CONDITIONS (continued)

Constituent	Units
Effluent Flow	MGD
Biochemical Oxygen Demand ₅	mg/L
Total Suspended Solids	mg/L
Ammonia as N	mg/L
pH – Units	SU
Oil & Grease	mg/L
<i>E. coli</i> *	#/100mL
Total Kjeldahl Nitrogen	mg/L
Nitrite + Nitrate	mg/L
Total Phosphorus	mg/L

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

- (b) **Authorized Discharges.** A discharge from wastewater storage structures may only occur if rainfall exceeds the 10-year 365-day rainfall event (chronic) or the 25-year 24-hour rainfall event (catastrophic). The facility shall make all reasonable attempts to return the water level in the lagoon to below the maximum operating level. Design Storm Maps and Tables can be found at http://ag3.agebb.missouri.edu/design_storm/. For this facility:

Boone County	Data Collected: May 06, 2019
10-year 365-day rainfall event	49.5 inches
25-year 24-hour rainfall event	5.8 inches

- (c) **Unauthorized Discharges.** Discharge for any other reason than what is stated in 1(b) of this Special Condition shall constitute a permit violation and shall be reported in accordance with Standard Conditions Part 1 Section B.2. Unauthorized discharges are to be reported to the Northeast Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: <https://dnr.mo.gov/mogem/> or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours.

2. Wastewater Irrigation System.

- (a) **No-discharge facility requirements.** Wastewater shall be stored and irrigated during suitable conditions so that there is no discharge from the storage basins or irrigation sites.
- (b) **Storage Basin Operating Levels - No-discharge Systems.** The minimum and maximum operating water levels for the storage basin(s) shall be clearly marked in each of the storage basins. Each storage basin shall be operated so that the maximum water elevation does not exceed two feet below the Emergency Spillway except due to exceedances of the 10-year 365-day rainfall event or 25-year 24-hour rainfall event as detailed in Special Condition 1. Wastewater shall be irrigated whenever feasible based on soil, weather conditions, and permit requirements. To ensure maximum storage capacity for the winter months when soil conditions may not be suitable for wastewater irrigation, the storage basin(s) shall be lowered to the two-foot minimum operating level during the months of September through November unless the Department approves a specific deviation from this requirement.
- (c) **Emergency Spillway.** Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm.
- (d) **General Irrigation Requirements.** The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. The wastewater irrigation system shall be capable of irrigating the annual design flow during an irrigation period of 100 days or less per year.
- (e) **Nighttime Irrigation.** Nighttime irrigation may occur when properly operating telemetry equipment is capable of contacting a certified operator in the event of equipment malfunction, loss of water pressure or any other failure that may be associated with the discharge of wastewater from the irrigation equipment or application field. The permittee shall conduct monthly inspections of the telemetry equipment for proper operations. Records of these inspections are to be maintained and made available to department personnel upon request.

C. SPECIAL CONDITIONS (continued)

- (f) Saturated/Frozen Conditions. There shall be no surface irrigation during ground frost; frozen, snow-covered, or saturated soil conditions; or when precipitation is imminent or occurring.
 - (g) Slope Restrictions. Wastewater irrigation on slopes exceeding 10%, the hourly irrigation rate shall not exceed one-half (1/2) the design sustained permeability and in no case shall exceed one-half (1/2) inch per hour.
 - (h) Set Backs. There shall be no irrigation within:
 - (1) 150 feet of dwelling or public use areas;
 - (2) 50 feet of the property line or public road;
 - (3) 300 feet of any sinkhole, losing stream, or any other feature that may provide a connection to the ground water table and the surface;
 - (4) 300 feet from any existing potable water supply well not located on the property;
 - (5) 100 feet of any gaining streams (classified or unclassified; perennial or intermittent), wetlands, ponds, or lakes. As a compliance alternative a 35-foot vegetative buffer that is permanently covered with perennial vegetation may be substituted for the 100 foot set-back requirement; and
 - (6) If an established vegetated buffer or the wastewater is disinfected, the setbacks established in subsections (1)-(5) above may be decreased if the permittee demonstrates the risk is mitigated.
 - (i) Public Access Restrictions. Public access shall not be allowed to public-use-area surface irrigation sites when irrigation is occurring.
 - (j) Grazing and Harvesting of Forage Crops Restrictions. Grazing of animals shall be deferred as per the following:
 - (1) From May 1 to October 31, the minimum deferment from grazing or forage harvesting shall be 14 days.
 - (2) From November 1 to April 30, the minimum deferment from grazing or forage harvesting shall be 30 days.
 - (k) Irrigated Wastewater Disinfection. Wastewater shall be disinfected prior to irrigation (not storage) to public-use-areas.
 - (l) Equipment Checks during Irrigation. The irrigation system and irrigation site shall be visually inspected at least once/day during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
3. Wastewater irrigation records shall be maintained and summarized into an annual operating report for the previous calendar year. This annual report is in addition to the reporting requirements listed in Table A and the report shall be kept onsite and made available to department personnel upon request. The summarized annual report shall include the following:
- (a) Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
 - (b) The number of days the storage basin(s) has discharged during the year, the discharge flow, and the reasons discharge occurred; and
 - (c) A summary of the irrigation operations for the year including: the number of days of irrigation, the total gallons irrigated, the total acres used, the irrigation rate in inches for the year, and the annual precipitation received at the facility.
4. Electronic Discharge Monitoring Report (eDMR) Submission System.
- (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
 - (b) Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:
 - (1) Collection System Maintenance Annual Reports; and
 - (2) 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) Notices of Intent to discharge (NOIs);
 - (2) Notices of Termination (NOTs); and
 - (3) Bypass reporting, See Special Condition #01 for 24-hr. bypass reporting requirements.
 - (d) Electronic Submissions. To access the eDMR system, use the following link in your web browser:
<https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx>.

C. SPECIAL CONDITIONS (continued)

- (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.
5. 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 Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:
- (a) 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 CWA, if the effluent standard or limitation so issued or approved:
- (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- (2) controls any pollutant not limited in the permit.
- (b) To incorporate an approved pretreatment program or modification thereto pursuant to 40 CFR 403.8(c) or 40 CFR 403.18(e), respectively.
6. Report as no-discharge when irrigation does not occur during the report period.
7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9. The monitoring frequencies contained in Table A of this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. To request modification of the operational control testing requirements, the permittee shall submit a permit modification application and fee to the Department requesting a deviation from the operational control monitoring requirements. If the request is approved, the Department will modify the permit.
9. As part of a Consent Judgement agreed to in 2013 the permittee has developed and implemented a program for maintenance and repair of the collection system. The permittee shall continue to submit semi-annual reports as described in the 2013 Consent Judgement.
- The permittee shall also submit a report via the Electronic Discharge Monitoring Report (eDMR) Submission System annually, by January 28th, for the previous calendar year. The report shall contain the following information:
- (a) A summary of the efforts to locate and eliminate sources of excessive infiltration and inflow into the collection system serving the facility for the previous year.
- (b) A summary of the general maintenance and repairs to the collection system serving the facility for the previous year.
- (c) A summary of any planned maintenance and repairs to the collection system serving the facility for the upcoming calendar year. This list shall include locations (GPS, 911 address, manhole number, etc.) and actions to be taken.
10. All outfalls must be clearly marked in the field.
11. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and wastewater irrigation systems, including key operating procedures, an aerial or topographic site map with the permitted features, irrigation fields, and irrigation buffer zones marked, and a brief summary of the operation of the facility. The O&M manual shall be made available to the operator and shall be reviewed and updated at least every five years or when there is a change in equipment or irrigation sites.
12. 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 provide the "Non-Detect" sample result using the less than sign and the minimum detection limit (e.g. <10).

C. SPECIAL CONDITIONS (continued)

- (d) Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
 - (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
 - (f) When calculating monthly averages, one-half of the method 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).
13. Access to the storage basin(s) and any associated wastewater irrigation equipment must be sufficiently restricted or secured to prevent entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.
 14. An all-weather access road shall be provided to the treatment facility.
 15. The berms of the storage basin(s) shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.
 16. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the storage basin(s) and to divert stormwater runoff around the storage basin(s) and protect embankments from erosion.
 17. Wastewater Irrigation Sites. To add additional irrigation sites or to convert any of the land to public-use-areas, a construction permit, geohydrologic evaluation, soils report, and permit modification may be required. The facility shall contact the Department for a written determination.
 18. Sludge treatment, storage, and disposal practices shall be conducted in accordance with Standard Conditions Part III. The permittee shall receive approval for any sludge treatment, storage, or disposal practices not identified in the facility description of the operating permit.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0104990
HALLSVILLE WASTEWATER TREATMENT FACILITY**

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

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 (operating permit) listed below.

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

This Factsheet is for a Minor.

Part I – Facility Information

Facility Type: POTW – SIC 4952

Facility Description:

The use or operation of this facility shall be by or under the supervision of a Certified "D" Operator.

Bar screen / single cell aerated lagoon / two storage basins / wastewater is irrigated to the surface / sludge is retained in lagoon.

Have any changes occurred at this facility or in the receiving water body that affects effluent limit derivation?

No.

Application Date: 04/30/19

Expiration Date: 12/31/19

PERMITTED FEATURE(S) TABLE:

PERMITTED FEATURE	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001, #002, & #003	0.25	Storage Basin(s)	Domestic
#004, #005, #006, #007, & #008		<i>Irrigation Field(s)</i>	

Facility Performance History:

Reviewed DMR records from January 2015 to March 2019. In 2013 the permittee/facility entered into a Consent Judgement to address past violations. The judgement included the development of a CMOM for the implementation of a maintenance and repair program of the collection system along with submitting semi-annual I&I reports.

Comments:

Information used in this permit including wastewater flows, population equivalents, lagoon storage capacity, land application rates, etc. was based on current regulations, application received and previously issued permits.

This permit includes a condition for irrigation of wastewater during nighttime hours. The permittee has requested the ability to irrigate during nighttime hours so the storage basins can be lowered to prevent discharges and do so in a manner that will not exceed the amount of wastewater applied to the land application sites represented by Permitted Feature(s) #004, #005, #006, #007 and #008. A certified operator will be available to monitor all nighttime irrigation equipment for malfunction.

Part II – Operator Certification Requirements

- ✓ This facility is required to have a certified operator.

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Owned or operated by or for a
 - Municipalities

The Department requires this facility to retain the services of a certified operator due to: having a Population Equivalent greater than two hundred (200) and is owned and operated by a municipality.

This facility currently requires an operator with a D Certification Level.

Operator's Name: Daniel L. McCaleb
Certification Number: 8333
Certification Level: D

The listing of the operator above only signifies that staff drafting this operating permit have reviewed appropriate Department records and determined that the name listed on the operating permit application has the correct and applicable Certification Level.

Part III– Operational Control Testing Requirements

Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publically owned treatment works and privately owned facilities regulated by the Public Service Commission to conduct internal operational control monitoring to further ensure proper operation of the facility and to be a safeguard or early warning for potential plant upsets that could affect effluent quality. This requirement is only applicable if the publically owned treatment works and privately owned facilities regulated by the Public Service Commission has a Population Equivalent greater than two hundred (200).

10 CSR 20-9.010(3) allows the Department to modify the monitoring frequency required in the rule based upon the Department's judgement of monitoring needs for process control at the specified facility

- ✓ The facility is a lagoon that is designed as a no-discharge lagoon and is required to conduct operational control monitoring as follows:

Operational Monitoring Parameter	Frequency
Precipitation	Twice/Month
Flow – Influent or Effluent	Twice/Month
pH – Primary Cell	Twice/Month
Dissolved Oxygen – Primary Cell	Twice/Month

Part IV – Receiving Stream Information

While this facility is no discharge, a receiving stream is listed for the purposes of showing what stream would be affected in the event of a discharge due to an acute or chronic rain event.

RECEIVING STREAM(S) TABLE: PERMITTED FEATURE #001, #002, #003, #004, #005, #006, #007, & #008

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC
Tributary to Kelley Branch & Tributary to Varnon Branch	--	--	General Criteria	103002102-0704 & 103002102-0601
100K Extent-Remaining Streams	C	3960	AQL, HHP, IRR, LWW, SCR, WBCB	

*As per 10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission’s water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream’s beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

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

10 CSR 20-7.031(1)(C)1.:

AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: **WWH** = Warm Water Habitat; **CDF** = Cold-water fishery (Current narrative use is cold-water habitat); **CLF** = Cool-water fishery (Current narrative use is cool-water habitat); **EAH** = Ephemeral Aquatic Habitat; **MAH** = Modified Aquatic Habitat; **LAH** = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all habitat designations unless otherwise specified.)

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water

WBC = Whole Body Contact recreation where the entire body is capable of being submerged;

WBC-A = Whole body contact recreation that supports swimming uses and has public access;

WBC-B = Whole body contact recreation that supports swimming;

SCR = Secondary Contact Recreation (like fishing, wading, and boating).

10 CSR 20-7.031(1)(C)3. to 7.:

HHP (formerly HHP) = Human Health Protection as it relates to the consumption of fish;

IRR = Irrigation for use on crops utilized for human or livestock consumption;

LWW = Livestock and wildlife watering (Current narrative use is defined as **LWP** = Livestock and Wildlife Protection);

DWS = Drinking Water Supply;

IND = Industrial water supply

10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)

WSA = Storm- and flood-water storage and attenuation; **WHP** = Habitat for resident and migratory wildlife species;

WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses; **WHC** = Hydrologic cycle maintenance.

10 CSR 20-7.031(6): **GRW** = Groundwater

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Part V – 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.

- ✓ The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)], or is an existing facility.

ANTI-BACKSLIDING:

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

- ✓ All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply.

ANTIDegradation:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- ✓ No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(2)(C)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

- ✓ Permittee is not authorized to land apply biosolids. Sludge/biosolids stored in the lagoon. The permittee must receive approval for any treatment, removal, and disposal of sludge or biosolids that is not identified in the facility description of the operating permit.

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.

- ✓ Although the permittee/facility is not currently under Water Protection Program enforcement action they are working towards resolution of a 2013 Consent Judgement to address past violations.

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. In an effort to aid facilities in the reporting of applicable information electronically, the Department has created several new forms including operational control monitoring forms and an I&I location and reduction form. These forms are for optional use and can be found on the Department's website at the following locations:

Operational Monitoring Lagoon: <http://dnr.mo.gov/forms/780-2801-f.pdf>
Operational Monitoring Mechanical: <http://dnr.mo.gov/forms/780-2800-f.pdf>
I&I Report: <http://dnr.mo.gov/forms/780-2690-f.pdf>

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.

NUMERIC LAKE NUTRIENT CRITERIA

- ✓ This facility is not located within a lake watershed where numeric lake nutrient criteria are applicable, per 10 CSR 20-7.031(5)(N).

PRETREATMENT PROGRAM:

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

- ✓ The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for publically owned treatment works (POTWs). See 40 CFR Part 133.102(a)(3) & (b)(3) and 40 CFR 133.105(a)(3)&(b)(3). This is a no-discharge facility, therefore removal efficiency is 100% and influent monitoring is not required.

SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):

Sanitary Sewer Overflows (SSOs) are defined as untreated sewage releases and are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

Inflow and Infiltration (I&I) is defined as unwanted intrusion of stormwater or groundwater into a collection system. This can occur from points of direct connection such as sump pumps, roof drain downspouts, foundation drains, and storm drain cross-connections or through cracks, holes, joint failures, faulty line connections, damaged manholes, and other openings in the collection system itself. I&I results from a variety of causes including line breaks, improperly sealed connections, cracks caused by soil erosion/settling, penetration of vegetative roots, and other sewer defects. In addition, excess stormwater and groundwater entering the collection system from line breaks and sewer defects have the potential to negatively impact the treatment facility.

Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur.

- ✓ At this time, the Department recommends the US EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002) or the Departments' CMOM Model located at <http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc>. For additional information regarding the Departments' CMOM Model, see the CMOM Plan Model Guidance document at <http://dnr.mo.gov/pubs/pub2574.htm>. The CMOM identifies some of the criteria used to evaluate a collection system's management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

SCHEDULE OF COMPLIANCE (SOC):

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. *See also* Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit includes interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1), 10 CSR 20-7.015(9), and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

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 that was 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 that may result in site-specific criteria or alternative effluent limitations. 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 to Permit Writers in developing SOCs, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOCs. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as a Cost Analysis for Compliance.

- ✓ This permit does not contain a SOC.

SEWER EXTENSION AUTHORITY SUPERVISED PROGRAM:

In accordance with [10 CSR 20-6.010(6)(A)], the Department may grant approval of a permittee's Sewer Extension Authority Supervised Program. These approved permittees regulate and approve construction of sanitary sewers and pump stations, which are tributary to this wastewater treatment facility. The permittee shall act as the continuing authority for the operation, maintenance, and modernization of the constructed collection system. See <http://dnr.mo.gov/env/wpp/permits/sewer-extension.htm>.

- ✓ The permittee does not have a Department approved Sewer Extension Authority Supervised Program.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of 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 (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the 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 stormwater discharges. 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>.

- ✓ At this time, the permittee is not required to develop and implement a SWPPP. As the permittee is a no-discharge facility, the use of best management practices to reduce stormwater flows into the treatment basin or into the application fields should be considered and employed.

VARIANCE:

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

- ✓ This operating permit is not drafted under premises of a petition for variance.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(4)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

40 CFR 122.41(M) - BYPASSES:

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-7.015(9)(G) states a bypass means the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending, to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

- ✓ This facility does not anticipate bypassing.

Part VI – Permit Limits Determination

PERMITTED FEATURE #001, #002 & #003 – STORAGE BASIN

- **Freeboard.** Monitoring requirement to verify adequate freeboard is maintained, so as to avoid an overflow of the storage basin.
- **Precipitation.** Monitoring requirement to ensure appropriate irrigation is conducted to account for accumulated water in the storage basin.
- **Total Kjeldahl Nitrogen.** Monitoring requirement only. Monitoring for Total Kjeldahl Nitrogen as N is included to determine nutrient loading rates on the irrigation fields. [10 CSR 20-6.015(4)(A)]
- **Nitrate as N.** Monitoring requirement only. Monitoring for Nitrate Nitrogen as N is included to determine nutrient loading rates on the irrigation fields. [10 CSR 20-6.015(4)(A)]

PERMITTED FEATURE #004, #005, #006, #007, & #008 – IRRIGATION FIELD

- **Irrigation Period.** Monitoring requirement only. Monitoring for the Irrigation Period is included to determine if proper irrigation is occurring on the irrigation fields.
- **Volume Irrigated.** Monitoring requirement only. Monitoring for the Volume Irrigated is included to determine if proper irrigation is occurring on the irrigation fields.
- **Irrigation Area.** Monitoring requirement only. Monitoring for the Irrigation Area is included to determine if proper irrigation is occurring on the irrigation fields.
- **Irrigation Rate.** Monitoring requirement only. Monitoring for the Irrigation Rate is included to determine if proper irrigation is occurring on the irrigation fields.

Sampling Frequency Justification:

Sampling frequency has been determined to be appropriate so it has been retained from the previous state operating permit.

Sampling Type Justification:

Due to the discharge being from irrigation from a storage basin, a grab sample is a representative and appropriate sample type. Variation in nutrient concentration is not expected over a 24 hour period. Sampling type has been determined to be appropriate so it has been retained from the previous state operating permit.

DISCHARGE PARAMETERS – BOD₅, TSS, Ammonia, pH, Oil & Grease, *E. coli*, Total Phosphorus, and Total Kjeldahl Nitrogen, and nitrite + nitrate are conventional pollutants found in domestic wastewater. These parameters shall be monitored at least once during the discharge event. Additional monitoring may be required by the Department on a case-by-case basis. All samples shall be collected as grab samples. pH samples cannot be preserved and must be sampled in the field.

OUTFALL #001, #002, #003, #004, #005, #006, #007, & #008 – GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that 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. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any 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)). 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 states that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule or regulation promulgated by the commission.

- (A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses. This facility utilizes irrigation of domestic wastewater to the land surface and therefore does not discharge. Based upon a review of a recent Report of Compliance Inspection for the inspection conducted on March 30, 2017, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, there had been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of the wastewater irrigation. Therefore, based on the information reviewed during the drafting of this permit, and the fact that the facility does not discharge, no reasonable potential to cause or contribute to an excursion of this criterion exists.
- (B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
- (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. Please see (A) above as justification is the same.
- (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. Please see (A) above as justification is the same.
- (E) Waters shall provide for the attainment and maintenance of water quality standards downstream including waters of another state. Please see (D) above as justification is the same.
- (F) There shall be no significant human health hazard from incidental contact with the water. Please see (A) above as justification is the same.
- (G) There shall be no acute toxicity to livestock or wildlife watering. Please see (A) above as justification is the same.
- (H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.
- (I) 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. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

Part VII – Cost Analysis for Compliance

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, the Department shall, when promulgating Schedule DES-3, Part 1, Page 17 of 20

provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

- ✓ Not Applicable; The Department is not required to complete a cost analysis for compliance because the permit contains no new conditions or requirements that convey a new cost to the facility.

Part VIII – 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.

WATER QUALITY STANDARD REVISION:

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

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

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together and will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

PUBLIC NOTICE:

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing. The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- ✓ The Public Notice period for this operating permit was from September 27, 2019 to October 27, 2019. No responses received.

DATE OF FACT SHEET: NOVEMBER 13, 2019

COMPLETED BY:

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Appendices

APPENDIX - CLASSIFICATION WORKSHEET:

Item	Points Possible	Points Assigned
Maximum Population Equivalent (P.E.) served , peak day	1 pt./10,000 PE or major fraction thereof. (Max 10 pts.)	
Design Flow (avg. day) or peak month's flow (avg. day) whichever is larger	1 pt. / MGD or major fraction thereof. (Max 10 pts.)	
Effluent Discharge		
Missouri or Mississippi River	0	
All other stream discharges except to losing streams and stream reaches supporting whole body contact recreation	1	1
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	
Direct reuse or recycle of effluent	6	
Land Application/Irrigation		
Drip Irrigation	3	
Land application/irrigation	5	5
Overland flow	4	
Variation in Raw Wastes (highest level only)		
Variations do not exceed those normally or typically expected	0	
Reoccurring deviations or excessive variations of 100 to 200 percent in strength and/or flow	2	
Reoccurring deviations or excessive variations of more than 200 percent in strength and/or flow	4	
Department-approved pretreatment program	6	
Preliminary Treatment		
STEP systems (operated by the permittee)	3	
Screening and/or comminution	3	
Grit removal	3	
Plant pumping of main flow	3	
Flow equalization	5	
Primary Treatment		
Primary clarifiers	5	
Chemical addition (except chlorine, enzymes)	4	
Secondary Treatment		
Trickling filter and other fixed film media with or without secondary clarifiers	10	
Activated sludge (including aeration, oxidation ditches, sequencing batch reactors, membrane bioreactors, and contact stabilization)	15	
Stabilization ponds without aeration	5	5
Aerated lagoon	8	
Advanced Lagoon Treatment – Aerobic cells, anaerobic cells, covers, or fixed film	10	
Biological, physical, or chemical	12	
Carbon regeneration	4	
Total from page ONE (1)	----	11

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Solids Handling		
Sludge Holding	5	5
Anaerobic digestion	10	
Aerobic digestion	6	
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	
Disinfection		
Chlorination or comparable	5	
On-site generation of disinfectant (except UV light)	5	
Dechlorination	2	
UV light	4	
Required Laboratory Control Performed by Plant Personnel (highest level only)		
Lab work done outside the plant	0	0
Push – button or visual methods for simple test such as pH, settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	
More advanced determinations, such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
Total from page TWO (2)	---	5
Total from page ONE (1)	---	11
Grand Total	---	16

- A: 71 points and greater
- B: 51 points – 70 points
- C: 26 points – 50 points
- D: 0 points – 25 points