MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law (Chapter 644 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-0132900
Owner: Village of Argyle
Address: P.O. Box 22, Argyle, MO 65001

Continuing Authority: Same as above
Address: Same as above

Facility Name: Argyle WWTP
Facility Address: 0.4 miles southeast of Hwy T and 1st Street intersection, Argyle, MO 65001

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

See Page 2

This permit authorizes irrigation and discharges of wastewater under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas.

January 1, 2022
Effective Date

March 31, 2026
Expiration Date

Chris Wieberg, Director, Water Protection Program
FACILITY DESCRIPTION (continued):

Partial irrigation system – Discharges from recirculating sand filter (Permitted Feature #001) are occasional when land application (Permitted Feature #002) is not available

Outfall #001 – POTW
Septic tanks / recirculating filter / chlorination / dechlorination / sludge disposal by contract hauler.

Design population equivalent is 200.
Design flow is 20,000 gallons per day.
Actual flow is 0 gallons per day.
Design sludge production is 1.4 dry tons/year.

Legal Description: Sec. 15, T41N, R10W, Osage County
UTM Coordinates: X=586026, Y=4238600
Receiving Stream: Loose Creek (C)
First Classified Stream and ID: 100K Extent-Remaining Streams (C) (3960)
USGS Basin & Sub-watershed No.: (10290111-0301)

Permitted Feature #002 – Subsurface irrigation field

Land application field / wastewater is irrigated to the subsurface

Legal Description: Sec. 15, T41N, R10W, Osage County
UTM Coordinates: X=586026, Y=4238677
Receiving Stream: Tributary to Loose Creek (C)
First Classified Stream and ID: 100K Extent-Remaining Streams (C) (3960)
USGS Basin & Sub-watershed No.: (10290111-0301)

Wastewater Irrigation Design Parameters:
Irrigation volume per year: 2,700,000 gallons (based on annual irrigation rate)
Irrigation areas: 1 acre at design loading
Irrigation rates: 0.75 inch/day; 5.25 inches/week; 100 inches/year
Field slopes: less than 5 percent
Equipment type: Subsurface lateral disposal
Vegetation: mixed grass
Irrigation rate is based on: Hydraulic loading rate

Permitted Feature INF – Influent Monitoring Location – Headworks

Legal Description: Sec. 15, T41N, R10W, Osage County
UTM Coordinates: X=585971, Y=4238743
PERMITTED FEATURE #002

TABLE A-1
IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS

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, 2022** 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:

<table>
<thead>
<tr>
<th>IRRIGATED WASTEWATER PARAMETER(S)****</th>
<th>UNITS</th>
<th>DAILY MAXIMUM</th>
<th>WEEKLY AVERAGE</th>
<th>MONTHLY AVERAGE</th>
<th>MEASUREMENT FREQUENCY</th>
<th>SAMPLE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit Set: IW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Kjeldahl Nitrogen as N</td>
<td>mg/L</td>
<td>*</td>
<td></td>
<td></td>
<td>once/quarter****</td>
<td>grab</td>
</tr>
<tr>
<td>Nitrate as N</td>
<td>mg/L</td>
<td>*</td>
<td></td>
<td></td>
<td>once/quarter****</td>
<td>grab</td>
</tr>
</tbody>
</table>

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE **APRIL 28, 2022**.

PERMITTED FEATURE #002

TABLE A-2
IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS

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, 2022** 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:

<table>
<thead>
<tr>
<th>IRRIGATION OPERATIONAL MONITORING PARAMETER(S)</th>
<th>UNITS</th>
<th>FINAL LIMITATIONS</th>
<th>MONITORING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit Set: LW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation Period</td>
<td>hours</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Volume IrrigatedΦ</td>
<td>gallons</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Irrigation Area</td>
<td>acres</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Irrigation Rate†</td>
<td>inches</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE **FEBRUARY 28, 2022**.

* Monitoring requirement only.
** Storage Basin Freeboard shall be reported as storage basin water level in feet below the overflow level.
**** Wastewater that is irrigated shall be sampled from the effluent manhole prior to the irrigation fields. If irrigation did not occur during the report period, report as “No Discharge”.
***** See table below for quarterly sampling.

**Minimum Sampling Requirements**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Months</th>
<th>Total Kjeldahl Nitrogen and Nitrate as N</th>
<th>Report is Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>January, February, March</td>
<td>Sample at least once during any month of the quarter</td>
<td>April 28th</td>
</tr>
<tr>
<td>Second</td>
<td>April, May, June</td>
<td>Sample at least once during any month of the quarter</td>
<td>July 28th</td>
</tr>
<tr>
<td>Third</td>
<td>July, August, September</td>
<td>Sample at least once during any month of the quarter</td>
<td>October 28th</td>
</tr>
<tr>
<td>Fourth</td>
<td>October, November, December</td>
<td>Sample at least once during any month of the quarter</td>
<td>January 28th</td>
</tr>
</tbody>
</table>

Φ - The volume pumped from the duplex lift station is to be used as the Volume Irrigated. Volume Irrigated is equal to the design or actual pump rate for the pumps in the duplex lift station multiplied by 60 (conversion from minutes to hrs.) multiplied by the pump hours (average daily pump hours for the month), divided by the number of days in the month reported (e.g. January has 31 days). [e.g. For January, Volume Irrigated = (160 gpm * 60 min/hr. * 50 hrs.) ÷ 31 days = 15,484 gallons irrigated in January]

† - Irrigation Rate is equal to the gallons irrigated (Volume Irrigated) divided by 7.48 (conversion to cfs), divided by the application area, divided by 43,560 (conversion from acres to square feet) multiplied by 12 (to convert feet to inches). [e.g. 1 acre field and 10,000 gallons irrigated, Volume Irrigated = 10,000 gallons ÷ 7.48 gallons/ft³ ÷ 1 acre ÷ 43,560 ft²/acre * 12 in/ft. = 0.37 inches]
TABLE A-3. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. The final effluent limitations in Table A-3 shall become effective on January 1, 2022 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

<table>
<thead>
<tr>
<th>EFFLUENT PARAMETER(S)</th>
<th>UNITS</th>
<th>FINAL EFFLUENT LIMITATIONS</th>
<th>MONITORING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DAILY MAXIMUM</td>
<td>WEEKLY AVERAGE</td>
</tr>
<tr>
<td>Limit Set: M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow</td>
<td>MGD</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand₅</td>
<td>mg/L</td>
<td>45</td>
<td>30</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>45</td>
<td>30</td>
</tr>
<tr>
<td>E. coli (Note 1, Page 5)</td>
<td>#/100mL</td>
<td>630</td>
<td>126</td>
</tr>
<tr>
<td>Ammonia as N (January)</td>
<td>mg/L</td>
<td>12.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Ammonia as N (February)</td>
<td>mg/L</td>
<td>10.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Ammonia as N (March)</td>
<td>mg/L</td>
<td>12.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Ammonia as N (April)</td>
<td>mg/L</td>
<td>12.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Ammonia as N (May)</td>
<td>mg/L</td>
<td>12.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Ammonia as N (June)</td>
<td>mg/L</td>
<td>12.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Ammonia as N (July)</td>
<td>mg/L</td>
<td>12.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Ammonia as N (August)</td>
<td>mg/L</td>
<td>10.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Ammonia as N (September)</td>
<td>mg/L</td>
<td>12.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Ammonia as N (October)</td>
<td>mg/L</td>
<td>12.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Ammonia as N (November)</td>
<td>mg/L</td>
<td>12.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Ammonia as N (December)</td>
<td>mg/L</td>
<td>12.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Oil &amp; Grease</td>
<td>mg/L</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Total Residual Chlorine (Note 2, Page 5)</td>
<td>µg/L</td>
<td>&lt; 130</td>
<td>&lt; 130</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EFFLUENT PARAMETER(S)</th>
<th>UNITS</th>
<th>MINIMUM</th>
<th>MAXIMUM</th>
<th>MEASUREMENT FREQUENCY</th>
<th>SAMPLE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH – Units**</td>
<td>SU</td>
<td>6.5</td>
<td>9.0</td>
<td>once/month</td>
<td>grab</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EFFLUENT PARAMETER(S)</th>
<th>UNITS</th>
<th>MONTHLY AVERAGE MINIMUM</th>
<th>MEASUREMENT FREQUENCY</th>
<th>SAMPLE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemical Oxygen Demand₅ – Percent Removal (Note 3, Page 5)</td>
<td>%</td>
<td>85</td>
<td>once/month</td>
<td>calculated</td>
</tr>
<tr>
<td>Total Suspended Solids – Percent Removal (Note 3, Page 5)</td>
<td>%</td>
<td>85</td>
<td>once/month</td>
<td>calculated</td>
</tr>
</tbody>
</table>

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE FEBRUARY 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

* Monitoring requirement only.
** pH is measured in pH units and is not to be averaged.
The monitoring requirements in Table B-1 shall become effective on January 1, 2022 and remain in effect until expiration of the permit. The influent wastewater shall be monitored by the permittee as specified below:

<table>
<thead>
<tr>
<th>PARAMETER(S)</th>
<th>UNITS</th>
<th>MONITORING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DAILY MAXIMUM</td>
</tr>
<tr>
<td><strong>Limit Set: IM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biochemical Oxygen Demand₅ (Note 3)</td>
<td>mg/L</td>
<td>*</td>
</tr>
<tr>
<td>Total Suspended Solids (Note 3)</td>
<td>mg/L</td>
<td>*</td>
</tr>
</tbody>
</table>

**MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE FEBRUARY 28, 2022.**

* Monitoring requirement only.

**Note 1** – Effluent 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. The Weekly Average for *E. coli* will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

**Note 2** – This permit contains a Total Residual Chlorine (TRC) limit.

(a) The Water Quality Based Effluent Limit for Total Residual Chlorine was calculated to be 18 µg/L (daily maximum limit) and 9 µg/L (monthly average limit). These limits are below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine 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. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit. Measured values greater than or equal to the minimum quantification level of 130 µg/L 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.

(b) Disinfection is required during the recreational season from April 1 through October 31. Do not chlorinate during the non-recreational months and an actual analysis for TRC is not necessary.

(c) Do not chemically de-chlorinate if it is not needed to meet the limits in your permit.

(d) If no chlorine was used in a given sampling period, an actual analysis for TRC is not necessary. Simply report as “AG – Conditional Monitoring Not Required This Period” for TRC in the eDMR system.

**Note 3** – Influent sampling for BOD₅ and TSS is not required during periods of land application when the facility does not discharge effluent. Samples are to be collected prior to any treatment process. Calculate Percent Removal by using the following formula: [(Average Influent – Average Effluent) / Average Influent] x 100% = Percent Removal. Influent and effluent samples are to be taken during the same month. The Average Influent and Average Effluent values are to be calculated by adding the respective values together and dividing by the number of samples taken during the month. Influent samples are to be collected as a grab sample.

**C. 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.
D. SPECIAL CONDITIONS

1. **Wastewater Irrigation System.**
   (a) **Partial-discharge facility requirements.** Wastewater shall be irrigated during suitable conditions so that there is no discharge from the irrigation sites.
   (b) **Set Backs.** There shall be no irrigation within:
       (1) 300 feet of any sinkhole, losing stream, or any other feature that may provide a connection to the ground water table and the surface;
       (2) 300 feet from any existing potable water supply well not located on the property;
       (3) 150 feet of dwelling or public use areas;
       (4) 100 feet of any gaining perennial or intermittent streams or tributaries or any publicly or privately owned 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;
       (5) 50 feet of the property line or public road.
   (c) **Livestock and Crop Restrictions.** Vegetation such as grasses or other non-food crops must be grown over the system. The only equipment allowed on the area is equipment used to maintain the vegetation. No livestock shall be allowed to use the area.
   (d) **Application.** Subsurface irrigation shall not cause surfacing of wastewater.
   (e) **Equipment Checks during Irrigation.** The irrigation system and application site shall be visually inspected at least once/day during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.

2. Subsurface dispersion systems under this permit are Class V wells if they have the capacity to serve 20 or more people and shall comply with the reporting requirements of 40 CFR 144.26. In addition, an inventory form shall be submitted to the Department of Natural Resources’ Missouri Geological Survey for these wells, as required under Federal regulations. Questions about whether a subsurface dispersion system is a Class V well can be directed to the Missouri Geological Survey’s Energy Resources Unit at 573-368-2100.

3. Wastewater irrigation records shall be maintained and summarized into an annual operating report for the previous calendar year. The annual operating report shall be submitted by January 28th of each year for the previous calendar year period via the Electronic Discharge Monitoring Report (eDMR) Submission System. This annual report is in addition to the reporting requirements listed in Table A. 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, and the irrigation rate in inches for the year.

4. **Electronic Discharge Monitoring Report (eDMR) Submission System.** Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit) shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data about the NPDES program.
   (a) eDMR Registration Requirements. The permittee must register with the Department’s eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at [https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem](https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem). Information about the eDMR system can be found at [https://dnr.mo.gov/water/business-industry-other-entities/reporting/electronic-discharge-monitoring-reporting-system-edmr](https://dnr.mo.gov/water/business-industry-other-entities/reporting/electronic-discharge-monitoring-reporting-system-edmr). The first user shall register as an Organization Official and the association to the facility must be approved by the Department. Regarding Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department. See paragraph (c) below.
   (b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: [https://apps5.mo.gov/mogems/welcome.action](https://apps5.mo.gov/mogems/welcome.action). If you experience difficulties with using the eDMR system you may contact [edmr@dnr.mo.gov](mailto:edmr@dnr.mo.gov) or call 855-789-3889 or 573-526-2082 for assistance.
   (c) 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: [https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692](https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692). The Department will either approve or deny this electronic reporting waiver request within 120 calendar days.
D. SPECIAL CONDITIONS (continued)

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) pursuant to 40 CFR or 403.18(e), respectively.

6. Outfall #001 must be clearly marked in the field.

7. Report Outfall #001 as no-discharge when a discharge does not occur during the report period.

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

9. 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).
   (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 a parameter is not detected above ML, the permittee must report the data qualifier signifying less than ML for that parameter (e.g., < 50 µg/L, if the ML for the parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

10. 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 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.

11. The permittee shall develop and implement a program for maintenance and repair of its collection system. The permittee may compare collection system performance results and other data with the benchmarks used in the Departments’ Capacity, Management, Operation, And Maintenance (CMOM) Model located at https://dnr.mo.gov/document-search/capacity-management-operations-maintenance-plan-editable-template. Additional information regarding the Departments’ CMOM Model is available at https://dnr.mo.gov/print/document-search/pub2574.

   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.

12. The wastewater treatment facility and wastewater irrigation equipment must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.

13. An all-weather access road shall be provided to the treatment facility.
D. SPECIAL CONDITIONS (continued)

14. The outfall sewer shall be protected and maintained against the effects of floodwater, ice, or other hazards as to reasonably insure its structural stability, freedom from stoppage, and that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.

15. The media in the filter beds shall be properly maintained to prevent surface pooling, vegetative growth, and accumulation of leaf litter.

16. 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.

17. The Permittee shall obtain the services of a qualified soil scientist to provide a soils investigation of the area around the soil treatment area (subsurface irrigation fields) with one, and no more than two soil observation pits, in accordance with Wastewater Guidelines and Standards Document PUB2754, Section 1.5.2. ([https://dnr.mo.gov/document-search/wastewater-guidelines-standards-document-pub2754](https://dnr.mo.gov/document-search/wastewater-guidelines-standards-document-pub2754)). The Permittee shall provide the Department with the soils report in accordance with Wastewater Guidelines and Standards Document PUB2754, Section 1.5.3. by **January 1, 2023**. The report shall be submitted to the Operating Permits Section - Domestic Wastewater Unit, Water Protection Program, Missouri Department of Natural Resources, PO Box 176; Jefferson City, MO 65102. The Department will review the submitted report, and determine if the permit needs modified to address application rates or other issues as determined in the report.

E. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission  
U.S. Post Office Building, Third Floor  
131 West High Street, P.O. Box 1557  
Jefferson City, MO 65102-1557  
Phone: 573-751-2422  
Fax: 573-751-5018  
Website: [https://ahc.mo.gov](https://ahc.mo.gov)
MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0132900
ARGYLE WWTF

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 and Description: POTW – Partial irrigation system – Discharges from recirculating sand filter (Permitted Feature #001) are occasional when land application (Permitted Feature #002) is not available / subsurface irrigation field

<table>
<thead>
<tr>
<th>Application Date:</th>
<th>04/16/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expiration Date:</td>
<td>09/30/2020</td>
</tr>
</tbody>
</table>

**PERMITTED FEATURE(S) TABLE:**

<table>
<thead>
<tr>
<th>PERMITTED FEATURE</th>
<th>DESIGN FLOW (CFS)</th>
<th>TREATMENT LEVEL</th>
<th>EFFLUENT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>#001</td>
<td>0.31</td>
<td>Secondary</td>
<td>Domestic</td>
</tr>
<tr>
<td>#002</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:
Changes in this permit for Outfall #001 include the removal of Dissolved Oxygen. See Part II of the Fact Sheet for further information regarding the removal of effluent parameters. Special conditions were updated to include the addition of inflow and infiltration reporting requirements, reporting of Non-detects, bypass reporting requirements, and the Electronic Discharge Monitoring Report (eDMR) Submission System. The permit also included a requirement for the Permittee to obtain the services of a qualified soil scientist to provide a soils investigation of the area around the soil treatment area (subsurface irrigation fields) and provide the Department with the soils report within one year of permit issuance.

**Part II – Effluent Limitations and Monitoring Requirements**

**OUTFALL #001 – MAIN FACILITY OUTFALL**
Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.
### OUTFALL #001 - RECEIVING STREAM INFORMATION

#### RECEIVING STREAM(S) TABLE:

<table>
<thead>
<tr>
<th>WATER-BODY NAME</th>
<th>CLASS</th>
<th>WBID</th>
<th>DESIGNATED USES*</th>
<th>12-DIGIT HUC</th>
<th>DISTANCE TO CLASSIFIED SEGMENT (MI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loose Creek (100K Extent-Remaining Streams)</td>
<td>C</td>
<td>3960</td>
<td>AQL, WBC-B, SCR, HHP, IRR, LWW</td>
<td>10290111-0304</td>
<td>0</td>
</tr>
<tr>
<td>Maries River</td>
<td>P</td>
<td>1081</td>
<td>AQL (CLF), WBC-A, SCR, HHP, IRR, LWW</td>
<td></td>
<td>1.3</td>
</tr>
</tbody>
</table>

*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 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 HHF) = Human Health Protection as it relates to the consumption of fish;

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

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

DWS = Drinking Water Supply;

IND = Industrial water supply.

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

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

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

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

#### RECEIVING STREAM(S) LOW-FLOW VALUES:

<table>
<thead>
<tr>
<th>RECEIVING STREAM</th>
<th>1Q10</th>
<th>7Q10</th>
<th>30Q10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loose Creek (C)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### MIXING CONSIDERATIONS TABLE:

<table>
<thead>
<tr>
<th>MIXING ZONE (CFS)</th>
<th>ZONE OF INITIAL DILUTION (CFS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Q10</td>
<td>7Q10</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Receiving Water Body’s Water Quality

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.
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. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation.

- This facility does not discharge to a 303(d) listed stream or to a stream with an EPA approved TMDL.
- The Department conducted a stream survey on August 29, 2014 at two locations near this facility: in Stream approximately 75 yards downstream from Outfall #001 and upstream of Outfall #001. No use designations of the receiving stream were impaired.

### Changes to Effluent Limitations Table:

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>Unit</th>
<th>Basis for Limits</th>
<th>Daily Maximum</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
<th>Previous Permit Limit</th>
<th>Sampling Frequency</th>
<th>Reporting Frequency</th>
<th>Sample Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia as N (January)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>3.1</td>
<td>7.5/2.9</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (February)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>10.1</td>
<td>2.7</td>
<td>7.5/2.9</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (March)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>3.1</td>
<td>7.5/2.9</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (April)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>2.7</td>
<td>3.6/1.4</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (May)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>2.2</td>
<td>3.6/1.4</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (June)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>1.7</td>
<td>3.6/1.4</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (July)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>1.5</td>
<td>3.6/1.4</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (August)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>10.1</td>
<td>1.3</td>
<td>3.6/1.4</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (September)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>1.8</td>
<td>3.6/1.4</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (October)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>2.5</td>
<td>7.5/2.9</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (November)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>3.1</td>
<td>7.5/2.9</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
<tr>
<td>Ammonia as N (December)</td>
<td>mg/L</td>
<td>2, 3</td>
<td>12.1</td>
<td>3.1</td>
<td>7.5/2.9</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td>****</td>
</tr>
</tbody>
</table>

* - Monitoring requirement only.
** - #/100mL; the Monthly Average for E. coli is a geometric mean.
*** - Parameter not previously established in previous state operating permit.
**** - C = 24-hour composite
  G = Grab
  T = 24-hr. total
  E = 24-hr. estimate
  M = Measured/calculated

### Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review
5. Antidegradation Policy
6. Water Quality Model
7. Best Professional Judgment
8. TMDL or Permit in lieu of TMDL
9. WET Test Policy
10. Multiple Discharger Variance
11. Nutrient Criteria Implementation Plan

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

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

- **Biochemical Oxygen Demand (BODs).** Operating permit retains 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(8) for discharges to All Other Waters.

- **Total Suspended Solids (TSS).** Operating permit retains 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(8) for discharges to All Other Waters.

- **Escherichia coli (E. coli).** Monthly average of 126 per 100 mL as a geometric mean and Weekly Average of 630 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), for discharges within two miles upstream of segments or lakes with Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.015(9)(B). An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d). The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected. For example: Five E. coli samples were collected with results of 1, 4, 6, 10, and 5 (#/100mL). Geometric Mean = 5th root of (1)(4)(6)(10)(5) = 5th root of 1,200 = 4.1 #/100mL.
• **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L.

The Department previously followed the 2007 Ammonia Guidance method for derivation of ammonia limits. However, the EPA’s Technical Support Document for Water Quality-based Toxic Controls (TSD) establishes other alternatives to limit derivation. The Department has determined that the approach established in Section 5.4.2 of the TSD, which allows for direct application of both the acute and chronic wasteload allocations (WLA) as permit limits for toxic pollutants, is more appropriate limit derivation approach. Using this method for a discharge to a waterbody where mixing is not allowed, the criterion continuous concentration (CCC) and the criterion maximum concentration (CMC) will equal the chronic and acute WLA respectively. The WLAs are then applied as effluent limits, per Section 5.4.2 of the TSD, where the CMC is the Daily Maximum and the CCC is the Monthly Average. The direct application of both acute and chronic criteria as WLA is also applicable for facilities that discharge into receiving waterbodies with mixing considerations. The CCC and CMC will need to be calculated into WLA with mixing considerations using the mass-balance equation:

\[
Ce = \frac{(Qe + Qs)C - (Qs \times Cs)}{Qe}
\]

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

In the event that mixing considerations derive an AML less stringent than the MDL, the AML and MDL will be equal and based on the MDL.

<table>
<thead>
<tr>
<th>Month</th>
<th>Temp (°C)*</th>
<th>pH (SU)*</th>
<th>Total Ammonia Nitrogen</th>
<th>Total Ammonia Nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>CCC (mg/L)</td>
<td>CMC (mg/L)</td>
</tr>
<tr>
<td>January</td>
<td>8.1</td>
<td>7.8</td>
<td>3.1</td>
<td>12.1</td>
</tr>
<tr>
<td>February</td>
<td>9.3</td>
<td>7.9</td>
<td>2.7</td>
<td>10.1</td>
</tr>
<tr>
<td>March</td>
<td>13.0</td>
<td>7.8</td>
<td>3.1</td>
<td>12.1</td>
</tr>
<tr>
<td>April</td>
<td>16.7</td>
<td>7.8</td>
<td>2.7</td>
<td>12.1</td>
</tr>
<tr>
<td>May</td>
<td>20.0</td>
<td>7.8</td>
<td>2.2</td>
<td>12.1</td>
</tr>
<tr>
<td>June</td>
<td>24.0</td>
<td>7.8</td>
<td>1.7</td>
<td>12.1</td>
</tr>
<tr>
<td>July</td>
<td>26.6</td>
<td>7.8</td>
<td>1.5</td>
<td>12.1</td>
</tr>
<tr>
<td>August</td>
<td>26.5</td>
<td>7.9</td>
<td>1.3</td>
<td>10.1</td>
</tr>
<tr>
<td>September</td>
<td>23.5</td>
<td>7.8</td>
<td>1.8</td>
<td>12.1</td>
</tr>
<tr>
<td>October</td>
<td>18.0</td>
<td>7.8</td>
<td>2.5</td>
<td>12.1</td>
</tr>
<tr>
<td>November</td>
<td>14.0</td>
<td>7.8</td>
<td>3.1</td>
<td>12.1</td>
</tr>
<tr>
<td>December</td>
<td>10.0</td>
<td>7.8</td>
<td>3.1</td>
<td>12.1</td>
</tr>
</tbody>
</table>

* Ecoregion data (Ozark Highlands)

**January**

| Chronic WLA: | Ce = ((0.031 + 0)3.1 – (0 * 0.01)) / 0.031 |
|              | Ce = 3.1                                    |

| Acute WLA:   | Ce = ((0.031 + 0)12.1 – (0 * 0.01)) / 0.031 |
|              | Ce = 12.1                                   |

AML = WLAc = 3.1 mg/L  
MDL = WLAAa = 12.1 mg/L

**February**

| Chronic WLA: | Ce = ((0.031 + 0)2.7 – (0 * 0.01)) / 0.031 |
|              | Ce = 2.7                                    |

| Acute WLA:   | Ce = ((0.031 + 0)10.1 – (0 * 0.01)) / 0.031 |
|              | Ce = 10.1                                   |

AML = WLAc = 2.7 mg/L  
MDL = WLAAa = 10.1 mg/L
March
Chronic WLA: \[ Ce = \frac{((0.031 + 0)3.1 - (0 * 0.01))}{0.031} \]
\[ Ce = 3.1 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.01))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 3.1 mg/L
MDL = WLAa = 12.1 mg/L

April
Chronic WLA: \[ Ce = \frac{((0.031 + 0)2.7 - (0 * 0.01))}{0.031} \]
\[ Ce = 2.7 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.01))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 2.7 mg/L
MDL = WLAa = 12.1 mg/L

May
Chronic WLA: \[ Ce = \frac{((0.031 + 0)2.2 - (0 * 0.01))}{0.031} \]
\[ Ce = 2.2 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.01))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 2.2 mg/L
MDL = WLAa = 12.1 mg/L

June
Chronic WLA: \[ Ce = \frac{((0.031 + 0)1.7 - (0 * 0.01))}{0.031} \]
\[ Ce = 1.7 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.01))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 1.7 mg/L
MDL = WLAa = 12.1 mg/L

July
Chronic WLA: \[ Ce = \frac{((0.031 + 0)1.5 - (0 * 0.01))}{0.031} \]
\[ Ce = 1.5 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.01))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 1.5 mg/L
MDL = WLAa = 12.1 mg/L

August
Chronic WLA: \[ Ce = \frac{((0.031 + 0)1.3 - (0 * 0.01))}{0.031} \]
\[ Ce = 1.3 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)10.1 - (0 * 0.01))}{0.031} \]
\[ Ce = 10.1 \]

AML = WLAc = 1.3 mg/L
MDL = WLAa = 10.1 mg/L
September
Chronic WLA: \[ Ce = \frac{((0.031 + 0)1.8 - (0 * 0.001))}{0.031} \]
\[ Ce = 1.8 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.001))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 1.8 mg/L
MDL = WLAa = 12.1 mg/L

October
Chronic WLA: \[ Ce = \frac{((0.031 + 0)2.5 - (0 * 0.001))}{0.031} \]
\[ Ce = 2.5 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.001))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 2.5 mg/L
MDL = WLAa = 12.1 mg/L

November
Chronic WLA: \[ Ce = \frac{((0.031 + 0)3.1 - (0 * 0.001))}{0.031} \]
\[ Ce = 3.1 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.001))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 3.1 mg/L
MDL = WLAa = 12.1 mg/L

December
Chronic WLA: \[ Ce = \frac{((0.031 + 0)3.1 - (0 * 0.001))}{0.031} \]
\[ Ce = 3.1 \]

Acute WLA: \[ Ce = \frac{((0.031 + 0)12.1 - (0 * 0.001))}{0.031} \]
\[ Ce = 12.1 \]

AML = WLAc = 3.1 mg/L
MDL = WLAa = 12.1 mg/L

• **Oil & Grease**: Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

• **Total Residual Chlorine (TRC)**. Warm-water Protection of Aquatic Life CCC = 11 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

Chronic WLA: \[ Ce = \frac{((0.031 + 0.0)11 - (0.0 * 0.001))}{0.031} = 11 \mu g/L \]

Acute WLA: \[ Ce = \frac{((0.031 + 0.0)19 - (0.0 * 0.001))}{0.031} = 19 \mu g/L \]

\[ \text{LTAc} = 11 (0.527) = 5.8 \mu g/L \] [CV = 0.6, 99th Percentile]

\[ \text{LTAa} = 19 (0.321) = 6.0 \mu g/L \] [CV = 0.6, 99th Percentile]

Use most protective number of LTAc or LTAa.

\[ \text{MDL} = 5.8 (3.11) = 18 \mu g/L \] [CV = 0.6, 99th Percentile]

\[ \text{AML} = 5.8 (1.55) = 9 \mu g/L \] [CV = 0.6, 95th Percentile, n = 4]

The Water Quality Based Effluent Limit for Total Residual Chlorine was calculated to be 18 µg/L (daily maximum limit) and 9 µg/L (monthly average limit). These limits are below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine 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 of 130 µg/L 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.

- **pH**: 6.5-9.0 SU. pH limitations of 6.0-9.0 SU [10 CSR 20-7.015] are not protective of the in-stream Water Quality Standard, which states that water contaminants shall not cause pH to be outside the range of 6.5-9.0 SU.

- **Biochemical Oxygen Demand (BOD5) Percent Removal**: In accordance with 40 CFR Part 133, removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to BOD5 and TSS for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for BOD5.

- **Total Suspended Solids (TSS) Percent Removal**: In accordance with 40 CFR Part 133, removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to BOD5 and TSS for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for TSS.

**Sampling Frequency Justification**: The Department has determined that previously established sampling and reporting frequency is sufficient to characterize the facility’s effluent and be protective of water quality. Sampling for *E. coli* is set at monthly per 10 CSR 20-7.015(9)(D)7.C.

**Sampling Type Justification**: As per 10 CSR 20-7.015, BOD5 and TSS samples collected for media filters may be grab samples. Grab samples must be collected for pH, *E. coli*, TRC, and Oil & Grease, in accordance with recommended analytical methods. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D) 2.

**PERMITTED FEATURE INF – INFLUENT MONITORING**

The monitoring requirements established in the below Monitoring Requirements Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including the monitoring requirements listed in this table.

**CHANGES TO INFLUENT MONITORING:**

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>Unit</th>
<th>Basis for Limits</th>
<th>Daily Maximum</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
<th>Previous Permit Limit</th>
<th>Sampling Frequency</th>
<th>Reporting Frequency</th>
<th>Sample Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 mg/L</td>
<td>1</td>
<td>*</td>
<td>*</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS mg/L</td>
<td>1</td>
<td>*</td>
<td>*</td>
<td>1/month</td>
<td>monthly</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Monitoring requirement only.

*** - Parameter not previously established in previous state operating permit.

**** - C = Composite

G = Grab

**Basis for Limitations Codes:**

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review
5. Antidegradation Policy
6. Water Quality Model
7. Best Professional Judgment
8. TMDL or Permit in lieu of TMDL
9. WET Test Policy
10. Multiple Discharger Variance
11. Nutrient Criteria Implementation Plan

**Influent Parameters**

- **Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS)**: An influent sample is required to determine the removal efficiency. In accordance with 40 CFR Part 133, removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to BOD5 and TSS for Publicly Owned Treatment Works (POTWs)/municipals.

**Sampling Frequency Justification**: The sampling and reporting frequencies for influent BOD5 and TSS have been established to match the required sampling frequency of these parameters in the effluent.

**Sampling Type Justification**: Sample types for influent parameters were established to match the required sampling type of these parameters in the effluent. Samples should be analyzed as soon as possible after collection and/or properly preserved according to method requirements.
PERMITTED FEATURE #002 – IRRIGATION

- **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 Nitrogen 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)]

- **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 recirculating sand filter system, 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.

**OUTFALL #001 – 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 May 19, 2020, 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 VI – 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.

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

o Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

- **Ammonia as N.** Effluent limitations were re-calculated for Ammonia. The Department previously followed the 2007 Ammonia Guidance method for derivation of ammonia limits. However, the EPA’s Technical Support Document for Water Quality-based Toxic Controls (TSD) establishes other alternatives to limit derivation. The Department has determined that the approach established in Section 5.4.2 of the TSD, which allows for direct application of both the acute and chronic wasteload allocations (WLA) as permit limits for toxic pollutants, is more appropriate limit derivation approach. Using this method for a discharge to a waterbody where mixing is not allowed, the criterion continuous concentration (CCC) and the criterion maximum concentration (CMC) will equal the chronic and acute WLA respectively. The WLAs are then applied as effluent limits, per Section 5.4.2 of the TSD, where the CMC is the Daily Maximum and the CCC is the Monthly Average. The direct application of both acute and chronic criteria as WLA is also applicable for facilities that discharge into receiving waterbodies with mixing considerations. The CCC and CMC will need to be calculated into WLA with mixing considerations using the mass-balance equation. The newly established limitations are still protective of water quality.

- **Dissolved Oxygen.** The previous permit contained monitoring requirements for Dissolved Oxygen. During the drafting of this permit, the permit writer made a reasonable potential determination based on effluent data submitted to the Department that the discharge will not cause or contribute to an excursion of the water quality standard for Dissolved Oxygen. As a result, monitoring requirements were removed from the permit. The permit remains protective of water quality and this determination will be reevaluated during the next permit renewal.

o The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).

- **General Criteria.** The previous permit contained a special condition which described a specific set of prohibitions related to general criteria found in 10 CSR 20-7.031(4). In order to comply with 40 CFR 122.44(d)(1), the permit writer has conducted reasonable potential determinations for each general criterion and established numeric effluent limitations where reasonable potential exists. While the removal of the previous permit special condition creates the appearance of backsliding, since this permit establishes numeric limitations where reasonable potential to cause or contribute to an
excursion of the general criteria exists the permit maintains sufficient effluent limitations and monitoring requirements in order to protect water quality, this permit is equally protective as compared to the previous permit. Therefore, given this new information, and the fact that the previous permit special condition was not consistent with 40 CFR 122.44(d)(1), an error occurred in the establishment of the general criteria as a special condition of the previous permit. Please see Part II – Effluent Limitations and Monitoring Requirements for more information regarding the reasonable potential determinations for each general criterion related to this facility.

**ANTIDEGRADATION:**
In accordance with Missouri’s Water Quality Standard [10 CSR 20-7.031(3)], for domestic wastewater discharge with new, altered, or expanding discharges, the Department is to document by means of Antidegradation Review that 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 [https://dnr.mo.gov/document-search/antidegradation-implementation-procedure](https://dnr.mo.gov/document-search/antidegradation-implementation-procedure).

✓ 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 when a higher level authority is available by submitting information as part of the application to the Department for review and approval, provided it 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 are removed by contract hauler.

**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.

**Facility Performance History:**
✓ The facility is not currently under Water Protection Program enforcement action. This facility was last inspected on May 19, 2020. The inspection showed the following unsatisfactory features: failure to submit irrigation monitoring data, failure to submit the annual inflow and infiltration report, failure to submit the annual irrigation operating report, failure to submit annual sludge reports, failure to maintain an operation and maintenance manual, and failure to develop and implement a program for maintenance and repair of the collection system.

**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 optional and can be provided upon request to the Department.

A facility must make a request. If a single entity owns or operates more than one facility, 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 does not discharge into a lake watershed where numeric lake nutrient criteria are applicable.

OPERATOR CERTIFICATION REQUIREMENTS:

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], the permittee shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators 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 with population equivalents greater than 200 and are owned or operated by or for municipalities, public sewer districts, counties, public water supply districts, private sewer companies regulated by the Public Service Commission and state or federal agencies.

✓ This facility is not required to have a certified operator as it does not have a PE greater than 200 and is owned or operated by or for a municipality, public sewer district, county, public water supply district, private sewer company regulated by the PSC, state or federal agency.

OPERATIONAL CONTROL TESTING:

Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publicly 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 publicly 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.

✓ As per [10 CSR 20-9.010(4)], the facility is not required to conduct operational monitoring.

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.
REASONABLE POTENTIAL ANALYSIS (RPA):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(1)(iii)] if the permit writer determines that any given pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

An RPA was not conducted for this facility for Ammonia and Total Residual Chlorine. Ammonia is a constituent of domestic wastewater. A reasonable potential to violate water quality standards is assumed. Total Residual Chlorine is a byproduct of Chlorine disinfection. Absent sufficient data, a default Coefficient of Variation of 0.6 was utilized per the Technical Support Documents for Water Quality-Based Toxics Control. Please see Derivation and Discussion of Limits.

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 Publicly Owned Treatment Works (POTWs)/municipals.

- Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) & (b)(3)].

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(12)] 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. The permit also contains requirements for permittees to develop and implement a program for maintenance and repair of the collection system. The permit requires that the permittee submit an annual report to the Department for the previous calendar year that contains a summary of efforts taken by the permittee to locate and eliminate sources of excess I & I, a summary of general maintenance and repairs to the collection system, and a summary of any planned maintenance and repairs to the collection system for the upcoming calendar year.

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 https://dnr.mo.gov/document-search/capacity-management-operations-maintenance-plan-editable-template. For additional information regarding the Departments’ CMOM Model, see the CMOM Plan Model Guidance document at https://dnr.mo.gov/print/document-search/pub2574. 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 may include 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 20-7.031(11), and 10 CSR 20-7.015(9), 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 limits. 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 an 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 [https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/wastewater/construction-engineering](https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/wastewater/construction-engineering).

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

**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.

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:**

As per [10 CSR 20-2.010(86)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

- Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

\[
Ce = \left( \frac{Qe + Qs}{Qe} \right) \left( C - \frac{Qs \times Cs}{Qe} \right)
\]

(EPA/505/2-90-001, Section 4.5.5)

Where
- \( C \) = downstream concentration
- \( Ce \) = effluent concentration
- \( Cs \) = upstream concentration
- \( Qe \) = effluent flow
- \( Qs \) = upstream flow
Chronic wasteload allocations 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). Acute wasteload allocations 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).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA’s “Technical Support Document For Water Quality-based Toxics Control” (EPA/505/2-90-001).

**Number of Samples “n”**:  
Additionally, 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, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that 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.

**WLA MODELING:**  
There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

- A WLA study was either not submitted or determined not applicable by Department staff.

**WHOLE EFFLUENT TOXICITY (WET) TEST:**  
A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

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 that the provisions in the 10 CSR 20-6.010(8)(A) and the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(J)2.A & B are being met. Under [10 CSR 20-6.010(8)(B)], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§§644.051.3 requires the Department to set permit conditions that comply 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, pretreatment, etc…); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by facilities meeting the following criteria:

- Facility is a designated Major.
- Facility continuously or routinely exceeds its design flow.
- Facility that exceeds its design population equivalent (PE) for BOD₅ whether or not its design flow is being exceeded.
- Facility (whether primarily domestic or industrial) that alters its production process throughout the year.
- Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH₃)
- Facility is a municipality with a Design Flow ≥ 22,500 gpd.
- Other – please justify.

- At this time, the permittee is not required to conduct WET test for this facility.

**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 IV – 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, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publically 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.

✓ The Department is required to determine “findings of affordability” because the permit applies to a combined or separate sanitary sewer system for a publicly-owned treatment works.

Cost Analysis for Compliance - The Department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of Department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the Department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644.145.3.

The following table summarizes the results of the cost analysis. See Appendix – Cost Analysis for Compliance for detailed information.

Summary Table. Cost Analysis for Compliance Summary for the Village of Argyle

<table>
<thead>
<tr>
<th>New Permit Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils testing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated Annual Cost</th>
<th>Annual Median Household Income (MHI)</th>
<th>Estimated Monthly User Rate</th>
<th>User Rate as a Percent of MHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>$400</td>
<td>$53,780</td>
<td>$67.60</td>
<td>1.5%</td>
</tr>
</tbody>
</table>
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.

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 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 3, 2021 to October 4, 2021. No responses received.

DATE OF FACT SHEET: OCTOBER 13, 2021

COMPLETED BY:

BRANT FARRIS, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(660) 385-8019
brant.farris@dnr.mo.gov
Appendices

APPENDIX – ALTERNATIVE: Flow diagram
APPENDIX – COST ANALYSIS FOR COMPLIANCE

Missouri Department of Natural Resources
Water Protection Program
Cost Analysis for Compliance
(In accordance with RSMo 644.145)

Argyle WWTF, Permit Renewal
Village of Argyle
Missouri State Operating Permit #MO-0132900

Section 644.145 RSMo requires the Department of Natural Resources (Department) to make a “finding of affordability” when “issuing permits under” or “enforcing provisions of” state or federal clean water laws “pertaining to any portion of a combined or separate sanitary sewer system for publicly-owned treatment works.” This cost analysis does not dictate how the permittee will comply with new permit requirements.

New Permit Requirements

The permit requires the Permittee to obtain the services of a qualified soil scientist to provide a soils investigation of the area around the soil treatment area (subsurface irrigation fields) and provide the Department with the soils report.

Connections
The number of connections was reported by the permittee on the permit renewal application.

<table>
<thead>
<tr>
<th>Connection Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>51</td>
</tr>
<tr>
<td>Commercial</td>
<td>17</td>
</tr>
<tr>
<td>Industrial</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>68</strong></td>
</tr>
</tbody>
</table>

Data Collection for this Analysis
This cost analysis is based on data available to the Department as provided by the permittee and data obtained from readily available sources. For the most accurate analysis, it is essential that the permittee provides the Department with current information about the Village’s financial and socioeconomic situation. The financial questionnaire available to permittees on the Department’s website (https://dnr.mo.gov/document-search/financial-questionnaire-mo-780-2511) is a required attachment to the permit renewal application. If the financial questionnaire is not submitted with the renewal application, the Department sends a request to complete the form with the welcome correspondence. Though the Department has made attempts to gather financial information from the Village of Argyle; no information has been provided. The Department has relied heavily on readily available data to complete this analysis. If certain data was not provided by the permittee to the Department and the data is not obtainable through readily available sources, this analysis will state that the information is “unknown”.

Eight Criteria of 644.145 RSMo
The Department must consider the eight (8) criteria presented in subsection 644.145 RSMo to evaluate the cost associated with new permit requirements.

(1) A community’s financial capability and ability to raise or secure necessary funding;

<table>
<thead>
<tr>
<th>Criterion 1 Table. Current Financial Information for the Village of Argyle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Monthly User Rates per 5,000 gallons*</td>
</tr>
<tr>
<td>Median Household Income (MHI)$</td>
</tr>
<tr>
<td>Current Annual Operating Costs (excludes depreciation)</td>
</tr>
</tbody>
</table>

*User Rates were obtained from the 2020 Missouri Public Utility Alliance Water and Wastewater Rate Survey.
Affordability of pollution control options for the individuals or households at or below the median household income level of the community:

The following tables outline the estimated costs of the new permit requirements:

### Criterion 2A Table. Estimated Cost Breakdown of New Permit Requirements

<table>
<thead>
<tr>
<th>New Requirement</th>
<th>Frequency</th>
<th>Estimated Cost</th>
<th>Estimated Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils test</td>
<td>Once in permit cycle</td>
<td>$400</td>
<td>$80</td>
</tr>
<tr>
<td>Total Estimated Annual Cost of New Permit Requirements</td>
<td></td>
<td></td>
<td>$80</td>
</tr>
</tbody>
</table>

### Criterion 2B Table. Estimated Costs for New Permit Requirements

1. Estimated Annual Cost $80
2. Estimated Monthly User Cost for New Requirements $0.10
3. Total Monthly User Cost as a Percent of MHI 0.002%
4. Total Monthly User Cost as a Percent of MHI 1.5%

*Current User Rate + Estimated Monthly Costs of New Sampling Requirements

Due to the minimal cost associated with new permit requirements, the Department anticipates an extremely low to no rate increase will be necessary, which could impact individuals or households of this community.

**3) An evaluation of the overall costs and environmental benefits of the control technologies;**

This analysis is being conducted based on new requirements in the permit, which will not require the addition of new control technologies at the facility. However, the new sampling requirements are being established in order to provide data regarding the health of the receiving stream’s aquatic life and to ensure that the existing permit limits are providing adequate protection of aquatic life. Improved wastewater provides benefits such as avoided health costs due to water-related illness, enhanced environmental ecosystem quality, and improved natural resources. The preservation of natural resources has been proven to increase the economic value and sustainability of the surrounding communities. Maintaining Missouri’s water quality standards fulfills the goal of restoring and maintaining the chemical, physical, and biological integrity of the receiving stream; and, where attainable, it achieves a level of water quality that provides for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water.

**4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates:**

The community did not provide the Department with this information, nor could it be found through readily available data.

**5) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low and fixed income populations. This requirement includes but is not limited to:**

(a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations.

(b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained.

The following table characterizes the current overall socioeconomic condition of the community as compared to the overall socioeconomic condition of Missouri. The following information was compiled using the latest U.S. Census data.
Criterion 5 Table. Socioeconomic Data 1-5,9 for the Village of Argyle

<table>
<thead>
<tr>
<th>No.</th>
<th>Administrative Unit</th>
<th>Argyle Town</th>
<th>Missouri State</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Population (2019)</td>
<td>166</td>
<td>6,104,910</td>
</tr>
<tr>
<td>2</td>
<td>Percent Change in Population (2000-2019)</td>
<td>1.2%</td>
<td>9.1%</td>
</tr>
<tr>
<td>3</td>
<td>2019 Median Household Income (in 2020 Dollars)</td>
<td>$53,780</td>
<td>$56,145</td>
</tr>
<tr>
<td>4</td>
<td>Percent Change in Median Household Income (2000-2019)</td>
<td>45.8%</td>
<td>-4.7%</td>
</tr>
<tr>
<td>5</td>
<td>Median Age (2019)</td>
<td>36.5</td>
<td>38.6</td>
</tr>
<tr>
<td>6</td>
<td>Change in Median Age in Years (2000-2019)</td>
<td>1.0</td>
<td>2.5</td>
</tr>
<tr>
<td>7</td>
<td>Unemployment Rate (2019)</td>
<td>2.0%</td>
<td>4.6%</td>
</tr>
<tr>
<td>8</td>
<td>Percent of Population Below Poverty Level (2019)</td>
<td>0.0%</td>
<td>13.7%</td>
</tr>
<tr>
<td>9</td>
<td>Percent of Household Received Food Stamps (2019)</td>
<td>0.0%</td>
<td>11.1%</td>
</tr>
<tr>
<td>10</td>
<td>[Primary] County Where the Community Is Located</td>
<td>Osage County</td>
<td></td>
</tr>
</tbody>
</table>

(6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;

The community did not report any other investments relating to environmental improvements.

(7) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards;

The new requirements associated with this permit will not impose a financial burden on the community, nor will they require the Village of Argyle to seek funding from an outside source.

(8) An assessment of any other relevant local community economic conditions.

The community did not report any other relevant local economic conditions.

The Department contracted with Wichita State University to complete an assessment tool that would allow for predictions on rural Missouri community populations and future sustainability. The purpose of the study is to use a statistical modeling analysis in order to determine factors associated with each rural Missouri community that would predict the future population changes that could occur in each community. A stepwise regression model was applied to 19 factors which were determined as predictors of rural population change in Missouri. The model established a hierarchy of the predicting factors which allowed the model to place a weighted value on each of the factors. A total of 745 rural towns and villages in Missouri received a weighted value for each of the predicting factors. The weighted values for each town/village were then added together to determine an overall decision score. The overall decision scores were then divided into five categories and each town was assigned to a different categorical group based on the overall decision score. The categorical groups were developed from the range of overall scores across all rural towns and villages within Missouri.

Based on the assessment tool, the Village of Argyle has been determined to be a category 3 community. This means that the Village of Argyle’s socioeconomic status and population is predicted to remain stable over time. Future changes in only a few of the 19 weighted factors could cause this community to experience either a rise or decline of population. If this community experiences a decline in population which results in the inability to secure the necessary funding for an upgrade to meet the new requirements within this permit, a modification to the schedule of compliance may be necessary. The community may contact the Department and send an application for a modification to the schedule of compliance with justification for the time necessary to comply with this permit.

Conclusion and Finding

As a result of new regulations, the Department is proposing modifications to the current operating permit that may require the permittee to increase monitoring. The Department has considered the eight (8) criteria presented in subsection 644.145 RSMo to evaluate the cost associated with the new permit requirements.

This analysis examined whether the new sampling requirements affect the ability of an individual customer or household to pay a utility bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household. After reviewing the above criteria, the Department finds that the new sampling requirements may result in a low burden with regard to the community’s overall financial capability and a low financial impact for most individual customers/households; therefore, the new permit requirements are affordable.
References
2. ($80/68)/12 = $0.10 (Estimated Monthly User Cost for New Requirements)
3. ($0.10/($53,780/12))100% = 0.002% (New Sampling Only)
4. ($67.60/($53,780/12))100% = 1.5% (Total User Cost)
   (C) Change in Median Age in Years (2000-2019) = (Median Age in 2019 - Median Age in 2000).
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 detects and quantifies the level of pollutant in the discharge.

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.

   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.
Section C – Bypass/Upset Requirements

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).

3. **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.

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)(ii) 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 there is a reasonable likelihood of adversely affecting human health or the environment, it may require any person who knows of such a violation to take appropriate action to prevent such violation.

e. 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.

3. 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.

4. 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.

5. 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.)

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.
PART II - SPECIAL CONDITIONS – PUBLICLY OWNED TREATMENT WORKS
SECTION A – INDUSTRIAL USERS

1. Definitions

Definitions as set forth in the Missouri Clean Water Laws and approved by the Missouri Clean Water Commission shall apply to terms used herein.

Significant Industrial User (SIU). Except as provided in the General Pretreatment Regulation 10 CSR 20-6.100, the term Significant Industrial User means:
1. All Industrial Users subject to Categorical Pretreatment Standards; and
2. Any other Industrial User that: discharges an average of 25,000 gallons per day or more of process wastewater to the Publicly-Owned Treatment Works (POTW) (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW’s or for violating any Pretreatment Standard or requirement.


2. Identification of Industrial Discharges

Pursuant to 40 CFR 122.44(j)(1), all POTWs shall identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging to the POTW subject to Pretreatment Standards under section 307(b) of the CWA and 40 CFR 403.

3. Application Information

Applications for renewal or modification of this permit must contain the information about industrial discharges to the POTW pursuant to 40 CFR 122.21(j)(6)

4. Notice to the Department

Pursuant to 40 CFR 122.42(b), all POTWs must provide adequate notice of the following:
1. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging these pollutants; and
2. Any substantial change into the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

3. For purposes of this paragraph, adequate notice shall include information on:
   i. the quality and quantity of effluent introduced into the POTW, and
   ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

For POTWs without an approved pretreatment program, the notice of industrial discharges which was not included in the permit application shall be made as soon as practicable. For POTWs with an approved pretreatment program, notice is to be included in the annual pretreatment report required in the special conditions of this permit. Notice may be sent to:

Missouri Department of Natural Resources
Water Protection Program
Attn: Pretreatment Coordinator
P.O. Box 176
Jefferson City, MO 65102
PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.

2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.

3. Biosolids and Sludge Use and Disposal Practices:
   a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
   b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
   c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.

4. Biosolids or Sludge Received from other Facilities:
   a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee’s design sludge capacity is not exceeded and the treatment facility performance is not impaired.
   b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge.

5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.

6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.

7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.

8. In addition to Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.

9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
   b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.
SECTION B – DEFINITIONS

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR Part 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with 40 CFR Part 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limited to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological contact systems, and other similar facilities. It does not include wastewater treatment lagoons or constructed wetlands for wastewater treatment.
12. Plant Available Nitrogen (PAN) is nitrogen that will be available to plants during the growing seasons after biosolids application.
13. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
14. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
15. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
16. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RSMo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RSMo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – BIOSOLIDS OR SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR BY CONTRACT HAULER

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.
SECTION E – INCINERATION OF SLUDGE

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.

2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or, if the ash is determined to be hazardous, with 10 CSR 25.

3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.

2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
   a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
   b. Permittee shall close the lagoon in accordance with Section I.

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.

2. This permit only authorizes “Class A” or “Class B” biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.

3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.

4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
   a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
   b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
   c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
   d. Animal grazing shall not be allowed for 30 days after application of biosolids.
   e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
   f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
   g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
   h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.

5. Pollutant limits
   a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
   b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
   c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.
TABLE 1

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Milligrams per kilogram dry weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>75</td>
</tr>
<tr>
<td>Cadmium</td>
<td>85</td>
</tr>
<tr>
<td>Copper</td>
<td>4,300</td>
</tr>
<tr>
<td>Lead</td>
<td>840</td>
</tr>
<tr>
<td>Mercury</td>
<td>57</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>75</td>
</tr>
<tr>
<td>Nickel</td>
<td>420</td>
</tr>
<tr>
<td>Selenium</td>
<td>100</td>
</tr>
<tr>
<td>Zinc</td>
<td>7,500</td>
</tr>
</tbody>
</table>

d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track pollutant loading onto application sites for parameters that have exceeded the low metal concentration limits.

TABLE 2

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Milligrams per kilogram dry weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>41</td>
</tr>
<tr>
<td>Cadmium</td>
<td>39</td>
</tr>
<tr>
<td>Copper</td>
<td>1,500</td>
</tr>
<tr>
<td>Lead</td>
<td>300</td>
</tr>
<tr>
<td>Mercury</td>
<td>17</td>
</tr>
<tr>
<td>Nickel</td>
<td>420</td>
</tr>
<tr>
<td>Selenium</td>
<td>100</td>
</tr>
<tr>
<td>Zinc</td>
<td>2,800</td>
</tr>
</tbody>
</table>

e. Annual pollutant loading rate.

TABLE 3

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Kg/ha (lbs./ac) per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>2.0 (1.79)</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.9 (1.70)</td>
</tr>
<tr>
<td>Copper</td>
<td>75 (66.94)</td>
</tr>
<tr>
<td>Lead</td>
<td>15 (13.39)</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.85 (0.76)</td>
</tr>
<tr>
<td>Nickel</td>
<td>21 (18.74)</td>
</tr>
<tr>
<td>Selenium</td>
<td>5.0 (4.46)</td>
</tr>
<tr>
<td>Zinc</td>
<td>140 (124.96)</td>
</tr>
</tbody>
</table>

f. Cumulative pollutant loading rates.

TABLE 4

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Kg/ha (lbs./ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>41 (37)</td>
</tr>
<tr>
<td>Cadmium</td>
<td>39 (35)</td>
</tr>
<tr>
<td>Copper</td>
<td>1500 (1339)</td>
</tr>
<tr>
<td>Lead</td>
<td>300 (268)</td>
</tr>
<tr>
<td>Mercury</td>
<td>17 (15)</td>
</tr>
<tr>
<td>Nickel</td>
<td>420 (375)</td>
</tr>
<tr>
<td>Selenium</td>
<td>100 (89)</td>
</tr>
<tr>
<td>Zinc</td>
<td>2800 (2499)</td>
</tr>
</tbody>
</table>

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.
   a. Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.
   b. Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
   c. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop
nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

i. PAN can be determined as follows:

$$\text{PAN} = (\text{Nitrate} + \text{nitrite nitrogen}) + \text{(organic nitrogen} \times 0.2) + \text{(ammonia nitrogen} \times \text{volatilization factor})^1$$.

1 Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.

ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. NOTE: There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.

iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.

d. Buffer zones are as follows:

i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;

ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;

iii. 150 feet of dwellings or public use areas;

iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);

v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.

vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.

e. Slope limitation for application sites are as follows:

i. For slopes less than or equal to 6 percent, no rate limitation;

ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;

iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.

iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.

f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.

g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:

i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;

ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;

iii. Other best management practices approved by the Department.
SECTION H – SEPTAGE

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

SECTION I– CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
   a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
   b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
   c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
      i. PAN can be determined as follows:
         \[
         \text{PAN} = \text{Nitrate} + \text{Nitrite nitrogen} + \text{organic nitrogen x 0.2} + \text{(ammonia nitrogen x volatilization factor}).
         \]
      1 Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.
4. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are “similar treatment works” under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
   a. Testing for metals or fecal coliform is not required.
   b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
   c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
   a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate
surface water drainage without creating erosion.

b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.

c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.

8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or 1, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

<table>
<thead>
<tr>
<th>Biosolids or Sludge</th>
<th>Monitoring Frequency (See Notes 1, and 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>produced and</td>
<td>Metals, Pathogens and Vectors, Total</td>
</tr>
<tr>
<td>disposed (Dry Tons</td>
<td>Phosphorus, Total Potassium</td>
</tr>
<tr>
<td>per Year)</td>
<td>Nitrogen TKN, Nitrogen PAN¹</td>
</tr>
<tr>
<td>319 or less</td>
<td>1/year</td>
</tr>
<tr>
<td>320 to 1650</td>
<td>4/year</td>
</tr>
<tr>
<td>1651 to 16,500</td>
<td>6/year</td>
</tr>
<tr>
<td>16,501+</td>
<td>12/year</td>
</tr>
</tbody>
</table>

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

²Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pretreatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.

Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. Permittees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.

3. Additional testing may be required in the special conditions or other sections of the permit.

4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.

2. Reporting period

   a. By February 19th of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.

   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.

3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.

4. Reports shall be submitted as follows:

   a. Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day or that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:

      DNR regional or other applicable office listed in the permit (see cover letter of permit)

      ATTN: Sludge Coordinator
5. Annual report contents. The annual report shall include the following:
   a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
   b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
   c. Gallons and % solids data used to calculate the dry ton amounts.
   d. Description of any unusual operating conditions.
   e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
      i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
      ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
   f. Contract Hauler Activities:
      If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
   g. Land Application Sites:
      i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
      ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
      iii. Report the method used for compliance with pathogen and vector attraction requirements.
      iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM B: APPLICATION FOR OPERATING PERMIT FOR
FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND
HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000
GALLONS PER DAY

READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:

☐ An operating permit for a new or unpermitted facility. Construction Permit # ____________
   (Include completed antidegradation review or request for antidegradation review, see instructions)

☐ A new site-specific operating permit formerly general permit #MOG ____________

☐ A site-specific operating permit renewal: Permit #MO-______ Expiration Date __/__/20__

☐ A site-specific operating permit modification: Permit #MO-____________ Reason: ________________

☐ General permit (NON-POTWs) (MOGD – discharging < 50,000 GPD or MOG823 – Land Application of Domestic Wastewater):
   Permit #MO-__________ Expiration Date __/__/20__

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

2. FACILITY

NAME: Argyle Wastewater Treatment Facility
ADDRESS (PHYSICAL): 151 W. Argyle St.
CITY: Argyle
STATE: MO
ZIP CODE: 65601

2.1 Legal description: Sec. 15, T14N, R19W

2.2 UTM Coordinates Easting (X): __________ Northing (Y): __________
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: __________

2.4 Number of outfalls: ______ Wastewater outfalls: ______ Stormwater outfalls: ______ Instream monitoring sites: ______

3. OWNER: The owner of the regulated activity/discharge being applied for and is not necessarily the owner of the real
     property on which the activity or discharge is occurring.

NAME: Village of Argyle
ADDRESS: 151 W. Argyle St.
CITY: Argyle
STATE: MO
ZIP CODE: 65601

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

3.2 Are you a publicly owned treatment works? ☐ YES ☐ NO
   If yes, please attach the Financial Questionnaire. See:

3.3 Are you a privately owned treatment works? ☐ YES ☐ NO

3.4 Are you a privately owned treatment facility regulated by the Public Service Commission? ☑ YES ☐ NO

4. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation,
   maintenance and modernization of the facility.

NAME: Village of Argyle
ADDRESS: 151 W. Argyle St.
CITY: Argyle
STATE: MO
ZIP CODE: 65601

If the continuing authority is different than the owner, include a copy of the contract agreement between the two parties and a
description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME: Show Westcott
TITLE: Operator
CERTIFICATE NUMBER: # 3713
EMAIL ADDRESS: L.westcott@yahoo.com
TELEPHONE NUMBER WITH AREA CODE: 573-578-3549

6. FACILITY CONTACT

NAME: Chris Brandick
TITLE: Mayor
EMAIL ADDRESS: Chris-jeanbrandick@Att.net
TELEPHONE NUMBER WITH AREA CODE: 573-578-3549
ADDRESS: 5355 Hwy 7 Argyle Mo. 65601
CITY: Argyle
STATE: MO
ZIP CODE: 65601

MO 780-1512 (02-19)
8. ADDITIONAL FACILITY INFORMATION

8.1 Facility SIC code: 4952    Discharge SIC code: 4952

8.2 Number of people presently connected or population equivalent (P.E.) 150    Design P.E. 200

8.3 Connections to the facility:
Number of units presently connected:
Residential: 53    Commercial: 17    Industrial: 0

8.4 Design flow: 20,000 gpd    Actual flow: __________

8.5 Will discharge be continuous throughout the year? ☐Yes ☐No
Discharge will occur during the following months:
How many days of the week will discharge occur?

8.6 Is industrial wastewater discharged to the facility? ☐Yes ☐No
If yes, attach a list of the industries that discharge to your facility

8.7 Does the facility accept or process leachate from landfills? ☐Yes ☐No

8.8 Is wastewater land applied? ☐Yes ☐No
If yes, attach Form I. See:

8.9 Does the facility discharge to a losing stream or sinkhole? ☐Yes ☐No

8.10 Has a wasteload allocation study been completed for this facility? ☐Yes ☐No

9. LABORATORY CONTROL INFORMATION

LABORATORY WORK CONDUCTED BY PLANT PERSONNEL

Lab work conducted outside of plant. ☐Yes ☐No
Push-button or visual methods for simple test such as pH, settleable solids. ☐Yes ☐No
Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content. ☐Yes ☐No
More advanced determinations such as BOD seeding procedures, fecal coliform/E. coli, nutrients (including Ammonia), Oil & Grease, total oils, phenols, etc. ☐Yes ☐No
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph. ☐Yes ☐No

10. COLLECTION SYSTEM

10.1 Are there any municipal satellite collection systems connected to this facility? ☐Yes ☐No
If yes, please list all connected to this facility, contact phone number and length of each collection system

<table>
<thead>
<tr>
<th>FACILITY NAME</th>
<th>CONTACT PHONE NUMBER</th>
<th>LENGTH OF SYSTEM (FEET OR MILES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10.2 Length of pipe in the sewer collection system? (If available, include totals from satellite collection systems)
12,760 Feet, or ________ Miles (either unit is appropriate)

10.3 Does significant infiltration occur in the collection system? ☐Yes ☐No
If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:
7. DESCRIPTION OF FACILITY

7.1 Process Flow Diagram or Schematic: Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents, and outfalls. Specify where samples are taken. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram. Attach sheets as necessary.

7.2 Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall. Please see the following website:
11. BYPASSING
Does any bypassing occur in the collection system or at the treatment facility?  □ Yes  □ No
If yes, explain:

12. SLUDGE HANDLING, USE AND DISPOSAL

12.1 Is the sludge a hazardous waste as defined by 10 CSR 25?  □ Yes  □ No

12.2 Sludge production, including sludge received from others:  □ Design dry tons/year  □ Actual dry tons/year

12.3 Capacity of sludge holding structures:
Sludge storage provided:  □ Yes  □ No
□ No sludge storage is provided.  □ Sludge is stored in lagoon.

12.4 Type of Storage:  □ Holding tank  □ Building  □ Basin  □ Lagoon  □ Concrete Pad  □ Other (Describe)

12.5 Sludge Treatment:
□ Anaerobic Digester  □ Lagoon  □ Composting
□ Storage Tank  □ Aerobic Digester  □ Other (Attach description)
□ Lime Stabilization  □ Air or Heat Drying

12.6 Sludge Use or Disposal:
□ Land Application  □ Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
□ Contract Hauler  □ Hauled to Another treatment facility
□ Incineration  □ Sludge Retained in Wastewater treatment lagoon
□ Solid waste landfill

12.7 Person responsible for hauling sludge to disposal facility:
□ By applicant  □ By others (complete below)

NAME  EMAIL ADDRESS
ADDRESS  CITY  STATE  ZIP CODE
CONTACT PERSON  TELEPHONE NUMBER WITH AREA CODE  PERMIT NO.

12.8 Sludge use or disposal facility
□ By applicant  □ By others (Complete below.)

NAME  EMAIL ADDRESS
ADDRESS  CITY  STATE  ZIP CODE
CONTACT PERSON  TELEPHONE NUMBER WITH AREA CODE  PERMIT NO.

12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?
□ Yes  □ No  (Explain)
13. 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 complete the eDMR Registration by clicking on the following link:

- 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.

14. JETPAY

Permit fees may be payed online by credit card or eCheck through a system called JetPay. Use the URL provided to access JetPay and make an online payment.

- New Site Specific Permit:
- Construction Permits:
- Modification Fee:
- New General Domestic WW:

15. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

<table>
<thead>
<tr>
<th>NAME</th>
<th>OFFICIAL TITLE</th>
<th>TELEPHONE NUMBER WITH AREA CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris Brundick</td>
<td>Mayor</td>
<td>573-690-5289</td>
</tr>
</tbody>
</table>

Signature: [Signature]

DATE SIGNED: April 9, 2020
INSTRUCTIONS FOR COMPLETING FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES
THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW
LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY
(Facilities over 100,000 gallons per day of domestic waste must use FORM B2)
(Facilities that receive wastes other than domestic contact the department)

1. Check the appropriate box. Do not check more than one item. Operating permit refers to a permit issued by the
Department of Natural Resources’ Water Protection Program. If an Antidegradation Review has not been conducted, submit
the application located at the following link to the Missouri Department of Natural Resources, Water Protection Program, P.O.
Box 176, Jefferson City, MO 65102:

1.1 Fees Information:
DOMESTIC OPERATING PERMIT FEES – PRIVATE
Annual operating permit fees are based on flow.

<table>
<thead>
<tr>
<th>Annual fee/Design flow</th>
<th>Annual fee/Design flow</th>
<th>Annual fee/Design flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>$150 .............&lt;5,000 gpd</td>
<td>$1,000...........15,000-24,999 gpd</td>
<td>$4,000..........100,000-249,999 gpd</td>
</tr>
<tr>
<td>$300 ............5,000-9,999 gpd</td>
<td>$1,500........25,000-29,999 gpd</td>
<td>$5,000........250,000 gpd</td>
</tr>
<tr>
<td>$600 ...........10,000-14,999 gpd</td>
<td>$3,000........30,000-99,999 gpd</td>
<td>$10,000........100,000-249,999 gpd</td>
</tr>
</tbody>
</table>

New domestic wastewater treatment facilities must submit the annual fee with the original application.

If the application is for a site-specific permit re-issuance, send no fees. You will be invoiced separately by the
department on the anniversary date of the original permit. Permit fees must be current for the department to reissue the
operating permit. Late fees of two percent per month are charged and added to outstanding annual fees.

PUBLIC SEWER SYSTEM OPERATING PERMIT FEES (city, public sewer district, public water district, or other publicly
owned treatment works). Annual fee is based on number of service connections. Fees listings are found in 10 CSR 20-6.011 which is available at . New public sewer
system facilities should not submit any fee as the department will invoice the permittee.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

a. Publicly Owned Treatment Works (POTWs) - $200 each.
b. Non-POTWs – $100 each for a minor modification (name changes, address changes, other non-substantive
changes) or a fee equal to 25% of the facility’s annual operating fee for a major modification.

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

2.1 Self-explanatory

2.2 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, use a mapping
system to approximate the coordinates; the department’s mapping system is available at

2.3-2.4 Self-explanatory

3. Owner – Provide the legal name, mailing address, phone number, and email address of the owner. The owner identified in this
section and subsequently reflected on the certificate page of the operating permit, is the owner of the regulated
activity/discharge being applied for and is not necessarily the owner of the real property on which the activity or discharge is
occurring.

Prior to submitting a permit to public notice, the Department of Natural Resources shall provide the permit applicant 10 days to
review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may
waive the opportunity to review draft permits prior to public notice.

3.2-3.4 Self-explanatory. The Financial Questionnaire is available at:

4. Continuing Authority - A continuing authority is a company, business, entity or person(s) that will be operating the facility
and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is
contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified
operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2),
please visit . If the continuing authority is not an
individual(s), government, or otherwise required to register with the Missouri Secretary of State (SoS), then the business name
must be listed exactly as it appears on the SoS’s webpage:

5. Operator – Provide the name, certificate number, title, mailing address, primary phone number, and e-mail address of the
operator of the facility.

6. Provide the name, title, mailing address, primary phone number, and e-mail address 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.
INSTRUCTIONS: The following forms must be submitted with Form I: FORM B or B2 for domestic wastewater. FORM A for industrial wastewater.

1. FACILITY INFORMATION

1.1 Facility Name

1.2 Permit Number

1.3 Type of wastewater to be irrigated:  
- Domestic  
- Municipal  
- State/National Park  
- Seasonal business  
- Municipal with Pretreatment Program or Significant Industrial Users  
- Other (explain) ____________

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

1.4 Months when the business or enterprise will operate or generate wastewater:

- 12 months per year  
- Part of year (list Months): ____________

1.5 This system is designed for:

- No-discharge  
- Partial irrigation when feasible and discharge rest of time.  
- Irrigation during recreation season (April – October) and discharge during November – March.  
- Other (explain) ____________

1.6 List the Facility outfalls which will be applicable to the irrigation system.

Outfall Numbers: ____________

2. STORAGE BASINS

2.1 Number of storage basins:

Type of basin:  
- Steel  
- Concrete  
- Fiberglass  
- Earthen  
- Earthen with membrane liner

3. LAND APPLICATION SYSTEM

3.1 Number of irrigation sites ____________  

Total Acres ____________

Location: ____________  
- Sec ____________  
- T ____________  
- R ____________  
- County ____________  

Attach pages as needed.

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

3.3 Type of vegetation:  
- Grass hay  
- Pasture  
- Timber  
- Row crops  
- Other (describe) ____________

3.4 Wastewater flow (dry weather) gallons/day:

Average annual: ____________  

Seasonal ____________  

Off-season ____________  

Months of seasonal flow: ____________
3. LAND APPLICATION SYSTEM (continued)

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

<table>
<thead>
<tr>
<th>Design</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design: 17.9 inches/year</td>
<td>4.9 inches/year</td>
</tr>
<tr>
<td>in. /hour</td>
<td>0.054 in. /hour</td>
</tr>
<tr>
<td>in. /day</td>
<td>0.013 in. /day</td>
</tr>
<tr>
<td>Total Irrigation per year (gallons):</td>
<td>Design Actual</td>
</tr>
</tbody>
</table>

Actual irrigation months used for irrigation (check all that apply):
- Jan
- Feb
- Mar
- Apr
- May
- Jun
- Jul
- Aug
- Sep
- Oct
- Nov
- Dec

3.6 Land Application Rate is based on:
- Nutrient Management Plan (N&P)
- Hydraulic Loading
- Other (describe)

3.7 Equipment type:
- □ Sprinklers
- □ Gated pipe
- □ Center pivot
- □ Traveling gun
- □ Other (describe)

Equipment Flow Capacity: _______ Gallons per hour _______ Total hours of operation per year

3.8 Public Use Areas. Public access shall not be allowed to public use area irrigation sites when application is occurring. Method of Public Access Restriction:
- □ Site is Fenced
- □ Wastewater disinfection prior to irrigation
- □ Site is not for public use
- □ Other (describe):

3.9 Separation distance (in feet) from the outside edge of the wetted irrigation area to nearby down gradient features:
- 100' Permanent flowing stream
- 100' Losing Stream
- 100' Intermittent (wet weather) stream
- 50' Lake or pond
- 50' Property boundary
- 2600' Dwellings
- 2600' Water supply well
- 100' Other (describe)

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

Date of O&M Plan: ___________ Dec __________

4. CERTIFICATION

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

Owner or Authorized Representative: Chris Brundick

Official Title: Mayor

Email Address: chris.jeanbrundick@Att.net

Telephone Number with Area Code: 573-690-5287

Signature: Chris Brundick

Date Signed: 4/14/2020