BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company for a Certificate of Convenience and Necessity Authorizing it to Install, Own, Acquire, Construct, Operate, Control, Manage and Maintain a Water System and Sewer System in and around the City of Ironton, Missouri	)))))))	**File Nos. WA-2023- 0434**

STATUS REPORT

COMES NOW Missouri-American Water Company ("MAWC") and for its *Status Report* states as follows to the Missouri Public Service Commission ("Commission"):

1. On November 8, 2023, the Commission issued its *Order Approving Transfer of Assets and Granting Certificate of Convenience and Necessity* (the "Order"). The Order authorized MAWC to purchase the water and sewer utility assets of the City of Ironton, Missouri ("Ironton"), and granted MAWC a Certificate of Convenience and Necessity to install, own, acquire, construct, operate, control, manage and maintain water and sewer systems for the public in an area in an around Ironton, Missouri.

2. The closing contemplated by the Order was completed on December 13, 2023. MAWC filed a Notice of Closing on December 14, 2023.

3. MAWC filed a Notice of Completion related to post-closing requirements 3.l, 3.o, 3.p and 3.q on on February 12, 2024.

4. MAWC filed a Notice of Filing and Request for Extension and Request for Waiver on March 12, 2024, which included the filing of post-closing requirements 3.f.1 and 3.f.3. The Order approving the Notice of Filing and Request for Extension and Request for Waiver was approved on March 18, 2024.

5. MAWC filed a Notice of Filing on July 25, 2024, which included the following agreements: Agreement for Emergency Interconnection between Missouri-American Water Company and the City of Pilot Knob and Wastewater Treatment Agreement between Missouri-American Water Company and the City of Pilot Knob.

6. On September 23, 2024, MAWC requested as extension for the completion of post-closing requirement 3.g. in the Order, which stated as follows:

> MAWC shall file a status report in EFIS within one year of closing on the Ironton assets, documenting that all necessary repairs have been completed to enable the hay field to be properly utilized for land application (such as repairing the valve(s) to and sprinkler heads in the field)

7. The Commission subsequently granted MAWC an extension of up to one year, up to and including December 13, 2025, to file a status report documenting the repair.

8. The Order further contained condition 3.h., which stated:

> Within four years of closing on the Ironton assets, MAWC shall file a status report in EFIS documenting that all the necessary repairs, upgrades and/or maintenance to the wastewater facility has been completed so that: (a) the facility meets all Missouri State Operating Permit limits and/or becomes a no discharge system, and (b), no longer cause pollution of the receiving stream. MAWC shall file the Abatement Order of Consent (AOC), once it has been issued by MDNR, and the requirements, as defined within that document, will be reported in this matter through the period the AOC is in effect

9. As an update to these matters, MAWC provides this Status Report.

10. MAWC has worked in cooperation with the Missouri Department of Revenue ("MDNR") on an Administrative Order of Consent ("AOC"). The MDNR has approved the AOC and the Company understands MDNR is in the process of finalizing the document. There is also a newly issued permit for MO-0026514 (Ironton WWTF) (**Appendix A**). The permit was effective on November 1, 2025, and the "Feature #004 – Irrigation Field" was classified as "Inactive".

11. The repairs referenced in section 3.g of the Order were evaluated by MAWC and MDNR. Because of the pending AOC, a facility plan is being prepared, and it was determined that the additional irrigation field will not be included as part of the future treatment solution. The AOC defines deadlines for MAWC to report on progress.

WHEREFORE, MAWC requests the Commission consider this Status Report and issue such orders as is just and proper in the circumstances.

Respectfully submitted,

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ATTORNEYS FOR MISSOURI-AMERICAN WATER COMPANY

CERTIFICATE OF SERVICE

I do hereby certify that a true and correct copy of the foregoing document was sent by electronic mail to all counsel of record this 22nd day of June 2026.

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

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

Permit No.:	MO-0026514
Owner:	MISSOURI-AMERICAN WATER COMPANY
Address:	901 Hog Hollow Road, Chesterfield, MO 63017
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	MAWC, Ironton WWTF
Facility Address:	South terminus of Lagoon Street, Ironton, MO 63650
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

authorizes activities pursuant to the terms and conditions of this permit in accordance with the Missouri Clean Water Law and/or the National Pollutant Discharge Elimination System; it does not apply to other regulated activities.

FACILITY DESCRIPTION

See Page 2

November 1, 2025
Effective Date

October 31, 2030
Expiration Date

Heather S. Peters, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Outfall #001 – Non-POTW / PSC Regulated Facility
The use or operation of this facility shall be by or under the supervision of a Certified "C" Operator.
Bar screen / influent lift station / three-cell lagoon with aerated primary cell and two storage cells / optional irrigation system / sludge is retained in lagoon / biosolids are land applied, landfilled, or hauled to a permitted disposal facility

Design population equivalent is 3,500.
Design Flow is 760,000 gallons per day (Design Flow plus 10-year rainfall minus evaporation, does not account for I&I)
Average design flow is 400,000 gallons per day (dry weather flows).
Actual flow is 910,000 gallons per day.
Design sludge production is 70 dry tons/year.

Legal Description:	Sec. 32, T34N, R4E, Iron County
UTM Coordinates:	X=710648, Y=4164029
Receiving Stream:	Stouts Creek (P)
First Classified Stream and ID:	Stouts Creek (P) (2893)
USGS Basin & Sub-watershed No.:	(08020202-0207)

Permitted Features #002 & #003 – Optional Storage Cell 2 (South Basin) & Optional Storage Cell 3 (North Basin)

Maximum Operating Level: 1 foot of freeboard (storage basin water level in feet below the overflow level)
Storage volume (min to max water levels, in gallons): Cell 2: 14,100,000 gallons Cell 3: 10,700,000 gallons

Storage Capacity (in Days): Design for Dry weather flows: 45 days

Permitted Feature #004 – Irrigation Field (~31.2 acres located east of the lagoon) - Inactive

Legal Description:	Sec. 33, T34N, R4E, Iron County
UTM Coordinates:	X=711185, Y=4164153
Receiving Stream:	Tributary to Stouts Creek
First Classified Stream and ID:	Stouts Creek (P) (2893)
USGS Basin & Sub-watershed No.:	(08020202-0208)

Permitted Feature #005 – Arcadia Valley Golf Course (~50 acres)

Legal Description:	Sec. 4, T33N, R4E, Iron County
UTM Coordinates:	X=710821, Y=4163461
Receiving Stream:	Tributary to Stouts Creek
First Classified Stream and ID:	Stouts Creek (P) (2890)
USGS Basin & Sub-watershed No.:	(08020202-0208)

Wastewater Irrigation Design Parameters:
Irrigation volume per year: 32,585,143 gallons (based on active irrigation fields)
Irrigation areas: ~50 acres (based on active irrigation areas)
Irrigation rates: 0.3 inch/hour; 1.0 inch/day; 3.0 inches/week; 24 inches/year (Application rate is based on irrigation of secondary treated wastewater using a hydraulic loading rate)
Field slopes: less than 6% percent
Equipment type: sprinklers
Vegetation: grass land
Irrigation rate is based on: Hydraulic loading rate

Permitted Feature INF – Influent Monitoring Location – Headworks

Legal Description:	Sec. 32, T34N, R4E, Iron County
UTM Coordinates:	X=710376, Y= 4164082

Permitted Features MW1, MW2, MW3, MW4, MW5, & MW6 – Ground Water Monitoring Well for Irrigation Field – Removed

OUTFALL #001	TABLE A-1. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. In accordance with 10 CSR 20-7.031, the final effluent limitations outlined in **Table A-2** must be achieved as soon as possible but no later than **November 1,2035**. These interim effluent limitations in **Table A-1** are effective beginning **November 1, 2025** and remain in effect through **October 31, 2035**. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY TOTAL	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: M						
Flow	MGD	*		*	once/day	24 hr. estimate
Total Flow Ω	MG		*		once/month	measured
EFFLUENT PARAMETER(S)	**UNITS**	**DAILY MAXIMUM**	**WEEKLY AVERAGE**	**MONTHLY AVERAGE**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Biochemical Oxygen Demand$_5$	mg/L		45	30	once/week	composite**
Total Suspended Solids	mg/L		110	70	once/week	composite**
E. coli (**Note 1**)	#/100mL	1,030		206	once/week	grab
Ammonia as N (January)	mg/L	10.6		5.3	once/week	composite**
Ammonia as N (February)	mg/L	10.6		5.3	once/week	composite**
Ammonia as N (March)	mg/L	10.6		5.3	once/week	composite**
Ammonia as N (April)	mg/L	10.6		5.3	once/week	composite**
Ammonia as N (May)	mg/L	5.0		2.5	once/week	composite**
Ammonia as N (June)	mg/L	5.0		2.5	once/week	composite**
Ammonia as N (July)	mg/L	5.0		2.5	once/week	composite**
Ammonia as N (August)	mg/L	5.0		2.5	once/week	composite**
Ammonia as N (September)	mg/L	5.0		2.5	once/week	composite**
Ammonia as N (October)	mg/L	5.0		2.5	once/week	composite**
Ammonia as N (November)	mg/L	10.6		5.3	once/week	composite**
Ammonia as N (December)	mg/L	10.6		5.3	once/week	composite**
Oil & Grease	mg/L	15		10	once/month	grab
EFFLUENT PARAMETER(S)	**UNITS**	**MINIMUM**		**MAXIMUM**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
pH – Units***	SU	6.0		9.0	once/week	grab
EFFLUENT PARAMETER(S)	**UNITS**	**DAILY MINIMUM**		**MONTHLY AVERAGE MINIMUM**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Dissolved Oxygen	mg/L	*		*	once/week	grab

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE DECEMBER 28, 2025.

* Monitoring requirement only.

** A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample.

*** pH is measured in pH units and is not to be averaged.

Ω Total flow must be measured daily, including weekends and holidays.

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.

OUTFALL #001	TABLE A-1 (continued). INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. In accordance with 10 CSR 20-7.031, the final effluent limitations outlined in **Table A-2** must be achieved as soon as possible but no later than **November 1, 2035**. These interim effluent limitations in **Table A-1** are effective beginning **November 1, 2025** and remain in effect through **October 31, 2035**. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHY AVERAGE	MONTHLY TOTAL §	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: M						
Total Phosphorus	mg/L	*	*		once/week	composite**
Total Phosphorus	lbs.	*		*	once/week	calculated
Total Kjeldahl Nitrogen	mg/L	*	*		once/week	composite**
Total Kjeldahl Nitrogen	lbs.	*		*	once/week	calculated
Nitrate + Nitrite	mg/L	*	*		once/week	composite**
Nitrate + Nitrite	lbs.	*		*	once/week	calculated
Total Nitrogen (**Note 2**)	mg/L	*	*		once/week	calculated
Total Nitrogen (**Note 2**)	lbs.	*		*	once/week	calculated
MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE DECEMBER 28, 2025.						
eDMR Limit Set: A						
EFFLUENT PARAMETER(S)	**UNITS**	**ANNUAL AVERAGE ¥**		**ANNUAL TOTAL Φ**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Total Phosphorus	mg/L	*			once/year	calculated
Total Phosphorus	lbs.			*	once/year	calculated
Total Kjeldahl Nitrogen	mg/L	*			once/year	calculated
Total Kjeldahl Nitrogen	lbs.			*	once/year	calculated
Nitrate + Nitrite	mg/L	*			once/year	calculated
Nitrate + Nitrite	lbs.			*	once/year	calculated
Total Nitrogen (**Note 2**)	mg/L	*			once/year	calculated
Total Nitrogen (**Note 2**)	lbs.			*	once/year	calculated
MONITORING REPORTS SHALL BE SUBMITTED **ANNUALLY**; THE FIRST REPORT IS DUE JANUARY 28, 2026.						

* Monitoring requirement only.

§ - The facility shall calculate pounds per month by using the monthly average concentration in mg/L multiplied by 8.34 and multiplied by the total monthly flow in Million Gallons.

¥ - Annual Average is calculated as the average of the 12 calendar months (January 1st through December 31st) of weekly samples in mg/L.

Φ - Annual Total is calculated as the sum of the 12 calendar months (January 1st through December 31st) of monthly samples in pounds (lbs.).

Note 2 – Total Nitrogen is calculated as; TN = Total Kjeldahl Nitrogen + Nitrate+Nitrite.

OUTFALL #001	TABLE A-2. 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-2** shall become effective on **November 1, 2035** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY TOTAL	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: M						
Flow	MGD	*		*	once/day	24 hr. estimate
Total Flow Ω	MG		*		once/month	measured
EFFLUENT PARAMETER(S)	**UNITS**	**DAILY MAXIMUM**	**WEEKLY AVERAGE**	**MONTHLY AVERAGE**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Biochemical Oxygen Demand$_5$	mg/L		15	10	once/week	composite**
Total Suspended Solids	mg/L		45	30	once/week	composite**
E. coli (**Note 1**)	#/100mL	1,030		206	once/week	grab
Ammonia as N (January)	mg/L	4.4		2.2	once/week	composite**
Ammonia as N (February)	mg/L	4.4		2.2	once/week	composite**
Ammonia as N (March)	mg/L	4.4		2.2	once/week	composite**
Ammonia as N (April)	mg/L	2.0		1.0	once/week	composite**
Ammonia as N (May)	mg/L	2.0		1.0	once/week	composite**
Ammonia as N (June)	mg/L	2.0		1.0	once/week	composite**
Ammonia as N (July)	mg/L	2.0		1.0	once/week	composite**
Ammonia as N (August)	mg/L	2.0		1.0	once/week	composite**
Ammonia as N (September)	mg/L	2.0		1.0	once/week	composite**
Ammonia as N (October)	mg/L	4.4		2.2	once/week	composite**
Ammonia as N (November)	mg/L	4.4		2.2	once/week	composite**
Ammonia as N (December)	mg/L	4.4		2.2	once/week	composite**
Oil & Grease	mg/L	15		10	once/month	grab
EFFLUENT PARAMETER(S)	**UNITS**	**MINIMUM**		**MAXIMUM**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
pH – Units***	SU	6.0		9.0	once/week	grab
EFFLUENT PARAMETER(S)	**UNITS**	**DAILY MINIMUM**		**MONTHLY AVERAGE MINIMUM**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Dissolved Oxygen	mg/L	6.5		6.5	once/week	grab

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE DECEMBER 28, 2035.

* Monitoring requirement only.

** A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample.

*** pH is measured in pH units and is not to be averaged.

Ω Total flow must be measured daily, including weekends and holidays.

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.

OUTFALL #001	TABLE A-2 (continued). 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-2** shall become effective on **November 1, 2035** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHY AVERAGE	MONTHLY TOTAL §	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: M						
Total Phosphorus	mg/L	*	*		once/week	composite**
Total Phosphorus	lbs.	9.7		*	once/week	calculated
Total Kjeldahl Nitrogen (Apr 1 – Oct 31)	mg/L	*	*		once/week	composite**
Total Kjeldahl Nitrogen (Apr 1 – Oct 31)	lbs.	9.7		*	once/week	calculated
Total Kjeldahl Nitrogen (Nov 1 – Mar 31)	mg/L	*	*		once/week	composite**
Total Kjeldahl Nitrogen (Nov 1 – Mar 31)	lbs.	17.4		*	once/week	calculated
Nitrate + Nitrite	mg/L	*	*		once/week	composite**
Nitrate + Nitrite	lbs.	129.2		*	once/week	calculated
Total Nitrogen (Apr 1 – Oct 31) (**Note 2**)	mg/L	*	*		once/week	calculated
Total Nitrogen (Apr 1 – Oct 31) (**Note 2**)	lbs.	138.9		*	once/week	calculated
Total Nitrogen (Nov 1 – Mar 31) (**Note 2**)	mg/L	*	*		once/week	calculated
Total Nitrogen (Nov 1 – Mar 31) (**Note 2**)	lbs.	146.6			once/week	calculated
MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE DECEMBER 28, 2035.						
eDMR Limit Set: A						
EFFLUENT PARAMETER(S)	**UNITS**	**ANNUAL AVERAGE ¥**		**ANNUAL TOTAL Φ**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Total Phosphorus	mg/L	*			once/year	calculated
Total Phosphorus	lbs.			3,536.5	once/year	calculated
Total Kjeldahl Nitrogen	mg/L	*			once/year	calculated
Total Kjeldahl Nitrogen	lbs.			4,947	once/year	calculated
Nitrate + Nitrite	mg/L	*			once/year	calculated
Nitrate + Nitrite	lbs.			47,153	once/year	calculated
Total Nitrogen (**Note 2**)	mg/L	*			once/year	calculated
Total Nitrogen (**Note 2**)	lbs.			52,100	once/year	calculated
MONITORING REPORTS SHALL BE SUBMITTED **ANNUALLY**; THE FIRST REPORT IS DUE JANUARY 28, 2036.						

* Monitoring requirement only.

** A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample.

Note 2 – Total Nitrogen is calculated as; TN = Total Kjeldahl Nitrogen + Nitrate+Nitrite.

PERMITTED FEATURES #002 & #003	TABLE B-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 **November 1, 2025** 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:

STORAGE BASIN PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY TOTAL	WEEKLY TOTAL	MONTHLY TOTAL	MEASUREMENT FREQUENCY	SAMPLE TYPE
Limit Set: OM						
Storage Basin Freeboard****	feet	*			once/month	measured
Precipitation	inches	*		*	daily	total

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE DECEMBER 28, 2025.

PERMITTED FEATURE #005	TABLE C-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 **November 1, 2025** and remain in effect until expiration of the permit. The irrigation of wastewater shall be controlled, limited, and monitored by the permittee as specified below:

IRRIGATION OPERATIONAL MONITORING PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY TOTAL	WEEKLY TOTAL	MONTHLY TOTAL	MEASUREMENT FREQUENCY	SAMPLE TYPE
Limit Set: LW						
Irrigation Period	hours	*		*	daily	total
Volume Irrigated	gallons	*		*	daily	total
Irrigation Area	acres	*		*	daily	total
Irrigation Rate	inches	*		*	daily	total
E. coli *****	#/100mL	126			once/week	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE DECEMBER 28, 2025.

* Monitoring requirement only.

**** Storage Basin Freeboard shall be reported as storage basin water level in feet below the overflow level ,for each storage cell.

***** Wastewater that is irrigated shall be sampled at the irrigation pump or wet well. Required only for irrigation to public use areas. Report as, “Not Applicable” if irrigation does not occur to public use areas during the report period.

§ - The facility shall calculate pounds per month by using the monthly average concentration in mg/L multiplied by 8.34 and multiplied by the total monthly flow in Million Gallons.

¥ - Annual Average is calculated as the average of the 12 calendar months (January 1st through December 31st) of weekly samples in mg/L.

Φ - Annual Total is calculated as the sum of the 12 calendar months (January 1st through December 31st) of monthly samples in pounds (lbs.).

PERMITTED FEATURE INF	TABLE D-1. INFLUENT MONITORING REQUIREMENTS

The monitoring requirements in **Table D-1** shall become effective on **November 1, 2025** and remain in effect until expiration of the permit. The influent wastewater shall be monitored by the permittee as specified below:

PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: IM						
Ammonia as N	mg/L	*		*	once/month	composite**
Total Phosphorus	mg/L	*		*	once/month	composite**
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	composite**
Nitrite + Nitrate	mg/L	*		*	once/month	composite**

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE DECEMBER 28, 2025.

* Monitoring requirement only.

** A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample.

E. SCHEDULE OF COMPLIANCE

The facility shall attain compliance with final effluent limitations as soon as possible but in no case later than **ten (10) years** of the effective date of this permit.

1. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from the effective date of this permit.

2. Within **ten (10) years** of the effective date of this permit, the permittee shall attain compliance with the final effluent limits for Biochemical Oxygen Demand$_5$, Total Suspended Solids, Dissolved Oxygen, Ammonia, Total Phosphorus, Total Kjeldahl Nitrogen, Nitrate+Nitrite, and Total Nitrogen.

Please submit progress reports to the Missouri Department of Natural Resources via the Electronic Discharge Monitoring Report (eDMR) Submission System.

F. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I & III standard conditions dated August 1, 2014, and August 1, 2019, and hereby incorporated as though fully set forth herein. Annual reports required per Standard Conditions Part III Section K shall be submitted online to the department via the department's eDMR system as an attachment. This supersedes Standard Conditions Part III Section K #4. EPA reports shall continue to be submitted online via the Central Data Exchange system.

G. SPECIAL CONDITIONS

1. 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. All reports uploaded into the system shall be reasonably named so they are easily identifiable, such as "WET Test Chronic Outfall 002 Jan 2023," or "Outfall 004 Daily Data Mar 2025."
   (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. 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. 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,

G. SPECIAL CONDITIONS (continued)

(b) 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.
(c) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://apps5.mo.gov/mogems/welcome.action. If you experience difficulties with using the eDMR system you may contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082 for assistance.
(d) 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. The department will either approve or deny this electronic reporting waiver request within 120 calendar days.

2. 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 §644.051.15 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.

3. All outfalls must be clearly marked in the field.

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

5. 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) See sufficiently sensitive test method requirements in Standard Conditions Part I, Section A, No. 4 regarding proper testing and method minimum levels used for sample analysis.
   (c) The permittee shall not report a sample result as "Non-Detect" without also reporting the method minimum level of the test. Reporting as "Non Detect" without also including the method minimum level, will be considered failure to report, which is a violation of this permit.
   (d) The permittee shall provide the "Non-Detect" sample result using the less than symbol and the method minimum level (e.g., <50 µg/L, if the method minimum level for the parameter is 50 µg/L).
   (e) Where the permit contains a department determined Minimum Quantification 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.
   (f) For the daily maximum, the facility shall report the highest value. If the highest value was a non-detect, use the less than "<" symbol and the laboratory's highest method minimum level.
   (g) For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.
   (h) For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of "0" for all non-detects for that reporting period and report the average of all the results.
   (i) When *E. coli* is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means.
   (j) See the Fact Sheet Appendix - Non-Detect Example Calculations for further guidance.

6. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. To request a modification of the operational control testing requirements listed in 10 CSR 20-9, the permittee shall submit a permit modification application and fee to the department requesting a deviation from the operational control monitoring requirements. Upon approval of the request, the department will modify the permit.

G. SPECIAL CONDITIONS (continued)

7. The permittee shall develop and implement a program for maintenance and repair of its collection system by (**effective date + 1 year**). 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 permittee may choose to use the annual report form available at https://dnr.mo.gov/document-search/annual-inflow-infiltration-report-mo-780-2690. The report shall contain the following information:
   (a) A summary of the efforts to locate and eliminate specific 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.

8. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance with 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2. Bypasses are to be reported within 24 hours of discovery of the bypass to the Southeast Regional Office during normal business hours or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours, and by using the online Sanitary Sewer Overflow / Bypass Reporting Application through the Missouri Gateway for Environmental Management (MoGEM) located at: https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem. All bypasses must be reported electronically via MoGEM. Blending, which is the practice of combining a partially treated wastewater process stream with a fully treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.

9. The facility must be sufficiently secured to restrict entry by children, livestock, and unauthorized persons as well as to protect the facility from vandalism. This includes any associated wastewater irrigation locations and equipment.

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

11. An all-weather access road to the treatment facility shall be maintained.

12. The outfall sewer shall be protected and maintained against the effects of floodwater, ice, or other hazards as to reasonably ensure 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.

13. The lagoon shall be operated and maintained to ensure their structural integrity, which includes maintaining adequate freeboard and keeping the berms free of deep-rooted vegetation, animal dens, or other potential sources of damage.

14. The facility shall ensure that adequate provisions are provided to prevent or minimize surface water intrusion into the lagoon and to divert stormwater runoff around the lagoon and protect embankments from erosion.

15. Wastewater Irrigation System.
   (a) Storage Basin Operating Levels. The minimum and maximum operating water levels for the storage basins shall be clearly marked in each of the storage basins. Wastewater should be irrigated whenever feasible based on soil, weather conditions, and permit requirements.
   (b) Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm.
   (c) General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site. If the facility determines that nighttime irrigation is needed, the facility shall submit a nighttime irrigation plan to the department's Water Protection Program for review and approval. Nighttime irrigation shall only occur when the department has approved the nighttime irrigation plan.
   (d) Saturated/Frozen Conditions. There shall be no surface irrigation during ground frost; frozen, snow-covered, or saturated soil conditions; or when precipitation is imminent or occurring.

G. SPECIAL CONDITIONS (continued)

(e) Slope Restrictions. Wastewater irrigation on slopes exceeding 10%, the hourly irrigation rate shall not exceed one-half (1/2) the design sustained permeability and in no case shall exceed one-half (1/2) inch per hour.
(f) Set Backs. There shall be no irrigation within:
(1) 150 feet of dwelling or public use areas, except those public use areas already approved by this permit;
(2) 50 feet of the property line or public road;
(3) 300 feet of any sinkhole, losing stream, or any other feature that may provide a connection to the ground water table and the surface;
(4) 300 feet from any existing potable water supply well not located on the property;
(5) 100 feet of any gaining streams (classified or unclassified; perennial or intermittent), wetlands, ponds, or lakes. As a compliance alternative a 35-foot vegetative buffer that is permanently covered with perennial vegetation may be substituted for the 100-foot set-back requirement; and
(6) If an established vegetated buffer or the wastewater is disinfected, the setbacks established in subsections (1)-(5) above may be decreased if the permittee demonstrates the risk is mitigated.
(g) Public Access Restrictions. Public access shall not be allowed to public-use-area surface irrigation sites when irrigation is occurring.
(h) Grazing and Harvesting of Forage Crops Restrictions. Grazing of animals shall be deferred as per the following:
(1) From May 1 to October 31, the minimum deferment from grazing or forage harvesting shall be 14 days.
(2) From November 1 to April 30, the minimum deferment from grazing or forage harvesting shall be 30 days.
(i) Irrigated Wastewater Disinfection. Wastewater shall be disinfected prior to irrigation (not storage) to public-use-areas.
(j) Agronomic Irrigation Rates. Wastewater irrigation shall not exceed agronomic rates to ensure agricultural use of nutrients and prevent contamination of surface and groundwater. The agronomic rate is the amount of wastewater applied to a field to meet the fertilizer recommendation.
(k) Equipment Checks during Irrigation. The irrigation system, including application sites, shall be visually inspected during periods of wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site. Inspections shall occur at least twice per day for surface irrigation.

16. Wastewater irrigation records shall be maintained and summarized into an annual operating report for the previous calendar year. This annual report is in addition to the reporting requirements listed in Table B-1 and Table C-1 and the report shall be kept onsite and made available to department personnel upon request. The summarized annual report shall include the following:
(a) Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year; and
(b) A summary of the irrigation operations for the year including: the number of days of irrigation, the total gallons irrigated, the total acres used, the irrigation rate in inches for the year, and the annual precipitation received at the facility.

17. 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 wastewater treatment facility and wastewater irrigation systems, including key operating procedures, aerial or topographic site maps with the outfalls, permitted features, irrigation fields, and irrigation buffer zones marked, and a brief summary of the operation of the facility. The O&M manual shall be made available to the operator and shall be reviewed and updated at least every five years or when there is a change in treatment type, equipment or irrigation sites.

18. Wastewater Irrigation Sites. To add additional irrigation sites, activate inactive 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.

19. Renewal Application Requirements.
(a) This facility shall submit an appropriate and complete application to the department no less than 180 days prior to the expiration date listed on Page 1 of the permit.
(b) Application materials shall include a completed Form B2.
(1) For Part B2, Additional Application Information #14 Effluent Testing Data, the permittee shall submit at a minimum, effluent testing data based on at least three samples for each outfall through which effluent is discharged. The samples must be no more than four and one-half years apart.
i. Sufficiently sensitive analytical methods must be used. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed

G. SPECIAL CONDITIONS (continued)

is sufficiently sensitive. 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.

(2) For Part F, Industrial User Discharges and RCRA/CERCLA Wastes, if the treatment works accepts process wastewater from any significant industrial users, also known as SIUs, or receives a RCRA or CERCLA wastes, the permittee shall complete the applicable portions of #20, #21, #22, and/or #23 for each SIU and/or remedial waste accepted.

i. SIUs are defined as:

1. All Categorical Industrial Users, or CIUs, subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations 403.6 and 40 Code of Federal Regulations 403.6 and 40 CFR Chapter 1, Subchapter N.
2. Any other industrial user that meets one or more of the following:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
   b. Contributes a process waste stream that makes up 5% or more of the average dry weather hydraulic or organic capacity of the treatment plant.
   c. Is designated as an SIU by the control authority.
   d. Is otherwise required by the permitting authority to provide the information.

(c) Application materials shall include a completed Form I.

H. 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 §621.250 and §644.051.12 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

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0026514
IRONTON 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" §644, RSMo, 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.

Part I – Facility Information

Application Date: 02/08/2012 12/18/2023 (revised)
Expiration Date: 02/08/2012

Facility Type and Description: Non – POTW / PSC Regulated Facility - Bar screen / influent lift station / three-cell lagoon with aerated primary cell and two storage cells / optional irrigation system / sludge is retained in lagoon / biosolids are land applied, landfilled, or hauled to a permitted disposal facility

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.6189	Equivalent to Secondary	Domestic

Comments:

- Changes in this permit for Outfall #001 include the addition of Total Flow, Total Phosphorus, Total Kjeldahl Nitrogen, Nitrate+ Nitrite, Total Nitrogen, and Dissolved Oxygen; the revision of Fecal Coliform to *E. coli* and associated limits, BOD_5, TSS, Ammonia, and pH limits; and the removal of Temperature and the WET test requirements.
- Outfall #003 in the previous permit was removed and replaced with Permitted Feature #002 and Permitted Feature #003. Parameters from Outfall #003 were revised to move part of the parameters to Permitted Feature #002 and Permitted Feature #003, and part to Permitted Feature #005. Changes in this permit for Permitted Feature #002 and #003 include the addition of Freeboard and Precipitation.
- Permitted Feature #004 (previously Outfall #002) was inactivated in this permit as the irrigation system is currently unusable. All monitoring requirements were removed due to the inactivation.
- Changes in this permit for Permitted Feature #005 include the addition of Irrigation Period, Volume Irrigated, Irrigation Area, Irrigation Rate, and *E. coli*.
- Permitted Features MW1, MW2, MW3, MW4, MW5, & MW6 were removed from the permit as the irrigation field is inactive and irrigation rates for Permitted Feature #004 (previously Outfall #002) if it were reactivated in the future, were decreased to hydraulic loading, eliminating the need for the monitoring wells.
- Changes in this permit for Permitted Feature INF include the addition of Total Phosphorus, Ammonia, Total Kjeldahl Nitrogen, and Nitrate+Nitrite, and the removal of BOD_5 and TSS.
- This permit also reflects a change in ownership from the City of Ironton to Missouri-American Water Company.

See Part II of the Fact Sheet for further information regarding the addition, revision, and removal of influent, instream, and effluent parameters.

Special conditions were updated to include the addition of inflow and infiltration reporting requirements, reporting of non-detects, bypass reporting requirements, the Electronic Discharge Monitoring Report (eDMR) Submission System, renewal application requirements condition, the revision of the annual irrigation report, the wastewater irrigation system condition, and other conditions, the removal of the general criteria condition, sludge and biosolids use condition, and WET test condition.

Part II – Effluent Limitations and Monitoring Requirements

OUTFALL #001 – MAIN FACILITY OUTFALL

Effluent limitations derived and established in the permit are based on current operations of the facility, outfall location, and receiving stream. 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.

RECEIVING STREAM INFORMATION

RECEIVING STREAM(S) TABLE: OUTFALL #001

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Stouts Creek	P	2893	AHP(WWH), WBC-B, SCR, HHP, IRR, LWP	08020202-0207	0

RECEIVING STREAM(S) TABLE: PERMITTED FEATURES #002, #003, #004, & #005 - While these permitted features are to be no discharge, a receiving stream is listed for the purposes of showing what stream would be affected in the event of a discharge.

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC
Tributary to Stouts Creek	NA	NA	General Criteria	08020202-0208
Stouts Creek	P	2893	AHP(WWH), WBC-B, SCR, HHP, IRR, LWP	

* 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)(F)].

Uses found in the receiving streams tables, above:

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

AHP = Aquatic Habitat Protection - To ensure the protection and propagation of fish, shellfish, and wildlife. AHP is further subcategorized as:

- **WWH** = Warm Water Habitat;
- **CLH** = Cool Water Habitat;
- **CDH**= Cold Water Habitat;
- **EAH** = Ephemeral Aquatic Habitat;
- **MAH** = Modified Aquatic Habitat;
- **LAH** = Limited Aquatic Habitat.

This permit uses Aquatic Life Protection effluent limitations in 10 CSR 20-7.031 Table A for all aquatic habitat designations unless otherwise specified.

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

WBC = Whole Body Contact recreation where the entire body is capable of being submerged. WBC is further subcategorized as:

- **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)(F)3. to 7.:

HHP = Human Health Protection as it relates to the consumption of fish;
IRR = Irrigation - Application of water to cropland or directly to cultivated plants that may be used for human or livestock consumption;
LWP = Livestock and wildlife protection - Maintenance of conditions in waters to support health in livestock and wildlife;
DWS = Drinking water supply;
IND = Industrial water supply

10 CSR 20-7.031(1)(F)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:

RECEIVING STREAM	LOW-FLOW VALUES (CFS)*		
	1Q10	7Q10	30Q10
Stouts Creek	0.274	0.359	0.482

* Low flow values obtained from USGS StreamStats. https://streamstats.usgs.gov/ss/. See **APPENDIX: RECEIVING STREAM LOW-FLOW VALUES**.

MIXING CONSIDERATIONS

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(a)]			ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(b)]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
0.0685	0.0875	0.1205	0.00685	0.00898	N/A

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 discharges to a 303(d) listed waterbody. Lake Killarney is listed on the 2020 Missouri 303(d) List for Chlorophyll-a.
  - o This facility is not considered to be a source of the above listed pollutant or considered to contribute to the impairment of Lake Killarney.
- ✓ This facility discharges to a 303(d) listed waterbody. Stouts Creek is listed on the 2022 Missouri 303(d) List for Dissolved Oxygen.
  - o This facility is considered to be the source of the above listed pollutant. The department conducted QUAL2K modeling for Stouts Creek. Limits from the QUAL2K model were included in this permit.
- ✓ The department conducted a stream survey on September 9, 2020, at one location near this facility: instream approximately 20 yards downstream from Outfall #001. No use designations of the receiving stream were observed to be impaired at that time.

CHANGES TO EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Monthly Total	Monthly Average	Previous Permit Limit / Frequency / Sample Type	Sampling Frequency	Reporting Frequency	Sample Type ***
Total Flow	MG	1		*		**	1/month	monthly	M
PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit / Frequency / Sample Type	Sampling Frequency	Reporting Frequency	Sample Type ***
BOD_5 - Interim	mg/L	1		45	30	grab	1/week	monthly	C
BOD_5 - Final	mg/L	6		15	10	45/30	1/week	monthly	C
TSS – Interim	mg/L	1		110	70	grab	1/week	monthly	C
TSS	mg/L	6		45	30	110/70	1/week	monthly	C
*Escherichia coli***	#/100mL	1, 3	1,030		206	Fecal 1000/ 400	1/week	monthly	G
Ammonia (January) - Final	mg/L	6	4.4		2.2	10.6/5.3	1/week	monthly	C
Ammonia (February) - Final	mg/L	6	4.4		2.2	10.6/5.3	1/week	monthly	C
Ammonia (March) - Final	mg/L	6	4.4		2.2	10.6/5.3	1/week	monthly	C
Ammonia (April) - Final	mg/L	6	2.0		1.0	10.6/5.3	1/week	monthly	C
Ammonia (May) - Final	mg/L	6	2.0		1.0	5.0/2.5	1/week	monthly	C
Ammonia (June) - Final	mg/L	6	2.0		1.0	5.0/2.5	1/week	monthly	C
Ammonia (July) - Final	mg/L	6	2.0		1.0	5.0/2.5	1/week	monthly	C
Ammonia (August) - Final	mg/L	6	2.0		1.0	5.0/2.5	1/week	monthly	C
Ammonia (September) - Final	mg/L	6	2.0		1.0	5.0/2.5	1/week	monthly	C
Ammonia (October) - Final	mg/L	6	4.4		2.2	5.0/2.5	1/week	monthly	C
Ammonia (November) - Final	mg/L	6	4.4		2.2	10.6/5.3	1/week	monthly	C
Ammonia (December) - Final	mg/L	6	4.4		2.2	10.6/5.3	1/week	monthly	C
Oil & Grease	mg/L	1, 3	15		10	weekly	1/month	quarterly	G
PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Previous Permit Limit / Frequency / Sample Type	Sampling Frequency	Reporting Frequency	Sample Type ***
pH	SU	1	6.0		9.0	≥ 6.0	1/week	monthly	G
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Avg. Min	Previous Permit Limit / Frequency / Sample Type	Sampling Frequency	Reporting Frequency	Sample Type ***
Dissolved Oxygen (Interim)	mg/L	6	*		*	**	1/week	monthly	G
Dissolved Oxygen (Final)	mg/L	6	6.5		6.5	*/*	1/week	monthly	G
PARAMETER	Unit	Basis for Limits	Daily Maximum	Monthly Average	Monthly Total	Previous Permit Limit / Frequency / Sample Type	Sampling Frequency	Reporting Frequency	Sample Type ***
Total Phosphorus (Interim)	mg/L	7	*	*		**	1/week	monthly	C
Total Phosphorus (Interim)	lbs.	7	*		*	**	1/week	monthly	M
Total Phosphorus (Final)	mg/L	8	*	*		*/*	1/week	monthly	C
Total Phosphorus (Final)	lbs.	8	9.7		*	*/*	1/week	monthly	M
Total Kjeldahl Nitrogen (Interim)	mg/L	7	*	*		**	1/week	monthly	C
Total Kjeldahl Nitrogen (Interim)	lbs.	7	*		*	**	1/week	monthly	M
Total Kjeldahl Nitrogen (Apr-Oct) (Final)	mg/L	8	*	*		*/*	1/week	monthly	C
Total Kjeldahl Nitrogen (Apr-Oct) (Final)	lbs.	8	9.7		*	*/*	1/week	monthly	M
Total Kjeldahl Nitrogen (Nov-Mar) (Final)	mg/L	8	*	*		*/*	1/week	monthly	C

CHANGES TO EFFLUENT LIMITATIONS TABLE (CONTINUED):

PARAMETER	Unit	Basis for Limits	Daily Maximum	Monthly Average	Monthly Total	Previous Permit Limit / Frequency / Sample Type	Sampling Frequency	Reporting Frequency	Sample Type ***
Total Kjeldahl Nitrogen (Nov-Mar) (Final)	lbs.	8	17.4		*	*/*	1/week	monthly	M
Nitrate+Nitrite (Interim)	mg/L	7	*	*		**	1/week	monthly	C
Nitrate+Nitrite (Interim)	lbs.	7	*		*	**	1/week	monthly	M
Nitrate+Nitrite (Final)	mg/L	8	*	*		*/*	1/week	monthly	C
Nitrate+Nitrite (Final)	lbs.	8	129.2		*	*/*	1/week	monthly	M
Total Nitrogen (Interim)	mg/L	7	*	*		**	1/week	monthly	C
Total Nitrogen (Interim)	lbs.	7	*		*	**	1/week	monthly	M
Total Nitrogen (Apr-Oct) (Final)	mg/L	8	*	*		*/*	1/week	monthly	C
Total Nitrogen (Apr-Oct) (Final)	lbs.	8	138.9		*	*/*	1/week	monthly	M
Total Nitrogen (Nov-Mar) (Final)	mg/L	8	*	*		*/*	1/week	monthly	C
Total Nitrogen (Nov-Mar) (Final)	lbs.	8	146.6		*	*/*	1/week	monthly	M
PARAMETER	Unit	Basis for Limits	Annual Average		Annual Total	Previous Permit Limit / Frequency / Sample Type	Sampling Frequency	Reporting Frequency	Sample Type ***
Total Phosphorus	mg/L	7	*			**	1/year	annually	M
Total Phosphorus (Interim)	lbs.	8			*	**	1/year	annually	M
Total Phosphorus (Final)	lbs.	8			3536.5	*	1/year	annually	M
Total Kjeldahl Nitrogen	mg/L	7	*			**	1/year	annually	M
Total Kjeldahl Nitrogen (Interim)	lbs.	8			*	**	1/year	annually	M
Total Kjeldahl Nitrogen (Final)	lbs.	8			4,947	*	1/year	annually	M
Nitrate + Nitrite	mg/L	7	*			**	1/year	annually	M
Nitrate + Nitrite (Interim)	lbs.	8			*	**	1/year	annually	M
Nitrate + Nitrite (Final)	lbs.	8			47,153	*	1/year	annually	M
Total Nitrogen	mg/L	7	*			**	1/year	annually	M
Total Nitrogen (Interim)	lbs.	8			*	**	1/year	annually	M
Total Nitrogen (Final)	lbs.	8			52,100	*	1/year	annually	M

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

*** - C = Modified composite
G = Grab
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.

- **Total Flow**. Total flow is used to ensure compliance with mass-based loading Total Phosphorus limits.

- **Biochemical Oxygen Demand (BOD_5)**. This operating permit establishes interim and final effluent limits. The interim effluent limits are retained from the previous permit. The final effluent limits are obtained from the 2021 QUAL2K Model. The below table highlights the applied effluent limits based on the most protective concentrations.

Previous Effluent Limits		2021 QUAL2K	
Weekly Average	Monthly Average	Weekly Average	Monthly Average
45	30	15	10

Yellow cells are interim effluent limits (Table A-1) and Green cells are final effluent limits (Table A-2)

  - **Biochemical Oxygen Demand (BOD_5). (Interim)**. Operating permit retains 45 mg/L as an interim Weekly Average and 30 mg/L as an interim Monthly Average. See Appendix: 2006 WQRS.

  - **Biochemical Oxygen Demand (BOD_5). (Final)**. This permit established revised effluent limits for BOD_5 of 15 mg/L as a Weekly Average and 10 mg/L as a Monthly Average from the 2021 QUAL2K Model. See Appendix: 2021 QUAL2K Table 5.

- **Total Suspended Solids (TSS)**.

Previous Effluent Limits		2021 QUAL2K	
Weekly Average	Monthly Average	Weekly Average	Monthly Average
110	70	45	30

Yellow cells are interim effluent limits (Table A-1) and Green cells are final effluent limits (Table A-2)

  - **Total Suspended Solids (TSS) (Interim)**. Operating permit retains 110 mg/L as an interim Weekly Average and 70 mg/L as an interim Monthly Average. See Appendix: 2006 WQRS.

  - **Total Suspended Solids (TSS) (Final)**. This permit established revised effluent limits for TSS of 45 mg/L as a final Weekly Average and 30 mg/L as a final Monthly Average. See Appendix: 2021 QUAL2K Table 5.

- ***Escherichia coli (E. coli)***. Monthly average of 206 per 100 mL as a geometric mean and Daily Maximum of 1,030 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 (B) designated use of the receiving stream, as per 10 CSR 20-7.015(9)(B). An effluent limit for both monthly average and daily maximum 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 = 5^{th} root of (1)(4)(6)(10)(5) = 5^{th} root of 1,200 = 4.1 #/100mL.

- **Total Ammonia Nitrogen**. This operating permit establishes final effluent limits from the 2021 QUAL2K. The below table highlights the applied effluent limits based on the most protective concentrations.

MONTH	Previous Effluent Limits		2021 QUAL2K	
	Daily Maximum	Monthly Average	Daily Maximum	Monthly Average
January	10.6	5.3	4.4	2.2
February	10.6	5.3	4.4	2.2
March	10.6	5.3	4.4	2.2
April	10.6	5.3	2.0	1.0
May	5.0	2.5	2.0	1.0
June	5.0	2.5	2.0	1.0
July	5.0	2.5	2.0	1.0
August	5.0	2.5	2.0	1.0
September	5.0	2.5	2.0	1.0
October	5.0	2.5	4.4	2.2
November	10.6	5.3	4.4	2.2
December	10.6	5.3	4.4	2.2

Yellow cells are interim effluent limits (Table A-1) and Green cells are final effluent limits (Table A-2)

  - **Total Ammonia Nitrogen (Previous final effluent limits) -** The previous final effluent limits for ammonia were based on the 2006 Water Quality Review Sheet and are retained as the interim effluent limits. See Appendix: 2006 WQRS.

  - **Total Ammonia Nitrogen (2021 QUAL2K) -** The final effluent limits for ammonia are obtained from the 2021 QUAL2K. See Appendix: 2021 QUAL2K Table 5. Table 5 of the 2021 QUAL2K provides the AML. As Ammonia has an AML and MDL, the

permit writer determined that to calculate the MDL, the AML would be multiplied by 2.0 (using the Department's 2010 Guidance for Water Quality and Antidegradation Review Assistance calculates average weekly limits by multiplying the AML by 1.5, and the Department uses a 2.0 multiplier to calculate a Daily Maximum).

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

- **Total Phosphorus, Total Kjeldahl Nitrogen, Nitrate + Nitrite, & Total Nitrogen (Interim)**. Effluent monitoring for Total Phosphorus, Total Kjeldahl Nitrogen, and Nitrate + Nitrite are required per 10 CSR 20-7.015(9)(D)8. Effluent monitoring for Total Nitrogen is required per 10 CSR 20-6.010(8)(B). Total Nitrogen is calculated as Total Kjeldahl Nitrogen + Nitrate+Nitrite.

- **Dissolved Oxygen (Table A-1 – Interim)**. Monitoring only requirements have been included in this permit to determine the level of dissolved oxygen in the effluent.

- **Dissolved Oxygen (Table A-2 – Final)**. The effluent limits for Dissolved Oxygen contained in the 2021 QUAL2K. Effluent from the Ironton WWTF shall be maintained to no less than 6.5 mg/L dissolved oxygen. See Appendix: 2021 QUAL2K Table 5.

- **Total Phosphorus (Table A-1 – Interim)**. Monitoring only requirements have been included in this permit to determine the level of Total Phosphorus in the effluent.

- **Total Phosphorus (Table A-2 – Final)**. The daily maximum limit (mass) was calculated based on the daily maximum limit (concentration) provided in the 2021 QUAL2K. In addition, due to the long-term effects of nutrients on streams, an Annual Total Limit (ATL) with a Monthly Total monitoring only requirement has been applied, calculated using the daily maximum limit (mass). See Appendix: 2021 QUAL2K Table 5.

  MDL (concentration) **= 1.5 mg/L**
  MDL (load) **= MDL (concentration) x 8.34541126 x Actual flow (calculated at time of model, MGD)**
  MDL (load) **= 1.5 mg/L x 8.34541126 x 0.774 = 9.689 lbs. = 9.7 lbs.**

  ATL (load) = MDL (load) x 365 days
  ATL (load) = 9.689 lbs. x 365 days = **3,536.5 lbs.**

- **Total Kjeldahl Nitrogen (Table A-1 – Interim)**. Monitoring only requirements have been included in this permit to determine the level of Total Kjeldahl Nitrogen in the effluent.

- **Total Kjeldahl Nitrogen (Table A-2 – Final)**. The daily maximum limits (mass) were calculated based on the seasonal daily maximum limits (concentration) provided in the 2021 QUAL2K. In addition, due to the long-term effects of nutrients on streams, Annual Total Limit (ATL) with a Monthly Total monitoring only requirement has been applied, calculated using the daily maximum limit (mass). See Appendix: 2021 QUAL2K Table 5.

  Summer
  MDL (concentration) **= 1.5 mg/L**
  MDL (load) **=** MDL (concentration) x 8.34541126 x Actual flow (calculated at time of model, MGD)
  MDL (load) **=** 1.5 mg/L x 8.34541126 x 0.774 **= 9.689 lbs. = 9.7 lbs.**

  Winter
  MDL (concentration) **= 2.7 mg/L**
  MDL (load) **=** MDL (concentration) x 8.34541126 x Actual flow (calculated at time of model, MGD)
  MDL (load) = 2.7 mg/L x 8.34541126 x 0.774 **= 17.4402 lbs. = 17.4 lbs.**

  ATL (load) = MDL (load) x 365 days
  ATL (load) = summer (9.689 lbs. x 183 days) + winter (17.4402 lbs. x 182 days) = (1,773.087+ 3,174.1164) x 365 days = **4,947 lbs.**

- **Nitrate + Nitrite (Table A-1 – Interim)**. Monitoring only requirements have been included in this permit to determine the level of Nitrate + Nitrite in the effluent.

- **Nitrate + Nitrite (Table A-2 – Final)**. The daily maximum limit (mass) was calculated based on the daily maximum limit (concentration) provided in the 2021 QUAL2K. In addition, due to the long-term effects of nutrients on streams, an Annual Total Limit (ATL) with a Monthly Total monitoring only requirement has been applied, calculated using the daily maximum limit (mass). See Appendix: 2021 QUAL2K Table 5.

  MDL (concentration) **= 20 mg/L**
  MDL (load) **=** MDL (concentration) x 8.34541126 x Actual flow (calculated at time of model, MGD)
  MDL (load) **=** 20 mg/L x 8.34541126 x 0.774 **= 129.18697 lbs. = 129.2 lbs.**

ATL (load) = MDL (load) x 365 days
ATL (load) = 129.18697 lbs. x 365 days = **47,153 lbs.**

- **Total Nitrogen (Table A-1 – Interim)**. Monitoring only requirements have been included in this permit to determine the level of Total Nitrogen in the effluent.

- **Total Nitrogen (Table A-2 – Final)**. The daily maximum limits (mass) were calculated based on the seasonal daily maximum limits (concentration) provided in the 2021 QUAL2K. In addition, due to the long-term effects of nutrients on streams, Annual Total Limit (ATL) with a Monthly Total monitoring only requirement has been applied, calculated using the daily maximum limit (mass). See Appendix: 2021 QUAL2K Table 5.

  Summer
  MDL (concentration) **= 21.5 mg/L**
  MDL (load) = MDL (concentration) x 8.34541126 x Actual flow (calculated at time of model, MGD)
  MDL (load) **=** 21.5 mg/L x 8.34541126 x 0.774 **= 138.9 lbs.**

  Winter
  MDL (concentration) **= 22.7 mg/L**
  MDL (load) **=** MDL (concentration) x 8.34541126 x Actual flow (calculated at time of model, MGD)
  MDL (load) = 22.7 mg/L x 8.34541126 x 0.774 **= 146.6 lbs.**

  ATL (load) = MDL (load) x 365 days
  ATL (load) = summer (138.9 lbs. x 183 days) + winter (146.6 lbs. x 182 days) = (25,418.7 + 26,681.2) x 365 days = **52,100 lbs.**

- **pH**. 6.0-9.0 SU. The permit writer has made a reasonable potential determination based on effluent data submitted to the department and the assimilative capacity of the receiving stream that the discharge will not cause or contribute to the excursion of the water quality standard for pH instream. Therefore, effluent limitations as required by 10 CSR 20-7.015 are substituted for the pH water quality criteria of 6.5-9.0 SU.

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, except Oil & Grease, which was reduced to quarterly. Weekly sampling is required for *E. coli*, per 10 CSR 20-7.015(9)(D)7.A.

Sampling Type Justification: As per 10 CSR 20-7.015, this permit specifies that sampling be conducted as a modified composite sample, which is to be made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample. This change will provide more accurate data regarding the discharge from the treatment facility. Grab samples must be collected for pH, *E. coli*, 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 FEATURES #002 & #003 – STORAGE BASIN

- **Freeboard.** Monitoring requirement to verify adequate freeboard is maintained, so as to avoid an overflow of the storage basin.

- **Precipitation.** Monitoring requirement to ensure appropriate irrigation is conducted to account for accumulated water in the storage basin.

Sampling Frequency Justification:
Sampling frequencies from the previous permit were determined to be appropriate, so they have been retained.

Sampling Type Justification:
The sampling types from the previous state operating permit were determined to be appropriate so they have been retained.

PERMITTED FEATURE #005 – IRRIGATION FIELD

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

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

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

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

- ***E. coli***. 126#/100mL Daily Maximum in accordance with 10 CSR 20-8.200(6)(F).

Sampling Frequency Justification:
Sampling frequencies from the previous permit were determined to be appropriate, so they have been retained. *E. coli* sampling was established as weekly.

Sampling Type Justification:
The sampling types from the previous state operating permit were determined to be appropriate so they have been retained. *E. coli* sampling was established as a grab samples, in accordance with recommended analytical methods.

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:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ***
Ammonia as N	mg/L	1	*		*	**	1/month	monthly	C
Total Phosphorus	mg/L	1	*		*	**	1/month	monthly	C
Total Kjeldahl Nitrogen	mg/L	1	*		*	**	1/month	monthly	C
Nitrite + Nitrate	mg/L	1	*		*	**	1/month	monthly	C

* - Monitoring requirement only.
*** - C = Modified Composite
** - Parameter not previously established in previous state operating permit.

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

- **Total Phosphorus, Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia**. Influent monitoring for Total Phosphorus, Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia required per 10 CSR 20-7.015(9)(D)8.

Sampling Frequency Justification: The sampling and reporting frequencies for Total Phosphorus and Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia parameters were established to match the required reporting 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.

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 §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 §644.006 to §644.141 RSMo 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. The discharge from this facility is made up of treated domestic wastewater. Based upon review of the Report of Compliance Inspection for the inspection conducted on September 14, 2021, 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, this facility utilizes equivalent to secondary treatment technology and is currently in compliance with the equivalent to secondary (TSS) and effluent limits that are more stringent than the secondary treatment technology based effluent limits (BOD_5) established in this permit and there has been no indication to the department that the stream has had issues maintaining beneficial uses as a result of this discharge. Based on the information reviewed during the drafting of this permit, these final effluent limitations appear to have protected against the excursion of this criterion in the past. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.

(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. Based upon review of the Report of Compliance Inspection for the inspection conducted on September 14, 2021, an excursion of this criterion was observed by the department. This permit contains final effluent limits that will be protective of excursions of this criteria in the future.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life. This permit contains final effluent limitations which are protective of both acute and chronic toxicity for various pollutants that are either expected to be discharged by domestic wastewater facilities or that were disclosed by this facility on the application for permit coverage. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations established in this permit, there is no reasonable potential for the discharge to cause an excursion of this criterion.

(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 (D) above as justification is the same.

(G) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) 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, §260.200 RSMo, except as the use of such materials is specifically permitted pursuant to §260.200 - 260.247 RSMo. 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 III – Rationale and Derivation of Effluent Limitations & Permit Conditions

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

✓ 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)].

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.

- 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.

  - **Fecal Coliform**. *E. coli* has replaced fecal coliform as the applicable bacteria criteria in Missouri's water quality standards. This backsliding is justified as a Water Quality Standard for Fecal Coliform does not exist. Also, the removal of

the effluent limit and parameter also meets the requirements of the safety clause, as the removal will not result in a violation of a water quality standard.

- **Oil and Grease**. The previous permit contained weekly sampling and monthly reporting frequencies. This permit contains monthly sampling and reporting frequencies. Discharge monitoring data submitted by the permittee shows that effluent results for Oil & Grease have been consistent and have low variability. Therefore, the Department has found the permittee eligible for reduced sampling frequency. The reduction of the sampling frequency of the parameter meets the requirements of the safety clause, as the removal will not result in a violation of a water quality standard.

- **Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS) Percent Removal**. In accordance with 40 CFR Part 133.102(a)(3) & (b)(3), 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 (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. The previous permit contained removal efficiency requirements as this facility was previously a publicly owned treatment works. The facility is now owned by a private sewer company; therefore, the removal efficiency requirements are no longer applicable. This backsliding is justified as there is information available which was not available at the time of the previous permit issuance (new ownership information). This new information justifies the application of a less stringent effluent limitation at the time of permit issuance. Also, the removal of the parameters also meets the requirements of the safety clause, as the removals will not result in a violation of a water quality standard.

- **Temperature**. The parameter was included in the previous permit to collect effluent temperature to use in calculating site-specific effluent limits using the facility's pH and Temperature, however, as the facility discharges directly to a stream with mixing, the data is not usable. Due to this fact, this parameter has been removed from the permit. The removal of this monitoring only parameter also meets the requirements of the safety clause, as the removal will not result in a violation of a water quality standard.

- **Acute Whole Effluent Toxicity (WET) test**. The previous permit included requirements to conduct an Acute WET test once during the permit cycle. This facility has a design flow greater than 22,500 gpd but is no longer a publicly owned treatment works. The permit writer conducted a reasonable potential determination for all anticipated pollutants and established numeric effluent limitations where reasonable potential exists. Also, the facility has passed a previous Acute WET test. Therefore, the permit writer determined the facility does not have reasonable potential to exceed narrative water quality standards for acute toxicity at this time and the acute WET testing requirements have been removed from this permit. This backsliding is justified as there is information available which was not available at the time of the previous permit issuance (previous passing WET test). This new information justifies the removal of the test at the time of permit issuance. Also, the removal of the test also meets the requirements of the safety clause, as the removal will not result in a violation of a water quality standard.

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.

- The previous permit indicated "There Shall Be No Discharge of Floating Solids or Visible Foam in Other Than Trace Amounts" under each table. The statement was not evaluated against actual site conditions therefore, this general criteria was re-assessed. It was determined that this facility does not discharge solids or foam in amounts which would indicate reasonable potential, therefore the statement was removed. Each general criteria was assessed for 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.

✓ No degradation was proposed in this permit action 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 authorized to land apply biosolids, landfill, or haul to a permitted disposal facility in accordance with Standard Conditions III. If other methods to remove and dispose of sludge/biosolids are needed and that method is not listed in the current permit, the permittee must modify the operating permit to add any biosolids/sludge disposal method to the facility description of the operating permit. For time sensitive situations, the permittee may contact the department to see about approval for a one-time removal and disposal of sludge/biosolids that are not identified in the facility description of the operating permit.

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

Facility Performance History:

✓ The facility is currently under enforcement action. The enforcement action was made in 2010, due to the facility failing to meet effluent limits and failing to operate and maintain the collection system. Missouri-American Water Company acquired the Ironton water and wastewater systems from the City of Ironton in 2023. The department is working with Missouri-American Water Company on resolution of the enforcement issues.

CONTINUING AUTHORITY:
Each application for an operating permit shall identify the person, as that term is defined in §644.016(19) RSMo, that is the owner of, operator of, or area-wide management authority for a water contaminant source, point source, wastewater treatment facility, or sewer collection system. This person shall be designated as the continuing authority and shall sign the application. By doing so, the person designated as the continuing authority acknowledges responsibility for compliance with all permit conditions.

10 CSR 20-6.010(2) establishes preferential levels for continuing authorities: Levels 1 through 5 (with Level 1 as the highest level), and generally requires permits to be issued to a higher preference continuing authority if available. A Level 3, 4, or 5 applicant may constitute a continuing authority by showing that Level 1 and Level 2 authorities are not available; do not have jurisdiction; are forbidden by state statute or local ordinance from providing service to the person; or that the Level 3, 4, or 5 applicant has met one of the requirements listed in paragraphs (2)(C)1.–7. of 10 CSR 20-6.010(2). The seven options in paragraphs (2)(C)1.–7. for a lower-level authority to demonstrate that it is the valid continuing authority are:

1. A waiver from the existing higher authority declining the offer to accept management of the additional wastewater or stormwater;
2. A written statement or a demonstration of non-response from the higher authority;
3. A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
4. A proposed connection or adoption charge by the higher authority that would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;

5. A proposed service fee on the users of the system by the higher authority that is above what is affordable for existing homeowners in that area;
6. Terms for connection or adoption by the higher authority that would require more than two (2) years to achieve full sewer service; or
7. A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area.

Permit applicants that are Levels 3, 4, and 5 must, as part of their application, identify their method of compliance with this regulation. The following are the methods to comply.

- o No higher level authorities are available to the facility;
- o No higher level authorities have jurisdiction;
- o Higher level authorities are forbidden by state statute or local ordinance from providing service to the person;
- o The existing higher level authority is available to the facility, however the facility has proposed the use of a lower preference continuing authority and has submitted one of the following as part of their application provided it does not conflict with any area-wide management plan approved under Section 208 of the Clean Water Act or by the Missouri Clean Water Commission. (See Fact Sheet Appendix - Continuing Authority for more information on these options):
  - A waiver from the existing higher authority;
  - A written statement or a demonstration of non-response from the higher authority;
  - A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
  - Documentation that the proposed connection or adoption charge by the higher authority would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;
  - Documentation that the proposed service fee on the users of the system by the higher authority is above what is affordable for existing homeowners in that area;
  - Documentation that the terms for connection or adoption by the higher authority would require more than two (2) years to achieve full sewer service;
  - A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area;

✓ The continuing authority listed on the application is a PSC regulated sewer company and MAWC's certificate of convenience and necessity was effective Dec. 8, 2023. The continuing authority listed on the application form is for a business entity which is incorporated under the laws of Missouri. The business entity is registered with the Missouri Secretary of State's office and is assigned Charter Number 00001468 per the Secretary of State's webpage. The corporation name with that charter number was verified by the permit writer to match the corporation name on the application form. The corporation has a status of "Good Standing" on the Secretary of State's webpage at the time of the drafting of this permit, and therefore a Level 3 Authority. There is no approved Clean Water Act Section 208 plan in Iron County. The applicant has shown that:

- o A higher level authority is not available to the facility.

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.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692. Each 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.

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

NUMERIC LAKE NUTRIENT CRITERIA:

✓ This facility discharges into a lake watershed (Lake Killarney) where numeric lake nutrient criteria are applicable, per 10 CSR 20-7.031(5)(N), and has a design flow greater than 0.1 MGD. Watershed modeling determined that this facility does not have a reasonable potential to cause or contribute to the impairment.

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 required to have a certified operator as it has a population equivalent 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.

This facility currently requires a chief operator with a (C) Certification Level. Please see **Appendix - Classification Worksheet**. Modifications made to the wastewater treatment facility may cause the classification to be modified.

Operator's Name: Ryan R. Smith
Certification Number: 14062
Certification Level: WW-A

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

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 calculated 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 required to conduct operational monitoring. These operational monitoring reports are to be submitted to the department along with the MSOP discharge monitoring reports.

- The facility is a lagoon that is designed to discharge and is required to conduct operational control monitoring as follows:

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

REASONABLE POTENTIAL (RP):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] and State Regulation [10 CSR 20-7.015(9)(A)2] 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.

A reasonable potential analysis (RPA) is a numeric RP decision calculated using effluent data provided by the facility for parameters that have a numeric Water Quality Standard (WQS).

Reasonable potential determinations (RPD) are based on physical conditions of the site as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD using best professional judgement. An RPD consists of evaluating visual observations for compliance with narrative criteria, non-numeric information, or small amounts of numerical data (such as 3 data points supplied in the application). Narrative criteria with RP typically translate to a numeric WQS, so a parameter's establishment being based on narrative criteria does not necessarily make the decision an RPD vs RP—how the data is collected does, however. When insufficient data is received to make a determination on RP based on numeric effluent data, the RPD decisions are based on best professional judgment considering the sources of influent wastewater, type of treatment, and historical overall management of the site.

- ✓ An RPA was conducted on appropriate parameters. Please see **APPENDIX – RPA RESULTS.**

- ✓ A RPD was made for Oil & Grease, that a potential to violate water quality standards exists. Please see Derivation and Discussion of Limits.

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.

§644.026.1.(13) RSMo, 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 §644.006 to §644.141 RSMo. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. §644.026.1.(15) RSMo, 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 §644.051.10 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.

✓ The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(11)]. The facility has been given a schedule of compliance to meet final effluent limits for Biochemical Oxygen Demand$_5$, Total Suspended Solids, Dissolved Oxygen, Ammonia, Total Phosphorus, Total Kjeldahl Nitrogen, Nitrate+Nitrite, and Total Nitrogen. The ten-year schedule of compliance allowed for this facility should provide adequate time to evaluate operations, obtain an engineering report, acquire funding, obtain a construction permit, and implement upgrades required to meet effluent limits. The proposed 10-year schedule of compliance is in part due to the facility promised to invest at least $8.4 million over 10 years in the water and wastewater systems, and also that the facility will have to implement significant SSO and I&I repairs to the collection system. The submitted Discharge Monitoring Reports for the facility show that over 90% of the maximum daily flow values reported during the period covering October 2019 to August 2024, were above twice the design dry weather flow (0.8 MGD) of 0.4 MGD. In addition, the wastewater treatment plan and collection system were purchased by the new owner in 2023, and the new owners have had a short period of time to work on repairs to the collection system.

VARIANCE:

As per §644.061.4 RSMo, 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 RSMo, or any standard, rule or regulation promulgated pursuant to §644.006 to §644.141 RSMo.

✓ 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:

$$Ce = \frac{(Qe + Qs)C - (Qs \times Cs)}{(Qe)}$$ (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 including model was conducted to the department. A WLA study was conducted in August 2020, and a QUAL2K model was developed from the study in November 2021.

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 applies: §644.051.10 RSMO, requires the department to set permit conditions that comply with the MCWL and CWA and specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc…); and §644.051.11 RSMo, 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 BOD_5 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 NH_3)
☐ 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. This facility has a design flow greater than 22,500 gpd but is no longer a publicly owned treatment works. The permit writer conducted a reasonable potential determination for all anticipated pollutants and established numeric effluent limitations where reasonable potential exists. Also, the facility has passed a previous Acute WET test. Therefore, the permit writer determined the facility does not have reasonable potential to exceed narrative water quality standards for acute toxicity at this time and the acute WET testing requirements have been removed from this permit.

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

- ✓ The department is not required to complete a cost analysis for compliance because the facility is not a combined or separate sanitary sewer system for a publicly owned treatment works.

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 §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.

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 June 20, 2025 to July 21, 2025. No responses received.

DATE OF FACT SHEET: AUGUST 27, 2025

COMPLETED BY:

BRANT FARRIS, ENVIRONMENTAL PROGRAM SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
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Appendices

APPENDIX - CLASSIFICATION WORKSHEET:

Item	Points Possible	Points Assigned
Maximum Population Equivalent (P.E.) served , peak day	1 pt./10,000 PE or major fraction thereof. (Max 10 pts.)	0.5
Design Flow (avg. day) or peak month's flow (avg. day) whichever is larger	1 pt. / MGD or major fraction thereof. (Max 10 pts.)	2
Effluent Discharge		
Missouri or Mississippi River	0	
All other stream discharges except to losing streams and stream reaches supporting whole body contact recreation	1	
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, lake or reservoir area supporting whole body contact recreation	3	
Direct reuse or recycle of effluent	6	
Land Application/Irrigation		
Drip Irrigation	3	
Land application/irrigation	5	5
Overland flow	4	
Variation in Raw Wastes (highest level only)		
Variations do not exceed those normally or typically expected	0	
Reoccurring deviations or excessive variations of 100 to 200 percent in strength and/or flow	2	
Reoccurring deviations or excessive variations of more than 200 percent in strength and/or flow	4	4
Department-approved pretreatment program	6	
Preliminary Treatment		
STEP systems (operated by the permittee)	3	
Screening and/or comminution	3	3
Grit removal	3	
Plant pumping of main flow	3	3
Flow equalization	5	
Primary Treatment		
Primary clarifiers	5	
Chemical addition (except chlorine, enzymes)	4	
Secondary Treatment		
Trickling filter and other fixed film media with or without secondary clarifiers	10	
Activated sludge (including aeration, oxidation ditches, sequencing batch reactors, membrane bioreactors, and contact stabilization)	15	
Stabilization ponds without aeration	5	
Aerated lagoon	8	8
Advanced Lagoon Treatment – Aerobic cells, anaerobic cells, covers, or fixed film	10	
Biological, physical, or chemical	12	
Carbon regeneration	4	
Total from page **ONE (1)**	----	25.5

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Solids Handling		
Sludge Holding	5	5
Anaerobic digestion	10	
Aerobic digestion	6	
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	6
Disinfection		
Chlorination or comparable	5	
On-site generation of disinfectant (except UV light)	5	
Dechlorination	2	
UV light	4	
Required Laboratory Control Performed by Plant Personnel (highest level only)		
Lab work done outside the plant	0	
Push – button or visual methods for simple test such as pH, settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	5
More advanced determinations, such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
Total from page **TWO (2)**	----	16
Total from page **ONE (1)**	---	25.5
Grand Total	---	41.5

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

APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Ammonia as N – Summer (mg/L)	12.1	69.08	1.5	63.90	24.00	27.3/1.31	0.75	2.54	YES
Ammonia as N – Winter (mg/L)	12.1	48.76	2.9	45.10	25.00	23.3/2.88	0.59	2.10	YES

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

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.

APPENDIX – Non-Detect Example Calculations:

Example: Permittee has four samples for Pollutant X which has a method minimum level of 5 mg/L and is to report a Daily Maximum and Monthly Average.

Week 1 = 11.4 mg/L
Week 2 = Non-Detect or <5.0 mg/L
Week 3 = 7.1 mg/L
Week 4 = Non-Detect or <5.0 mg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of "0" for all non-detects for that reporting period and report the average of all the results.

11.4 + 0 + 7.1 + 0 = 18.5 ÷ 4 (number of samples) = 4.63 mg/L.

The Permittee reports a Monthly Average of 4.63 mg/L and a Daily maximum of 11.4 mg/L (Note the < symbol was dropped in the answers).

Example: Permittee has five samples for Pollutant Y that has a method minimum level of 9 µg/L and is to report a Daily Maximum and Monthly Average.

Day 1 = Non-Detect or <9.0 µg/L
Day 2 = Non-Detect or <9.0 µg/L
Day 3 = Non-Detect or <9.0 µg/L
Day 4 = Non-Detect or <9.0 µg/L
Day 5 = Non-Detect or <9.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.

(9 +9 +9 +9 +9) ÷ 5 (number of samples) = <9 µg/L.

The Permittee reports a Monthly Average of <9.0 µg/L (retain the 'less than' symbol) and a Daily Maximum of <9.0 µg/L.

Example: Permittee has four samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining two tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L
Week 2 = Non-Detect or <4.0 µg/L
Week 3 = Non-Detect or <6.0 µg/L
Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.

(4 + 4 + 6 + 6) ÷ 4 (number of samples) = <5 µg/L. (Monthly)

The facility reports a Monthly Average of <5.0 µg/L and a Weekly Average of <6.0 µg/L.

APPENDIX – Non-Detect Example Calculations (Continued):

Example: Permittee has five samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining three tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L
Week 2 = Non-Detect or <4.0 µg/L
Week 2 = Non-Detect or <6.0 µg/L
Week 3 = Non-Detect or <6.0 µg/L
Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the "<" sign from the values, average the values, and then add the "<" symbol back to the resulting average.

(4 + 4 + 6 + 6 + 6) ÷ 5 (number of samples) = <5.2 µg/L. (Monthly)
(4 + 6) ÷ 2 (number of samples) = <5 µg/L. (Week 2)

The facility reports a Monthly Average of <5.2 µg/L and a Weekly Average of <6.0 µg/L (report highest Weekly Average value)

Example: Permittee has four samples for Pollutant Z where the tests were conducted using a method with a method minimum level of 10 µg/L and is to report a Monthly Average and Daily Maximum. The permit lists that Pollutant Z has a department determined Minimum Quantification Level (ML) of 130 µg/L.

Week 1 = 12 µg/L
Week 2 = 52 µg/L
Week 3 = Non-Detect or <10 µg/L
Week 4 = 133 µg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of "0" for all non-detects for that reporting period and report the average of all the results.

For this example, (12 + 52 + 0 + 133) ÷ 4 (number of samples) = 197 ÷ 4 = 49.3 µg/L.

The facility reports a Monthly Average of 49.3 µg/L and a Daily Maximum of 133 µg/L.

Example: Permittee has five samples for *E. coli* which has a method minimum level of 1 #/100mL and is to report a Weekly Average (seven (7) day geometric mean) and a Monthly Average (thirty (30) day geometric mean).

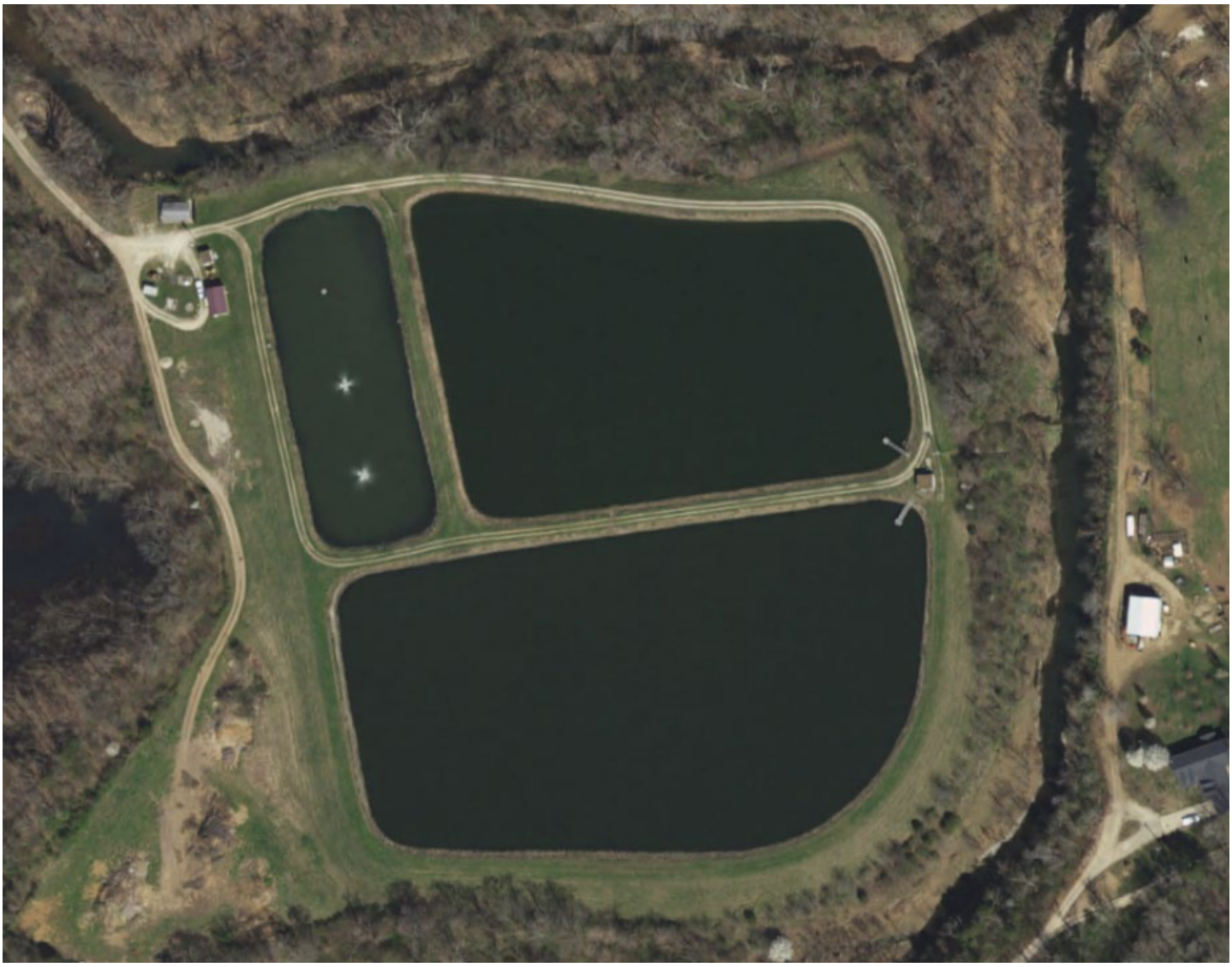
Week 1 = 102 #/100mL
Week 2 (Monday) = 400 #/100mL
Week 2 (Friday) = Non-Detect or <1 #/100mL
Week 3 = 15 #/100mL
Week 4 = Non-Detect or <1 #/100mL

For this example, use subpart (i) - When E. coli is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means. 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.

The Monthly Average (30 day Geometric Mean) = 5th root of (102)(400)(0.5)(15)(0.5) = 5th root of 153,000 = 10.9 #/100mL.
The 7 day Geometric Mean = 2nd root of (400)(0.5) = 2nd root of 200 = 14.1 #/100mL. (Week 2)

The Permittee reports a Monthly Average (30 day Geometric Mean) of 10.9 #/100mL and a Weekly Average (7 day geometric mean) of 102 #/100mL (report highest Weekly Average value)

APPENDIX – SITE MAP:



APPENDIX – 2006 WQRS:

Missouri Department of Natural Resources
Water Protection Program
NPDES Permits and Engineering Section

Water Quality Review Sheet

Determination of Effluent Limits and Monitoring Requirements

FACILITY INFORMATION

FACILITY NAME: Ironton WWTF (permit renewal) NPDES #: MO-0026514

FACILITY TYPE/DESCRIPTION: Three cell lagoon with one aerated cell and two holding cells. Partial irrigation and sludge is retained in the lagoon. Design flow of the facility is 0.4 MGD, but wet weather flow is 0.76 MGD.

EDU*: OUSFC 8- DIGIT HUC: 08020202 COUNTY: Iron

* - Ecological Drainage Unit

LEGAL DESCRIPTION: Varies per outfall[1] LATITUDE/LONGITUDE: Varies per outfall[1]

[1] – Please see Attachment A – Outfall Locations

WATER QUALITY HISTORY: Most recent stream survey was on 8/29/2000. Facility does not discharge throughout Summer. Staff indicated that no evidence of recent discharge during stream survey was observed.

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.62	Equivalent to Secondary	Stouts Creek	0.0
002[2]	N/A	Land Application Site 1	N/A	N/A
003[2]	N/A	Land Application Site 2	N/A	N/A
004[2]	N/A	Ground Water Monitoring Wells	N/A	N/A

[2] – Outfalls #002, #003, & #004 are non-discharging outfalls. Due to data entry in WQIS, these must be labeled as outfalls.

RECEIVING WATERBODY INFORMATION

WATERBODY NAME	CLASS	WBID	LOW-FLOW VALUES (CFS)			DESIGNATED USES**
			1Q10	7Q10	30Q10	
Stouts Creek	P	2893	0.1	0.1	1.0	LWW, AQL, WBC(B), SCR

** Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND)

COMMENTS: This WQRS contains Outfalls that are different to the Outfalls as listed in the previous state operating permit. Staff recommend using the outfalls as listed in this WQRS as outfalls on the new state operating permit due to WQIS data entry simplicity.

MIXING CONSIDERATIONS

Mixing Zone (MZ): One-quarter (1/4) of the stream volume of flow; length one-quarter (1/4) mile. [10 CSR 20-7.031(4)(A)4.B.(III)(a)].

Zone of Initial Dilution (ZID): One-tenth (0.1) of the mixing zone volume of flow, not to exceed 10 times the effluent design flow. [10 CSR 20-7.031(4)(A)4.B.(III)(b)].

	Flow (cfs)	MZ (cfs)	ZID (cfs)
7Q10	0.1	0.025	0.0025
1Q10	0.1	0.025	0.0025
30Q10	1.0	0.25	0.025

PERMIT LIMITS AND INFORMATION

WASTELOAD ALLOCATION STUDY CONDUCTED (Y OR N): N

USE ATTAINABILITY ANALYSIS CONDUCTED (Y OR N): N

WHOLE BODY CONTACT USE RETAINED (Y OR N): Y

OUTFALL #001 – *Discharge to Stouts Creek*

WET TEST (Y OR N): Y FREQUENCY: ONCE/PERMIT AEC: 100 % METHOD: SINGLE

PARAMETER	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MONITORING FREQUENCY
FLOW	*		*	ONCE/DAY
BOD_5 (MG/L)**		45	30	ONCE/WEEK
TSS (MG/L)**		110	70	ONCE/WEEK
PH (S.U.)	***		***	ONCE/WEEK
TEMPERATURE (°C)	*		*	ONCE/WEEK
AMMONIA AS N (MG/L) (MAY 1 – OCT 31)	5.0		2.5	ONCE/WEEK
AMMONIA AS N (MG/L) (NOV 1 – APR 30)	10.6		5.3	ONCE/WEEK
FECAL COLIFORM (NOTE 1)****	1000		400	ONCE/WEEK
CHLORINE, TOTAL RESIDUAL (MG/L)(NOTE –2)****	0.017		0.009	ONCE/WEEK
OIL & GREASE (MG/L)	15		10	ONCE/WEEK

* - Monitoring requirements only.

**- This facility is required to meet a removal efficiency of 65% or more for BOD_5 and TSS. Influent BOD_5 and TSS data should be reported to ensure removal efficiency requirements are met.

*** - The pH is to be maintained at or above 6.0 pH units.

**** - The facility is allowed to discharge to Stouts Creek from November 1st to March 31st; however, should a discharge occur from April 1st to October 31st, then these effluent limitations shall be applicable.

Note 1 – Colonies/100 mL, and the Monthly Average Limit for Fecal Coliform is a geometric mean.

Note 2 – Total Residual Chlorine (TRC) limits are applicable if the chosen method for disinfection is chlorine.

OUTFALL #002 – *Primary Land Application Site 1 (45.8 Acre Irrigation Site).*

PARAMETER	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MONITORING FREQUENCY
LAGOON FREEBOARD (FEET)	*			ONCE/MONTH*****
IRRIGATION PERIOD (HOURS)	*			DAILY*****
VOLUME IRRIGATED (GALLONS)	*			DAILY*****
APPLICATION AREA (ACRES)	*			DAILY*****
APPLICATION RATE (INCHES/ACRE)	*			DAILY*****
RAINFALL (INCHES)	*			DAILY*****
PH (S.U.)	***			ONCE/QUARTER*****
TOTAL KJELDAHL NITROGEN AS N (MG/L)	*			ONCE/QUARTER*****
TOTAL NITRATE NITROGEN AS N (MG/L)	*			ONCE/QUARTER*****
AMMONIA NITROGEN AS N (MG/L)	*			ONCE/QUARTER*****

OUTFALL #003 – *Land Application Site 2 (~50 Acre Arcadia Valley Golf Course).*

PARAMETER	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MONITORING FREQUENCY
LAGOON FREEBOARD (FEET)	*			ONCE/MONTH*****
IRRIGATION PERIOD (HOURS)	*			DAILY*****
VOLUME IRRIGATED (GALLONS)	*			DAILY*****
APPLICATION AREA (ACRES)	*			DAILY*****
APPLICATION RATE (INCHES/ACRE)	*			DAILY*****
RAINFALL (INCHES)	*			DAILY*****
FECAL COLIFORM (NOTE 3)	200			ONCE/QUARTER*****
PH (S.U.)	***			ONCE/QUARTER*****
TOTAL KJELDAHL NITROGEN AS N (MG/L)	*			ONCE/QUARTER*****
TOTAL NITRATE NITROGEN AS N (MG/L)	*			ONCE/QUARTER*****
AMMONIA NITROGEN AS N (MG/L)	*			ONCE/QUARTER*****

OUTFALL #004 – Ground Water Monitoring Wells (#MW1 - #MW6)

PARAMETER	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MONITORING FREQUENCY
TOTAL NITRATE NITROGEN AS N (MG/L)	*			ONCE/MONTH

* - Monitoring requirements only.
*** - The pH is to be maintained at or above 6.0 pH units.
***** - Monitoring frequencies may differ; however, staff recommends that the permittee submit the data being monitored quarterly.

Note 3 – Colonies/100 mL.

RECEIVING WATER MONITORING REQUIREMENTS

No receiving water monitoring requirements recommended at this time.

DERIVATION AND DISCUSSION OF LIMITS

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

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

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

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).

Outfall #001 – Main Facility Outfall

- **Biochemical Oxygen Demand (BOD_5).** 30 mg/L monthly average, 45 mg/L weekly average have been retained from previous state operating permit and should be protective of water quality.
- **Total Suspended Solids (TSS).** 70 mg/L monthly average, 110 mg/L weekly average have been retained from previous state operating permit and should be protective of water quality.
- **pH.** pH is measured in pH units and is not to be averaged. pH is to be maintained at or above 6.0 pH units. Limitation has been retained from previous state operating permit.
- **Temperature.** Monitoring requirement due to the toxicity of Ammonia varies by temperature.
- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1

Winter	6	7.8	3.1	12.1

Summer: May 1 – October 31, Winter: November 1 – April 30

Summer

Chronic WLA: $C_e = ((0.62 + 0.25)1.5 - (0.25 * 0.01))/0.62$
$C_e = 2.1$ mg/L

Acute WLA: $C_e = ((0.62 + 0.0025)12.1 - (0.0025 * 0.01))/0.62$
$C_e = 12.2$ mg/L

$LTA_c = 2.1$ mg/L (0.780) = **1.6 mg/L** [CV = 0.6, 99th Percentile, n = 30]
$LTA_a = 12.2$ mg/L (0.321) = 3.9 mg/L [CV = 0.6, 99th Percentile]

MDL = 1.6 mg/L (3.11) = 5.0 mg/L [CV = 0.6, 99th Percentile]
AML = 1.6 mg/L (1.55) = 2.5 mg/L [CV = 0.6, 95th Percentile, n = 4]

Winter

Chronic WLA: $C_e = ((0.62 + 0.25)3.1 - (0.25 * 0.01))/0.62$
$C_e = 4.3$ mg/L

Acute WLA: $C_e = ((0.62 + 0.0025)12.1 - (0.0025 * 0.01))/0.62$
$C_e = 12.2$ mg/L

$LTA_c = 4.3$ mg/L (0.780) = **3.4 mg/L** [CV = 0.6, 99th Percentile, n = 30]
$LTA_a = 12.1$ mg/L (0.321) = 3.9 mg/L [CV = 0.6, 99th Percentile]

MDL = 3.4 mg/L (3.11) = 10.6 mg/L [CV = 0.6, 99th Percentile]
AML = 3.4 mg/L (1.55) = 5.3 mg/L [CV = 0.6, 95th Percentile, n = 4]

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	5.0	2.5
Winter	10.6	5.3

- **Fecal Coliform**. Discharge shall not contain more than a monthly geometric mean of 400 colonies/ 100 mL and a daily maximum of 1000 colonies/100 mL during the recreational season (April 1 – October 31) [10 CSR 20-7.015(8)(B)4.A.]. Future renewals of the facility operating permit will contain effluent limitations for E. coli, which will replace fecal coliform as the applicable bacteria criteria in Missouri's water quality standards.

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

  Chronic WLA: $C_e = ((0.62 + 0.025)10 - (0.025 * 0.0))/0.62$
  $C_e = 10.4$ µg/L

  Acute WLA: $C_e = ((0.62 + 0.0025)19 - (0.0025 * 0.0))/0.62$
  $C_e = 19.1$ µg/L

LTA_c = 10.4 µg/L (0.527) = **5.5 µg/L** [CV = 0.6, 99th Percentile]
LTA_a = 19.1 µg/L (0.321) = 6.1 µg/L [CV = 0.6, 99th Percentile]

MDL = 5.5 µg/L (3.11) = 17.1 µg/L [CV = 0.6, 99th Percentile]
AML = 5.5 µg/L (1.55) = 8.5 µg/L [CV = 0.6, 95th Percentile, n = 4]

Total Residual Chlorine effluent limits of 0.017 mg/L daily maximum, 0.009 mg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), should be included in the permit.

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

Outfall #002 – Primary Land Application Site (*45.8 acre grassland irrigation site*).
45.8 acre grassland irrigation site

All parameters for this outfall are monitoring requirements only with the exception of pH.

- **pH.** pH is measured in pH units and is not to be averaged. pH is to be maintained at or above 6.0 pH units. Limitation has been retained from previous state operating permit.

Outfall #003 – Land Application Site (*approximately 50 acre Arcadia Valley Golf Course*).

All parameters for this outfall have monitoring requirements only with the exceptions being pH and Fecal Coliform.

- **pH.** pH is measured in pH units and is not to be averaged. pH is to be maintained at or above 6.0 pH units. Limitation has been retained from previous state operating permit.
- **Fecal Coliform**. Discharge shall not contain more than a daily maximum of 200 colonies/100 mL, [10 CSR 20-8.020(15)9.A.].

Outfall #004 – Ground water monitoring wells (*#MW1 - #MW6*).

- **Total Nitrate Nitrogen as N**. Monitoring only requirement.

Reviewer: Michael Abbott
Date: December 20, 2006
Unit Chief: Refaat Mefrakis

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.

APPENDIX – 2021 QUAL2K TABLE 5:

Table 5. QUAL2K Effluent Limits where Summer DO=5.16 mg/L and Winter DO=5.17 mg/L

Facility	Flow GPD	BOD_5[a] mg/L	TSS[a] mg/L	Summer Ammonia as N mg/L[b]	Winter Ammonia as N mg/L[b]	Organic N mg/L	Nitrate/ Nitrite mg/L	Total Nitrogen mg/L[c]	Total Phosphorus mg/L	Input DO mg/L
Arcadia West	55,000	45	30	3.9	4.2	0.5	20	24.4/27.7	1.5	5.0
Arcadia East	27,635	45	30	1.4	2.9	0.5	20	21.9/23.4	1.5	5.0
Ironton	774,000	10	30	1.0	2.2	0.5	20	21.5/22.7	1.5	6.5

[a] - BOD_5 and TSS values represent monthly average effluent limits; daily maximum effluent limits are typically 1.5 times higher.

[b] - Ammonia as N values represent monthly average effluent limits; daily maximum effluent limits are typically 2 times higher. Ammonia as N effluent limits should not exceed acute or chronic toxicity criteria.

[c] - TN effluent limit represents daily maximum.

APPENDIX: RECEIVING STREAM LOW-FLOW VALUE:

Low-Flow Statistics Flow Report[LowFlow Region 2 SIR 2013 5090]

Statistic	Value	Unit
1 Day 10 Year Low Flow	0.274	ft^3/s
2 Day 10 Year Low Flow	0.304	ft^3/s
3 Day 10 Year Low Flow	0.318	ft^3/s
7 Day 10 Year Low Flow	0.359	ft^3/s
10 Day 10 Year Low Flow	0.384	ft^3/s
30 Day 10 Year Low Flow	0.482	ft^3/s
60 Day 10 Year Low Flow	0.63	ft^3/s

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

APPENDIX A

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

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

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

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

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

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

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

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

Section B – Reporting Requirements

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

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

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

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

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

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

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

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

Section C – Bypass/Upset Requirements

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

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

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

Section D – Administrative Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
August 1, 2019

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:
    a. The Department may modify a site-specific permit following permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR § 124.10, and 40 CFR § 501.15(a)(2)(ix)(E).
    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 limted 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

Biosolids ceiling concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

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 polluntant loading onto application sites for parameters that have exceeded the low metal concentration limits.

TABLE 2

Biosolids Low Metal Concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2,800

e. Annual pollutant loading rate.

Table 3

Biosolids Annual Loading Rate	
Pollutant	Kg/ha (lbs./ac) per year
Arsenic	2.0 (1.79)
Cadmium	1.9 (1.70)
Copper	75 (66.94)
Lead	15 (13.39)
Mercury	0.85 (0.76)
Nickel	21 (18.74)
Selenium	5.0 (4.46)
Zinc	140 (124.96)

f. Cumulative pollutant loading rates.

Table 4

Biosolids Cumulative Pollutant Loading Rate	
Pollutant	Kg/ha (lbs./ac)
Arsenic	41 (37)
Cadmium	39 (35)
Copper	1500 (1339)
Lead	300 (268)
Mercury	17 (15)
Nickel	420 (375)
Selenium	100 (89)
Zinc	2800 (2499)

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/kgTN; 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:

(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).

[1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization 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 outstandingstate 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 mthods or technology refletive 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 used for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not included the use of methods or technology refletive 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:
        (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).
        [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization 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 I, 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 5

Biosolids or Sludge produced and disposed (Dry Tons per Year)	Monitoring Frequency (See Notes 1, and 2)		
	Metals, Pathogens and Vectors, Total Phosphorus, Total Potassium	Nitrogen TKN, Nitrogen PAN[1]	Priority Pollutants[2]
319 or less	1/year	1 per month	1/year
320 to 1650	4/year	1 per month	1/year
1651 to 16,500	6/year	1 per month	1/year
16,501+	12/year	1 per month	1/year

[1] Calculate 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.

[2] Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment 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:
   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

Reports to EPA must be electronically submitted online via the Central Data Exchange at: https://cdx.epa.gov/ Additional information is available at: https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws

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, WATER POLLUTION CONTROL BRANCH

FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FACILITY NAME	
Ironton Wastewater Treatment Facility	
PERMIT NO.	COUNTY
MO-0026514	Iron

APPLICATION OVERVIEW

Form B2 has been developed in a modular format and consists of Parts A, B and C and a Supplemental Application Information (Parts D, E, F and G) packet. All applicants must complete Parts A, B and C. Some applicants must also complete parts of the Supplemental Application Information packet. The following items explain which parts of Form B2 you must complete. Submittal of an incomplete application may result in the application being returned.

BASIC APPLICATION INFORMATION

A. Basic Application Information for all Applicants. All applicants must complete Part A.

B. Additional Application Information for all Applicants. All applicants must complete Part B.

C. Certification. All applicants must complete Part C.

SUPPLEMENTAL APPLICATION INFORMATION

D. Expanded Effluent Testing Data. A treatment works that discharges effluent to surface water of the United States and meets one or more of the following criteria must complete *Part D - Expanded Effluent Testing Data*:

1. Has a design flow rate greater than or equal to 1 million gallons per day.
2. Is required to have or currently has a pretreatment program.
3. Is otherwise required by the permitting authority to provide the information.

E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete *Part E - Toxicity Testing Data*:

1. Has a design flow rate greater than or equal to 1 million gallons per day.
2. Is required to have or currently has a pretreatment program.
3. Is otherwise required by the permitting authority to provide the information.

F. Industrial User Discharges and Resource Conservation and Recovery Act / Comprehensive Environmental Response, Compensation and Liability Act Wastes. A treatment works that accepts process wastewater from any significant industrial users, also known as SIUs, or receives a Resource Conservation and Recovery Act or CERCLA wastes must complete *Part F - Industrial User Discharges and Resource Conservation and Recovery Act /CERCLA Wastes.*

SIUs are defined as:

1. All Categorical Industrial Users, or CIUs, subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations 403.6 and 40 Code of Federal Regulations 403.6 and 40 CFR Chapter 1, Subchapter N.
2. Any other industrial user that meets one or more of the following:
   i. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
   ii. Contributes a process waste stream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant.
   iii. Is designated as an SIU by the control authority.

G. Combined Sewer Systems. A treatment works that has a combined sewer system must complete *Part G - Combined Sewer Systems.*

ALL APPLICANTS MUST COMPLETE PARTS A, B and C

2/24/12 APPENDIX A
NO FEE REQUIRED

AP10316

MISSOURI DEPARTMENT OF NATURAL RESOURCES FEB 24 2012
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH

FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER	
NO payment received	
DATE RECEIVED	FEE SUBMITTED
2-8-12	0

PART A – BASIC APPLICATION INFORMATION

1. This application is for:

- ☐ An operating permit and antidegradation review public notice.
- ☐ A construction permit following an appropriate operating permit and antidegradation review public notice.
- ☐ A construction permit, a concurrent operating permit and antidegradation review public notice.
- ☐ A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).
- ☐ An operating permit for a new or unpermitted facility. Construction Permit # _____
- ☑ An operating permit renewal: Permit #MO- 0026514 Expiration Date 2-8-12
- ☐ An operating permit modification: Permit #MO-_____ Reason: _____

1.1 Is this a Federal/State Funded Project? ☐ Yes ☑ No Funding Agency/Project #: _____

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? ☐ Yes ☐ No

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Ironton Wastewater Treatment Facility		(573) 546-3689	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP
Lagoon Street	Ironton	MO	63650

2.1 **LEGAL DESCRIPTION** (Plant Site): SW ¼, SE ¼, ¼, Sec. 32 , T 34 , R 4E County Iron

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

3. OWNER

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE	
City of Ironton	Mayor	(573) 546-3545	
ADDRESS	CITY	STATE	ZIP
123 N. Main	Ironton	MO	63650

3.1 Request review of draft permit prior to Public Notice? ☐ Yes ☐ No

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

NAME		CITY	
City of Ironton		Ironton	
ADDRESS	CERTIFICATE NUMBER (IF APPLICABLE)	STATE	ZIP
123 N. Main		MO	63650

5. OPERATOR

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Charley Watson 3716	WWTF Operator	(573) 546-3689

6. FACILITY CONTACT

NAME	TITLE
Charley Watson	WWTF Operator

MO 780-1805 (09-08)

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Ironton Wastewater Treatment Facility	MO- 0026514	

PART A – BASIC APPLICATION INFORMATION

7. ADDITIONAL FACILITY INFORMATION

7.1 BRIEF DESCRIPTION OF FACILITIES

three cell lagoon (one aerated cell & two holding cells)/partial irrigation/sludge is retained in lagoon

7.2 TOPOGRAPHIC MAP. ATTACH TO THIS APPLICATION A TOPOGRAPHIC MAP OF THE AREA EXTENDING AT LEAST ONE MILE BEYOND FACILITY PROPERTY BOUNDARIES. THIS MAP MUST SHOW THE OUTLINE OF THE FACILITY AND THE FOLLOWING INFORMATION. (YOU MAY SUBMIT MORE THAN ONE MAP IF ONE MAP DOES NOT SHOW THE ENTIRE AREA.)

a. The area surrounding the treatment plant, including all unit processes.
b. The location of the downstream landowner(s). (See Item 10.)
c. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
d. The actual point of discharge.
e. Wells, springs, other surface water bodies and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
f. Any areas where the sewage sludge produced by the treatment works is stored, treated or disposed.
g. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act, or RCRA, by truck, rail or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored or disposed.

7.3 PROCESS FLOW DIAGRAM OR SCHEMATIC. PROVIDE A DIAGRAM SHOWING THE PROCESSES OF THE TREATMENT PLANT. ALSO, PROVIDE A WATER BALANCE SHOWING ALL TREATMENT UNITS, INCLUDING DISINFECTION (E.G. CHLORINATION AND DECHLORINATION). THE WATER BALANCE MUST SHOW DAILY AVERAGE FLOW RATES AT INFLUENT AND DISCHARGE POINTS AND APPROXIMATE DAILY FLOW RATES BETWEEN TREATMENT UNITS. INCLUDE A BRIEF NARRATIVE DESCRIPTION OF THE DIAGRAM.

7.4 FACILITY SIC CODE	DISCHARGE SIC CODE:	FACILITY NAICS CODE:	DISCHARGE NAICS CODE:
4952			

7.5 NUMBER OF SEPARATE DISCHARGE POINTS: 1

7.6 NUMBER OF PEOPLE PRESENTLY CONNECTED OR POPULATION EQUIVALENT	DESIGN POPULATION EQUIVILENT
3040	3,500

NUMBER OF UNITS PRESENTLY CONNECTED

HOMES 800 APARTMENTS 140 TRAILERS 80 OTHER ____

TOTAL DESIGN FLOW (ALL OUTFALLS)	ACTUAL FLOW
0.4 MGD dry weather (0.76 MGD wet)	349,000 GPD

7.7 DOES ANY BYPASSING OCCUR ANYWHERE IN THE COLLECTION SYSTEM OR AT THE TREATMENT FACILITY?
Yes ☐ No ■ (If Yes, attach an explanation.)

7.8 LENGTH OF THE SANITARY SEWER COLLECTION SYSTEM IN MILES: 17

7.9 IS INDUSTRIAL WASTE DISCHARGED TO THE FACILITY IDENTIFIED IN ITEM 2? Yes ☐ No ☑

7.10 WILL THE DISCHARGE BE CONTINUOUS THROUGH THE YEAR? Yes ☐ No ☑

A. DISCHARGE WILL OCCUR DURING THE FOLLOWING MONTHS	B. HOW MANY DAYS OF THE WEEK WILL THE DISCHARGE OCCUR?
Nov. - April & any month that conditions force it	7 Day per week

7.11 IS WASTEWATER LAND APPLIED? (If Yes, Attach Form I)	7.12 DOES THIS FACILITY DISCHARGE TO A LOSING STREAM OR SINKHOLE?
Yes ☑ No ☐	Yes ☐ No ☑

7.13 HAS A WASTE LOAD ALLOCATION STUDY BEEN COMPLETED FOR THIS FACILITY?
Yes ☑ No ☐

7.14 LIST ALL PERMIT VIOLATIONS, INCLUDING EFFLUENT LIMIT EXCEEDANCES IN THE LAST FIVE YEARS.
ATTACH A SEPARATE SHEET IF NECESSARY. IF NONE, WRITE NONE.

8. LABORATORY CONTROL INFORMATION

8.1 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, nutrients, total oils, phenols, etc.	Yes ☐	No ☐
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.	Yes ☐	No ☐

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Ironton Wastewater Treatment Facility	MO- 0026514	

PART A – BASIC APPLICATION INFORMATION

9. SLUDGE HANDLING, USE AND DISPOSAL

9.1 IS THE SLUDGE A HAZARDOUS WASTE AS DEFINED BY 10 CSR 25?
Yes ☐ No ☐

9.2 SLUDGE PRODUCTION, INCLUDING SLUDGE RECEIVED ROM OTHERS
Design Dry Tons/Year Actual Dry Tons/Year

9.3 CAPACITY OF SLUDGE HOLDING STRUCTURES

9.4 SLUDGE STORAGE PROVIDED
Cubic Feet Days of Storage Average Percent Solids of Sludge ☑ No Sludge Storage is Provided

9.5 TYPE OF STORAGE
☐ Holding Tank ☐ Basin ☐ Building ☐ Concrete Pad ☐ Other (Describe) _____

9.6 SLUDGE TREATMENT
☐ Anaerobic Digester ☐ Storage Tank ☐ Lime Stabilization ☐ Lagoon
☐ Aerobic Digester ☐ Air or Heat Drying ☐ Composting ☐ Other (Attach Description)

9.7 SLUDGE USE OR DISPOSAL
☐ Land Application ☐ Contract Hauler ☐ Hauled to Another Treatment Facility ☐ Solid Waste Landfill
☐ Surface Disposal (Sludge Disposal Lagoon, Sludge Held For More Than Two Years) ☐ Incineration
☐ Other (Attach Explanation Sheet) _____

9.8 PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY

NAME			
ADDRESS	CITY	STATE	ZIP
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO MO-	

9.9 SLUDGE USE OR DISPOSAL FACILITY
☐ By Applicant ☐ By Others (Complete Below)

NAME			
ADDRESS	CITY	STATE	ZIP
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO MO-	

9.10 DO THE SLUDGE OR BIOSOLIDS DISPOSAL COMPLY WITH FEDERAL SLUDGE REGULATIONS UNDER 40 CFR 503?
☐ Yes ☐ No (Attach Explanation)

10. DOWNSTREAM LANDOWNER(S). (ATTACH ADDITIONAL SHEETS AS NECESSARY.)

NAME Cecil Sutton			
ADDRESS Route 1	CITY Ironton	STATE MO	ZIP 63650

11. DRINKING WATER SUPPLY INFORMATION

11.1 SOURCE OF YOUR DRINKING WATER SUPPLY

A. PUBLIC SUPPLY (MUNICIPAL OR WATER DISTRICT WATER) (IF PUBLIC, PLEASE GIVE NAME OF PUBLIC SUPPLY)
Municipal Ironton Water & Sewer departments

B. PRIVATE WELL

C. SURFACE WATER (LAKE, POND OR STREAM)
Stream, atributary to Stouts Creek

11.2 DOES YOUR DRINKING WATER SOURCE SERVE AT LEAST 25 PEOPLE AT LEAST 60 DAYS PER YEAR (NOT NECESSARILY CONSECUTIVE DAYS)? Yes ☑ No ☐

11.3 DOES YOUR SPPLY SERVE HOUSING THAT IS OCCUPIED YEAR ROUND BY THE SAME PEOPLE? THIS DOES NOT INCLUDE HOUSING THAT IS OCCUPIED SEASONALLY? Yes ☑ No ☐

END OF PART A

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MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Ironton Wastewater Treatment Facility	MO- 0026514	

PART B – ADDITIONAL APPLICATION INFORMATION

20. INFLOW AND INFILTRATION

ESTIMATE THE AVERAGE NUMBER OF GALLONS PER DAY THAT FLOW INTO THE TREATMENT WORKS FROM INFLOW AND INFILTRATION.

Gallons Per Day 762,918

BRIEFLY EXPLAIN ANY STEPS UNDERWAY OR PLANNED TO MINIMIZE INFLOW AND INFILTRATION.

Manholes have been inspected & many rehabed. Collection system is being cleaned & camerae

20.1 OPERATION AND MAINTENANCE PERFORMED BY CONTRACTOR(S)

ARE ANY OPERATIONAL OR MAINTENANCE ASPECTS (RELATED TO WASTEWATER TREATMENT AND EFFLUENT QUALITY) OF THE TREATMENT WORKS THE RESPONSIBILITY OF A CONTRACTOR?

Yes ☐ No ☑ If Yes, list the name, address, telephone number and status of each contractor and describe the contractor's responsibilities. (Attach additional pages if necessary.)

NAME

MAILING ADDRESS

TELEPHONE NUMBER WITH AREA CODE

RESPONSIBILITIES OF CONTRACTOR

20.2 SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION. PROVIDE INFORMATION ABOUT ANY UNCOMPLETED IMPLEMENTATION SCHEDULE OR UNCOMPLETED PLANS FOR IMPROVEMENTS THAT WILL AFFECT THE WASTEWATER TREATMENT, EFFLUENT QUALITY OR DESIGN CAPACITY OF THE TREATMENT WORKS. IF THE TREATMENT WORKS HAS SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES OR IS PLANNING SEVERAL IMPROVEMENTS, SUBMIT SEPARATE RESPONSES FOR EACH. (IF NONE, GO TO QUESTION B-20.3.)

A. List the outfall number that is covered by this implementation schedule	B. Indicate whether the planned improvements or implementation schedule are required by local, state or federal agencies.
Outfall No. 001	Yes ☐ No ☑

20.3 WASTEWATER DISCHARGES:

COMPLETE QUESTIONS 20.4 THROUGH 20.7 ONCE FOR EACH OUTFALL (INCLUDING BYPASS POINTS) THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION.

20.4 DESCRIPTION OF OUTFALL

OUTFALL NUMBER **001**

A. LOCATION

¼ SW ¼ SE ¼ ___ Section 32 Township 34N Range 4 E ☑ E ☐ W

UTM Coordinates Easting (X): 32 Northing (Y): 34

For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

B. Distance from Shore (If Applicable)	C. Depth Below Surface (If Applicable)	D. Average Daily Flow Rate
_____ ft.	_____ ft.	.4 mgd

E. Does this outfall have either an intermittent or periodic discharge?

☑ Yes ☐ No If Yes, Provide the following information:

Number of Days Per Year Discharge Occurs:	Average Duration of Each Discharge:	Average Flow Per Discharge:	Months in Which Discharge Occurs:
135 during 2011	**27 days**	32.975 mgd	Jan.-June, Nov. & Dec.

Is Outfall Equipped with a Diffuser? ☐ Yes ☐ No

20.5 DESCRIPTION OF RECEIVING WATER

B. Name of Receiving Water

Stouts Creek

B. Name of Watershed (If Known)	U.S. Soil Conservation Service 14-Digit Watershed Code (If Known)
B. Name of State Management/River Basin (If Known)	U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (If Known)
B. Critical Flow of Receiving Stream (If Applicable) Acute _____ cfs Chronic _____ cfs	B. Total Hardness of Receiving Stream at Critical Low Flow (If Applicable) mg/L of $CaCO_3$

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FACILITY NAME	PERMIT NO.	OUTFALL NO.
Ironton Wastewater Treatment Facility	MO- 0026514	002

PART B – ADDITIONAL APPLICATION INFORMATION (CONTINUED)

20.6 DESCRIPTION OF TREATMENT

A. WHAT LEVELS OF TREATMENT ARE PROVIDED? Check All That Apply

☑ Primary ☐ Secondary ☐ Advanced ☐ Other (Describe)

B. INDICATE THE FOLLOWING REMOVAL RATES (AS APPLICABLE)

Design BOD_5 Removal Or Design $CBOD_5$ Removal ___% Design SS Removal ___%

Design P Removal ___% Design N Removal ___% Other _____ ___%

C. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:

If disinfection is by chlorination, is dechlorination used for this outfall? ☐ Yes ■ No

Does the treatment plant have post aeration? ☑ Yes ☐ No

20.7 EFFLUENT TESTING DATA. ALL APPLICANTS THAT DISCHARGE TO WATERS OF THE U.S. MUST PROVIDE EFFLUENT TESTING DATA FOR THE FOLLOWING PARAMETERS. PROVIDE THE INDICATED EFFLUENT DATA **FOR EACH OUTFALL THROUGH WHICH EFFLUENT IS DISCHARGED**. DO NOT INCLUDE INFORMATION OF COMBINED SEWER OVERFLOWS IN THIS SECTION. ALL INFORMATION REPORTED MUST BE BASED ON DATA COLLECTED THROUGH ANALYSIS CONDUCTED USING 40 CFR PART 136 METHODS. IN ADDITION, THIS DATA MUST COMPLY WITH QA/QC REQUIREMENTS OF 40 CFR PART 136 AND OTHER APPROPRIATE QA/QC REQUIREMENTS FOR STANDARD METHODS FOR ANALYTES NOT ADDRESSED BY 40 CFR PART 136.

OUTFALL NUMBER

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	VALUE	UNITS	VALUE	UNITS	NO. OF SAMPLES
pH (Minimum)		S.U.		S.U.	
pH (Maximum)		S.U.		S.U.	
FLOW RATE		MGD		MGD	
TEMPERATURE (Winter)		°C		°C	
TEMPERATURE (Summer)		°C		°C	

*For pH report a minimum and a maximum daily value.

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
		CONC.	UNITS	CONC.	UNITS	NO. OF SAMPLES		
Conventional and Nonconventional Compounds								
BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD_5		mg/L		mg/L			
	$CBOD_5$		mg/L		mg/L			
FECAL COLIFORM			#/100 mL		#/100 mL			
TOTAL SUSPENDED SOLIDS (TSS)			mg/L		mg/L			
AMMONIA (AS N)			mg/L		mg/L			
CHLORINE (TOTAL RESIDUAL, TRC)			mg/L		mg/L			
DISSOLVED OXYGEN			mg/L		mg/L			
TOTAL KJELDAHL NITROGEN (TKN)			mg/L		mg/L			
NITRATE PLUS NITRITE NITROGEN			mg/L		mg/L			
OIL AND GREASE			mg/L		mg/L			
PHOSPHORUS (TOTAL)			mg/L		mg/L			
TOTAL DISSOLVE SOLIDS (TDS)			mg/L		mg/L			
OTHER			mg/L		mg/L			

END OF PART B

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PART C - CERTIFICATION

30. CERTIFICATION

All applicants must complete the Certification Section. This certification must be signed by an officer of the company or city official. All applicants must complete all applicable sections as explained in the Application Overview. By signing this certification statement, applicants confirm that they have reviewed the entire form and have completed all sections that apply to the facility for which this application is submitted.

ALL APPLICANTS MUST COMPLETE THE FOLLOWING 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 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.

PRINTED NAME AND OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL)

Robert Halket, Mayor

SIGNATURE

TELEPHONE NUMBER WITH AREA CODE

573-546-3545

DATE SIGNED

2-7-12

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

For Design Flows Less than 1 Million Gallons Per Day, Send Completed Form to:	For Design Flows of 1 Million Gallons Per Day or Greater, Send Completed Form to:
Appropriate Regional Office Map of regional offices with addresses and phone numbers is available on the Web at www.dnr.mo.gov/regions/ro-map.pdf.	Department of Natural Resources Water Protection Program ATTN: NPDES Permits and Engineering Section P.O. Box 176 Jefferson City, MO 65102

END OF PART C.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

Do not complete the remainder of this application, unless:

1. Your facility design flow is equal to or greater than 1,000,000 gallons per day.
2. Your facility is a pretreatment treatment works.
3. Your facility is a combined sewer system.

Submittal of an incomplete application may result in the application being returned. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

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PART A LINE 7.14

PERMIT VIOLATIONS FOR THE LAST FIVE YEARS

2007	FECAL COLIFORM		AMMONIA			
	DAILY MAX	MONTHLY AVERAGE	DAILY MAX			MONTHLY AVERAGE
January						6.73
February						6.33
March						6.32
April						8.22
May			9th	7.51		6.01
2008						
January						9.81
February			13th	15.20		8.93
April	2nd 6,200	1,807				
December			30th	15.20		15.20
2009						
January			7th	17.50	>	15.45
January			14th	13.40	>	
February						8.70
March						8.28
April	22nd 1,310 >	1,165				
April	29th 1,020 >					
May	13th 1,800	939				3.35

PART A LINE 7.14

PERMIT VIOLATIONS FOR THE LAST FIVE YEARS

	FECAL COLIFORM		AMMONIA		
	DAILY MAX	MONTHLY AVERAGE		DAILY MAX	MONTHLY AVERAGE
June	17th 660				
July	8th 1,600	534			
October	28th 2,560	2,560	28th	7.33	7.33
December					7.45
2010					
January					7.16
February					6.03
March					6.12
June	16th 4,280	1,439			
September			29th	6.10	6.10
October					2.68
December			22nd	15.00	15.00
2011					
January			26th	17.70	17.70
February			22nd	11.80	11.80
March			1st	10.70	6.65
April	27th 23,600	23,600			

PART A LINE 7.14

PERMIT VIOLATIONS FOR THE LAST FIVE YEARS

	FECAL COLIFORM			AMMONIA		
	DAILY MAX		MONTHLY AVERAGE	DAILY MAX		MONTHLY AVERAGE
May	4th	3,000	862			
June						3.93
November				8th	21.60	21.60
December				7th	28.60	
December				13th	14.00	
December				15th	12.40	14.81

APPENDIX A