

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**  
**MISSOURI CLEAN WATER COMMISSION**



**CONSTRUCTION PERMIT**

The Missouri Department of Natural Resources hereby issues a permit to:

MISSOURI-AMERICAN WATER COMPANY  
MAWC – Monticello WWTF  
901 Hog Hollow Road  
Chesterfield, MO 65017

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

As the Department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the Department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the Department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

November 28, 2023  
Effective Date

November 27, 2025  
Expiration Date

  
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John Hoke, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

The project includes construction of influent piping modifications and a new extended aeration wastewater treatment facility (WWTF) with an emergency storage basin, influent lift station, screen, surge tank, two aeration basins, clarifier, digester tank, effluent flow meter, and ultraviolet light (UV) disinfection. Rustic Oaks WWTF flows will be regionalized at this new WWTF in the future.

A closure plan will need to be submitted to the Central Field Operations Office for review and approval prior to any closure activities at Monticello Lagoon WWTF.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater treatment facility.

### **II. COST ANALYSIS FOR COMPLIANCE**

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a 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 publically-owned treatment works.

### **III. CONSTRUCTION PERMIT CONDITIONS**

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.
2. All construction shall be consistent with plans and specifications signed and sealed by William R. Johanning, P.E., with Cochran and as described in this permit.

3. The Department must be contacted in writing prior to making any changes to the plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).
4. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's Central Field Operations Office per 10 CSR 20-7.015(9)(G).
5. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the 100 year flood elevation per 10 CSR 20-8.140(2)(B). The minimum distance between wastewater treatment facilities and all potable water sources shall be at least 300 feet per 10 CSR 20-8.140(2)(C)1.
6. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of one acre or more to obtain a Missouri state operating permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the Department's ePermitting system available online at <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. See <https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting> for more information.
7. In accordance with 10 CSR 20-6.010(12), a full closure plan shall be submitted to the Department's Central Field Operations Office for review and approval of any permitted wastewater treatment system being replaced. The closure plan must meet the requirements outlined in Standard Conditions Part III of the Missouri State Operating Permit No. MO- 0033847. Closure shall not commence until the submitted closure plan is approved by the Department.
8. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
  - Vacuum testing, if specified for concrete sewer manholes, shall conform to the test procedures in ASTM C1244 – 11(2017) *Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill*, as approved and published April 1, 2017, or the manufacturer's recommendation. 10 CSR 20-8.120(4)(F)1.
  - Exfiltration testing, if specified for concrete sewer manholes, shall conform to the test procedures in ASTM C969 – 17 *Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines*, as approved and published April 1, 2017. 10 CSR 20-8.120(4)(F)2.
  - The distance between wastewater pumping stations and all potable water sources shall be at least 50 feet in accordance with 10 CSR 23-3.010(1)(B). 10 CSR 20-8.130(2) (D)

- Multiple pumps shall be provided except for design average flows of less than 1,500 gallons per day. 10 CSR 20-8.130(3)(B)1.
- Electrical equipment. Electrical equipment shall be provided with the following requirements:
  - 10 CSR 20-8.130(3)(B)2.A. Electrical equipment must comply with 10 CSR 20-8.140(7)(B);
  - Utilize corrosive resistant equipment located in the wet well; 10 CSR 20-8.130(3)(B)2.B.
  - Provide a watertight seal and separate strain relief for all flexible cable; 10 CSR 20-8.130(3)(B)2.C.
  - Install a fused disconnect switch located above ground for the main power feed for all pumping stations. 10 CSR 20-8.130(3)(B)2.D.
  - When such equipment is exposed to weather, it shall comply with the requirements of weather proof equipment; enclosure NEMA 4; NEMA 4X where necessary; and *NEMA Standard 250-2014*, published December 15, 2014. 10 CSR 20-8.130(3)(B)2.E.
  - Install lightning and surge protection systems; 10 CSR 20-8.130(3)(B)2.F.
  - Install a 110 volt (V) power receptacle inside the control panel located outdoors to facilitate maintenance; 10 CSR 20-8.130(3)(B)2.G.
  - Provide Ground Fault Circuit Interruption (GFCI) protection for all outdoor receptacles. 10 CSR 20-8.130(3)(B)2.H.
- Water level controls must be accessible without entering the wet well. 10 CSR 20-8.130(3)(C)
- Valves shall not be located in the wet well unless integral to a pump or its housing. 10 CSR 20-8.130(3)(D)
- Covered wet wells shall have provisions for air displacement to the atmosphere, such as an inverted and screened “j” tube or other means. 10 CSR 20-8.130(3)(E)
- There shall be no physical connection between any potable water supply and a wastewater pumping station, which under any conditions, might cause contamination of the potable water supply. If a potable water supply is brought to the station, no piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply. 10 CSR 20-8.130(3)(G)
  - Where a potable water supply is to be used for any purpose in a wastewater treatment facility other than direct connections, a break tank, pressure pump, and pressure tank or a reduced pressure backflow preventer consistent with the department’s Public Drinking Water Branch shall be provided. 10 CSR 20-8.140(7)(D)3.A.
  - For indirect connections, a sign shall be permanently posted at every hose bib, faucet, hydrant, or sill cock located on the water system beyond the break tank or backflow preventer to indicate that the water is not safe for drinking. 10 CSR 20-8.140(7)(D)3.B.

- Where a separate non-potable water supply is to be provided, a break tank will not be necessary, but all system outlets shall be posted with a permanent sign indicating the water is not safe for drinking. 10 CSR 20-8.140(7)(D)4.
- Flood protection shall apply to new construction and to existing facilities undergoing major modification. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the 100 year flood elevation. 10 CSR 20-8.140(2)(B). 10 CSR 20-8.130(2)(A)
- Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140(2)(D). 10 CSR 20-8.130 (2)(B).
- Submersible pump stations shall meet the applicable requirements under section (3) of this rule, except as modified in this section. 10 CSR 20-8.130(5)
  - Pump Removal. Submersible pumps shall be readily removable and replaceable without personnel entering, dewatering, or disconnecting any piping in the wet well. 10 CSR 20-8.130(5)(A)
  - 10 CSR 20-8.130 (5) (B) Valve Chamber and Valves. Valves required under subsection (3)(D) of this rule shall be located in a separate valve chamber.
  - A minimum access hatch dimensions of 24 inches by 36 inches (24" x 36") shall be provided. 10 CSR 20-8.130 (5) (B) 1.
- A portable pump connection on the discharge line with rapid connection capabilities shall be provided. 10 CSR 20-8.130(5)(B)2.
- Alarm systems with an uninterrupted power source shall be provided for pumping stations. 10 CSR 20-8.130(6).
- Where independent substations are used for emergency power, each separate substation and its associated distribution lines shall be capable of starting and operating the pump station at its rated capacity. 10 CSR 20-8.130(7)(B)
- Force main system shall be designed to withstand all pressures (including water hammer and associated cyclic reversal of stresses), and maintain a velocity of at least two feet per second. 10 CSR 20-8.130(8)(A)
- The outfall shall be so constructed and protected against the effects of flood water, ice, or other hazards as to reasonably ensure its structural stability and freedom from stoppage. 10 CSR 20-8.140(6)(A)
- All sampling points shall be designed so that a representative and discrete 24 hour automatic composite sample or grab sample of the effluent discharge can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. 10 CSR 20-8.140(6)(B)
- All outfalls shall be posted with a permanent sign indicating the outfall number (i.e., Outfall #001). 10 CSR 20-8.140(6)(C)

- All wastewater treatment facilities shall be provided with an alternate source of electric power or pumping capability to allow continuity of operation during power failures. 10 CSR 20-8.140(7)(A)1.
- Disinfection and dechlorination, when used, shall be provided during all power outages. 10 CSR 20-8.140(7)(A)2.
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the NFPA 70 *National Electric Code (NEC)* (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140(7)(B)
- An audiovisual alarm or a more advanced alert system, with a self-contained power supply, capable of monitoring the condition of equipment whose failure could result in a violation of the operating permit, shall be provided for all wastewater treatment facilities. 10 CSR 20-8.140(7)(C)
- No piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply. 10 CSR 20-8.140(7)(D)1.
- Where a potable water supply is to be used for any purpose in a wastewater treatment facility other than direct connections, a break tank, pressure pump, and pressure tank or a reduced pressure backflow preventer consistent with the department's Public Drinking Water Branch shall be provided. 10 CSR 20-8.140(7)(D)3.A.
- For indirect connections, a sign shall be permanently posted at every hose bib, faucet, hydrant, or sill cock located on the water system beyond the break tank or backflow preventer to indicate that the water is not safe for drinking. 10 CSR 20-8.140(7)(D)3.B.
- Where a separate non-potable water supply is to be provided, a break tank will not be necessary, but all system outlets shall be posted with a permanent sign indicating the water is not safe for drinking. 10 CSR 20-8.140(7)(D)4.
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140(7)(E)
- Effluent 24 hour composite automatic sampling equipment shall be provided at all mechanical wastewater treatment facilities and at other facilities where necessary under provisions of the operating permit. 10 CSR 20-8.140(7)(F)
- Adequate provisions shall be made to effectively protect facility personnel and visitors from hazards. The following shall be provided to fulfill the particular needs of each wastewater treatment facility:
  - Fencing. Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20-8.140(8)(A)
  - Gratings over appropriate areas of treatment units where access for maintenance is necessary; 10 CSR 20-8.140(8)(B)

- First aid equipment; 10 CSR 20-8.140 (8) (C)
- Posted “No Smoking” signs in hazardous areas; 10 CSR 20-8.140 (8) (D)
- Appropriate personal protective equipment (PPE); 10 CSR 20-8.140 (8) (E)
- Portable blower and hose sufficient to ventilate accessed confined spaces; 10 CSR 20-8.140 (8) (F)
- 10 CSR 20-8.140 (8) (G) Portable lighting equipment complying with NEC requirements. See subsection (7)(B) of this rule;
- 10 CSR 20-8.140 (8) (H) Gas detectors listed and labeled for use in NEC Class I, Division 1, Group D locations. See subsection (7)(B) of this rule;
- Appropriately-placed warning signs for slippery areas, non-potable water fixtures (see subparagraph (7)(D)3.B. of this rule), low head clearance areas, open service manholes, hazardous chemical storage areas, flammable fuel storage areas, high noise areas, etc.; 10 CSR 20-8.140 (8) (I)
- Ventilation shall include the following:
  - Isolate all pumping stations and wastewater treatment components installed in a building where other equipment or offices are located from the rest of the building by an air-tight partition, provide separate outside entrances, and provide separate and independent fresh air supply; 10 CSR 20-8.140 (8) (J) 1.
  - Force fresh air into enclosed screening device areas or open pits more than 4 feet deep. 10 CSR 20-8.140 (8) (J) 2.
  - Dampers are not to be used on exhaust or fresh air ducts. Avoid the use of fine screens or other obstructions on exhaust or fresh air ducts to prevent clogging; 10 CSR 20-8.140 (8) (J) 3.
  - Where continuous ventilation is needed (e.g., housed facilities), provide at least 12 complete air changes per hour. Where continuous ventilation would cause excessive heat loss, provide intermittent ventilation of at least 30 complete air changes per hour when facility personnel enter the area. Base air change demands on 100% percent fresh air; 10 CSR 20-8.140 (8) (J) 4.
  - Electrical controls. Mark and conveniently locate switches for operation of ventilation equipment outside of the wet well or building. Interconnect all intermittently operated ventilation equipment with the respective wet well, dry well, or building lighting system. The manual lighting/ventilation switch is expected to override the automatic controls. For a 2 speed ventilation system with automatic switch over where gas detection equipment is installed, increase the ventilation rate automatically in response to the detection of hazardous concentrations of gases or vapors; 10 CSR 20-8.140 (8) (J) 5.
  - Fabricate the fan wheel from non-sparking material. Provide automatic heating and dehumidification equipment in all dry wells and buildings. 10 CSR 20-8.140 (8) (J) 6.
- Explosion-proof electrical equipment, non-sparking tools, gas detectors, and similar devices, in work areas where hazardous conditions may exist, such as digester vaults and other locations where potentially explosive atmospheres of flammable gas or vapor with air may accumulate. 10 CSR 20-8.140 (8) (K)



- Provisions for local lockout/tagout on stop motor controls and other devices; 10 CSR 20-8.140(8)(L)
- Provisions for an arc flash hazard analysis and determination of the flash protection boundary distance and type of PPE to reduce exposure to major electrical hazards shall be in accordance with NFPA 70E *Standard for Electrical Safety in the Workplace* (2018 Edition), as approved and published August 21, 2017. 10 CSR 20-8.140(8)(M)
- All wastewater treatment facilities must have a screening device, comminutor, or septic tank for the purpose of removing debris and nuisance materials from the influent wastewater. 10 CSR 20-8.150(2)
- All screening devices and screening storage areas shall be protected from freezing. 10 CSR 20-8.150(4)(A)1.
- Provisions shall be made for isolating or removing screening devices from their location for servicing. 10 CSR 20-8.150(4)(A)2.
- Manually cleaned screen channels shall be protected by guard railings and deck gratings with adequate provisions for removal or opening to facilitate raking. 10 CSR 20-8.150(4)(A)3.A.(I)
- Mechanically cleaned screen channels shall be protected by guard railings and deck gratings. 10 CSR 20-8.150(4)(A)3.A.(II)
- Mechanical screening equipment shall have adequate removal enclosures to protect facility personnel against accidental contact with moving parts and to prevent dripping in multi-level installations. 10 CSR 20-8.150(4)(A)3.B.(I)
- A positive means of locking out each mechanical screening device shall be provided. 10 CSR 20-8.150(4)(A)3.B.(II)
- An emergency stop button with an automatic reverse function shall be located in close proximity to the mechanical screening device. 10 CSR 20-8.150(4)(A)3.B.(III)
- Effective flow splitting devices and control appurtenances (*e.g.* gates and splitter boxes) shall be provided to permit proper proportioning of flow and solids loading to each settling unit, throughout the expected range of flows. 10 CSR 20-8.160 (2)(B)
- Overflow weirs shall be readily adjustable over the life of the structure to correct for differential settlement of the tank. 10 CSR 20-8.160(3)(C)1.
- Walls of settling tanks shall extend at least 6 inches above the surrounding ground surface and shall provide not less than 12 inches of freeboard. 10 CSR 20-8.160(3)(E)



- Safety features shall appropriately include machinery covers, life lines, handrails on all stairways and walkways, and slip resistant surfaces. For additional safety follow the provisions listed in 10 CSR 20-8.140(8). 10 CSR 20-8.160(5)(A)
- The design shall provide for convenient and safe access to routine maintenance items such as gear boxes, scum removal mechanism, baffles, weirs, inlet stilling baffle areas, and effluent channels. 10 CSR 20-8.160(5)(B)
- For electrical equipment, fixtures, and controls in enclosed settling basins and scum tanks, where hazardous concentrations of flammable gases or vapors may accumulate, follow the provisions in 10 CSR 20-8.140(7)(B). The fixtures and controls shall be conveniently located and safely accessible for operation and maintenance. 10 CSR 20-8.160(5)(C)
- The UV dosage shall be based on the design peak hourly flow, maximum rate of pumpage, or peak batch flow. 10 CSR 20-8.190(5)(A)1.
- If no flow equalization is provided for a batch discharger, the UV dosage shall be based on the peak batch flow. 10 CSR 20-8.190(5)(A)2.
- The UV system shall deliver the target dosage based on equipment derating factors and, if needed, have the UV equipment manufacturer verify that the scale up or scale down factor utilized in the design is appropriate for the specific application under consideration. 10 CSR 20-8.190(5)(A)3.
- The UV system shall deliver a minimum UV dosage of 30,000 microwatt seconds per centimeters squared ( $30,000 \mu\text{W} \cdot \text{s}/\text{cm}^2$ ). 10 CSR 20-8.190(5)(A)4.
- Open channel UV systems. The combination of the total number of banks shall be capable of treating the design peak hourly flow, maximum rate of pumpage, or peak batch flow. 10 CSR 20-8.190(5)(B)1.
- The UV system must continuously monitor and display at the UV system control panel the following minimum conditions:
  - The relative intensity of each bank or closed vessel system; 10 CSR 20-8.190(5)(C)1.A.
  - The operational status and condition of each bank or closed vessel system; 10 CSR 20-8.190(5)(C)1.B.
  - The ON/OFF status of each lamp in the system; 10 CSR 20-8.190(5)(C)1.C. and
  - The total number of operating hours of each bank or each closed vessel system. 10 CSR 20-8.190(5)(C)1.D.
- The UV system shall include an alarm system. Alarm systems shall comply with 10 CSR 20-8.140(7)(C). 10 CSR 20-8.190(5)(C)2.
- Lagoon berms shall be constructed of relatively impervious material and compacted to at least 95% percent maximum dry density test method to form a stable structure. 10 CSR 20-8.200(4)(A)1.

- The minimum berm width shall be eight feet to permit access of maintenance vehicles. 10 CSR 20-8.200(4)(A)2.
- Minimum freeboard shall be two feet. 10 CSR 20-8.200(4)(A)3.
- An emergency spillway shall be provided that—
  - Prevents the overtopping and cutting of berms; 10 CSR 20-8.200(4)(A)4.A.
  - Is compacted and vegetated or otherwise constructed to prevent erosion; 10 CSR 20-8.200(4)(A)4.B. and
  - Has the ability for a representative sample to be collected, if discharging. 10 CSR 20-8.200(4)(A)4.C.
- The soil of the lagoon bottom shall be compacted with the moisture content between 2 percent below and 4 percent above the optimum water content and compacted to at least 95 percent maximum dry density test method. 10 CSR 20-8.200(4)(B)
- The lagoon shall be sealed to ensure that seepage loss is as low as possible and has a design permeability not exceeding  $1.0 \times 10^{-7}$  cm/sec. 10 CSR 20-8.200(4)(C)1.
- Synthetic seals thickness may vary due to liner material but the liner thickness shall be no less than .02 inches or twenty 20 millimeters and be the appropriate material to perform under existing conditions. 10 CSR 20-8.200(4)(C)3.
- Seep collars shall be provided on drainpipes where they pass through the lagoon seal. 10 CSR 20-8.200(4)(C)4.

9. Upon completion of construction:

- A. The MISSOURI-AMERICAN WATER COMPANY (MAWC) will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of the as-built plans if the project was not constructed in accordance with previously submitted plans and specifications; and
- C. Submit the Statement of Work Completed form to the Department in accordance with 10 CSR 20-6.010(5)(N) (<https://dnr.mo.gov/document-search/wastewater-construction-statement-work-completed-mo-780-2155>) and request the operating permit modification public noticed on October 13, 2023 be issued. The operating permit modification fee has been paid.

## **IV. REVIEW SUMMARY**

### **1. CONSTRUCTION PURPOSE**

Construction is to meet final effluent limits for ammonia and to regionalize Monticello Lagoon WWTF and Rustic Oaks WWTF.

### **2. FACILITY DESCRIPTION**

MAWC currently owns and operates two WWTFs, one each for two subdivisions in the Monticello Road area. The first is the Monticello Lagoon, MO-0033847; the second is Rustic Oaks WWTF, MO-GD00445. The Monticello Lagoon WWTF is having difficulties meeting future ammonia limits for the facility. The Rustic Oaks facility is nearing the end of its design life and is in need of repairs. MAWC proposes to construct a new WWTF at the Monticello Lagoon WWTF area. The flows from Rustic Oaks shall be conveyed to this new WWTF.

The new Monticello WWTF is located at 3464 Horseshoe Road, Jefferson City, in Cole County, Missouri. The facility has a design average flow of 64,900 gallons per day (gpd) and serves a hydraulic population equivalent of approximately 650 people.

### **3. COMPLIANCE PARAMETERS**

The proposed project is required to meet final effluent limits as established in the Antidegradation review dated October 21, 2022.

The limits following the completion of construction will be applicable to the facility:

Parameter	Units	Monthly average limit
Biochemical Oxygen Demand <sub>5</sub>	mg/L	30
Total Suspended Solids	mg/L	30
Ammonia as N- Jan 1 – Mar 31	mg/L	3.1
Ammonia as N- Apr 1 – Jun 30	mg/L	1.5
Ammonia as N- Jul 1 – Sep 30	mg/L	1.0
Ammonia as N- Oct 1 – Dec 31	mg/L	2.2
pH	SU	6.5-9.0
<i>E. coli</i>	#/100mL	126

### **4. ANTIDEGRADATION**

The Department has reviewed the antidegradation report for this facility and issued the Water Quality and Antidegradation Review dated October 21, 2022, due to the combined design flow of Monticello Lagoon and Rustic Oaks WWTFs. See **APPENDIX – ANTIDEGRADATION**.

## **5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

**Existing major components that will remain in use include the following:**

- Lagoon Cell No. 1 is to be modified to become an emergency storage basin for the new WWTF. The new emergency storage basin provides 75,900 gallons which is approximately 1.17 days of retention at the proposed design flow of 64,900 gpd.

**Construction will cover the following items:**

- Components are designed for a Population Equivalent of 649 based on organic loading to the system.
- Sewer Main Improvements – Construction of approximately 222 lf of 8-inch Ductile Iron and 606 lineal feet of PVC SDR-35 gravity sewer lines with approximately 6 manholes.
- Emergency Storage Basin – Basin will be constructed and sealed with a 60-millimeter geosynthetic liner with ingress and egress steps for cleaning and maintenance of the basin. The basin will have 3:1 side slopes, a depth from the top of the berm to the floor of 6 feet. The berm width will be 8 ft.
- Influent Pump Station – Construction of a duplex influent pump station with each 1.48 HP submersible pump capable of operating at 98 gpm at 11.69 feet of TDH.
- Flow Measurement – Installation of accurate flow measurement devices will give the treatment facility a means of improved data analysis.
  - Parshall Flume – A 3-inch throat effluent Parshall flume with ultrasonic flow sensor shall measure the secondary treated and disinfected wastewater prior to discharge at Outfall No. 001.
- Screening – Installation of screening devices removes nuisance inorganic materials from raw wastewater.
  - Manual Coarse Bar Screen – The manual coarse bar screen will have clear bar spacings of 3/4-inch and be positioned at an angle of 45 degrees from the horizontal to allow for manual raking of the screen. The coarse bar screen is followed by surge tank/selector basin.
  - Mechanical Fine Screen – One mechanically cleaned fine screen perforated plate with 1/4-inch openings. The screening device shall be capable of treating a design average flow of 64,900 gpd and a peak hourly flow of 0.260 MGD. The screen is followed by surge tank/selector basin.

- Extended Aeration Package Plant – Installation of one Aero-Mod, Inc. extended aeration package plant capable of treating a design average flow of 64,900 gpd. The main components integrated into the cast-in-place concrete package plant includes a surge tank/selector basin (surge tank), aeration chambers, a final clarifier, a sludge holding tank, and an aeration system consisting of two 20 horsepower (hp) blowers each capable of providing 428 scfm.
  - Surge Tank – A surge tank with a volume of 16,225 gallons will be provided. Aeration by means of the two blowers to 2 stainless steel coarse bubble diffusers capable of providing 15 scfm. A dosing pump that transfers wastewater to the first aeration chamber. The surge tank has a gravity emergency overflow to the aeration chamber.
  - Aeration Chambers – Two aeration chambers operating in series by means of a transfer pipe with a total volume of 9,632 ft<sup>3</sup> will be provided. The first aeration chamber has 45 ft by 8 ft by 14 ft sidewater depth; the second aeration chamber has 20.5 ft by 16 ft by 14 ft sidewater depth. Aeration by means of the two 20 hp blowers to 16 stainless steel coarse bubble diffusers per chamber with a total minimum capacity of 223 scfm. The aeration chambers are designed for an average daily loading of 143 lbs BOD<sub>5</sub>. Three transfer pipes with screens and elbows allow wastewater from the second aeration chamber to move by gravity to the clarifier.
  - Final Clarifier – The final clarifier will have a settling volume of 20,106 gallons and a detention time of 7.4 hours with a settling rate of 338 gpd/ft<sup>2</sup>. An air lift surface skimmer is provided to remove grease and floatables and return to the first aeration chamber. The clarified effluent will flow by gravity to the disinfection system. An air lift pump will be provided to move settled sludge from the hopper bottom to return to the aeration chamber as return activated sludge.
  - Sludge Holding Chamber – The sludge holding chamber will have a volume of 28,471 gallons. The aeration chamber blowers will supply air to the 6 stainless steel coarse bubble diffusers with a total capacity of 114 scfm. Supernatant will be decanted by means of a weir plate with baffle to the first aeration chamber. Sludge removal shall be by contract hauler.
- Disinfection – Disinfection is the process of removal, deactivation, or killing of pathogenic microorganisms.
  - Open Channel Ultraviolet (UV) – An open channel, gravity flow, low pressure high intensity UV disinfection system capable of treating a peak flow of 260,000 gpd while delivering a minimum UV intensity of 30 mJ/cm<sup>2</sup> with an expected ultraviolet transmissivity of 65 percent or greater. The dual open channel UV system consists of two banks in series with 2 modules per bank and 2 lamps per module. The disinfected effluent will flow by gravity through flow measurement equipment to Outfall No. 001 and discharge into a tributary of Moreau River.

## **6. OPERATING PERMIT**

Operating permit MO-0033847 will require a modification to reflect the construction activities. The modified MAWC-Monticello WWTF, MO-0033847, was successfully public noticed from October 13, 2023 to November 13, 2023 with no comments received. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request the operating permit modification be issued.

## **V. NOTICE OF RIGHT TO APPEAL**

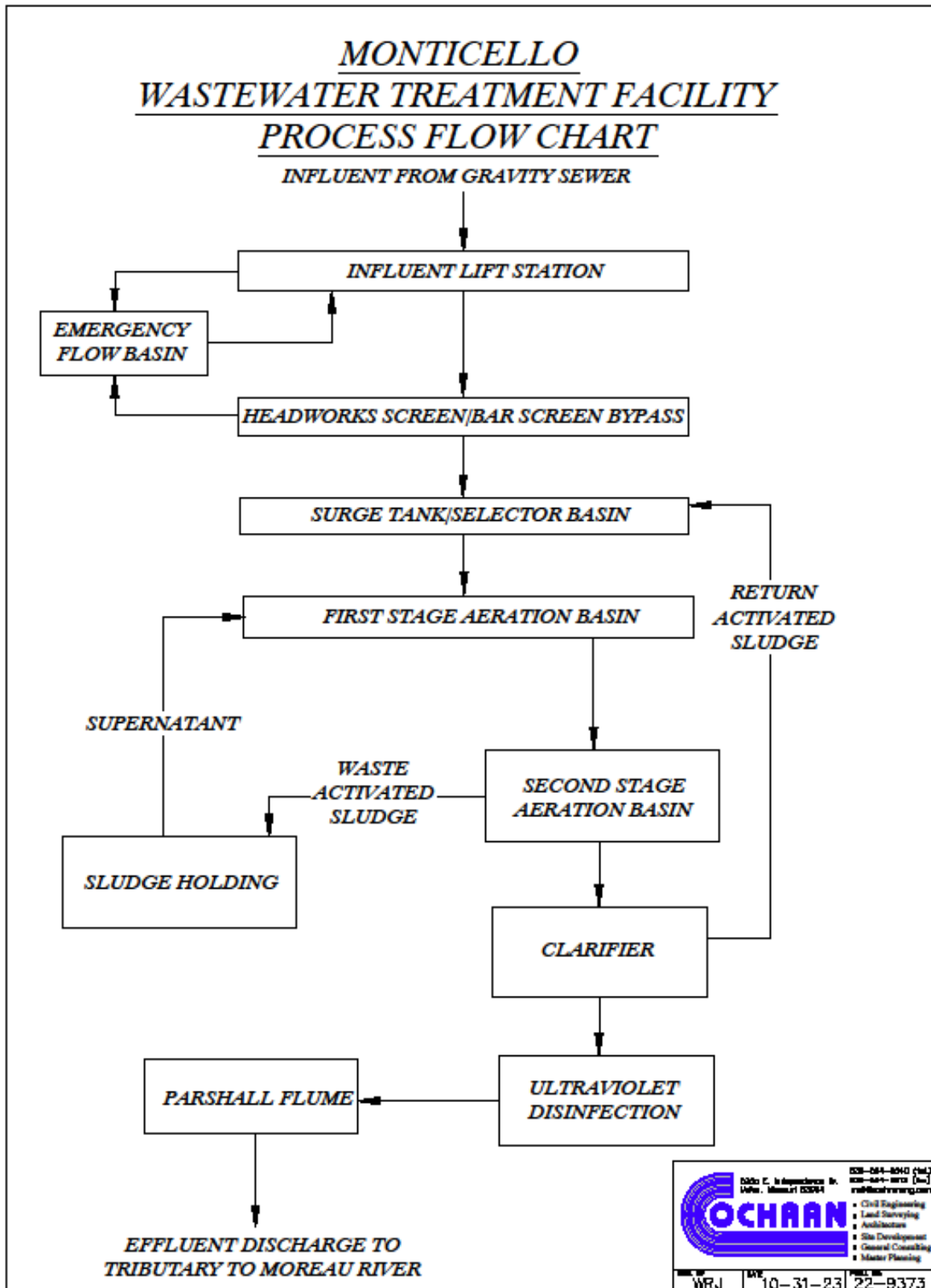
If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, 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>

Sieu T. Dang, P.E.  
Engineering Section  
[sieu.dang@dnr.mo.gov](mailto:sieu.dang@dnr.mo.gov)

## **APPENDICES**

- **Process Flow Diagram**
- **Antidegradation**







Michael L. Parson  
Governor

Dru Buntin  
Director

October 21, 2022

Byron Shaw  
Missouri American Water Company  
320 Hoover Road  
Jefferson City, MO 65109

RE: MAWC Monticello Wastewater Treatment Facility, MO-0033847, Water Quality Review,  
ACT1239, Cole County

Dear Byron Shaw:

Enclosed please find the finalized Water Quality Review (WQR) for the Antidegradation Review Request Project Summary Report received on July 19, 2022. The WQR contains pertinent antidegradation review information for the facility discharge. It was developed in accordance with 10 CSR 20-7.031, the Clean Water Commission approved *Missouri Antidegradation Implementation Procedure* (AIP) dated July 13, 2016, U.S. Environmental Protection Agency (US EPA) guidance, the applicant-supplied antidegradation review documentation, and the State of Missouri's effluent regulations (10 CSR 20-7.015). Please refer to the *General Assumptions of the Water Quality Review* and the caveats sections of the enclosed WQR. The WQR is preliminary and subject to change as new information becomes available during future permit application processing.

Based on the Missouri Department of Natural Resources' (department's) initial review, preliminary determination is that the applicant-supplied antidegradation review documentation satisfies the requirements of the AIP. This WQR may be appealed within 30 days of this letter in accordance with the AIP Section II.F.4.

The WQR identifies a specific treatment technology for the new facility; however, you may pursue construction of a different alternative that will meet the effluent limits established in the WQR. The new facility will be a mechanical wastewater treatment plant consisting of screening, flow equalization, secondary treatment utilizing either fixed film media such as a Moving Bed Bio-Reactor (MBBR) or activated sludge with extended aeration, final clarification, UV disinfection, flow measurement and discharge at the existing outfall location.

You may proceed with submittal of an engineering report/facility plan for this project. Upon completion of that review the next step will be to submit a complete application for an operation permit modification and a construction permit.

Missouri American Water Company  
Page 2

These submittals must reflect the design flow, facility description, and general treatment components of this WQR or this preliminary determination may have to be revisited. In addition to one set of paper copies, all materials are to be submitted electronically as well. This is typically done via compact disc or other removable electronic media. If space allows materials may be emailed to [DNR.WPPEngineerSection@dnr.mo.gov](mailto:DNR.WPPEngineerSection@dnr.mo.gov).

Following the department's public notice of a draft Missouri State Operating Permit Modification including the WQR findings and preliminary determination, the department will review any public notice comments received. If significant comments are made, the project may require another public notice and potentially another antidegradation review. If no comments are received or comments are resolved without another public notice, these findings and determinations will be considered final.

Following issuance of the construction permit and completion of the actual facility construction, the department will proceed with the issuance of the operating permit.

If you should have questions regarding the enclosed WQR, please contact Bern Johnson by phone at 573-751-1714, by email at [bern.johnson@dnr.mo.gov](mailto:bern.johnson@dnr.mo.gov), or by mail at the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102-0176.

Sincerely,

WATER PROTECTION PROGRAM



Cindy LePage, P.E., Chief  
Engineering Section

CL:bjt

## FACILITY INFORMATION

FACILITY NAME: Monticello WWTF NPDES #: MO0033847  
CONTINUING AUTHORITY: MISSOURI-AMERICAN WATER COMPANY COUNTY COLE

FACILITY TYPE/DESCRIPTION: Regionalization of two plants: Rustic Oaks, to be closed, and Monticello. Flow will be combined but not increased. Monticello will be upgraded to meet ammonia limits in operating permits. The combined design flow for the upgraded Monticello will be 64,900 gpd.

COUNTY: Cole UTM COORDINATES: X = 565631 / Y = 4262845  
12- DIGIT HUC: 10300102-1206 LEGAL DESCRIPTION: Sec 33, T44N, R12W  
EDU\*: Ozark/Moreau/Loutre ECOREGION: Interior River Valleys and Hills

\* - Ecological Drainage Unit

## WATER QUALITY INFORMATION

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the Missouri Department of Natural Resources (MDNR) developed a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body's available assimilative capacity is justified. Effective August 30, 2008, and revised May 2, 2012, a facility is required to use *Missouri's Antidegradation Implementation Procedure (AIP)* for new and expanded wastewater discharges.

WATER QUALITY HISTORY: Both of the facilities being combined are operating well; neither has a history of exceedances. They are being combined because the current lagoons are not expected to meet the new ammonia limits in their latest OP renewal.

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.10	Secondary	Tributary to Moreau River 100K Extent Remaining Streams	Direct Discharge

## RECEIVING WATERBODY INFORMATION

WATERBODY NAME	CLASS	WBID	LOW-FLOW VALUES (CFS)			DESIGNATED USES**
			1Q10	7Q10	30Q10	
100K Extent Remaining Streams	C	3960	-	-	-	AQL, HHP, IRR, LWW, SCR, WBC(B)
Moreau River	P	941	-	-	-	AQL, WBC(A), SCR, HHP, IRR, LWW

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

COMMENTS: A Geohydrologic evaluation was completed by the Geological Survey. The receiving stream is considered gaining for discharge purposes.

## ANTIDEGRADATION REVIEW INFORMATION

The proposed upgrade will not require an antidegradation review according to *Missouri Antidegradation Rule and Implementation Procedure*. No new pollutants of concern or expansion of stream loadings are proposed. Although the design flow of the Monticello, facility will increase, the overall flow from the two facilities, Monticello and Rustic Oaks are being combined with no overall increase. Rustic Oaks will be removed from service.

## GENERAL ASSUMPTIONS OF THE WATER QUALITY REVIEW SHEET

1. A Water Quality and Antidegradation Review (WQAR) assumes that [10 CSR 20-6.010(2), Continuing Authorities and 10 CSR 20-6.010(4)(A)5.B., consideration for no discharge] has been or will be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQRS does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQRS may alter Water Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or Effluent Limit Guidelines (ELG).
5. WQBEL supersede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
6. A WQRS does not allow discharges to waters of the state, and shall not be construed as a National Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
7. Limitations and other requirements in a WQRS may change as Water Quality Standards, Methodology, and Implementation procedures change.
8. Nothing in this WQRS removes any obligations to comply with county or other local ordinances or restrictions.

## MIXING CONSIDERATIONS

**Mixing Zone (MZ):** Not Allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)].

**Zone of Initial Dilution (ZID):** Not Allowed [10 CSR 20-7.031(5)(A)4.B.(I)(b)]

## PERMIT LIMITS AND INFORMATION

### OUTFALL #001

TABLE 1: NEW EFFLUENT LIMITS FOR PROPOSED FACILITY COMBINED FLOW

PARAMETER****	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	BASIS FOR LIMIT	MONITORING FREQUENCY
FLOW	MGD	*		*	FSR	ONCE/QUARTER
BIOCHEMICAL OXYGEN DEMAND <sub>5</sub>	MG/L		45	30	FSR	ONCE/QUARTER
TOTAL SUSPENDED SOLIDS	MG/L		45	30	FSR	ONCE/QUARTER
<i>ESCHERICHIA COLIFORM (E. COLI)**</i>	#/100ML	630		126	FSR	ONCE/QUARTER
AMMONIA AS N (JAN 1 – MAR 31)	MG/L	12.1		3.1	WQBEL	ONCE/QUARTER
AMMONIA AS N (APR 1 – JUN 30)	MG/L	10.1		1.5	WQBEL	ONCE/QUARTER
AMMONIA AS N (JUL 1-SEP30)	MG/L	8.4		1.0	WQBEL	ONCE/QUARTER
AMMONIA AS N (OCT 1 – DEC 31)	MG/L	8.4		2.2	WQBEL	ONCE/QUARTER

PARAMETER	UNITS	MINIMUM		MAXIMUM	BASIS FOR LIMIT	MONITORING FREQUENCY
pH***	SU	6.5		9.0	FSR	ONCE/QUARTER

\* Monitoring requirements only.

\*\* The Monthly Average for *E. coli* shall be reported as a Geometric Mean.

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

\*\*\*\* Sample Type will be determined during the operating permit generation

#### BASIS FOR LIMITATIONS CODES:

FSR STATE OR FEDERAL REGULATION/LAW

WQBEL WATER QUALITY BASED EFFLUENT LIMITS

### 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:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration

C<sub>s</sub> = upstream concentration

Q<sub>s</sub> = upstream flow

C<sub>e</sub> = effluent concentration

Q<sub>e</sub> = 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 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD<sub>5</sub>).** Water Quality Review retains 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(8) for discharges to All Other Waters.

- **Total Suspended Solids (TSS)**. Water Quality Review retains 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(8) for discharges to All Other Waters.
- **Escherichia coli (E. coli)**. Monthly average of 126 per 100 mL as a geometric mean and Daily Maximum of 630 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), for discharges within two miles upstream of segments or lakes with Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.015(9)(B). An effluent limit for both monthly average and 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<sup>th</sup> root of (1)(4)(6)(10)(5) = 5<sup>th</sup> root of 1,200 = 4.1 #/100mL.
- **Total Ammonia Nitrogen**. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L. No mixing considerations allowed; therefore, WLA = appropriate criterion.

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

$$C_e = \frac{(Q_e + Q_s)C - (Q_s \times C_s)}{(Q_e)}$$

Where C = downstream concentration    C<sub>e</sub> = effluent concentration  
C<sub>s</sub> = upstream concentration    Q<sub>e</sub> = effluent flow  
Q<sub>s</sub> = upstream flow

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

Quarter	Temp (°C)*	pH (SU)*	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
1 <sup>st</sup>	7.4	7.8	3.1	12.1
2 <sup>nd</sup>	24.0	7.9	1.5	10.1
3 <sup>rd</sup>	28.6	8.0	1.0	8.4
4 <sup>th</sup>	15.9	8.0	2.2	8.4

\* Ecoregion Data (Interior River Valleys and Hills)

**Quarter 1**

Chronic WLA:

$$C_e = ((0.100595 + 0) * 3.1 - (0 * 0.01)) / 0.100595 = 3.1 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.100595 + 0) * 12.1 - (0 * 0.01)) / 0.100595 = 12.1 \text{ mg/L}$$

$$AML = WLA_c = 3.1 \text{ mg/L}$$

$$MDL = WLA_a = 12.1 \text{ mg/L}$$

**3<sup>rd</sup> Quarter**

Chronic WLA:

$$C_e = ((0.100595 + 0) * 1.0 - (0 * 0.01)) / 0.100595 = 1.0 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.100595 + 0) * 8.4 - (0 * 0.01)) / 0.100595 = 8.4 \text{ mg/L}$$

$$AML = WLA_c = 1.0 \text{ mg/L}$$

$$MDL = WLA_a = 8.4 \text{ mg/L}$$

**2<sup>nd</sup> Quarter**

Chronic WLA:

$$C_e = ((0.100595 + 0) * 1.5 - (0 * 0.01)) / 0.100595 = 1.5 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.100595 + 0) * 10.1 - (0 * 0.01)) / 0.0403 = 10.1 \text{ mg/L}$$

$$AML = WLA_c = 1.5 \text{ mg/L}$$

$$MDL = WLA_a = 10.1 \text{ mg/L}$$

**4<sup>th</sup> Quarter**

Chronic WLA:

$$C_e = ((0.100595 + 0) * 2.2 - (0 * 0.01)) / 0.100595 = 2.2 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.100595 + 0) * 8.4 - (0 * 0.01)) / 0.100595 = 8.4 \text{ mg/L}$$

$$AML = WLA_c = 2.2 \text{ mg/L}$$

$$MDL = WLA_a = 8.4 \text{ mg/L}$$

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

**OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS:**

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit states that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule or regulation promulgated by the commission.

- (A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses. 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 8, 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. 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. Please see (A) above as justification is the same.
- (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. 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, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

Reviewer: Bern Johnson, EI  
Date: August 30, 2022  
Section Chief: Cindy LePage, PE

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 A: Outfall Map



## Appendix B: Natural Heritage Review



### Missouri Department of Conservation

Missouri Department of Conservation's Mission is to protect and manage the forest, fish, and wildlife resources of the state and to facilitate and provide opportunities for all citizens to use, enjoy and learn about these resources.

### **Natural Heritage Review Level Three Report: Species Listed Under the Federal Endangered Species Act**

There are records of species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

**Foreword:** Thank you for accessing the Missouri Natural Heritage Review Website developed by the Missouri Department of Conservation with assistance from the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Missouri Department of Transportation and NatureServe. The purpose of this website is to provide information to federal, state and local agencies, organizations, municipalities, corporations and consultants regarding sensitive fish, wildlife, plants, natural communities and habitats to assist in planning, designing and permitting stages of projects.

### **PROJECT INFORMATION**

**Project Name and ID Number:** Monticello WWTP and Rustic Oaks WWTP Regionalization Project #11171

**User Project Number:** I17-270002

**Project Description:** T44N, R12W, Sec. 33; X=565631, Y=4262845; Cole County; Tributary to Moreau River; Project consists of the upgrade of Monticello Lagoon to meet ammonia by constructing a mechanical plant. The project also includes regionalizing the Monticello Lagoon and Rustic Oaks WWTP by eliminating the Rustic Oaks WWTP and transporting the wastewater with a lift station and force main to the new Monticello WWTP.

**Project Type:** Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Wastewater treatment plant, Construction or expansion

**Contact Person:** Byron Shaw

**Contact Information:** byron.shaw@amwater.com or 5732913314

**Disclaimer:** The NATURAL HERITAGE REVIEW REPORT produced by this website identifies if a species tracked by the Natural Heritage Program is known to occur within or near the area submitted for your project, and shares suggested recommendations on ways to avoid or minimize project impacts to sensitive species or special habitats. If an occurrence record is present, or the proposed project might affect federally listed species, the user must contact the Department of Conservation or U.S. Fish and Wildlife Service for more information. The Natural Heritage Program tracks occurrences of sensitive species and natural communities where the species or natural community has been found. Lack of an occurrence record does not mean that a sensitive plant, animal or natural community is not present on or near the project area. Depending on the project, current habitat conditions, and geographic location in the state, surveys may be necessary. Additionally, because land use conditions change and animals move, the existence of an occurrence record does not mean the species/habitat is still present. Therefore, Reports include information about records near but not necessarily on the project site.

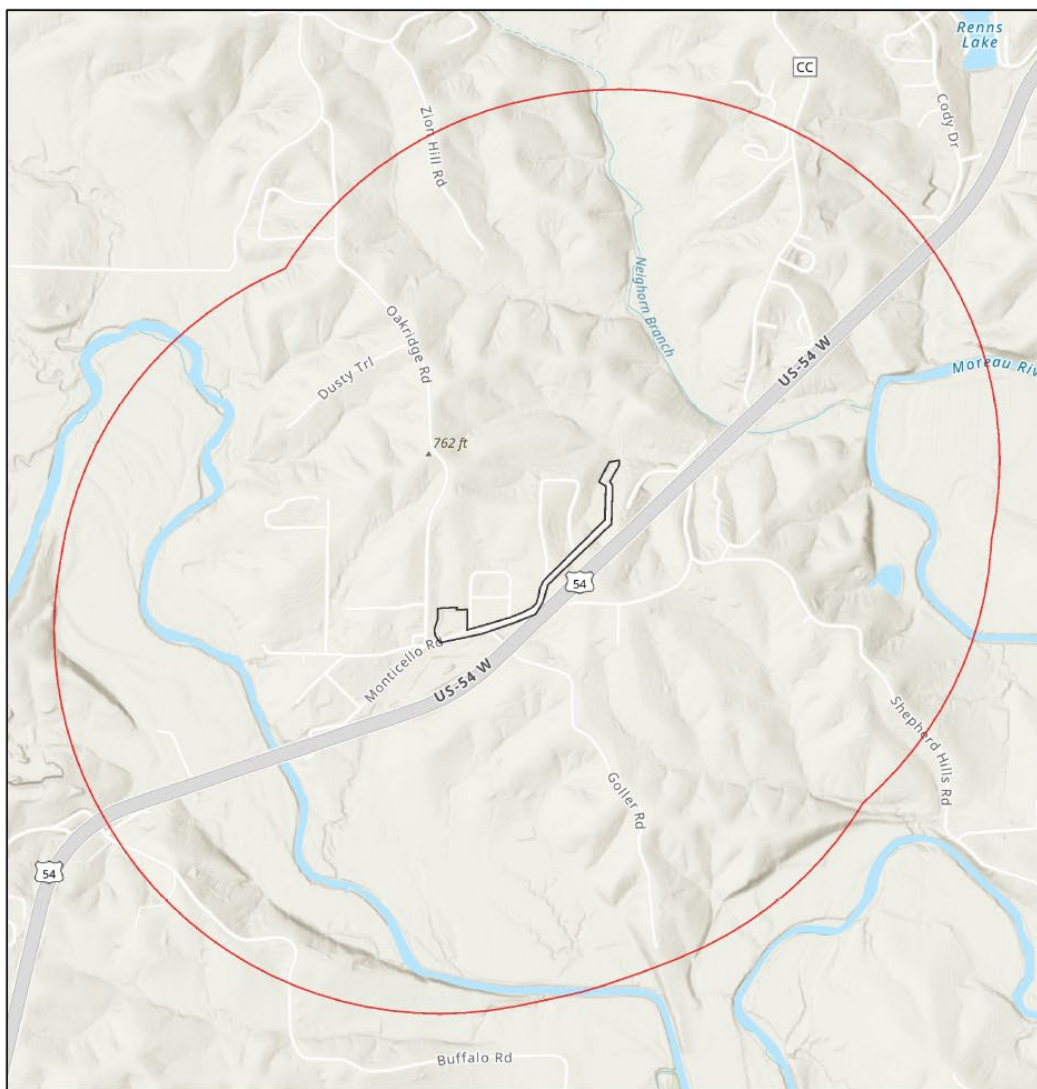
The Natural Heritage Report is not a site clearance letter for the project. It provides an indication of whether or not public lands and sensitive resources are known to be (or are likely to be) located close to the proposed project. Incorporating information from the Natural Heritage Program into project plans is an important step that can help reduce unnecessary impacts to Missouri's sensitive fish, forest and wildlife resources. However, the Natural Heritage Program is only one reference that should be used to evaluate potential adverse project impacts. Other types of information, such as wetland and soils maps and on-site inspections or surveys, should be considered. Reviewing current landscape and habitat information, and species' biological characteristics would additionally ensure that Missouri Species of Conservation Concern are appropriately identified and addressed in planning efforts.

**U.S. Fish and Wildlife Service – Endangered Species Act (ESA) Coordination:** Lack of a Natural Heritage Program occurrence record for federally listed species in your project area does not mean the species is not present, as the area may never have been surveyed. Presence of a Natural Heritage Program occurrence record does not mean the project will result in negative impacts. The information within this report is not intended to replace Endangered Species Act consultation with the U.S. Fish and Wildlife Service (USFWS) for listed species. Direct contact with the USFWS may be necessary to complete consultation and it is required for actions with a federal connection, such as federal funding or a federal permit; direct contact is also required if ESA concurrence is necessary. Visit the USFWS Information for Planning and Conservation (IPaC) website at <https://ecos.fws.gov/ipac/> for further information. This site was developed to help streamline the USFWS environmental review process and is a first step in ESA coordination. The Columbia Missouri Ecological Field Services Office may be reached at 573-234-2132, or by mail at 101 Park Deville Drive, Suite A, Columbia, MO 65203.

**Transportation Projects:** If the project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or visit <https://www.modot.org/> for additional information on recommendations.

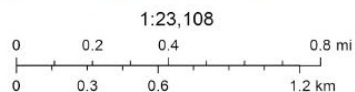


## Monticello WWTP and Rustic Oaks WWTP Regionalization Project



July 14, 2022

- Buffered Project Boundary
- Project Boundary



Esri, NASA, NGA, USGS, FEMA, Missouri Dept. of Conservation, Missouri DNR, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

#### Species or Communities of Conservation Concern within the Area:

There are records of species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

Email (preferred): [NaturalHeritageReview@mdc.mo.gov](mailto:NaturalHeritageReview@mdc.mo.gov)  
MDC Natural Heritage Review  
Science Branch  
P.O. Box 180  
Jefferson City, MO  
65102-0180  
Phone: 573-522-4115 ext. 3182

U.S. Fish and Wildlife Service  
Ecological Service  
101 Park Deville Drive  
Suite A  
Columbia, MO  
65203-0007  
Phone: 573-234-2132

#### Other Special Search Results:

Your project is near a designated Natural Area . Please contact Missouri Department of Conservation ([NaturalHeritageReview@mdc.mo.gov](mailto:NaturalHeritageReview@mdc.mo.gov)) for further coordination.

#### Project Type Recommendations:

**Waste Transfer, Treatment and Disposal -Wastewater treatment plant: New or Maintenance;** [Clean Water Act](#) permits issued by other agencies regulate both construction and operation of wastewater systems, and provide many important protections for fish and wildlife resources throughout the project area and at some distance downstream. Fish and wildlife almost always benefit when unnatural pollutants are removed from water, and concerns are minimal if construction is managed to minimize erosion and sedimentation/runoff to nearby streams and lakes, including adherence to any "Clean Water Permit" conditions.

Revegetate disturbed areas to minimize erosion using native plant species compatible with the local landscape and wildlife needs. Annual ryegrass may be combined with native perennials for quicker green-up. Avoid aggressive exotic perennials such as crownvetch and *Sericea lespedeza*. Management Recommendations for Construction Projects Affecting Missouri Rivers and Streams is available at <https://mdc.mo.gov/sites/default/files/2020-06/Streams.pdf>

#### Project Location and/or Species Recommendations:

**Endangered Species Act Coordination - Indiana bats (*Myotis sodalis*, federal- and state-listed endangered) and Northern long-eared bats (*Myotis septentrionalis*, federal-listed threatened) may occur near the project area. Both of these species of bats hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in wooded areas, often riparian forests and upland forests near perennial streams. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor Indiana bats or Northern long-eared bats, especially from September to April. **If any trees need to be removed for your project, please contact the U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132 ext. 100 for Ecological Services) for further coordination under the Endangered Species Act.****

**Invasive exotic species** are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment. Please inspect and clean equipment thoroughly before moving between project sites. See

<https://mdc.mo.gov/community-conservation/managing-invasive-species-your-community> for more information.

- Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water (>140° F, typically available at do-it-yourself car wash sites), and dry in the hot sun before using again.

**Streams and Wetlands – Clean Water Act Permits:** Streams and wetlands in the project area should be protected from activities that degrade habitat conditions. For example, soil erosion, water pollution, placement of fill, dredging, in-stream activities, and riparian corridor removal, can modify or diminish aquatic habitats. Streams and wetlands may be protected under the Clean Water Act and require a permit for any activities that result in fill or other modifications to the site. Conditions provided within the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permit (<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch.aspx>) and the Missouri Department of Natural Resources (DNR) issued Clean Water Act Section 401 Water Quality Certification (<http://dnr.mo.gov/env/wpp/401/index.html>), if required, should help minimize impacts to the aquatic organisms and aquatic habitat within the area. Depending on your project type, additional permits may be required by the Missouri Department of Natural Resources, such as permits for stormwater, wastewater treatment facilities, and confined animal feeding operations. Visit <http://dnr.mo.gov/env/wpp/permits/index.html> for more information on DNR permits. Visit both the USACE and DNR for more information on Clean Water Act permitting.

**For further coordination with the Missouri Department of Conservation and the U.S. Fish and Wildlife Services, please see the contact information below:**

Email (preferred): [NaturalHeritageReview@mdc.mo.gov](mailto:NaturalHeritageReview@mdc.mo.gov)  
MDC Natural Heritage Review  
Science Branch  
P.O. Box 180  
Jefferson City, MO  
65102-0180  
Phone: 573-522-4115 ext. 3182

U.S. Fish and Wildlife Service  
Ecological Service  
101 Park Deville Drive  
Suite A  
Columbia, MO  
65203-0007  
Phone: 573-234-2132

#### **Miscellaneous Information**

**FEDERAL** Concerns are species/habitats protected under the Federal Endangered Species Act and that have been known near enough to the project site to warrant consideration. For these, project managers must contact the U.S. Fish and Wildlife Service Ecological Services (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132; Fax 573-234-2181) for consultation.

**STATE** Concerns are species/habitats known to exist near enough to the project site to warrant concern and that are protected under the Wildlife Code of Missouri (RSMo 3 CSR 1 0). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements expressed in the Missouri Wildlife Code, rule 3CSR 10-4.111. Species tracked by the Natural Heritage Program have a "State Rank" which is a numeric rank of relative rarity. Species tracked by this program and all native Missouri wildlife are protected under rule 3CSR 10-4.110 General Provisions of the Wildlife Code.

See [Missouri Species and Communities of Conservation Concern Checklist \(mo.gov\)](#) for a complete list of species and communities of conservation concern. Detailed information about the animals and some plants mentioned may be accessed at [Missouri Fish and Wildlife Information System \(MOFWIS\)](#). Please contact the Missouri Department of Conservation to request printed copies of any materials linked in this document.





Michael L. Parson  
Governor

Dru Buntin  
Director

LWE23004  
Cole County

September 02, 2022

Byron Shaw  
320 Hoover Road  
Jefferson City, MO 65109

**RE: MAWC-Monticello Lagoon**

Dear Byron Shaw:

On July 14, 2022, the Missouri Geological Survey received a request to perform a geohydrologic evaluation for the above referenced project located in Cole County. Included with this letter is a report that details the geologic and hydrologic conditions at the site and the potential for groundwater contamination in the event of wastewater treatment failure.

Thank you for the evaluation request. If you are in need of further assistance or have questions regarding the report, please contact our office at P.O Box 250, Rolla, Mo 65402-0250, by telephone at 573-368-2100 or [gspg@dnr.mo.gov](mailto:gspg@dnr.mo.gov).

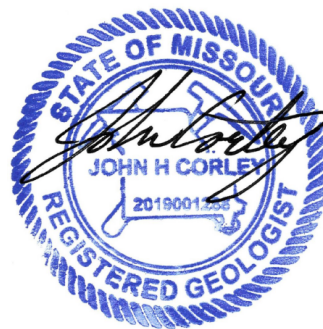
Sincerely,

MISSOURI GEOLOGICAL SURVEY

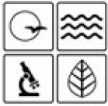
A handwritten signature in blue ink, appearing to read "John Corley", is positioned above the printed name and title.


John Corley  
Geologist  
Environmental Geology Section

c: Byron Shaw  
WPP  
Central Field Operations



09/02/2022

	<b>Missouri Department Of Natural Resources</b> Missouri Geological Survey Geological Survey Program Environmental Geology Section	<b>Project ID Number</b> <b>LWE23004</b> <b>County</b> <b>Cole County</b>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Request Details</b></p> <p style="text-align: center;">Project: MAWC-Monticello Lagoon</p> <p style="text-align: center;"><u>Organization Official</u></p> <p style="text-align: center;">Name: Byron Shaw            Address: 320 Hoover Road            City: Jefferson City            State: MO Zip: 65109            Phone: 573-291-3314            Email:</p> </div> <div style="width: 45%;"> <p style="text-align: center;">Legal Description: 33 T44N R12W            Quadrangle: JEFFERSON CITY            Latitude: 38 30 43.0            Longitude: -92 14 48.9</p> <p style="text-align: center;"><u>Preparer</u></p> <p style="text-align: center;">Name: Byron Shaw            Address: 320 Hoover Road            City: Jefferson City            State: MO Zip: 65109            Phone: 573-291-3314            Email: byron.shaw@amwater.com</p> </div> </div>						
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Project Details</b></p> <p style="text-align: center;">Report Date: 09/02/2022            Date of Field Visit: 08/17/2022</p> </div> <div style="width: 45%;"> <p style="text-align: center;">Previous Reports: Not Applicable</p> </div> </div>						
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <p><u>Facility Type</u></p> <p><input checked="" type="checkbox"/> Mechanical treatment plant</p> <p><input type="checkbox"/> Recirculating filter bed</p> <p><input type="checkbox"/> Land application</p> <p><input type="checkbox"/> Lagoon or storage basin</p> <p><input type="checkbox"/> Subsurface soil absorption system</p> <p><input type="checkbox"/> Lagoon or storage basin W/Land App</p> <p><input type="checkbox"/> Lagoon or storage basin W/SSAS</p> <p><input type="checkbox"/> Other type of facility</p> </td> <td style="width: 33%; vertical-align: top;"> <p><u>Type of Waste</u></p> <p><input type="checkbox"/> Animal</p> <p><input checked="" type="checkbox"/> Human</p> <p><input type="checkbox"/> Process or industrial</p> <p><input type="checkbox"/> Leachate</p> <p><input type="checkbox"/> Other waste type</p> </td> <td style="width: 33%; vertical-align: top;"> <p><u>Funding Source</u></p> <p><input checked="" type="checkbox"/> IWT</p> <p><input type="checkbox"/> WWL-SRF</p> <p><u>Additional Information</u></p> <p><input type="checkbox"/> Plans were submitted</p> <p><input type="checkbox"/> Site was investigated by NRCS</p> <p><input type="checkbox"/> Soil or geotechnical data were submitted</p> </td> </tr> </table>			<p><u>Facility Type</u></p> <p><input checked="" type="checkbox"/> Mechanical treatment plant</p> <p><input type="checkbox"/> Recirculating filter bed</p> <p><input type="checkbox"/> Land application</p> <p><input type="checkbox"/> Lagoon or storage basin</p> <p><input type="checkbox"/> Subsurface soil absorption system</p> <p><input type="checkbox"/> Lagoon or storage basin W/Land App</p> <p><input type="checkbox"/> Lagoon or storage basin W/SSAS</p> <p><input type="checkbox"/> Other type of facility</p>	<p><u>Type of Waste</u></p> <p><input type="checkbox"/> Animal</p> <p><input checked="" type="checkbox"/> Human</p> <p><input type="checkbox"/> Process or industrial</p> <p><input type="checkbox"/> Leachate</p> <p><input type="checkbox"/> Other waste type</p>	<p><u>Funding Source</u></p> <p><input checked="" type="checkbox"/> IWT</p> <p><input type="checkbox"/> WWL-SRF</p> <p><u>Additional Information</u></p> <p><input type="checkbox"/> Plans were submitted</p> <p><input type="checkbox"/> Site was investigated by NRCS</p> <p><input type="checkbox"/> Soil or geotechnical data were submitted</p>	
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<p><b>Geologic Stream Classification:</b> <input checked="" type="checkbox"/> Gaining    <input type="checkbox"/> Losing    <input type="checkbox"/> No discharge</p>						
<table style="width: 100%; border: none;"> <tr> <td style="width: 25%; vertical-align: top;"> <p><u>Overall Geologic Limitations</u></p> <p><input checked="" type="checkbox"/> Slight</p> <p><input type="checkbox"/> Moderate</p> <p><input type="checkbox"/> Severe</p> </td> <td style="width: 25%; vertical-align: top;"> <p><u>Collapse Potential</u></p> <p><input type="checkbox"/> Not applicable</p> <p><input checked="" type="checkbox"/> Slight</p> <p><input type="checkbox"/> Moderate</p> <p><input type="checkbox"/> Severe</p> </td> <td style="width: 25%; vertical-align: top;"> <p><u>Topography</u></p> <p><input type="checkbox"/> &lt;4%</p> <p><input checked="" type="checkbox"/> 4% to 8%</p> <p><input type="checkbox"/> 8% to 15%</p> <p><input type="checkbox"/> &gt;15%</p> </td> <td style="width: 25%; vertical-align: top;"> <p><u>Landscape Position</u></p> <p><input type="checkbox"/> Broad uplands    <input type="checkbox"/> Floodplain</p> <p><input type="checkbox"/> Ridgetop    <input type="checkbox"/> Alluvial plain</p> <p><input checked="" type="checkbox"/> Hillslope    <input type="checkbox"/> Terrace</p> <p><input type="checkbox"/> Narrow ravine    <input type="checkbox"/> Sinkhole</p> </td> </tr> </table>			<p><u>Overall Geologic Limitations</u></p> <p><input checked="" type="checkbox"/> Slight</p> <p><input type="checkbox"/> Moderate</p> <p><input type="checkbox"/> Severe</p>	<p><u>Collapse Potential</u></p> <p><input type="checkbox"/> Not applicable</p> <p><input checked="" type="checkbox"/> Slight</p> <p><input type="checkbox"/> Moderate</p> <p><input type="checkbox"/> Severe</p>	<p><u>Topography</u></p> <p><input type="checkbox"/> &lt;4%</p> <p><input checked="" type="checkbox"/> 4% to 8%</p> <p><input type="checkbox"/> 8% to 15%</p> <p><input type="checkbox"/> &gt;15%</p>	<p><u>Landscape Position</u></p> <p><input type="checkbox"/> Broad uplands    <input type="checkbox"/> Floodplain</p> <p><input type="checkbox"/> Ridgetop    <input type="checkbox"/> Alluvial plain</p> <p><input checked="" type="checkbox"/> Hillslope    <input type="checkbox"/> Terrace</p> <p><input type="checkbox"/> Narrow ravine    <input type="checkbox"/> Sinkhole</p>
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<p><b><u>Bedrock:</u></b>                      Bedrock consists of moderately permeable Ordovician-age Jefferson City-Cotter Dolomite.</p>						
<p><b><u>Surficial Materials:</u></b>      Surficial materials consist of moderately permeable silt and clay residuum with some chert gravels.</p>						

 <b>Missouri Department Of Natural Resources</b> Missouri Geological Survey Geological Survey Program Environmental Geology Section		Project ID Number <b>LWE23004</b> County <b>Cole County</b>
<b><u>Recommended Construction Procedures for Earthen Facility</u></b> <input type="checkbox"/> Installation of clay pad and Compaction <input type="checkbox"/> Diversion of subsurface flow <input type="checkbox"/> Artificial sealing <input type="checkbox"/> Rock excavation <input type="checkbox"/> Limit excavation depth	<b><u>Determine Overburden Properties</u></b> <input type="checkbox"/> Particle size analysis <input type="checkbox"/> Atterberg limits <input type="checkbox"/> 95% Max. dry density test method <input type="checkbox"/> Overburden thickness <input type="checkbox"/> Permeability coefficient-undisturbed <input type="checkbox"/> Permeability coefficient-remolded	<b><u>Determine Hydrologic Conditions</u></b> <input type="checkbox"/> Groundwater elevation <input type="checkbox"/> Direction of groundwater flow <input type="checkbox"/> 25-Year flood level <input type="checkbox"/> 100-Year flood level

**Remarks:**

On August 17, 2022, a geologist with the Geological Survey Program performed a geohydrologic evaluation for a proposed mechanical wastewater treatment facility that will replace an existing earthen lagoon that serves the subdivision near Monticello Road in southeast Jefferson City, Missouri. The location of the existing lagoon and proposed wastewater treatment facility is located on a slight hillslope. The purpose of this evaluation is to evaluate the geologic and hydrologic characteristics of the site, determine the collapse potential of the existing lagoon, and to determine the groundwater contamination potential in the event of treatment failure.

No bedrock was observed on site, but according to previous geologic mapping, the uppermost bedrock consists of moderately permeable Ordovician-age Jefferson City-Cotter Dolomite. Surficial materials on site consist of moderately permeable silty loam and clayey loam, with some gravel content. Surficial material thickness is expected to be less than 20 feet. There are no known springs, sinkholes, or geologic structures within one mile of the treatment facility.

Flow from the existing lagoon and proposed mechanical treatment plant is to the southwest towards a tributary of the Moreau River, in which both this tributary and the Moreau River exhibit gaining characteristics, and will be classified as such. Based on the geologic and hydrologic characteristics observed, the site receives a slight geologic limitation potential and slight collapse potential rating. In the event of treatment failure, local and shallow groundwater, and surface waters of the Moreau River and its tributaries may be adversely impacted.



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
**APPLICATION FOR CONSTRUCTION PERMIT –  
WASTEWATER TREATMENT FACILITY**

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
DATE RECEIVED	

### APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

### PART A – BASIC INFORMATION


#### 1.0 APPLICATION INFORMATION (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

- 1.1 Is this a Federal/State funded project? ☐ YES ☒ N/A Funding Agency: \_\_\_\_\_ Project #: \_\_\_\_\_
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?  
☒ YES Date of Approval: 10/1/22 ☐ N/A
- 1.3 Has the department approved the proposed project's facility plan\*?  
☐ YES Date of Approval: \_\_\_\_\_ ☒ NO (If No, complete No. 1.4.)
- 1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan\* for wastewater treatment facilities included with this application?  
☒ YES ☐ NO ☐ Exempt because \_\_\_\_\_
- 1.5 Is a copy of the appropriate plans\* and specifications\* included with this application?  
☒ YES Denote which form is submitted: ☐ Hard copy ☐ Electronic copy (See instructions.) ☐ NO
- 1.6 Is a summary of design\* included with this application? ☒ YES ☐ NO
- 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?  
☐ YES Date of submittal: \_\_\_\_\_  
☒ Enclosed is the appropriate operating permit application and fee submittal. Denote which form: ☐ A ☒ B ☐ B2  
☐ N/A: However, In the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice? ☐ YES ☐ NO
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☒ NO
- 1.9 Is the appropriate fee or JetPay confirmation included with this application? ☒ YES ☐ NO  
See Section 7.0

\* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

### 2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT MAWC - Monticello WWTF	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 2,310,329
2.3 PROJECT DESCRIPTION New extended aeration Aero-Mod plant with an emergency storage basin, influent lift station, auger screen, surge tank, 2 aeration basins, clarifier, digester tank, and UV disinfection. Rustic Oaks WWTF flows to be regionalized at Monticello in the future.	
2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION The treatment plant will have sludge collected in a digester, the supernate pumped back into the process flow & remaining sludge will be hauled by a licensed hauler to an accepting facility. Lagoon sludge to remain onsite & mixed with soil & spread over the area.	
2.5 DESIGN INFORMATION A. Current population: _____; Design population: <u>462</u> B. Actual Flow: <u>46,200</u> gpd; Design Average Flow: <u>64,900</u> gpd; Actual Peak Daily Flow: <u>110,000</u> gpd; Design Maximum Daily Flow: <u>130,000</u> gpd; Design Wet Weather Event: <u>260,000</u>	
2.6 ADDITIONAL INFORMATION A. Is a topographic map attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO B. Is a process flow diagram attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	

<b>3.0 WASTEWATER TREATMENT FACILITY</b>					
NAME MAWC - Monticello Lagoon		TELEPHONE NUMBER WITH AREA CODE 573-606-6381		E-MAIL ADDRESS byron.shaw@amwater.com	
ADDRESS (PHYSICAL) 3464 Horseshoe Road		CITY Jefferson City	STATE MO	ZIP CODE 65109	COUNTY Cole
Wastewater Treatment Facility: Mo- 0033847 (Outfall      Of      )					
3.1 Legal Description: SE ¼, SE ¼,      ¼, Sec. 33, T 44N, R 12W (Use additional pages if construction of more than one outfall is proposed.)					
3.2 UTM Coordinates Easting (X): 565633 Northing (Y): 4262847 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)					
3.3 Name of receiving streams: Unnamed Tributary to Moreau River					
<b>4.0 PROJECT OWNER</b>					
NAME Missouri American Water Company		TELEPHONE NUMBER WITH AREA CODE 573-606-6384		E-MAIL ADDRESS byron.shaw@amwater.com	
ADDRESS 901 Hog Hollow Road		CITY Chesterfield	STATE MO	ZIP CODE 63017	
<b>5.0 CONTINUING AUTHORITY:</b> A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.					
NAME Missouri American Water Company		TELEPHONE NUMBER WITH AREA CODE 573-606-6384		E-MAIL ADDRESS byron.shaw@amwater.com	
ADDRESS 901 Hog Hollow Road		CITY Chesterfield	STATE MO	ZIP CODE 63017	
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A					
5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.					
A. Is a copy of the certificate of convenience and necessity included with this application? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.					
A. Is a copy of the as-filed restrictions and covenants included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO					
B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO					
C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO					
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO					
<b>6.0 ENGINEER</b>					
ENGINEER NAME / COMPANY NAME William R. Johanning/Cochran		TELEPHONE NUMBER WITH AREA CODE 636-584-0540		E-MAIL ADDRESS rjohanning@cochraneng.com	
ADDRESS 530A East Independence Drive		CITY Union	STATE MO	ZIP CODE 63084	
<b>7.0 APPLICATION FEE</b>					
<input type="checkbox"/> CHECK NUMBER <input checked="" type="checkbox"/> JETPAY CONFIRMATION NUMBER 20043795					
<b>8.0 PROJECT OWNER:</b> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.					
PROJECT OWNER SIGNATURE 					
PRINTED NAME Byron Shaw				DATE 5/26/2023	
TITLE OR CORPORATE POSITION Senior Project Engineer		TELEPHONE NUMBER WITH AREA CODE 573-606-6384		E-MAIL ADDRESS byron.shaw@amwater.com	
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176					
<b>END OF PART A.</b>					
<b>REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.</b>					