Permit No. CP0002303

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

CONSTRUCTION PERMIT

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

Timothy Ganz
Director of Water Quality & Environmental Compliance
MISSOURI-AMERICAN WATER COMPANY
727 Craig Road
St. Louis, MO 63141

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.

April 26, 2022
Effective Date

April 25, 2024
Expiration Date

Chris Wieberg

Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Approximately 500 linear feet of 8 inch SDR-35 PVC conventional gravity sewer and two manholes will be constructed for collection system improvements. Raw wastewater from the collection system will be conveyed to new headworks that will include a new flow equalization tank with two air lifts and diffusors to transfer wastewater from the equalization tank to the first aeration tank. The new flow equalization tank will have a new blower package to supply the air lifts and diffusors.

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 determine Cost Analysis for Compliance because the permit contains no new conditions or requirements that convey a new cost to the facility.

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 Gary William Davis, P.E. with Bartlett & West, Inc. 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 Office per 10 CSR 20-7.015(9)(G).

5. The wastewater treatment facility shall be located at least fifty feet (50') from any dwelling or establishment per 10 CSR 20-8.140(2)(C)2.

6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.

7. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (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 three hundred feet (300') per 10 CSR 20-8.140(2)(C)1.

8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 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.

9. A United States Army Corps of Engineers (USACE) Clean Water Act Section 404 Department of the Army permit and a Section 401 Water Quality Certification issued by the Department may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied or notification is provided that no Section 404 permit is required by the USACE. You must contact your local USACE district since they determine what waters are jurisdictional and which permitting requirements may apply. You may call the Department's Water Protection Program, Operating Permits Section at 573-522-4502 for more information. See https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality for more information.

10. 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.

- 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 one hundred (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)

- 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: 10 CSR 20-8.130(2)(C)
    - 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)
    - 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)

- 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 one hundred- (100-) year flood elevation. 10 CSR 20-8.140 (2) (B)

- Unless another distance is determined by the Missouri Geological Survey or by the department's Public Drinking Water Branch, the minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300'). 10 CSR 20-8.140 (2) (C) 1.

- No treatment unit with a capacity of twenty-two thousand five hundred gallons per day (22,500 gpd) or less shall be located closer than the minimum distance of 200' to a neighboring residence and 50' to property line for lagoons; 200' to a neighboring residence for open recirculating media filters following primary treatment; and 50' to a neighboring residence for all other discharging facilities. See 10 CSR 20-2.010(68) for the definition of a residence. 10 CSR 20-8.140 (2) (C) 2

- Facilities shall be readily accessible by authorized personnel from a public right–of-way at all times. 10 CSR 20-8.140 (2) (D)

- 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.

11. Upon completion of construction:

    A. The MISSOURI-AMERICAN WATER COMPANY will become the continuing authority for operation and maintenance of these facilities;

    B. Submit an electronic copy of the as builts if the project was not constructed in accordance with previously submitted plans and specifications; and

    C. Submit the enclosed Form MO 780-2155, Wastewater Construction Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N).

       When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The purpose of this project is to upgrade an existing section of small-diameter gravity main serving the western side of the Quail Valley Lake subdivision. The project will also improve operations at the Quail Valley Lake WWTF, MOGD00058, by adding equalization at the headworks of the facility.

There will be no increase in design flow for the permitted construction in CP0002303.

2. FACILITY DESCRIPTION

The existing system includes a collection system, a sludge holding tank, four aeration tanks in series, two clarifiers in parallel from the last aeration tank, clarifier effluent boxes in series from each clarifier, a chlorine contact chamber, effluent weir box with dechlorination and Outfall #001. Activated sludge lines are established from air lifts in both clarifiers leading to the first aeration tank for return activated sludge and the sludge holding tank for waste activated sludge.

The new components will be constructed at the headworks of the plant or at the collection system immediately upstream of the headworks. Approximately 500 linear feet of 8 inch SDR-35 PVC conventional gravity sewer and 2 manholes will be constructed for collection system modifications. The new collection system will convey raw wastewater to a new flow equalization tank with air lifts, diffusors, and a new blower package to transfer wastewater from the equalization tank to the first aeration tank. Bar Screens will also be installed in the flow equalization tank.

The MAWC-Quail Valley Lake Subdivision WWTF is located at the SE terminus of Cantaberry Dr., Jefferson City, in Cole County, Missouri. The facility has a design average flow of 22,000 gpd and serves a hydraulic population equivalent of approximately 220 people.

3. COMPLIANCE PARAMETERS

The proposed project is required to meet the requirements of MOGD00058 with an expiration date of June 30, 2024. The applicable table for his facility is Table C, found on page 6 of 15. The facility is subject to the WBC-A limits for *E.coli*. The facility permitted for construction will be required to meet the same operating permit effluent limits and conditions as the general operating permit, MOGD00058, expiring on June 30, 2024.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

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

- A sludge holding tank,
- Four aeration tanks in series,

- Two clarifiers in parallel from the last aeration tank (with return activated sludge and waste activated sludge),
- Clarifier effluent boxes in series from each clarifier,
- A chlorine contact chamber,
- Effluent weir box with dechlorination, and
- Outfall #001.

Construction will cover the following items:

- Components are designed for a Population Equivalent of 220 based on hydraulic loading to the system.

- Flow Equalization Tank – Flow equalization is utilized to reduce the variability of influent wastewater flow. As a result, a consistent discharge to downstream treatment components is achieved and these processes may not have restricted capacity due to the peak hourly flow. Flow equalization is utilized to store peak flow periods for treatment during the periods of the day when the flows are reduced. The proposed Flow Equalization Tank (FET) is 6 ft by 12 ft by 12 ft deep (5,790 gallons), which is approximately 26% of the design average daily flow. The new FET will include new Bar Screens, Diffusors, Air Lifts and a new Blower Package. FET effluent will flow to the existing first Aeration Tank for further processing at the existing facility.

- Bar Screens – Installation of screening devices removes nuisance inorganic materials from raw wastewater and facilitates ease of maintenance. A Bar Screen assembly with 1-inch clear openings will be installed on the Flow Equalization Tank at the inlet of the flow equalization basin.

- Air Lifts and Blower – Two Air Lifts (AL) will be utilized to convey wastewater from the FET to the existing first Aeration Tank. A usable equalization volume of 2,510 gallons is available for 2 AL installed in the FET. With this design, an equalization percentage of 11.4% is specified. Air supply will be accomplished by means of a blower package capable of supplying 26.07 scfm total with 7.24 scfm being supplied to the diffusors and 18.83 scfm being supplied to both AL.

5. OPERATING PERMIT

These construction activities do not change the effluent limits or conditions of the current operating permit. The Department will conduct an internal modification to reflect the current facility description upon receipt of the Wastewater Construction Statement of Work Completed form.

Operating permit MOGD00058 will be expiring on June 30, 2024. A renewal application must be filed before January 2, 2024 regardless of the status of these construction activities. If you have questions on completing the renewal application, please contact the NPDES permitting section at 573-751-1300.

After completion of construction project submit the following:

- Form MO 780-2155, Wastewater Construction Statement of Work Completed https://dnr.mo.gov/document-search/wastewater-construction-statement-work-completed-mo-780-2155, and
- As-builts if the project was not constructed in accordance with previously submitted plans and specifications.

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

Steve Hamm, PE
Engineering Section
Steven.hamm@dnr.mo.gov

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: _____ ☑ 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	2.2 ESTIMATED PROJECT CONSTRUCTION COST
MAWC Quail Valley Lake Wastewater System Improvements	$ Not Applicable

2.3 PROJECT DESCRIPTION

Project consists of the construction of an equalization tank at the headworks of the facility. The existing facility has no form of equalization. The proposed equalization tank will also allow for the reconfiguration of the gravity sewer main that feeds into the facility

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

2.5 DESIGN INFORMATION

A. Current population: _____; Design population: 220

B. Actual Flow: _____ gpd; Design Average Flow: 22K gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: 91K gpd; Design Wet Weather Event: 91K

2.6 ADDITIONAL INFORMATION

A. Is a topographic map attached? ☑ YES ☐ NO

B. Is a process flow diagram attached? ☑ YES ☐ NO

3.0 WASTEWATER TREATMENT FACILITY

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
MAWC-Quail Valley Lake Subdivision WWTF	573-634-3801	Aaron.Lachowicz@amwater.com

ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE	COUNTY
See Permit	Jefferson City	MO	65109	Cole

Wastewater Treatment Facility: Mo- GD00058 (Outfall 1 Of 1)

3.1 Legal Description: SE ¼, SE ¼, NE ¼, Sec. 30, T 44N, R 12W
(Use additional pages if construction of more than one outfall is proposed.)

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

3.3 Name of receiving streams: SEE PERMIT

4.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Missouri American Water Company	(314) 469-6050	timothy.ganz@amwater.com

ADDRESS	CITY	STATE	ZIP CODE
727 Craig Rd.	St. Louis	MO	63141

5.0 CONTINUING AUTHORITY: A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Missouri American Water Company	(314) 469-6050	timothy.ganz@amwater.com

ADDRESS	CITY	STATE	ZIP CODE
727 Craig Rd.	St. Louis	MO	63141

5.1 A letter from the continuing authority, if different than the owner, is included with this application. ☐ YES ☐ NO ☑ 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? ☐ YES ☑ 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? ☐ YES ☐ 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? ☐ YES ☐ 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? ☐ YES ☐ NO

D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? ☐ YES ☐ NO

6.0 ENGINEER

ENGINEER NAME / COMPANY NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Gary W. Davis, PE / Bartlett & West, Inc.	573-659-6731	gary.davis@bartwest.com

ADDRESS	CITY	STATE	ZIP CODE
1719 Southridge Drive, Suite 100	Jefferson City	MO	65109

7.0 APPLICATION FEE

☐ CHECK NUMBER ☒ JETPAY CONFIRMATION NUMBER 20032081

8.0 PROJECT OWNER: 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	DATE
Aaron Lachowicz	12/2/21

TITLE OR CORPORATE POSITION	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Operations Supervisor	573-634-3801	Aaron.Lachowicz@amwater.com

Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
P.O. BOX 176
JEFFERSON CITY, MO 65102-0176

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.