

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Larry Meyer
M & M Mobile Home Park WWTP
42 NW 215 Road
Warrensburg, MO 64093

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.

January 5, 2021
Effective Date

January 4, 2022
Expiration Date


Edward B. Galbraith, Director, Division of Environmental Quality


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The proposal is to install a UV disinfection system after the existing clarifier weir outfall in the treatment plant and discharge to an existing 6 inch PVC drain pipe. The UV unit will improve the facility's capacity to meet the permit limits for *E. coli*.

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 Phillips Engineering, LLC on July 20, 2020 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 Kansas Regional Office per 10 CSR 20-7.015(9) (G).

5. The ultraviolet shall be located above the twenty-five (25)-year flood level.
6. 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.
7. 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 dnr.mo.gov/env/wpp/epermit/help.htm. See dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.
8. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of jurisdictional waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Water Protection Program at 573-751-1300 for more information. See dnr.mo.gov/env/wpp/401/ for more information.
9. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
 - Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140 (3) (D).
 - 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 the UV disinfection facilities. 10 CSR 20-8.140 (7) (C).
 - Emergency Power. Disinfection and dechlorination processes, when used, shall be provided during all power outages. 10 CSR 20-8.190 (2) (A).
 - 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.
- Closed vessel UV systems. The combination of the total number of closed vessels 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) 2.
- Closed vessel UV systems utilizing medium-pressure lamps shall be provided with an automatic cleaning system in order to prevent algae growth. 10 CSR 20-8.190 (5) (B) 3.
- 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.
 - 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.
- 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).
- Electrical Equipment shall provide a watertight seal and separate strain relief for all flexible cable. 10 CSR 20-8.130 (3) (B) 2. C.
- When electrical 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 one hundred ten volt (110 V) power receptacle inside the control panel located outdoors to facilitate maintenance. CSR 20-8.130 (3) (B) 2. G.

10. Upon completion of construction:

- A. Larry Meyer will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of the as built's if the project was not constructed in accordance with previously submitted plans and specifications; and
- C. Submit the enclosed form 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 facility is installing UV disinfection to meet final *E. coli* effluent limits that became effective March 1, 2019. This facility has had several permitted effluent limit exceedances for *E. coli* and received Notices of Violation for exceeding *E. coli* effluent limits.

2. FACILITY DESCRIPTION

The M & M Mobile Home Park WWTF is an existing facility that includes septic tank, extended aeration, sludge holding tank, and sludge disposal by contract hauler. The design sludge production is 0.89 dry tons/year. The facility currently does not have a disinfection system.

The facility is located at 42 NW 215 Road, Warrensburg City, in Johnson County, Missouri. The facility has a design average flow of 9,000 gpd and serves a hydraulic population equivalent of approximately 30 people. The receiving stream for this facility is Post Oak Creek.

3. COMPLIANCE PARAMETERS

The construction is to meet more protective effluent limits for *E. coli* as listed in Operating Permit MO-0113603 that became effective in March 1, 2019.

Parameter	Units	Monthly average limit	Daily Maximum limit
<i>E. coli</i>	#/100mL	206	1030

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

- Components are designed for a population equivalent of 30 based on hydraulic loading to the system.

- Closed Vessel Ultraviolet (UV) – A closed vessel, gravity flow, low pressure high intensity UV disinfection system capable of treating up to a peak flow of 43,200 gpd while delivering a minimum UV intensity of 30 mJ/cm² with an expected ultraviolet transmissivity of 65% or greater @253.7 nm. The facility has a design flow of 9,000 gpd. The closed vessel UV system by Aquaazul 2R HO consists of 2 lamps per reactor. Only one closed vessel UV reactor will be in the UV system. The disinfected effluent will flow by gravity through flow measurement equipment and to Outfall No. 001. The closed vessel ultraviolet unit uses a voltage of 120 volts ac at 60 Hz and 1.8 amps rated. The dimensions of the UV system unit (L x W x H) are 42.25 inch x 11 inch x 11 inch.
 - Power distribution center (PDC). There is one PCD that is made from steel material, and complies with NEMA 12 mode. The unit has an LED lamp, running time meter, and ON/OFF switch.
- Emergency Power. The Power Distribution Center will be connected to the plant's control panel which is supposed to have power supply source to operate the existing treatment facility in event of power failure. Additionally, a small portable generator may be used to power the unit in emergencies.

5. OPERATING PERMIT

These construction activities do not require a modification to the operating permit. It is expected that the facility owner will include a new facility description and process flow diagram in their next operating permit renewal application to reflect the installation of the UV unit system.

This facility is not being converted to a general operating permit at this time, as the construction does not trigger a modification of the operating permit under 10 CSR 20-6.010 and as such it will be evaluated at operating permit renewal to determine if it qualifies for a general permit.

V. NOTICE OF RIGHT TO APPEAL

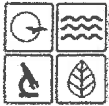
If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered,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

Mohammed Mohammed, M.S.
Engineering Section
Mohammed.Mohammed@dnr.mo.gov

Cailie Carlile, P.E., Unit Chief
Construction Permit Unit
Engineering Section
cailie.carlile@dnr.mo.gov

RECEIVED



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

APPLICATION FOR CONSTRUCTION PERMIT – WASTEWATER FACILITY

Water Protection Program

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$1000.00	CHECK NO. 2556
DATE RECEIVED 10-16-20	

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Facility form is for construction pertaining to domestic wastewater treatment facilities, agrichemical facilities, and components thereof. This 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 Is this an application for an agrichemical? ☐ YES (See instructions.) ☒ N/A
- 1.3 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☐ YES Date of Approval: N/A
- 1.4 Has the department approved the proposed project's facility plan*?
☐ YES Date of Approval: _____ ☐ NO ☒ N/A (If Not Applicable, complete No. 1.5.)
- 1.5 [Complete only if answered Not Applicable on No. 1.4] Is a copy of the engineering report* for wastewater treatment facilities with a design flow less than 22,500 gpd included with this application?
☒ YES ☐ NO
- 1.6 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
- 1.7 Is a summary of design* included with this application? ☐ YES ☒ NO
- 1.8 Is a general operating permit applicable?
☐ YES Submit the appropriate operating permit application to the Regional Office at least 60 days prior to operation.
☒ NO Enclose the appropriate operating permit application and fee submittal. Denote which form: ☐ B ☐ B2
- 1.9 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☒ YES ☐ NO
- 1.10 Is the appropriate fee included with this application? ☒ YES ☐ NO (See instructions for appropriate fee.)

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

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT

M & M Mobile Home Park WWTF

2.2 PROJECT DESCRIPTION

Addition of UV disinfection system to existing WWTF effluent.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Hauled off by contract hauler when needed.

2.4 DESIGN INFORMATION


- A. Current population: _____ Design population: 30
- B. Actual Flow: 2,700 gpd; Design Average Flow: _____ gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: 9,000 gpd;
Design Wet Weather Event: N/A

2.5 ADDITIONAL INFORMATION

- A. Is a topographic map attached? ☒ YES ☐ NO
- B. Is a process flow diagram attached? ☐ YES ☒ NO

2.6 ESTIMATED PROJECT CONSTRUCTION COST

\$ 10,000.00

3.0 WASTEWATER TREATMENT FACILITY				
NAME M & M Mobile Home Park		TELEPHONE NUMBER WITH AREA CODE		EMAIL ADDRESS
ADDRESS (PHYSICAL) 42 NW 215 Road	CITY Warrensburg	STATE MO	ZIP CODE 64093	COUNTY Johnson
Wastewater Treatment Facility: Mo-0113603 {Outfall 1 Of }				
3.1 Legal Description: ¼, SE ¼, SE ¼, Sec. 11, T 46 N, R 26 W (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 435154.62 Northing (Y): 4293691.69 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: Tributary Post Oak Creek				
4.0 PROJECT OWNER				
NAME Larry Meyer		TELEPHONE NUMBER WITH AREA CODE		EMAIL ADDRESS
ADDRESS 42 NW 215 Road	CITY Warrensburg	STATE MO	ZIP CODE 64093	
5.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.				
NAME Owner		TELEPHONE NUMBER WITH AREA CODE		EMAIL ADDRESS
ADDRESS	CITY	STATE	ZIP CODE	
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 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				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Gary V. Phillips / Phillips Engineering LLC		TELEPHONE NUMBER WITH AREA CODE (660) 351-1910		EMAIL ADDRESS gphillips@wcieng.com
ADDRESS 273 CR 4412	CITY Poplar Bluff	STATE MO	ZIP CODE 63901	
7.0 PROJECT OWNER: I hereby certify that I am familiar with the information contained in this application and to the best of my knowledge and belief such information is true, complete, and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders, and decisions, subject to any legitimate appeal available to applicant under Missouri Clean Water Law. I also understand the issuance of the construction permit does not guarantee the proposed wastewater treatment will meet the required effluent limitations of the issued Missouri State Operating Permit for this facility.				
PROJECT OWNER SIGNATURE 				
PRINTED NAME Larry Meyer		DATE 916 529 3250 October 12, 2020		
TITLE OR CORPORATE POSITION Owner		TELEPHONE NUMBER WITH AREA CODE 660 909 2352		EMAIL ADDRESS TAMER@G
Mail completed copy to:		MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176 TONY @ DM ENTERPRISES. COM		
END OF PART A.				
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.				