STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

CONSTRUCTION PERMIT

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

Highway 64 RV Park
15320 Highway 64
Lebanon, MO 65536

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, 2021
Edward B. Galbraith, Director, Division of Environmental Quality

April 25, 2023
Chris Wieberg, Director, Water Protection Program
CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The Highway 64 RV Park is located at 15320 Highway 64, Lebanon, in Laclede County, Missouri. There is 26 mobile home pads and 30 RV pads. Construction will include the installation of three 2,000 gallon concrete tanks in series will dose the new low pressure pipe system. There will be two duplex stations with two Orenco Pumps PF500712 pumps per station. Each pump will have the capacity of pumping 49 gpm at a TDH of 60 ft. The soils at this site are rated for 0.3 gpd/sq ft, which is the design loading rate used for the system. From each automatic distribution valve, flow goes into one of two cells. Each cell has a five zone with four 100 ft lines per zone and 20 orifices per lateral line, thus 80 orifices per zone, and 800 orifices total. The total area needed for loading is 20,000 square feet, which is the area available. The facility will have a design average flow of 6,000 gpd.

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 Total Environmental Services 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 Southwest Regional Office per 10 CSR 20-7.015(9)(G).

5. The completed project shall be field tested to verify actual pumped volume of each dose. The timer controls shall be set to ensure a dosing rate not to exceed the allowable rate of 0.30 gallons per square foot per day.

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

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

8. 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.

9. 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.

10. 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

11. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.

- 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 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
- 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.
- 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.
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140 (7) (E)
- 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:
  o 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)
  o Gratings over appropriate areas of treatment units where access for maintenance is necessary; 10 CSR 20-8.140 (8) (B)
  o First aid equipment; 10 CSR 20-8.140 (8) (C)
o Posted “No Smoking” signs in hazardous areas; 10 CSR 20-8.140 (8) (D)
o Appropriate personal protective equipment (PPE); 10 CSR 20-8.140 (8) (E)
o Portable blower and hose sufficient to ventilate accessed confined spaces;
10 CSR 20-8.140 (8) (F)
o 10 CSR 20-8.140 (8) (G) Portable lighting equipment complying with NEC
requirements. See subsection (7)(B) of this rule;
o 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;
o 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)

• 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)

• A septic tank must have a minimum capacity of at least one thousand (1,000)
gallons. 10 CSR 20-8.180 (2) (A)

• The septic tank shall be baffled. 10 CSR 20-8.180 (2) (B)

• Subsurface systems shall—
  o Exclude unstabilized fill and soils that have been highly compacted and/or
disturbed, such as old road beds, foundations, or similar things; 10 CSR
20-8.200 (7) (A) 1. A.
  o Provide adequate surface drainage where slopes are less than two percent
(2%);10 CSR 20-8.200 (7) (A) 1. B.
  o Provide surface and subsurface water diversion where necessary, such as a
curtain or perimeter drain; 10 CSR 20-8.200 (7) (A) 1. C. and
  o Have a ten foot (10') buffer from the property line. 10 CSR 20-8.200 (7)
(A) 1. D.

• The vertical separation between the bottom of the drip lines and/or the trench and a
limiting layer, including but not limited to, bedrock; restrictive horizon; or seasonal
high water table, shall be no less than:
  o Twenty-four inches (24"); 10 CSR 20-8.200 (7) (A) 2. A. or
  o Twelve inches (12") for systems dispersing secondary or higher quality
effluent; 10 CSR 20-8.200 (7) (A) 2. B. or
  o Forty-eight inches (48") where karst features are present unless the site can be
reclassified. 10 CSR 20-8.200 (7) (A) 2. C.

• Subsurface systems shall be, at a minimum, preceded by preliminary treatment.
10 CSR 20-8.200 (7) (B)

• Loading rates shall not exceed the values assigned by the site and soil evaluation.
10 CSR 20-8.200 (7) (C)

• All network piping and low pressure distribution piping and fittings with polyvinyl
chloride (PVC) shall meet ASTM Standard D 1785 Standard Specification for
Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, or 120 as approved and
published August 1, 2015, or equivalent rated to meet or exceed ASTM D2466
Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings as approved and published August 1, 2017. These standards shall hereby be incorporated by reference into this rule, as published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. This rule does not incorporate any subsequent amendments or additions. 10 CSR 20-8.200 (8) (A) 2.

- Manifold design for LPP systems shall address freeze protection while assuring uniform distribution and to minimize drain down of laterals into other laterals at a lower elevation between dosing events. 10 CSR 20-8.200 (8) (A) 3.
- The orifice number and spacing shall be designed to provide a distribution of no more than six square feet per orifice with an orifice size of not less than one-eighth inch. 10 CSR 20-8.200 (8) (C) 1.
- The location and size of the drains and buffers must be factored into the total area required for the drip dispersal system. 10 CSR 20-8.200 (9) (A) 1.

12. Upon completion of construction:

A. Kenny Eilenstine 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 Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) with a request for the MO-G823 operating permit to be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

Construction is to permit a previously unpermitted facility to get the facility in compliance with construction of a new low pressure pipe system and then a new operating permit.

2. FACILITY DESCRIPTION

The Highway 64 RV Park is located at 15320 Highway 64, Lebanon, in Laclede County, Missouri. The facility has a design average flow of 6,000 gpd and serves a hydraulic population equivalent of approximately 60 people. There is 26 mobile home pads and 30 RV pads.
3. **COMPLIANCE PARAMETERS**

The proposed project is required to meet the requirements of MOG823 with an expiration date of August 24, 2022. As a subsurface system, there are no monitoring requirements at this time.

4. **REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

**Existing major components that will remain in use include the following:**
- STEG system - Each mobile home is served by a 1,000 gallon septic tank that flows into a 4 inch gravity sewer line. The RV pads are collected via a 4-inch gravity sewer line and ultimately flow with the mobile home flow into four 1,000 gallon STEG tanks in series.
  - These four tanks provide approximately 0.8 days of detention time at the design flow of 6,000 gpd.
  - Settled solids in the tanks shall be removed by a contract hauler.

**Construction will cover the following items:**
- Septic Tank – A septic tank provides passive primary treatment as the settleable solids in raw wastewater settle onto the bottom of the tank. Settled solids in the tanks shall be removed by a contract hauler.
  - Three 2,000 gallon concrete tanks in series will dose the new low pressure pipe system. This will provide a day of detention time at the design average flow of 6,000 gpd.
  - Two duplex stations with two Orenco Pumps PF500712 pumps per station. Each pump will have the capacity of pumping 49 gpm at a TDH of 60 ft.
- From the dosing tank to the automatic distribution valve, there will be 2 inch PVC transfer pipe with tracer wire.
- Subsurface Soil Dispersal System – The soils at this site are rated for 0.3 gpd/sq ft for a low pressure piping system, which is the design loading rate used for the system. Soil morphology review was conducted during the construction permit application review and on site soils were determined to be acceptable for this system. The soil investigation was completed by Melissa Bettes, Certified Soil Scientist, on January 21, 2021.
  - Soils Report. In the soils investigation, there were three pits dug over the proposed site. The treatment site is located between Pit #1 and Pit #2.
    - Pit #1 is described as silt loam/silty loam clay with up to 30% clay and trace coarse fragments to 24 inches deep with an application rate of 0.3 gpd/sq ft.
    - Pit #2 is described as silt loam/silty loam clay with up to 30% clay and trace coarse fragments to 24 inches deep with an application rate of 0.3 gpd/sq ft.
- Low-Pressure Piping (LPP) – From each automatic distribution valve, flow goes into one of two cells. Each cell has a 5 zone low pressure piping system with four 100 ft lines per zone.
- Two 5-way Orenco Automatic Distribution Valve Model V6605A
- Each lateral shall have 7 inch round valve box and contain flushing and test assembly.
- Lateral shall be 1.5 inch diameter Class 200 pipe with 5/32 inch orifices
  - The lateral spacing is 4-foot off center with the orifices spaced 5-feet apart, for 20 orifices per lateral line, thus 80 orifices per zone, and 800 orifices total (2 distribution valves × 5 zones × 80 orifices per zone).
  - The last orifice shall have a squirt height of 4 ft in each zone.
- Timers will be set for 4.6 minutes on and 55.4 minutes off, with 24 doses per day, with each zone getting approximately 5 doses per day (24 doses/5 zones = 4.8 doses per day per zone).
- Manifold shall be 1.5 inch Schedule 40 PVC.
- The total area needed for loading is 20,000 square feet, which is the area available [(6,000 gpd/0.3 gpd/sq ft) = (5 zones × 20 lines × 100 ft × 2 cells)]

5. OPERATING PERMIT

After completion of construction project submit: statement of work completed, as-builts if the project was not constructed in accordance with previously submitted plans and specifications, and request the Missouri State Operating Permit, General Permit MO-G823, be issued. The facility has paid for their operating 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
Leasue Meyers, EI  
Engineering Section  
leasue.meyers@dnr.mo.gov  

Cailie Carlile, P.E.  
Engineering Section  
cailie.carlile@dnr.mo.gov
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
Highway 64 RV Park WWTF

2.2 ESTIMATED PROJECT CONSTRUCTION COST
$ N/a

2.3 PROJECT DESCRIPTION
Previously submitted as-built engineering documents as requested by the Department in order to receive a Construction Permit and ultimately an Operating Permit.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
Sludge is pumped from the settling tanks on an as needed basis by a contract hauler and either land applied or hauled to a permitted facility.

2.5 DESIGN INFORMATION
A. Current population: ______; Design population: ______

B. Actual Flow: ______ gpd; Design Average Flow: ______ gpd;
   Actual Peak Daily Flow: ______ gpd; Design Maximum Daily Flow: ______ gpd; Design Wet Weather Event: ______

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: Highway 64 RV Park WWTF
ADDRESS (PHYSICAL): 15320 Highway 64
CITY: Lebanon
STATE: MO
ZIP CODE: 65536
COUNTY: Laclede

Wastewater Treatment Facility: Mo-Pending (Outfall Of )

3.1 Legal Description: NW ¼, NW ¼, SE ¼, Sec 1, T 34N, R 17W
(Use additional pages if construction of more than one outfall is proposed.)

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

3.3 Name of receiving streams: Unnamed Tributary to Niangua River (if a failure occurred)

4.0 PROJECT OWNER

NAME: Mr. Kenny Ellenstone
ADDRESS: 22605 Route 66
CITY: Lebanon
STATE: MO
ZIP CODE: 65536

4.1 Telephone Number: 417-718-4579

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: Mr. Kenny Ellenstone
ADDRESS: 22605 Route 66
CITY: Lebanon
STATE: MO
ZIP CODE: 65536

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

6.0 ENGINEER

ENGINEER NAME / COMPANY NAME: Seth A. Coggins, P.E. / Total Environmental Services
ADDRESS: PO Box 510
CITY: Osage Beach
STATE: MO
ZIP CODE: 65065

6.1 Telephone Number: 573-346-3810

7.0 APPLICATION FEE

□ CHECK NUMBER □ JETPAY CONFIRMATION NUMBER

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

Kenny Ellenstone

DATE: 9-25-20

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.