

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**CONSTRUCTION PERMIT**

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

Mr. Roddy Lett, Manager  
Elk River Floats and Wayside Campgrounds, LLC  
P.O. Box 546  
Noel, MO 63854

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

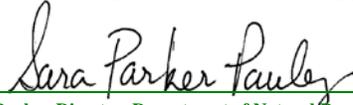
Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

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 28, 2015  
Effective Date

  
Sara Parker Pauley, Director, Department of Natural Resources

April 27, 2017  
Expiration Date

  
John Madras, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

The proposed project is to refurbish the existing 5,000 gpd extended aeration plant and repair or replace all air piping, air-lift sludge pumps, diffusers, raw sewage pumps, as well as construct a sludge holding tank, install a Trojan 3000 UV disinfection unit and all appurtenances to make a complete and operable 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 in accordance with the plans and specifications submitted by Anderson Engineering on June 25, 2014.
3. The department must be contacted in writing prior to making any changes to the approved 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(8).
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)(E)2.
5. This construction permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, “Grants and Loans”

6. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(10). “There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole.”
7. Sewers in relation to water works structures shall meet the requirements of 10 CSR 23-3.010 with respect to minimum distances from public water supply wells or other water supply sources and structures.
  - A. Sewer mains shall be laid at least 10 feet horizontally from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a 10 foot separation, the department may allow a deviation on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on either side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to 150 pounds per square inch to assure water tightness.
  - B. Manholes should be located at least 10 feet horizontally from any existing or proposed water main.
  - C. Manholes shall be located with the top access at or above grade level.
  - D. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. When it is impossible to obtain proper vertical separation as stipulated above, one of the following methods must be specified:
    - a. The sewer shall be designed and constructed equal to the water pipe and shall be pressure tested to assure water tightness prior to backfilling; or
    - b. Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the department for use in water main construction.
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 [www.dnr.mo.gov/env/wpp/epermit/help.htm](http://www.dnr.mo.gov/env/wpp/epermit/help.htm). See [www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm) for more information.

9. 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 [www.dnr.mo.gov/env/wpp/401/](http://www.dnr.mo.gov/env/wpp/401/) for more information.
10. Upon completion of construction;
  - A. The Mr. Roddy Lett, Manager, Elk River Floats and Wayside Campgrounds LLC will become the continuing authority for operation, maintenance, and modernization of these facilities;
  - B. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(D) ; and
  - C. Submit an electronic copy of the as-builts if the project was not constructed in accordance with previously submitted plans and specifications.

#### **IV. REVIEW SUMMARY**

##### **1. AMMONIA**

The Water Protection Program is providing this notice to inform permittees that EPA's published ammonia criteria for aquatic life protection is lower than the current Missouri criteria. The department has initiated stakeholder discussions on this topic and at this time, there is no firm target date for starting the rulemaking to adopt new standards. More information can be found at <http://dnr.mo.gov/pubs/pub2481.pdf> .

The water quality-based limitations are higher than the technology based effluent limits provided in the antidegradation review.

##### **2. CONSTRUCTION PURPOSE**

The owners of the property of Ginger Blue Lodge and Restaurant wish to re-open the existing 5000 gpd extended aeration plant in order to treat the waste from a proposed 14 room lodge, four - 8 person cabins and a 50 seat restaurant. The existing facility has not been in operation for some time and requires additional sludge storage as well as replacing the existing disinfection system with UV.

##### **3. FACILITY DESCRIPTION**

The existing facility was operated under permit MO-0106135 which was terminated July 15, 2004. It was a 5,000 gpd extended aeration plant with chlorine disinfection during the recreational season. This facility will be refurbished and reopened with this construction. The new description is a 5,000 gpd extended aeration plant with UV disinfection.

**4. COMPLIANCE PARAMETERS**

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		45	30	once/month	Composite**
Total Suspended Solids	mg/L		45	30	once/month	Composite**
<i>E. coli</i> (Note 1, Page 2)	#/100mL	630		126	once/month	grab
pH – Units	SU	***		***	once/month	grab
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	13.1 13.1		5.0 5.0	once/month	grab

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

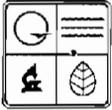
Utilizing current 10 CSR 20-8 Wastewater Design Guide requirements, the treatment capability of the existing treatment plant was analyzed.

- The flow equalization tank is required to be 2,200 gallons using 10 CSR 20-8.020 Table 1. The existing tank is 3,750 gallons.
- Aeration tank volume must accommodate 15 pounds applied BOD per 1,000 ft<sup>3</sup>. The treatment plant is required to treat an organic loading of 22.02 pounds BOD per day. The three cells of the aeration tank are a total of 16,250 gallons which is more than the required 10,981 gallons.
- The blowers are capable of producing 80 cfm at 3.8 psi which is more than adequate to fulfill the 39.87 cfm required to treat 22.02 pounds BOD per day.
- The clarifier's detention time must be a minimum of 4 hours and the surface settling rate must be no more than 1,000 gpd/sf. The required volume is 832 gallons and the basins are 3,500 gallons. The required surface area is 25 ft<sup>2</sup> and the basins have a surface area of 78 ft<sup>2</sup>.
- An additional sludge storage tank is required to obtain the 2,907 gallons needed.
- The UV disinfection is designed to treat a peak flow of 24,975 gpd with a total suspended solids concentration of 30 mg/l. It will contain 1 bank with 1 module containing two bulbs and the dose will not be less than 30,000  $\mu\text{Watt}\cdot\text{sec}/\text{cm}^2$ . The module will be approximately 68 inches long, 14 inches tall and 2.8 inches wide. There will be 1 lamp, 1 sleeve and 1 lamp holder stored on site.

## **6. OPERATING PERMIT MODIFICATION**

Operating permit MO-0137715 will be issued upon receipt of the Statement of Work Complete Form.

Cindy LePage, P.E.  
Engineering Section  
[cindy.lepage@dnr.mo.gov](mailto:cindy.lepage@dnr.mo.gov)



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM  
**FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE  
 PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR  
 EQUAL TO 100,000 GALLONS PER DAY**

CHECK NUMBER 5781	
DATE RECEIVED 7/28/14	FEE SUBMITTED \$150.00

- An operating permit for a new or unpermitted facility. Construction Permit # \_\_\_\_\_  
 (Please include completed antidegradation review or request for antidegradation review, see instructions)
- An operating permit renewal: Permit #MO- \_\_\_\_\_ Expiration Date \_\_\_\_\_
- An operating permit modification: Permit #MO- \_\_\_\_\_ Reason: \_\_\_\_\_

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)?  YES  NO

NAME Ginger Blue Lodge & Restaurant		TELEPHONE NUMBER WITH AREA CODE (417) 456-2362	
ADDRESS (PHYSICAL) PO Box 546	CITY Noel	STATE MO	ZIP CODE 64854

2.1 Legal description: SW 1/4, SW 1/4, 1/4, Sec. 36, T 22, R 33W County McDonl

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

2.3 Name of receiving stream: Elk River

2.4 Number of outfalls: wastewater outfalls \_\_\_\_\_ stormwater outfalls \_\_\_\_\_ instream monitoring sites \_\_\_\_\_

NAME Elk River Floats & Wayside Campgrounds, LLC		TELEPHONE NUMBER WITH AREA CODE (417) 456-2362	
ADDRESS PO Box 546	CITY Noel	STATE MO	ZIP CODE 64854

- 3.1 Request review of draft permit prior to public notice? YES  NO
- 3.2 Are you a publicly owned treatment works? YES  NO
- 3.3 Are you a privately owned treatment works?  YES NO
- 3.4 Are you a privately owned treatment facility regulated by the Public Service Commission? YES  NO

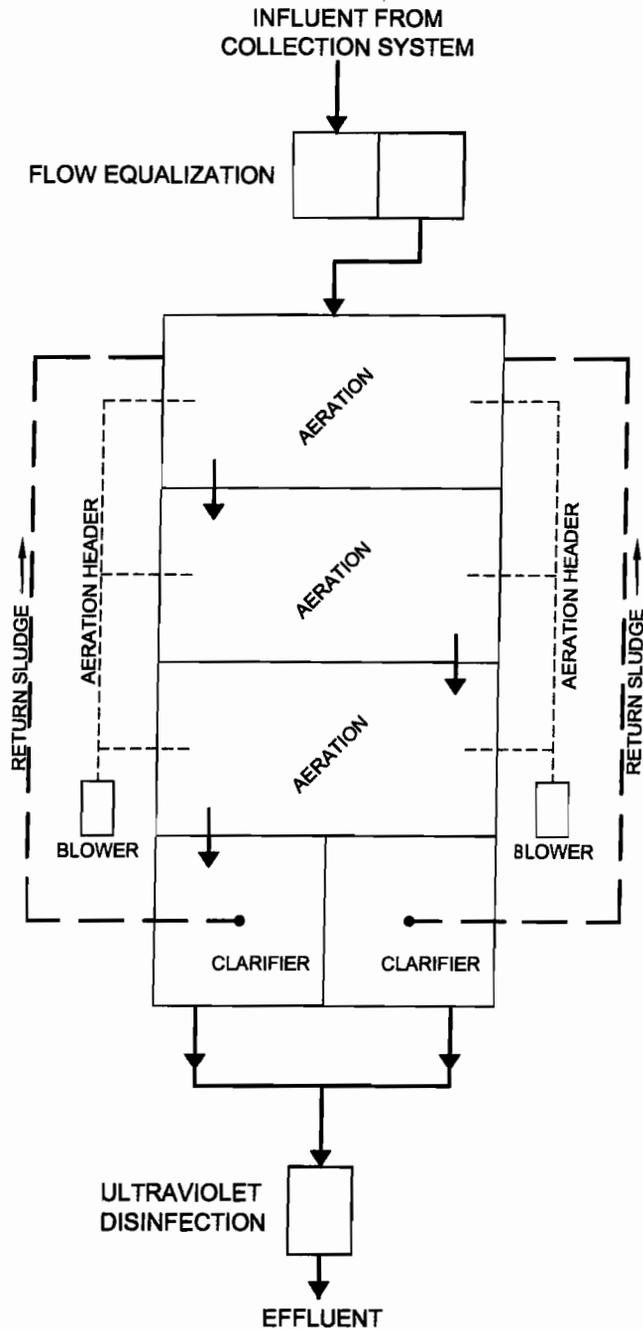
NAME Elk River Floats & Wayside Campgrounds, LLC		TELEPHONE NUMBER WITH AREA CODE (417) 456-2362	
ADDRESS PO Box 546	CITY Noel	STATE MO	ZIP CODE 64854

If the continuing authority is different than the owner, please include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

NAME	TITLE	CERTIFICATE NUMBER
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	

NAME Roddy Lett	TITLE Owner		
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE (417) 456-2362		
ADDRESS PO Box 546	CITY Noel	STATE MO	ZIP CODE 64854

**7.1 Process Flow Diagram or Schematic:** Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents and outfalls. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram. Attach sheets as necessary.



**7.2** Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.

<b>8.1</b>	Facility SIC code: <u>5812</u> ;	Discharge SIC code: <u>4952</u> .
<b>8.2</b>	Number of people presently connected or population equivalent (P.E.) <u>129.5</u>	Design P.E. <u>135.3</u>
<b>8.3</b>	Connections to the facility: Number of units presently connected: Homes _____ Trailers _____ Apartments _____ Other (including industrial) _____ Number of commercial establishments: <u>6</u>	
<b>8.4</b>	Design flow: 5000 GPD	Actual flow: 4684
<b>8.5</b>	Will discharge be continuous through the year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If yes, explain.) Discharge will occur during the following months: How many days of the week will discharge occur? 7	
<b>8.6</b>	Is industrial waste discharged to the facility?	Yes <input checked="" type="checkbox"/> No
<b>8.7</b>	Does the facility accept or process leachate from landfills?	Yes <input checked="" type="checkbox"/> No
<b>8.8</b>	Is wastewater land applied? If yes, is Form I attached?	Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No
<b>8.9</b>	Does the facility discharge to a losing stream or sinkhole?	Yes <input checked="" type="checkbox"/> No
<b>8.10</b>	Has a wasteload allocation study been completed for this facility?	Yes <input checked="" type="checkbox"/> No

**LABORATORY WORK CONDUCTED BY PLANT PERSONNEL**

Lab work conducted outside of plant.  Yes |  No  
 Push-button or visual methods for simple test such as pH, settleable solids. Yes  No  
 Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content. | Yes  No  
 More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc. | Yes  No  
 Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph. Yes  No

<b>10.1</b>	Length of pipe in the sewer collection system? <u>250</u> Feet, or _____ Miles (either unit is appropriate)
<b>10.2</b>	Does significant infiltration occur in the collection system? Yes <input checked="" type="checkbox"/> No If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:

Does any bypassing occur in the collection system or at the treatment facility?  No  
 If yes, explain:

**12.1** Is the sludge a hazardous waste as defined by 10 CSR 25?  Yes  No

**12.2** Sludge production, including sludge received from others: .73 Design dry tons/year .68 Actual dry tons/year

**12.3** Capacity of sludge holding structures:  
 Sludge storage provided: 400 cubic feet; 312 days of storage; 5 average percent solids of sludge;  
 No sludge storage is provided.  Sludge is stored in lagoon.

**12.4** Type of Storage:  Holding tank  Building  
 Basin  Lagoon  
 Concrete Pad  Other (Please describe) \_\_\_\_\_

**12.5** Sludge Treatment:  
 Anaerobic Digester  Lagoon  Composting  
 Storage Tank  Aerobic Digester  Other (Attach description)  
 Lime Stabilization  Air or Heat Drying

**12.6** Sludge Use or Disposal:  
 Land Application  Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)  
 Contract Hauler  Hauled to Another treatment facility  
 Incineration  Sludge Retained in Wastewater treatment lagoon  
 Solid waste landfill

**12.7** Person responsible for hauling sludge to disposal facility:  
 By applicant  By others (complete below)

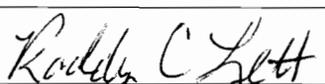
NAME		EMAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO MO-	

**12.8** Sludge use or disposal facility  
 By applicant  By others (Please complete below.)

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

**12.9** Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?  
 Yes  No (Please explain)

I certify that I am familiar with the information contained in the application, that 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 the Missouri Clean Water Law.

NAME (TYPE OR PRINT) Roddy Lett	OFFICIAL TITLE Owner	TELEPHONE NUMBER WITH AREA CODE (417) 456-2362
SIGNATURE 		DATE SIGNED 07-17-14