

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Pat Kelley
Pirates Four HOA President
Pirates Cove WWTF
3924 SW Windsong, Lee's Summit, MO 64082

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.

June 28, 2018
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

June 27, 2020
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Installation of a chlorine feeder following the two existing MicroFAST units. The existing and proposed facilities will be connected with 4 inch PVC pipe. Construction of a 135 gallon chlorine contact tank. A dechlorination feeder capable of 500-10,000 gallon per day will be placed following the contact tank. Following the dechlorination feeder will be a sample port preceding discharge.

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 in accordance with the plans and specifications submitted by LO Environmental on April 30th, 2018.

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 South West Regional Office per 10 CSR 20-7.015(9)(E)2.
5. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
6. Wastewater treatment facility shall not be located within one hundred feet (100'), and preferably three hundred feet (300') of any water well or water supply structure.
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. Upon completion of construction:
 - A. The Pirates Four HOA, Inc. will become the continuing authority for operation, maintenance, and modernization 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)(D) and request the operating permit modification be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The purpose of this construction is to provide treatment of domestic wastewater for 5 residential units in the subdivision. Construction of a wastewater treatment system, including MicroFast system with septic tanks, was never completed. The septic tanks with MicroFast units were used as holding tanks so the wastewater could be pumped and hauled until a new construction permit and operating permit were obtained to allow for discharge of effluent. The addition of the necessary lines and disinfection facilities will enable the applicant to meet limits established in the operating permit and discharge to Lake of the Ozarks.

2. FACILITY DESCRIPTION

The Pirates Cove WWTF is located at Pirates Cove Rd, city of Camdenton, in Camden County, Missouri. The facility has a design average flow of 1,000 gpd and serves population equivalent of approximately 18.5 people.

Influent is generated from five residences and is transported to the two existing septic tanks with a MicroFast unit installed in each. Following the existing facilities the wastewater will flow to a chlorine feeder. Following the chlorine feeder will be a contact tank to allow for the necessary disinfection. Once the flow leaves the contact tank it will then pass through a dechlorination feeder. The final component of the system will be a sampling port prior to discharge from outfall #001.

3. COMPLIANCE PARAMETERS

The final effluent limits the project is required to meet are established in Operating Permit MO-0137863.

OUTFALL #001	TABLE A-1. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on Effective Date and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		30	20	once/month	composite**
Total Suspended Solids	mg/L		30	20	once/month	composite**
<i>E. coli</i> (Note 1, Page 2)	#/100mL	630		126	once/month	grab
Ammonia as N (Apr 1 – Sep 30) (Oct 1 – Mar 31)	mg/L	7.8 7.8		3.0 3.0	once/month	grab
<i>Total Residual Chlorine</i> (Note 2, Page 2)	µg/L	< 130		< 130	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MONTH 28, 20XX</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units***	SU	6.0		9.0	once/month	grab

4. ANTIDEGRADATION

The Department has reviewed the antidegradation report for this facility and issued the Water Quality and Antidegradation Review dated March 27, 2018.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

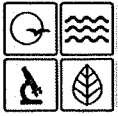
- Tablet Chlorinator – Installation of two tablet Norweco Bio-Dynamic®, LF2000 Series chlorination tablet feeder receiving clarified effluent and prior to the chlorine contact tank. The tablet chlorinator shall have a design flow of 1,000 gpd and a maximum flow of 4,000 gpd. The system will dispense hypochlorite as the wastewater comes into contact with the tablets.

- Chlorine Contact Tank – Installation of a pre-cast concrete tank approximately 2 ft x 3.67 ft x 2.5 ft with 6 end-around baffles allowing for a 40:1 length to width ratio. This tank will allow for a 15 minute contact time during a peak flow of 4,000 gpd.
- Tablet Dechlorinator – Installation of two tablet Norweco Bio-Dynamic®, LF2000 Series dechlorination chamber receiving the chlorinated effluent and prior to Outfall No. 001. The tablet dechlorinator shall have a design flow of 1,000 gpd and a maximum flow of 4,000 gpd. The system will dispense sodium sulfite as the wastewater comes into contact with the tablets.

6. OPERATING PERMIT

Operating Permit MO-0137863 was public noticed from 05/25/2018 to 06/25/2018. No comments were received. Upon construction completion, submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D).

Aaron Sawyer
Engineering Section
aaron.sawyer@dnr.mo.gov



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

**APPLICATION FOR CONSTRUCTION PERMIT –
WASTEWATER FACILITY**

RECEIVED

APR 30 2018

Water Protection Program

AP 29831
CP0001991

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$1000	CHECK NO. 1051
DATE RECEIVED 4/30/18	J.S.

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: 03/27/2018
- 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
Pirates Cove WWTF

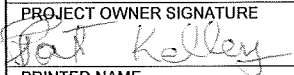
2.2 PROJECT DESCRIPTION
Acceptance of already installed MicroFAST units, addition of chlorine, contact tank, dechlor, sample port, outfall

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
contract hauler

2.4 DESIGN INFORMATION
A. Current population: 18.5; Design population: 18.5
B. Actual Flow: 840 gpd; Design Average Flow: 1000 gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: 1000 gpd;
Design Wet Weather Event: closed system

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
\$ 4,000.00

3.0 WASTEWATER TREATMENT FACILITY				
NAME Pirates Cove WWTF		TELEPHONE NUMBER WITH AREA CODE		EMAIL ADDRESS
ADDRESS (PHYSICAL) Pirates Cove Road		CITY Camdenton	STATE MO	ZIP CODE 65020 COUNTY Camden
Wastewater Treatment Facility: Mo- (Outfall Of)				
3.1 Legal Description: ¼, sw ¼, NW ¼, Sec. 31 , T 39 , R 17 (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 513717.83 Northing (Y): 4214639.8 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: Lake of the Ozark				
4.0 PROJECT OWNER				
NAME Pirates Four HOA, Inc.		TELEPHONE NUMBER WITH AREA CODE (816) 898-3449		EMAIL ADDRESS patmkelley@att.net
ADDRESS 3924 SW Windsong		CITY Lee Summit	STATE MO	ZIP CODE 64082
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 same		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 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 checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Shelly Hall, PE/LO Environmental, LLC		TELEPHONE NUMBER WITH AREA CODE (573) 964-6956		EMAIL ADDRESS shelly@loenvironmental.com
ADDRESS 1071 Industrial Dr		CITY Osage Beach	STATE MO	ZIP CODE 65065
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 Pat Kelley			DATE 4/27/18	
TITLE OR CORPORATE POSITION President		TELEPHONE NUMBER WITH AREA CODE 816 898-3449		EMAIL ADDRESS patmkelley@att.net
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.				