

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Steven Langley
Langley No-Discharge Lagoon
2121 S. Westwood
Poplar Bluff, MO 63901

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.

March 25, 2019
Effective Date

March 8, 2021
Modification Date


Edward B. Galbraith, Director, Division of Environmental Quality

March 24, 2022
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The owner proposed to construct a new no-discharge wastewater treatment system which includes septic tanks, storage lagoon and surface land application area.

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 Mathis and Associates on February 5, 2019.
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(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 Southeast Regional 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.
6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
7. Wastewater treatment facility shall not be located within one hundred feet (100') of any water well or water supply structure.
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 dnr.mo.gov/env/wpp/epermit/help.htm. See 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 dnr.mo.gov/env/wpp/401/ for more information.
10. Upon completion of construction:
 - A. Mr. Langley will become the continuing authority for operation, maintenance, and modernization of these facilities;
 - B. Submit an electronic copy of the as built 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) and request the draft operating permit MO-0139114 be issued. The draft operating permit was successfully public noticed from February 21 to March 20, 2019 with no comments received.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

Mr. Langley is planning to place the maximum 17 trailers on his property. The trailers will vary in size between 2-bedroom and 3-bedroom. He proposed to construct a new no-discharge wastewater treatment system to treat domestic wastewater created by the individual trailer units. No industrial waste or animal waste is expected to enter the system.

2. FACILITY DESCRIPTION

This new wastewater treatment plant will be a no-discharge system which includes septic tanks, storage lagoon and surface land application area.

The Langley No-Discharge Lagoon WWTF is located at County Road M-2, Fairdealing City, in Ripley County, Missouri. The facility has a design average flow of 5,100 gpd and serves a hydraulic population equivalent of approximately 51 people.

3. COMPLIANCE PARAMETERS

The proposed project is required to meet the requirements of the draft operating permit (MO-139114). The facility will be required to monitor storage basin freeboard, daily precipitation, total Kjeldahl Nitrogen as N, Nitrate as N, irrigation volume, land applied period, application area and application rate.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

- Septic Tank – A septic tank provides passive primary treatment as the settle able solids in raw wastewater settle onto the bottom of the tank. There will be a 1,000 gallon septic tank provided for each of the trailers. When the water level reaches a certain height, the wastewater flows by gravity into the storage lagoon. Solids in the septic tank shall be removed by a contract hauler.
- Storage Lagoon – Lagoon will be constructed and sealed with the clay rich soils at the basin site. The basin will have 3:1 sloping walls, the depth from the top of the berms to the lagoon floor will be 8.0 ft, 2 ft will serve as sludge and clay liner depth, and 2 ft of freeboard plus 0.5 feet below emergency spillway provides an operating depth of 3.5 ft. The basin is non-aerated and has a surface area of 0.75 acres and a wastewater volume of 648,491 gallons. This provides approximately 127 days of retention at the proposed design flow and 110 days at the 1 in 10-year rainfall minus evaporation for the proposed storage period. The berm width will be 5 ft.

- Land Application Pump – a portable gas powered land application pump (Honda WB30) will transfer treated wastewater from lagoon cell to the land application site with a 2 HP pump capable of operating at 260 gpm at 96 feet of TDH.
- Wastewater Irrigation – Six center pivots (SIME AMBO) with a radius of 59 ft and seven center pivots (SIME K1-TESA) with a radius of 36 ft will deliver wastewater for irrigation at the land application site. The wastewater will be applied at a rate of 40 inches per acre per year or less. The rate of land application is less than the application rate recommended by the licensed soil scientist, Mr. Tom DeWitt, in the soil report dated September 16, 2018. According to the soil report, the loading rates of all surface layers vary from 0.48 to 0.60 gallons per day per square feet. The proposed project used a conservative loading rate of 0.45 gallons per day per square feet in its design calculation.

5. OPERATING PERMIT

The draft operating permit, MO-0139114, was successfully public noticed from February 21 to March 20, 2019 with no comments received. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request the draft operating permit MO-0139114 be issued.

6. CONSTRUCTION PERMIT MODIFICATION

This construction permit is being modified upon the request of the facility owner to extend the construction permit schedule. The construction permit will now expire on March 24, 2022.

V. NOTICE OF RIGHT TO APPEAL

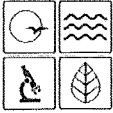
If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered,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

Lei Hou, PE
Engineering Section
lei.hou@dnr.mo.gov

OCT 17 2018

AP 31017 CP0002039



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

APPLICATION FOR CONSTRUCTION PERMIT - WASTEWATER FACILITY

FOR DEPARTMENT USE ONLY

APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
DATE RECEIVED	10-17-18

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: _____
- 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? (Previously Submitted and approved)
☒ 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

Langley No-Discharge Lagoon

2.2 PROJECT DESCRIPTION

Construction of a 174' x 173' no-discharge lagoon to serve a trailer facility. The lagoon will be 8' in depth. A 1' thick clay liner will be constructed.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

sludge will be retained in the septic tanks/lagoon

2.4 DESIGN INFORMATION

- A. Current population: n/a; Design population: 51
- B. Actual Flow: n/a gpd; Design Average Flow: 5100 gpd;
Actual Peak Daily Flow: n/a gpd; Design Maximum Daily Flow: 850 gph gpd;
Design Wet Weather Event: 25yr/24hr

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

\$ 76,166.00

3.0 WASTEWATER TREATMENT FACILITY				
NAME Steven Langley No-discharge Lagoon		TELEPHONE NUMBER WITH AREA CODE (573) 776-3224		EMAIL ADDRESS
ADDRESS (PHYSICAL) HC1 Box 261	CITY Fairdealing	STATE Missouri	ZIP CODE 63939	COUNTY Ripley
Wastewater Treatment Facility: Mo- (Outfall Of)				
3.1 Legal Description: ¼, SW ¼, NE ¼, Sec. 31, T 24N, R 4E (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 708058.85 Northing (Y): 4062672.80 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: unnamed tributary to the Little Black River				
4.0 PROJECT OWNER				
NAME Steven Langley		TELEPHONE NUMBER WITH AREA CODE (573) 776-3224		EMAIL ADDRESS
ADDRESS 2121 S. Westwood	CITY Poplar Bluff	STATE MO	ZIP CODE 63901	
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 Steven Langley		TELEPHONE NUMBER WITH AREA CODE (573) 776-3224		EMAIL ADDRESS
ADDRESS 2121 S. Westwood	CITY Poplar Bluff	STATE MO	ZIP CODE 63901	
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 Thomas J. Mathis III, PE, Mathis and Associates		TELEPHONE NUMBER WITH AREA CODE (573) 785-4202		EMAIL ADDRESS mathis@tcmax.net
ADDRESS 114 North Broadway	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 Steven Langley			DATE 10-9-18	
TITLE OR CORPORATE POSITION Owner <i>Steven Langley</i>		TELEPHONE NUMBER WITH AREA CODE (573) 776-3224		EMAIL ADDRESS
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.				