

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Lost Canyon Lakes Lot Owners Association
7233 Wildwood Estates Drive
Steedman, MO 65077

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.

May 4, 2018
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

May 3, 2020
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Modification to an existing sewage treatment facility by the addition of a tablet chlorinator, a chlorine contact chamber with an effective volume of approximately 1300 gallons (two tanks in series), a tablet dechlorinator, and all the necessary appurtenances to make the facilities complete and usable to treat the waste from a population equivalent of 368 with an average daily discharge of 25,000 gallons. This facility discharges to a Tributary to Cow Creek, Callaway County.

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 Miller Companies on December 13, 2017.

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 Northeast Regional Office per 10 CSR 20-7.015(9)(E)2.
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'), and preferably three hundred feet (300') 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. 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. Form B - *Application for an Operating Permit for Domestic or Municipal Wastewater ($\leq 100,000$ gallons per day)* along with the modification fee of \$75.00, was received by the Department on December 13, 2017 and public noticed April 20, 2018; and
- B. Submit an electronic copy of the as built's if the project was not constructed in accordance with previously submitted plans and specifications.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

Seasonal E. Coli. limits become effective June 1, 2019. This construction permit allows construction of the necessary disinfection equipment to meet bacteria limitations.

2. FACILITY DESCRIPTION

The existing treatment facility is a three cell lagoon (outfall#001), the design population equivalent is 368 and the design flow is 25,000 GPD. The facility will be modified with the addition of a tablet chlorinator, a chlorine contact tank, and a tablet dechlorinator. The new construction will be located such that it intercepts the facility outfall pipe on the outside of the lagoon berm. The existing design flow and outfall location will remain unchanged. Outfall location: UTM zone 15; X = 605523, Y = 4297088

Missouri State Operating Permit MO-0035645, has two outfalls for two separate and distinct treatment plants. These improvements pertain only to the facility at outfall #001. Outfall #002 is an extended aeration treatment plant with chlorination and dechlorination and a design flow of 3060 gpd.

3. COMPLIANCE PARAMETERS

The proposed project is expected to help the facility meet the following final effluent limits:

EFFLUENT PARAMETER(S)	UNIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE
<i>E. coli</i>	#/100mL	1030		206
Chlorine, Total Residual	µg/L	<130		<130
PARAMETER	UNIT	DAILY MINIMUM		MONTHLY AVERAGE
Dissolved Oxygen	mg/L	*		*

* Monitoring requirement only.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Tablet Chlorinator – Installation of a tablet chlorination dispenser [Norweco Bio-Dynamic®, Model IT 2000] receiving lagoon effluent and prior to the chlorine contact tank. The tablet chlorinator shall have a design flow of 25,000 gpd and a maximum flow of 100,000 gpd. The system will dispense hypochlorite as the wastewater comes into contact with the tablets.

Chlorine Contact Tank – Installation of two pre-cast concrete tanks inside dimensions approximately 6 ft. x 5 ft., effective water depth of 42 inches, with three end-around baffles allowing for at least 40:1 length to width ratio. Total effective contact volume of approximately 1300 gallons. This volume allows for a 15 minute contact time during a peak flow of 100,000 gpd.

Tablet Dechlorinator – Installation of a tablet dechlorination dispenser [Norweco Bio-Dynamic®, Model IT 2000] receiving the chlorinated effluent and prior to Outfall No. 001. The tablet chlorinator shall have a design flow of 25,000 gpd and a maximum flow of 100,000 gpd. The system will dispense sodium sulfite as the effluent comes into contact with the tablets.

5. OPERATING PERMIT MODIFICATION

Operating permit MO-0035645 will require a modification to reflect the construction activities. Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ($\leq 100,000$ gallons per day) along with the modification fee of \$75.00 was received by the Department on December 13, 2017. The modified Lost Canyon Lakes WWTF, MO-0035645, was placed on public notice on April 20, 2018.

Upon construction completion, submit the 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.

Andrew Appelbaum P.E.
Engineering Section
andy.appelbaum@dnr.mo.gov

AP28871
C0001955



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
**APPLICATION FOR CONSTRUCTION PERMIT –
WASTEWATER FACILITY**

RECEIVED

DEC 13 2017

Water Protection Program

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$1000.00	CHECK NO. 35503
DATE RECEIVED 12-13-17	

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Facility form is for construction pertaining to domestic wastewater treatment facilities, agricultural 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 agricultural? ☐ 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?
☒ 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

Disinfection Improvements - Lost Canyon Lakes WWTF

2.2 PROJECT DESCRIPTION

Addition of chlorinator, contact tank and dechlorinator.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

2.4 DESIGN INFORMATION

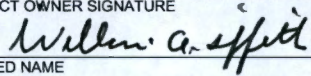
- A. Current population: _____; Design population: _____
- B. Actual Flow: _____ gpd; Design Average Flow: 25000 gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd;
Design Wet Weather Event: _____

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

\$ 5,000.00

3.0 WASTEWATER TREATMENT FACILITY				
NAME Lost Canyon Lakes Wastewater Treatment Facility		TELEPHONE NUMBER WITH AREA CODE (573) 676-3091		EMAIL ADDRESS wloa@ktis.net
ADDRESS (PHYSICAL) 7233 Wildwood Drive	CITY Steedman	STATE MO	ZIP CODE 65077	COUNTY Callaway
Wastewater Treatment Facility: Mo- 0035645 (Outfall 1 Of 2)				
3.1 Legal Description: $\frac{1}{4}$, NW $\frac{1}{4}$, SE $\frac{1}{4}$, Sec. 26 , T 47 , R 8W (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 605523 Northing (Y): 4297088 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: Triutary to Cow Creek				
4.0 PROJECT OWNER				
NAME Lost Canyon Lakes Lot Owners Association		TELEPHONE NUMBER WITH AREA CODE (573) 676-3091		EMAIL ADDRESS wloa@ktis.net
ADDRESS 7233 Wildwood Drive	CITY Steedman	STATE MO	ZIP CODE 65077	
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 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 checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Rockne C. Miller Miller Companies		TELEPHONE NUMBER WITH AREA CODE (573) 348-9799		EMAIL ADDRESS rocky@themillercos.com
ADDRESS P.O. Box 282	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 WILLIAM A. GRIFFL			DATE DECEMBER 09-2017	
TITLE OR CORPORATE POSITION PARK ADMINISTRATOR		TELEPHONE NUMBER WITH AREA CODE 573-676-5317		EMAIL ADDRESS wloa@ktis.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.				

PART B – LAND APPLICATION ONLY

(Submit only if the proposed construction project includes land application of wastewater.)

8.0 FACILITY INFORMATION

8.1 Type of wastewater to be irrigated: ☐ Domestic ☐ State/National Park ☐ Seasonal business
☐ Municipal ☐ Municipal with a pretreatment program or significant industrial users
☐ Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:
☐ 12 months per year ☐ Part of the year (list months): _____

8.3 This system is designed for:
☐ No-discharge ☐ Subsurface
☐ Partial irrigation when feasible and discharge rest of time
☐ Irrigation during recreational season, April – October, and discharge during November – March
☐ Other (explain) _____

9.0 STORAGE BASINS

9.1 Number of storage basins: _____ (Use additional pages if greater than two basins.)

9.2 Type of basins: ☐ Steel ☐ Concrete ☐ Fiberglass ☐ Earthen ☐ Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.

Basin #1: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #2: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).
Basin #1: Maximum operating water level _____ ft Minimum operating water level _____ ft
Basin #2: Maximum operating water level _____ ft Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.
Basin #1: _____ ft Basin #2: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.
Basin #1: _____ ft Basin #2: _____ ft

9.7 Total design sludge storage: _____ dry tons and _____ cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Type of land application: ☐ Fixed Head Sprinklers ☐ Center Pivot ☐ Traveling Gun ☐ Drip Dispersal
☐ Subsurface Low Pressure Pipe ☐ Other (describe) _____

10.2 Number of irrigation sites _____ Total Acres _____ Maximum % field slopes _____
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
(Use additional pages if greater than three irrigation sites.)

10.3 Type of vegetation: ☐ Grass hay ☐ Pasture ☐ Timber ☐ Row crops
☐ Other (describe) _____

10.4 Wastewater flow (dry weather) gallons per day: Average annual _____
Seasonal _____ Off-season _____

10.5 Land application rate (design flow including 1-in-10 year storm water flows):
Design: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week
Actual: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week

10.6 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal

10.7 Actual months used for irrigation (check all that apply):
☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

10.8 Land application rate is based on:
☐ Hydraulic Loading ☐ Other (describe) _____
☐ Nutrient Management Plan (N and P) If N and P is selected, is the plan included? ☐ YES ☐ NO

INSTRUCTIONS FOR COMPLETING APPLICATION FOR CONSTRUCTION PERMIT – WASTEWATER TREATMENT FACILITIES

All blanks must be filled in when the application is submitted to the Missouri Department of Natural Resources. This includes the required signature.

Note: Use the form Application for Construction Permit – Sewer Extension, MO 780-1632, if **only** collection system component(s) are to be constructed. This form is available at dnr.mo.gov/forms/780-1632-f.pdf.

A land disturbance permit is required if construction will result in the disturbance of one or more acres of land. A land disturbance permit is available through the department's ePermitting system at dnr.mo.gov/env/wpp/epermit/help.htm. A permit fee in accordance with 10 CSR 20-6.011(2)(F)1. is required.

After receiving a complete application, the Department enters the application information into the Missouri Clean Water Information System. You may search for the status of a construction permit online at dnr.mo.gov/mocwis_public/applicationInprocessSearch.do.

Part A – Basic Application Information

- 1.0 If any questions in this section are answered no, this application may be considered incomplete and returned to applicant.
- 1.1 Check the appropriate box. If the project is funded with federal or state monies, supply the funding agency name and project number.
- 1.2 Check the appropriate box. Agrichemical facilities complete sections 1.6, 1.10, 2.1, 2.2, 3.1-3.3, 5.0, 6.0, and 7.0.
- 1.3 Check the appropriate box. Provide the date of department approval for the antidegradation report. Include a copy of the approved *Water Quality and Antidegradation Review* with this application. Not every construction project may require an antidegradation review. For more information, guidance documents and forms concerning antidegradation visit dnr.mo.gov/env/wpp/permits/antideg-implementation.htm.
- 1.4 Check the appropriate box and provide the date of department approval. Per 10 CSR 20-8.110(3)(C), facility plans must be approved by the department prior to the submittal of plans and specifications and a construction permit application. "Facility plans must be completed for projects involving wastewater treatment facility projects and projects receiving funding through the grant and loan programs under 10 CSR 20-4" in accordance with 10 CSR 20-8.110(4)(A)4. The department has developed a fact sheet to aid in the development of an approvable facility plan. This document is available online at dnr.mo.gov/pubs/pub2416.htm.
- 1.5 Complete only if No. 1.3 is answered Not Applicable. Check the appropriate box. For wastewater treatment facilities with a design flow under 22,500 gallons per day, or gpd, an engineering report may be required by the department in accordance with 10 CSR 20-6.010(4)(D)1 and 10 CSR 20-8.020(3). The department will require an engineering report for any new wastewater treatment facilities and for any major modifications to an existing wastewater treatment facility.
- 1.6 Check the appropriate box. Provide a copy of the appropriate plans and specifications for department review when applying for a construction permit per 10 CSR 20-8.110(3)(C), 10 CSR 20-8.020(5) and 10 CSR 20-8.020(6). A Missouri registered professional engineering seal, signature and date is required on each sheet of the plans and the cover of the technical specifications.

The department will accept plans and specifications in electronic form on a CD and in the Adobe® PDF searchable format. If the plans are scanned, set the resolution to a minimum of 200 dpi at 17 by 22 inches.

Note: Additional sets of plans and specifications may be required by the department for final approval and issuance of the construction permit. See 10 CSR 20-8.110(6)(A)1.

- 1.7 Check the appropriate box. A summary of design shall accompany the plans and specifications when applying for a construction permit, per 10 CSR 20-8.110(5) and 10 CSR 20-8.020(7). A fact sheet to aid in the development of an acceptable summary of design is available online at dnr.mo.gov/pubs/pub2417.htm. For wastewater treatment facilities with a design flow under 22,500 gpd, a summary of design may not be required by the department.
- 1.8 Check the appropriate box. Include the applicable operating permit application when seeking a site-specific operating permit or modification of an existing operating permit. Facilities that qualify for a general operating permit may submit the operating permit application to the appropriate regional office at least 60 days prior to operation.
 - Form B for facilities ≤ 100,000 gpd is available online at dnr.mo.gov/forms/780-1512-f.pdf.
 - Form B2 for facilities > 100,000 gpd is available online at dnr.mo.gov/forms/780-1805-f.pdf.

Include the appropriate fee with your application. For more fee information, visit:
<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>.

\$200 for modifications to a Publicly Owned Treatment Works (POTW) operating permit accompanied by the appropriate operating permit form per 10 CSR 20-6.011(2)(H), if applicable.