

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Robert Rosenfeld Jr.
Manager
Oak Ridge Park Properties, LLC
230 S. Bemiston Ave., Ste. 520
St. Louis, MO 63105

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 6, 2021
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

April 5, 2023
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The permitted scope of work for CP0002192 includes the addition of a tablet chlorinator, chlorine contact chamber, dechlorinator and relocated outfall on the existing two cell lagoon.

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 Scheer Design Group, LLC 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 St. Louis 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. Lagoons shall be located at least 200 feet from any residence and 50 feet from any property line, per 10 CSR 20-8.140(C)(2)
6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
7. 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.
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. 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 200' to a neighboring residence and 50' to property line for lagoons; 200' to a neighboring residence for open recirculating media filters following primary treatment; and 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
- Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140 (2) (D)
- The outfall shall be so constructed and protected against the effects of flood water, ice, or other hazards as to reasonably ensure its structural stability and freedom from stoppage. 10 CSR 20-8.140 (6) (A)
- All sampling points shall be designed so that a representative and discrete twenty-four (24) hour automatic composite sample or grab sample of the effluent discharge can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. 10 CSR 20-8.140 (6) (B)
- All outfalls shall be posted with a permanent sign indicating the outfall number (i.e., Outfall #001). 10 CSR 20-8.140 (6) (C)
- Contact period for Chlorine Disinfection. A minimum contact period of fifteen (15) minutes at design peak hourly flow or maximum rate of pumpage shall be provided after thorough mixing. 10 CSR 20-8.190 (3) (A)
- Solid dechlorination systems shall not be located in the chlorine contact tank. 10 CSR 20-8.190 (4) (B) 1.
- Contact time. A minimum of thirty (30) seconds for mixing and contact time of dechlorination systems shall be provided at the design peak hourly flow or maximum rate of pumpage. 10 CSR 20-8.190 (4) (B) 2.

11. Upon completion of construction:

- A. The Oak Ridge Park Properties, LLC 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) . When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The purpose of this construction project is to install a chlorination and dechlorination system on the existing two cell lagoon. The existing two cell lagoon currently does not have a means of disinfection. This is being installed to meet *E. coli* limits that became effective on March 1, 2019.

2. FACILITY DESCRIPTION

The existing Oak Ridge Court WWTF is a two cell lagoon that serves domestic PE of 48. The permitted construction will include a chlorine tablet feeder, chlorine contact chamber, tablet dechlorinator, and relocated outfall.

The Oak Ridge Court WWTF is located at Goldman Road, Hillsboro, in Jefferson County, Missouri. The facility has a design average flow of 5,000 gpd and serves a hydraulic population equivalent of approximately 48 PE. The permitted construction will cover the installation of a NORWECO IT 2000 tablet chlorination system, chlorine contact tank, NORWECO IT 2000 dechlorination system, and relocated Outfall 001.

3. COMPLIANCE PARAMETERS

The existing facility currently has no disinfection system. The permitted project is required to meet final effluent limits of 1030 #/100mL as a daily maximum *E. coli* and 206 #/100mL as a monthly average *E. coli* as established in Operating Permit MO-0049352 expiring on December 31, 2021

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Existing major components which will remain in use include the following:

- Lagoon Cell No. 1 – Lagoon Cell No. 1 is non-aerated and has a surface area of 0.38 acres
- Lagoon Cell No. 2 – Lagoon Cell No. 2 is non-aerated and has a surface area of 0.14 acres.

Construction will cover the following items:

- Components are designed for a Population Equivalent of 48 based on hydraulic loading to the system.

- Disinfection – Disinfection is the process of removal, deactivation, or killing of pathogenic microorganisms.
 - NORWECO model IT or XT 2000 Chlorinator – Installation of a NORWECO chlorination tablet feeder receiving clarified effluent prior to the chlorine contact tank. The tablet chlorinator shall have a design flow of 5,000 gpd and a peak flow of 20,000 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 3 ft x 5 ft x 2 ft with 5 end-around baffles allowing for a 42.8:1 length to width ratio. This tank will allow for a 15 minute contact time during a peak flow of 20,000 gpd.
 - NORWECO model IT or XT 2000 Dechlorinator – Installation of a NORWECO dechlorination tablet feeder receiving the chlorinated effluent prior to the dechlorination contact chamber and Outfall 001. The tablet dechlorinator shall have a design flow of 5,000 gpd and a maximum flow of 20,000 gpd. The system will dispense sodium sulfite as the wastewater comes into contact with the tablets. The effluent wastewater will travel through the 5 foot dechlorination contact chamber to Outfall 001.
 - Relocated Outfall 001– The new outfall location is approximately 45 ft North and downstream from the current outfall location. The outfall consists of a discharge pipe. A drop of approximately 10 inches allows for discrete effluent samples.

5. OPERATING PERMIT

Operating permit MO-0049352 expiring on December 31, 2021 will require a modification to reflect the construction activities. The modified Oak Ridge Court WWTF, MO-0049352, was successfully public noticed from February 26, 2021 to March 29, 2021 with no comments received.

After the completion of construction, submit the Form MO 780-2155, Wastewater Construction Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request the operating permit modification be issued.

With your construction permit application, an operating permit modification application was submitted for public notice to reflect the change in your operating permit. Your operating permit application for a renewal will be due before your Construction Permit is expired. The modification action does not fulfill the renewal application obligation. A renewal application must be filed before July 3, 2021.

This facility does not meet the requirements of the Missouri State General Operating Permit MO-GD00000 issued on July 1, 2019 due to Effluent Limits for BOD₅ and TSS. The facility will be re-evaluated during the operating permit renewal process to assess the eligibility for Missouri State General Operating Permits.

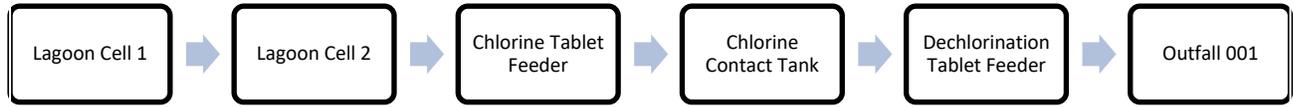
V. NOTICE OF RIGHT TO APPEAL

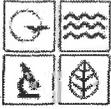
If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered,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

Steven Hamm, P.E.
Engineering Section
Steven.hamm@dnr.mo.gov

APPENDIX –PROCESS FLOW DIAGRAM





MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

**APPLICATION FOR CONSTRUCTION PERMIT –
WASTEWATER TREATMENT FACILITY**

RECEIVED
NOV 17 2020
Water Protection Program

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$1000.00	CHECK NO. 69162
DATE RECEIVED 11-17-20	SB

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 Addition of disinfection to existing system
- 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 Disinfection system for Oak Ridge Court WWTF	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 14,000
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2.3 PROJECT DESCRIPTION
Addition of chlorine contact disinfection system to provide disinfection to the WWTF effluent prior to discharge.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
contained within lagoons

2.5 DESIGN INFORMATION
A. Current population: _____; Design population: 48
B. Actual Flow: 1800 gpd; Design Average Flow: 5000 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 Oak Ridge Court		TELEPHONE NUMBER WITH AREA CODE (314) 862-0981		E-MAIL ADDRESS rlrosenf@aol.com
ADDRESS (PHYSICAL) Goldman Rd.		CITY Hillsboro	STATE MO	ZIP CODE 63050
COUNTY Jefferson				
Wastewater Treatment Facility: Mo- 0049352 (Outfall 1 Of 1)				
3.1 Legal Description: _____ ¼, <u>NE</u> ¼, <u>NE</u> ¼, Sec. 13, T 41N, R 4E (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>716979</u> Northing (Y): <u>4241160</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Tributary to Sandy Creek</u>				
4.0 PROJECT OWNER				
NAME Oak Ridge Properties, LLC		TELEPHONE NUMBER WITH AREA CODE (314) 862-0981		E-MAIL ADDRESS rlrosenf@aol.com
ADDRESS 225 S. Meramec, Ste. 409		CITY St. Louis	STATE MO	ZIP CODE 63105
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 See Above		TELEPHONE NUMBER WITH AREA CODE		E-MAIL 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 checked="" 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 Kirby Scheer / Scheer Design Group, LLC		TELEPHONE NUMBER WITH AREA CODE 573 459-2611		E-MAIL ADDRESS kirbs@fidnet.com
ADDRESS 8584 HWY YY		CITY New Haven	STATE MO	ZIP CODE 63068
7.0 APPLICATION FEE				
<input type="checkbox"/> CHECK NUMBER <input type="checkbox"/> 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 				
PRINTED NAME Robert L. Rosenfeld, Jr.			DATE 11/10/20	
TITLE OR CORPORATE POSITION Manager		TELEPHONE NUMBER WITH AREA CODE 314.862.0981		E-MAIL ADDRESS rlrosenf@aol.com
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.				