

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Riley Spence Properties No. 3, LLC
ATTN: Greg Spence
1749 Gils Inn Lane
Fenton, MO 63026

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.

September 8, 2014
Effective Date

September 7, 2016
Expiration Date

Sara Parker Pauley, Director, Department of Natural Resources

Director of Staff, Clean Water Commission or Designee

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Treatment Facility: Wastewater treatment system modifications to include converting existing single-cell lagoon to no-discharge by installation of 821 linear feet of six-inch PVC pipe; three cleanouts; a 5000-gallon septic tank; depth gauge into existing lagoon; four-feet diameter by eight feet deep simplex irrigation lift station with 0.25 inch mesh filter basket and a two horsepower irrigation pumps – each designed for 27 gallons per minute at 69 feet of total dynamic head; chlorination; 250 linear feet of six-inch PVC pressure pipe; 250 linear feet of two-inch PVC pressure pipe; eight – 60 feet radius sprinkler heads – each head designed for 26.7 gallons per minute at 25 psi; 2.0 effective acres of grass for irrigation; and all the necessary appurtenances to make the facility complete and usable. The wastewater treatment facility to serve the Riley Spence Properties No. 3 with an average daily dry weather flow is 2,850 gallons per day and a population equivalent (PE) of 61. The total flow with 1 in 10 year rainfall-evaporation flow is 3,520 gallons per day. The total storage capacity of the basin is approximately 75 days at the 1 in 10 year rainfall-evaporation flow.

II. FINDING OF AFFORDABILITY

The Finding of Affordability is not applicable. The permittee is not a combined or separate sanitary sewer system or a publicly 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. A pumpdown marker shall be installed and maintained, clearly showing the level of the emergency spillway and one foot increments, down to the lower pumpdown marker.
3. All construction shall be in accordance with the revised April 15, 2014 plans and specifications with the July 10, 2014 addendum submitted by Anderson & Associates.
4. 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).
5. 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)(E)2.
6. This Construction Permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans"

7. 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.”
 - A. 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.
 - B. Sewer mains shall be laid at least ten 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 ten 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.
 - C. Manholes should be located at least ten feet horizontally from any existing or proposed water main.
 - 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 ten 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 one 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 may be obtained by means of the Department’s ePermitting system available online at www.dnr.mo.gov/env/wpp/epermit/help.htm. See 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/ for more information.
10. Upon completion of construction;
 - A. Riley Spence Properties No. 3, LLC will remain 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);
 - C. Submit an electronic copy of the as-builts if the project was not constructed in accordance with previously submitted plans and specifications and
 - D. Submit a Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ($\leq 100,000$ gallons per day) along with the modification fee.

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 and will be proposed in the 2014 Missouri Water Quality Standards triennial review. More information can be found at <http://dnr.mo.gov/pubs/pub2481.htm>.

The proposed facility is no-discharge.

2. CONSTRUCTION PURPOSE

Comply with the construction upgrade requirements of the Missouri State Operating Permit MO-0101311.

3. FACILITY DESCRIPTION

The existing facility is a single-cell discharging lagoon with a design flow of 7,300 gallons per day. This project will add wastewater irrigation to convert the system to 2,850 gallons per day non-discharging lagoon.

4. COMPLIANCE PARAMETERS

Facility has a history of poor operation and maintenance. Facility failed to meet effluent limitations listed in Part A of the operating permit.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The irrigation area is only 25 feet from property lines so chlorine disinfection is being installed in accordance with 10 CSR 20-8.020(15)(B)2. According to the April 2013 engineering report, the design flow will also be reduced to a dry weather flow of 2,850 gallons per day based on the projected waste loading in accordance with 10 CSR 20-8.020(11)(B)3. Table I.

6. OPERATING PERMIT REQUIREMENTS

Operating permit MO-0101311 will require a modification to reflect the construction activities. Upon construction completion, submit a modification fee and Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ($\leq 100,000$ gallons per day).

Review Engineer: Keith Forck
Section Chief Approval: Refaat Mefrakis
Date: August 27, 2014
Keith.Forck@dnr.mo.gov