

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

City of Camdenton
347 W. Hwy 54
Camdenton, MO 65020

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 21, 2015
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

April 20, 2017
Expiration Date

John Madras, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Modification to an existing sewage treatment facility by the addition of an aerated sludge holding basin. The basin will be constructed of concrete and have a maximum volume of approximately 32,000 cubic feet, two motor/blower combinations each with a capacity of 300 cfm, and all the necessary appurtenances to make the facilities complete and usable. This treatment facility will maintain the capacity for treating the waste from a population equivalent of 6,381 with an average daily discharge of 640,000 gallons. This facility discharges to Racetrack Hollow, Camden County.

II. FINDING OF AFFORDABILITY

Pursuant to Section 644.145, RSMo, the department is required to determine whether a permit or decision is affordable and make a finding of affordability for each permit or decision.

The Finding of Affordability is not applicable. This construction permit does not include new environmental requirements beyond what are already required by the existing Missouri State Operating Permit, MO-0106399.

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 Darren Krehbiel Consultants, LLC, on January 20, 2015.
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 Southwest Regional Office per 10 CSR 20-7.015(9)(E)2.
5. This construction permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans"

6. 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."
7. 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.
 - A. Sewer mains shall be laid at least 10 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 10 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.
 - B. Manholes should be located at least 10 feet horizontally from any existing or proposed water main.
 - C. Manholes shall be located with the top access at or above grade level.
 - 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 10 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 will only 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. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(D);
 - 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. When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application. Facility description should include: "aerated sludge holding"; and the increased total sludge holding capacity should be noted.

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. The department has initiated stakeholder discussions on this topic and at this time, there is no firm target date for starting the rulemaking to adopt new standards. More information can be found at <http://dnr.mo.gov/pubs/pub2481.pdf>.

The City of Camdenton is aware of the new EPA ammonia criteria. The aerated sludge holding tank was designed while mindful of potential future limits and the additional amount of sludge that may be generated because of additional treatment. The city currently meets ammonia limits which would be implemented using EPA 2013 criteria. They believe they will continue to achieve the current level of treatment for ammonia. A meeting between Darren Krehbiel Consultants LLC and the city was held on 4-7-15, where these items were discussed.

2. CONSTRUCTION PURPOSE

The treatment facility currently holds sludge in two unaerated sludge holding tanks then land applies when conditions allow. The tanks are decanted as appropriate to maximize storage capacity. Sometimes when land application conditions are not favorable for extended periods storage becomes minimal and the city must either haul to another treatment facility or adjust treatment to less than optimal parameters.

Construction of the aerated sludge holding tank will double the volume available for sludge storage and increase options for sludge conditioning.

3. FACILITY DESCRIPTION

The current treatment facility consists of two oxidation ditches, two circular clarifiers, ultraviolet disinfection, and two sludge holding basins. The design flow is 640,000 GPD and the design population equivalent is 6,381. The city recently moved the outfall from a losing stream segment, downstream to a gaining stream segment. The discharge is approximately 0.69 miles from Lake of the Ozarks.

4. COMPLIANCE PARAMETERS

The improvements will help the facility maintain compliance with effluent limitations and sludge requirements. Sludge requirements are mostly contained in Standard Conditions Part III of permit MO-0106399, but may also include other permit sections and USEPA 503 sludge regulations.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The new aerated sludge holding basin is intended to give the City more flexibility in the operation of their sludge management program. In particular, the storage of sludge when necessary to wait for acceptable land application periods. The volume of the tank was based on providing the same amount of volume as the existing sludge holding tanks.

Aeration will be provided in the new tanks but not in the amount required to be considered an aerobic digester at all volumes. The tank volume will be approximately 32,000 cubic feet. At a volume of 10,000 cubic feet the amount of air provided is the required amount of air for an aerobic digester. At greater volumes the minimum amount of aeration is not met. Based on current values, 9,685 cubic feet is the amount of sludge that would be produced at design flow in 45 days. This is based on current average flow of 480,000 GPD, current sludge production of 53.3 dry tons/year, and a percent solids of 2.9%. Aeration is provided in order to have the ability to protect the treatment process during the decanting of supernatant from the sludge basin.

6. OPERATING PERMIT MODIFICATION

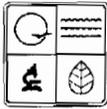
Operating permit MO-0106399 is currently under review for renewal. The permit expires August 19, 2015. The permit will be updated with inclusion of "aerated sludge holding" in the facility description if construction is complete before final renewal.

When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application. Facility description should include: "aerated sludge holding"; and the increased total sludge holding capacity should be noted.

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

RECEIVED

11/30/15
CP 000112215
014400
FOR DEPARTMENT USE ONLY
APP NO. CP NO.
FEE RECEIVED CHECK NO.
\$3000.00 11768
DATE RECEIVED: 11/30/15



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
APPLICATION FOR CONSTRUCTION PERMIT -
WASTEWATER TREATMENT FACILITY

WATER PROTECTION PROGRAM

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: _____
- 1.3 Has the department approved the proposed project's facility plan*?
 YES Date of Approval: _____ NO N/A (If Not Applicable, complete No. 1.4.)
- 1.4 [Complete only if answered Not Applicable on No. 1.3.] 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
- 1.5 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 Electronic copy also included.
- 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 submittal. Denote which form: A B B2
 N/A Please explain: Operation Permit is current.
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? YES NO
- 1.9 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
City of Camdenton Sludge Holding Basin

2.2 PROJECT DESCRIPTION
See Attached

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
See Attached

2.4 DESIGN INFORMATION
A. Current population: _____; Design population: 6,381
B. Actual Flow: 500,000 gpd; Design Average Flow: 640,000 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

3.0 WASTEWATER TREATMENT FACILITY

NAME Camdenton WWTF		TELEPHONE NUMBER WITH AREA CODE (573) 346-3600	E-MAIL ADDRESS	
ADDRESS (PHYSICAL) Ha Ha Tonka Road	CITY Camdenton	STATE MO	ZIP CODE 65020	COUNTY Camden
Wastewater Treatment Facility: Mo- 0106399 (Outfall 1 Of 1)				
3.1 Legal Description: <u>SE</u> ¼, <u>NW</u> ¼, _____ ¼; Sec. <u>35</u> , T <u>38N</u> , R <u>17W</u> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>520291</u> Northing (Y): <u>4204971</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Racetrack Hollow</u>				

4.0 PROJECT OWNER

NAME City of Camdenton		TELEPHONE NUMBER WITH AREA CODE (573) 346-3600	E-MAIL ADDRESS	
ADDRESS 437 W. Hwy. 54	CITY Camdenton	STATE MO	ZIP CODE 65020	

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 City of Camdenton		TELEPHONE NUMBER WITH AREA CODE (573) 346-3600	E-MAIL ADDRESS	
ADDRESS 437 W. Hwy 54	CITY Camdenton	STATE MO	ZIP CODE 65020	

5.1 A letter from the continuing authority, if different than the owner, is included with this application. YES NO 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? YES 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? YES NOB. 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? YES NOC. 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? YES NOD. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? YES NO**6.0 ENGINEER**

ENGINEER NAME / COMPANY NAME Darren Krehbiel Consultants, LLC		TELEPHONE NUMBER WITH AREA CODE (573) 346-5316	E-MAIL ADDRESS dkc@cdoc.net	
ADDRESS 63 Blair Ave.	CITY Camdenton	STATE MO	ZIP CODE 65020	

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

J. Jeff Hancock

DATE

1-9-2015

TITLE OR CORPORATE POSITION

City Administrator

TELEPHONE NUMBER WITH AREA CODE

573-346-3600

E-MAIL ADDRESS

j.j.hancock@camdentoncity.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.**



darrenkrehbiel

CONSULTANTS LLC

PO Box 587 • 63 Blair Ave.

Camdenton, MO 65020

Phone: 573.346.5316 • Fax: 573.346.3851

RECEIVED

WATER PROTECTION PROGRAM TRANSMITTAL

TO: Mr. Rafaat Mefrakis	FROM: Darren Krehbiel
COMPANY: MoDNR	DATE: January 9, 2015
ADDRESS: PO Box 176 Jefferson City, MO 65102-0176	COPY: City of Camdenton 437 W. Hwy 54 Camdenton, MO 65020
PHONE:	SENDER'S REFERENCE NO.: 1196
FAX:	RECEIPIENT'S REFERENCE NO.:
RE: Construction Permit Application	NO. OF PAGES:

Mr. Mefrakis,

Please find the following:

Application for Construction Permit – Wastewater Treatment Facility

Check in the amount of the appropriate fee

1 set of Sludge Basin Plans

1 Technical Specification Book with Design Summary

1 CD containing electronic copy of application, plans, specification and summary

Respectfully Submitted,

Darren Krehbiel, P.E.

CONFIDENTIALITY NOTICE – IMPORTANT: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any reading, reviewing, dissemination, distribution, copying, or action taken in reliance on the contents of this communication is hereby strictly prohibited. If you have received this communication in error, please notify us immediately by email or telephone and destroy all copies of the original message and any files transmitted herewith.