

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Country Acres Homeowners Association
P.O. Box 181
Knob Noster, MO 65336

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.

August 23, 2016
Effective Date

Sara Parker Pauley
Sara Parker Pauley, Director, Department of Natural Resources

August 22, 2018
Expiration Date

John Madras
John Madras, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Modification to an existing wastewater treatment facility by the addition of an Ultra Dynamics Series 8102-GIE-30 ultraviolet (UV) disinfection system consisting of one bank within a single channel and all the necessary appurtenances to make the facility complete and usable to treat the wastewater from a population equivalent of 203 with a design daily discharge of 20,300 GPD. This facility discharges into the Walnut Creek (C stream) in Johnson County, Missouri.

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 the Mayhew Surveying & Engineering on November 9, 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 Kansas City 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

9. 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.
10. 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.
11. Upon completion of construction;
 - A. The Country Acres homeowner association will become 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 built if the project was not constructed in accordance with previously submitted plans and specifications; and
 - D. 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. 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>.

2. CONSTRUCTION PURPOSE

The purpose of this project is to add disinfection system to the existing facility so that it will be able to comply with the bacterial limits placed in its NPDES discharge permit.

3. FACILITY DESCRIPTION

The facility is an extended aeration wastewater treatment plant. A contract hauler disposes sludge by land applied.

4. COMPLIANCE PARAMETERS

The construction is to meet the final E. coli effluent limits of 206 #/ 100 mL monthly average and 1030 #/ 100 mL daily maximum.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

An Ultra Dynamics Series 8102-GIE-30 ultraviolet (UV) disinfection system has the ability to disinfect 30 gpm, which is 43,200 GPD according to manufacturer documents. The facility's operating permit states that the design capacity is 20,300 GPD. The peak factor of the proposed disinfection system is 2.13 which is less than typical. According to the phone conversation between the design engineer, Mr. Don Mayhew, P.E., and Ms. Cindy LePage, P.E., the unit chief of the construction permit unit of the engineering section on August 5, 2016, the facility has a flow limiting device to limit the flow into the UV disinfection system up to 30 gpm.

6. OPERATING PERMIT MODIFICATION

It is expected that the facility owner will include a new facility description in their next operating permit renewal application to reflect the installation of an ultraviolet disinfection system.

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

13-0050202 P0001807
AP 22 321 15347



MISSOURI DEPARTMENT OF NATURAL RESOURCES RECEIVED
WATER PROTECTION PROGRAM
APPLICATION FOR CONSTRUCTION PERMIT NOV 09 2015
WASTEWATER TREATMENT FACILITY

Water Protection Program

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$1006.00	CHECK NO. 4008
DATE RECEIVED 11/9/15	88

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
 - 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: _____
 - 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

UV Disinfection

2.2 PROJECT DESCRIPTION

Install UV Disinfection following extended aeration treatment at outfall

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

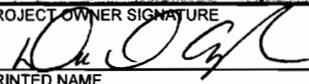
Current plant configuration has adequate sludge storage
Sludge disposal by contract Hauler to permitted facility

2.4 DESIGN INFORMATION

- A. Current population: 110; Design population: 203
- B. Actual Flow: 0.009 gpd; Design Average Flow: 0.0203 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 Country Acres Homeowners Asso.		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS (PHYSICAL) 1256 NE 130 Rd	CITY Knob Noster	STATE MO	ZIP CODE 65336	COUNTY Johnson
Wastewater Treatment Facility: Mo- 0050202 (Outfall 1 Of 1)				
3.1 Legal Description: _____ ¼, _____ SW ¼, _____ SE ¼, Sec. 13, T 46, R 24W (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 455923 Northing (Y): 4291374 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Unnamed</u>				
4.0 PROJECT OWNER				
NAME Country Acres Homeowners Asso.		TELEPHONE NUMBER WITH AREA CODE (660) 563-2358	E-MAIL ADDRESS soccergr@aol.com	
ADDRESS P.O. Box 181	CITY Knob Noster	STATE MO	ZIP CODE 65336	
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 Country Acres Homeowners Asso.		TELEPHONE NUMBER WITH AREA CODE (660) 563-2358	E-MAIL ADDRESS soccergr@aol.com	
ADDRESS P.O. Box 181	CITY Knob Noster	STATE MO	ZIP CODE 65336	
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 Don Mayhew, Mayhew Surveying & Engineering		TELEPHONE NUMBER WITH AREA CODE (573) 736-2482	E-MAIL ADDRESS	
ADDRESS P.O. Box 418	CITY Crocker	STATE MO	ZIP CODE 65452	
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 Donna Grygierczyk			DATE 23 Oct 15	
TITLE OR CORPORATE POSITION President, Country Acres Homeowners Asso.		TELEPHONE NUMBER WITH AREA CODE (660) 563-2358	E-MAIL ADDRESS soccergr@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.				