

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

USCOE, Truman Project
15968 Truman Road
Warsaw, MO 65355

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

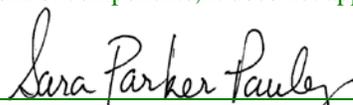
Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

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.

June 25, 2015
Effective Date


Sara Parker Pauley, Director, Department of Natural Resources

June 24, 2017
Expiration Date


John Madras, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Replacement of an existing no-discharge spray irrigation system with a subsurface absorption system. New system to consist of a septic tank and gravity fed absorption trenches utilizing gravelless chambers. The new no-discharge system will have a design flow of 750 GPD. The absorption field approximate location is: UTM (zone 15), X=463158, Y=4234840. This activity is for outfall #011 at the Shawnee Bend Beach. It does not pertain to any of the other 10 outfalls of MO-0122459.

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 determine cost analysis for compliance because the permit contains no new conditions or requirements that convey a new cost to the facility.

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 BC Engineering on March 12, 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 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. A full closure plan shall be submitted to the department's Kansas City Regional Office for review and approval of any permitted wastewater treatment system being replaced. In accordance with 10 CSR 20-6.010(12), the closure plan must meet the requirements outlined in Standard Conditions Part III of the Missouri State Operating Permit No. MO-0122459. Closure shall not commence until the submitted closure plan is approved by the department. Form B2 - Application for Operating Permit for Facilities that receive primarily domestic waste and have a design flow more than 100,000 gallons per day, along with the modification fee, shall be submitted to the Water Protection Program for termination of Outfall #011, once closure is completed in accordance with the approved closure plan.
11. Upon completion of construction of the subsurface absorption system;
 - A. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(D); 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.
12. Upon completion of closure of the two cell holding basin;
 - A. Submit Form B2 - Application for Operating Permit for Facilities that receive primarily domestic waste and have a design flow more than 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. 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>.

Since this is a no-discharge facility, effluent limitations for ammonia are not applicable.

2. CONSTRUCTION PURPOSE

The current surface spray irrigation system at Shawnee Bend Beach (outfall #011) is being replaced with a subsurface absorption system. The new system will require less maintenance.

3. FACILITY DESCRIPTION

The existing system at Shawnee Bend Beach (outfall #011) consists of a two cell holding basin with a total surface area of approximately 29,000 sq. ft., and a spray irrigation field of approximately 2.5 acres; the design flow is 6443 GPD. The new system will have a septic tank and gravity fed subsurface absorption trenches; the design flow will be 750 GPD.

4. COMPLIANCE PARAMETERS

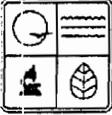
This project is being done for the convenience of the owner. It is not being done due to a new or existing compliance parameter.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The treatment system serves the Shawnee Bend Beach (outfall #011 of MO-0122459) which is a swimming beach and picnic area that is open seasonally and has one shower house. The shower house receives minimal use. There is only cold water available so showers are seldom used. New design flow of 750 GPD is based on the maximum use day; which is July 4th. The new treatment system will consist of a 1500 gallon septic tank divided into two compartments, a flow splitting distribution box and five absorption trenches each 96-feet long. The trenches will be 36-inches wide and fitted with 34-inch wide gravelless chambers. The design is based on a loading rate of 0.45 gpd/sq. ft. Use of the chambers allows a 25% reduction in required area of trench bottom. Soils analysis was performed by Richard Henderson, Soil Scientist.

6. OPERATING PERMIT MODIFICATION

Operating permit MO-0122459 will require a modification to reflect the construction activities at Outfall #011. After final closure of the existing holding basins submit a Form B2 - Application for Operating Permit for Facilities that receive primarily domestic waste and have a design flow more than 100,000 gallons per day, along with the modification fee. The permit will be modified to remove outfall #011. After outfall #011 is removed from MO-0122459 the remaining design flow will be 122,791 GPD from the other 10 outfalls. A public notice is not necessary since this is the elimination of an outfall and the new treatment system is not required to be permitted. The new system is not required to be permitted since it is no-discharge; it is less than 3000 GPD; and is significantly remote from the other outfalls (treatment sites).



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

AP 20831

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
DATE RECEIVED	

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: USACE Project #: _____
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
 YES Date of Approval: _____
 Attached is the No Degradation Evaluation Conclusion of Antidegradation Review form
- 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: WILL NEED PERMIT MODIFICATIONS
- 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

Shawnee Bend (Outfall #011)

2.2 PROJECT DESCRIPTION

Add septic tank and lateral field. Abandon existing lagoon, lateral field and part of the existing gravity sewer line.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Sludge holding will be in the septic tank.

2.4 DESIGN INFORMATION

- A. Current population: 17.6; Design population: 17.6
- B. Actual Flow: 750 gpd; Design Average Flow: 750 gpd;
 Actual Peak Daily Flow: 750 gpd; Design Maximum Daily Flow: 750 gpd

2.5 ADDITIONAL INFORMATION

- A. Is a topographic map attached? YES NO
- B. Is a process flow diagram attached? YES NO

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): 4-10

8.3 This system is designed for:
 No-discharge.
 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: 1 (Use additional pages if greater than three basins.) SEPTIC TANK

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. SEPTIC TANK

Basin #	Length	Width	Depth	Freeboard	Berm Width	% Slope
Basin #1:	_____	_____	_____	_____	_____	_____
Basin #2:	_____	_____	_____	_____	_____	_____
Basin #3:	_____	_____	_____	_____	_____	_____

9.4 Storage Basin operating levels (report as feet below emergency overflow level). SEPTIC TANK

Basin #	Maximum operating water level	Minimum operating water level
Basin #1:	_____ ft	_____ ft
Basin #2:	_____ ft	_____ ft
Basin #3:	_____ ft	_____ ft

9.5 Design depth of sludge in storage basins. SEPTIC TANK

Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.

Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

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

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites _____ Total Acres _____ Maximum % field slopes _____ LATERAL FIELDS

Location: SE 1/4, NE 1/4, SW 1/4, 12 Sec. 40N T 23W R BENTON County _____ Acres
Location: _____ 1/4, _____ 1/4, _____ 1/4, _____ Sec. _____ T _____ R _____ County _____ Acres
Location: _____ 1/4, _____ 1/4, _____ 1/4, _____ Sec. _____ T _____ R _____ County _____ Acres
(Use additional pages if greater than three irrigation sites.)

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

10.3 Wastewater flow (dry weather) gallons per day: Average annual _____ Seasonal 750 Off-season 0

10.4 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

10.5 Total irrigation per year (gallons): Design: 160,500 gal Actual: 160,500 gal

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

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

3.0 WASTEWATER TREATMENT FACILITY

NAME USCOE Truman Reservoir		TELEPHONE NUMBER WITH AREA CODE 660-438-7317		E-MAIL ADDRESS	
ADDRESS (PHYSICAL) 15968 Truman Road		CITY Warsaw	STATE MO	ZIP CODE 65355	COUNTY Benton
Wastewater Treatment Facility: Mo- 0122459 (Outfall 11 Of 11)					
3.1 Legal Description: <u>SE 1/4, NE 1/4, SW 1/4, Sec. 12, T 40N, R 23W</u> (Use additional pages if construction of more than one outfall is proposed.)					
3.2 UTM Coordinates Easting (X): _____ Northing (Y): _____ For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)					
3.3 Name of receiving streams: <u>na</u>					

4.0 PROJECT OWNER

NAME USACOE Truman Project		TELEPHONE NUMBER WITH AREA CODE (660) 438-7317		E-MAIL ADDRESS	
ADDRESS 15968 Truman Road		CITY Warsaw	STATE MO	ZIP CODE 65355	

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 USACOE Truman Project		TELEPHONE NUMBER WITH AREA CODE (660) 438-7317		E-MAIL ADDRESS	
ADDRESS 15968 Truman Road		CITY Warsaw	STATE MO	ZIP CODE 65355	

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.

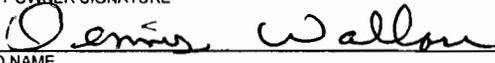
A. Is a copy of the certificate of convenience and necessity included with this application? YES NO

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 Bowden Campbell / BC Engineering, llc		TELEPHONE NUMBER WITH AREA CODE (660) 723-0288		E-MAIL ADDRESS bowdencampbell@gmail.com	
ADDRESS 23332 Highway 7		CITY Warsaw	STATE MO	ZIP CODE 65355	

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
Dennis WallaceDATE
6 March 2015TITLE OR CORPORATE POSITION
Project ManagerTELEPHONE NUMBER WITH AREA CODE
(660) 438-7317

E-MAIL ADDRESS

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.