



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

MAY 15 2014

MDNR, Division of State Parks
ATTN: Bill Bonnell
PO Box 176
Jefferson City, MO 65102

RE: AP# 18116 – Conversion to No-Discharge Lagoon with Irrigation – MDNR, St. Joe State Park, MO-0097993, Construction Permit No. 0001641

Dear Mr. Bonnell:

The Missouri Department of Natural Resources' Water Protection Program has reviewed and approved the plans and specifications submitted by Taylor Engineering, LLC. Please find enclosed Construction Permit No. CP0001641.

This permit will terminate 12 months from the date of issuance. In accordance with 10 CSR 20-6.010(4)(G), the Department may grant an extension only one time. If you believe that an extension is necessary, you must submit a request and a justification in writing for the extension at least 30 days prior to the permit expiration date.

This construction permit does not supersede any requirements of the operating permit or enforcement actions. Nothing in this permit removes any obligations to comply with county or other local ordinances or restrictions.

If you were adversely affected by this decision, you may appeal to have the matter heard by the Administrative Hearing Commission. To appeal, you must file a petition with the Administrative Hearing Commission 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 Administrative Hearing Commission.

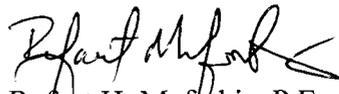
MDNR, St. Joe State Park
MO0097993/CP0001641, St. Francois County
Page 2

If you have any questions concerning this matter, please contact Mr. Keith Forck, at (573) 526-4232 or Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102-0176.

Thank you for your efforts to help ensure clean water in Missouri.

Sincerely,

WATER PROTECTION PROGRAM



Refaat H. Meftakis, P.E.
Engineering Section Chief

RHM:kfi

Enclosures

c: Tim Robbs, Taylor Engineering, LLC
Southeast Regional Office
Brittnie Brauner, WPP Compliance and Enforcement Section

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

MDNR, Division of State Parks
ATTN: Bill Bonnell
PO Box 176
Jefferson City, MO 65102

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.

May 15, 2014
Effective Date

May 14, 2015
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 lagoon system to no-discharge by installation of a depth gauge and rip-rap; six feet square by 12 feet deep irrigation pump station with trash basket and two – 7.5 horsepower irrigation pumps – each designed for 125 gallons per minute at 132 feet of total dynamic head; 780 linear feet of four-inch pressure PVC pipe; 1,765 linear feet of two-inch pressure PVC pipe; 820 linear feet of 1.25-inch PVC pressure pipe; four irrigation zones – each zone with eight – 82 feet diameter sprinkler heads – each head designed for 7.5 gallons per minute at 30 psi; 3.9 acres of grass for irrigation; and all the necessary appurtenances to make the facility complete and usable. The wastewater treatment facility will serve the MDNR, St. Joe State Park with a peak seasonal dry weather flow is 10,000 gallons per day and a population equivalent (PE) of 133 and a peak seasonal daily average flow with 1 in 10 year rainfall-evaporation flow is 15,723 gallons per day during June, July, and August. The total storage capacity of the three basins is approximately 68 days at the 1 in 10 year rainfall-evaporation peak seasonal flow.

II. FINDING OF AFFORDABILITY

The Finding of Affordability is applicable. To address the Ammonia Schedule of Compliance as required in the current Missouri State Operating Permit, MO-0097993, park staff determined that no-discharge system was the preferred cost effective option as there was ample land available for the land application site

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 Taylor Engineering, LLC.
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 Southeast 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.”
 - 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.

7. 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.
8. 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.
9. Upon completion of construction;
 - A. MDNR, Division of State Parks 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.pdf>.

The proposed facility is no-discharge with irrigation; effluent limitations for ammonia are not applicable.

2. CONSTRUCTION PURPOSE

Facility has schedule of compliance in operating permit to meet effluent limitations for ammonia by October 28, 2014. Park staff determined that no-discharge system was the best option as there was ample land available for the land application site. Convert existing discharge lagoon to a no-discharge system with irrigation.

3. FACILITY DESCRIPTION

Facility is an existing three-cell lagoon. Proposed construction is to convert to no-discharge by installation of an irrigation system.

4. COMPLIANCE PARAMETERS

Facility has quarterly discharge monitoring report requirements. With the facility being seasonal, about half of the reports state no discharge for Permitted Feature 001. Compliance issues at this facility are with Permitted Features #002 and #003. Permitted Feature #003 has been eliminated previously as the source area has been remediated.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The facility is a seasonal use facility. It is a state park and patrons are either day use or overnight campers. Shower and bathroom facilities are only open from approximately April 1 to October 31. There are 100 campsites and three main bathroom facilities in the park. Seasonal use facilities where flows are generated only during the application period have a minimum storage requirement of 45 days in accordance with 10 CSR 20-8.020(15)(F)2. With a land application area of 3.9 acres and a maximum weekly application rate of three inches, the facility has capacity to apply approximately 300 percent of the maximum 1-in-10 year recreational season flow rate of (15,723 gpd * 7 days/week= 110,061 gallons per week) within one week as:

$3.9 \text{ acres} * 43560 \text{ ft}^2/\text{acre} * 3 \text{ in/week} * 1 \text{ ft}/12 \text{ in} * 7.48 \text{ gallons/ft}^3 = 317,683$
gallons/week.

In the months of April, May, September, and October, peak seasonal dry weather flow is cut to 5,000 gallons per day. The park has negligible usage in the November, December, January, February, and March.

6. OPERATING PERMIT MODIFICATION

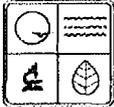
Draft Missouri State Operating Permit MO-0097993, which reflects this proposed construction, was on public notice for public comments from April 4, 2014 to May 5, 2014. There were no comments received regarding the draft permit.

Operating permit MO-0097993 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: 05/06/2014

RECEIVED

CP0001641
APR 18 14 C13161



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM B: APPLICATION FOR AN OPERATING PERMIT FOR DOMESTIC OR
MUNICIPAL WASTEWATER (≤100,000 gallons per day)

APR 2 2014

FOR AGENCY USE ONLY	
CHECK NUMBER	34471
DATE RECEIVED	4/2/14
FEE SUBMITTED	\$750.00 Const + \$37.50 Adm.

PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:

An operating permit for a new (including antidegradation review) or unpermitted facility. Construction Permit # _____

An operating permit renewal: Permit #MO- _____ Expiration Date _____

An operating permit modification: Permit #MO- 0097993 Reason: Upgrade

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)? YES NO

1.2 Is a facility description included with this application (see 7.1)? YES NO

2. FACILITY

NAME MDNR, St. Joe State Park		TELEPHONE NUMBER WITH AREA CODE (573) 431-1069	
ADDRESS (PHYSICAL) 2800 Pimville Road	CITY Park Hills	STATE MO	ZIP CODE 63601
OUTFALL NUMBER For multiple outfalls, this is number 001 of 2			
Estimated (actual) flow: 2,000 gpd, Design Average Flow: 10,000 gpd, Design Peak Hourly Flow: _____ gph			
2.1 Legal description: ¼, NE ¼, NE ¼, Sec. 30, T 36, R 5E		County St. Fra	
2.2 UTM Coordinates Easting (X): 718735 Northing (Y): 4187084 <i>For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)</i>			
2.3 Name of receiving stream: Harris Branch			

3. OWNER

NAME Missouri Department of Natural Resources		E-MAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE (800) 361-4827
ADDRESS PO Box 176	CITY Jefferson City	STATE MO	ZIP CODE 65102
3.1 Request review of draft permit prior to public notice? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			

4. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME MDNR, Division of State Parks		E-MAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE (573) 751-2479
ADDRESS PO Box 176	CITY Jefferson City	STATE MO	ZIP CODE 65102

5. OPERATOR

NAME	CERTIFICATE NUMBER
E-MAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE

6. FACILITY CONTACT

NAME Bill Bonnell	TITLE Natural Resource Manager
E-MAIL ADDRESS bill.bonnell@dnr.mo.gov	TELEPHONE NUMBER WITH AREA CODE 573-431-1069

7. DESCRIPTION OF FACILITY

7.1 Describe the facility (attach additional sheet if required) and attach a flow chart showing the influents, treatment facilities and outfalls.
The facility is currently a three cell lagoon where sludge is retained in the lagoon or land applied. The three cell lagoon system is being converted to a no-discharge lagoon system with land application. The land application system will consist of a lift station, 4" PVC main line, 2" PVC lateral lines, approximately 32 sprinkler heads and all the necessary piping and appurtenances necessary to make a complete and usable system.

7.2 Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.

7.3 Design flow for this outfall: 0 Total design flow for the facility: 1000 Actual flow for this outfall: 0

7.4 Number of people presently connected or population equivalent (P.E.): N/A Design P.E.: 100

7.5 Does the facility accept or process leachate from landfills? Yes No

8. ADDITIONAL FACILITY INFORMATION8.1 Facility SIC code: 4952; Discharge SIC code: 4952

8.2 Milestone dates:

Date of completion of construction of facility: TBDDates of any construction modifications to the facility (along with description of modification): TBD

New piping will be installed between the lagoons, a lift station will be constructed and a land application system will be installed.

8.3 Connections to the facility:

Number of units presently connected: Homes N/A Trailers N/A Apartments N/A

Other (including industrial) _____ (If industrial, see instructions 8.1)

Number of commercial establishments: 1

Daily number of employees working (total estimate): _____ Daily number of customers/guests (total estimate): _____

8.4 Length of pipe in the sewer collection system? 1,500 feet or _____ miles (either unit is appropriate.)8.5 Does any bypassing occur in the collection system or at the treatment facility? Yes No (If yes, explain.)8.6 Does significant infiltration occur in the collection system? Yes No (If yes, explain and attach proposed repair.)**9. DISCHARGE INFORMATION**9.1 Will the discharge be continuous throughout the year? Yes No9.2 Discharge will occur during the following months: 09.3 How many days of the week will the discharge occur? 09.4 Is wastewater land-applied? Yes No (If yes, attach Form I.)9.5 Will chlorine be added to the effluent? Yes NoIf chlorine is added, what is the resulting residual? _____ $\mu\text{g/l}$ (micrograms per liter)9.6 Does this facility discharge to a losing stream or sinkhole? Yes No9.7 Has a waste load allocation study been completed for this facility? Yes No

10. List all permit violations, including effluent limit exceedances, in the last five years. Attach a separate sheet if necessary. If none, write none.

None

11. SLUDGE HANDLING, USE AND DISPOSAL

11.1 Is the sludge a hazardous waste as defined by 10 CSR 25? Yes No
 Sludge production, including sludge received from others: 1.9 Design Dry Tons/Year _____ Actual Dry Tons/Year

11.3 Capacity of sludge holding structures:
 Sludge storage provided: _____ cubic feet; _____ days of storage; _____ average percent solids of sludge;
 No sludge storage is provided.

- Type of Storage: Holding tank Building
 Basin Other (Please describe) Lagoon
 Concrete Pad
- Sludge Treatment:
 Anaerobic Digester Lagoon Composting
 Storage Tank Aerobic Digester Other (Attach description)
 Lime Stabilization Air or Heat Drying
- Sludge Use or Disposal:
 Land Application Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
 Contract Hauler Incineration
 Hauled to Another Sludge Retained in Wastewater treatment lagoon
 Treatment Facility Other _____ Attach explanation sheet.
 Solid Waste Landfill
- Person responsible for hauling sludge to disposal facility
 By Applicant By Others (complete below)

NAME	E-MAIL ADDRESS
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ADDRESS	CITY	STATE	ZIP CODE
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CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-
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Sludge use or disposal facility
 By applicant By others (Please complete below.)

NAME	E-MAIL ADDRESS
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ADDRESS	CITY	STATE	ZIP CODE
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CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-
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Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?
 Yes No (Please explain)

12. DOWNSTREAM LANDOWNERS - ATTACH ADDITIONAL SHEETS AS NECESSARY. SEE INSTRUCTIONS.

NAME
 City of Park Hills

ADDRESS 9 Bennett Street	CITY Park Hills	STATE MO	ZIP CODE 63601
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13. CERTIFICATION

I certify that I am familiar with the information contained in the application, that 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 the Missouri Clean Water Law.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) Mr. Bill Bonnell, Natural Resource Manager	TELEPHONE NUMBER WITH AREA CODE (573) 431-1069
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SIGNATURE <i>Bill Bonnell</i>	DATE SIGNED 3-28-14
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