

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 Anniston Wastewater Treatment Facility  
County Road 328  
Anniston, MO 63820

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

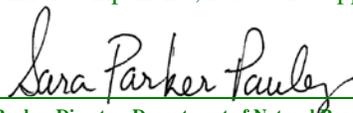
Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

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 12, 2015  
Effective Date

  
Sara Parker Pauley, Director, Department of Natural Resources

June 11, 2017  
Expiration Date

  
John Madras, Director, Water Protection Program

## CONSTRUCTION PERMIT

### I. CONSTRUCTION DESCRIPTION

The original three cell facultative lagoon was constructed in 1993. The upgrade to include the submerged aerated growth reactors and UV disinfection is in response to the changes to the Missouri Water Quality Standards, specifically Ammonia as N and *E. Coli* effluent limits. The existing lagoon system is rated for 127,000 gpd; however with the upgrade the system is being rerated to 60,000 gpd with a peak flow of 100,000 gpd. Construction will include the addition of two submerged aerated growth reactors and UV disinfection to the existing three cell lagoon.

The two submerged aerated growth reactors will be connected into the existing outfall pile prior to the existing parshall flume. A flow splitter will separate the flow equally between the two reactors. The ultraviolet disinfection system is sized to treat 100,000 gpd at 50% UV transmittance. The project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater collection system.

### 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 required to determine “findings of affordability” because the permit applies to a **combined or separate sanitary sewer system for a publically-owned treatment works**.

**Cost Analysis for Compliance** - The department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644. 145.3. See **Appendix A: Cost Analysis for Compliance**.

### **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 Smith and Company on October 24, 2014.
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."
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](http://www.dnr.mo.gov/env/wpp/epermit/help.htm). See [www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://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/](http://www.dnr.mo.gov/env/wpp/401/) for more information.
10. Upon completion of construction;
- A. The city of Anniston 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 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 of \$200.

#### **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.htm>.

In the facility plan and response to comments submitted as part of the construction permit application, the upgrades at the facility to the SAGR are being designed to meet the proposed ammonia effluent limits of 0.6 mg/L summer and 2.1 mg/L winter. The draft operating permit was public noticed containing a description of the ammonia criteria. In review of the existing discharge monitoring reports, Anniston is currently meeting the proposed ammonia criteria; see Table 1 in Facility Description.

##### **2. CONSTRUCTION PURPOSE**

The upgrade to the SAGR system with the UV disinfection will allow Anniston to meet more protective water quality standards, especially for Ammonia as N and for *E. Coli*. The upgrading will also reduce the permitted design flow of the facility to 60,000 gpd.

##### **3. FACILITY DESCRIPTION**

The three cell lagoon treatment plant is located on County Road 328, approximately 0.37 miles from intersection of County Road 328 and County Road 337. The treatment plant is approximately 0.72 miles from the city of Anniston on County Road 328. The original three cell facultative lagoon was constructed in 1993. The upgrade to include the submerged aerated growth reactors and UV disinfection is in response to the changes to the Missouri Water Quality Standards, specifically Ammonia as N and *E. Coli* effluent limits.

The existing lagoon system is rated for 127,000 gpd; however with the upgrade the system is being rerated to 60,000 gpd with a peak flow of 100,000 gpd.

In the design of the upgrade, the sludge depth was evaluated to see if removal was necessary. The results of the sludge test were the sludge was minimal with less than 6-inches deep in all three cells. Sludge will continue to be maintained in the lagoons.

Table 1: Existing Performance

Parameter	Units	Average Monthly Limit	Average DMR reported*
Flow	MGD	*	0.037
Biochemical Oxygen Demand <sub>5</sub>	mg/L	45	29.64
Total Suspended Solids	mg/L	70	49.25
Ammonia as N-summer	mg/L	*	0.089
Ammonia as N-winter	mg/L	*	0.20
Oil and Grease	mg/L	10	5

\*monitoring only

★DMR summary September 1, 2010-March 10, 2015

**4. COMPLIANCE PARAMETERS**

The upgrade to include the submerged aerated growth reactors and UV disinfection is in response to the changes to the Missouri Water Quality Standards, specifically Ammonia as N and *E. Coli* effluent limits. With the upgrade to the SAGR system, the facility no longer qualifies for equivalent to secondary effluent limits for BOD<sub>5</sub> and TSS under 10 CSR 20-7.015(8)(A)3.A. and 40 CFR 133.105 and will have to meet the effluent limits in Table 2 below and meet 85% removal efficiency per 10 CSR 20-7.015(8)(A)1 and 40 CFR 133.102.

Table 2: Effluent Limits for Anniston WWTF

Parameter	Units	Average Monthly Limit
Flow	MGD	*
Biochemical Oxygen Demand <sub>5</sub>	mg/L	30
Total Suspended Solids	mg/L	30
Ammonia as N-summer	mg/L	1.4
Ammonia as N-winter	mg/L	2.9
Oil and Grease	mg/L	10
E. Coli	#/100mL	206
pH	SU	6.5-9.0

**5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

The current design guides, 10 CSR 20-8 do not contain design parameters for this configuration of technology or for submerged aerated growth reactors. The facility is being rated for 60,000 gpd with a peak flow of 100,000 gpd. The 60,000 gpd is based on the highest recorded value the city has experienced in the past few years. Construction will include the addition of two submerged aerated growth reactors and UV disinfection to the existing three cell lagoon.

- Cell #1 is 5-feet deep and has an approximate surface area of 1.57 acres with a maximum capacity of 2.28 million gallons. This provides 38 days of retention at the proposed design flow of 60,000 gpd.
- Cell #2 is 5-feet deep and has an approximate surface area of 0.47 acres, with a maximum design volume of 622,000 gallons. This provides 10 days of retention at the proposed design flow of 60,000 gpd.
- Cell #3 is 5-feet deep and has an approximate surface area of 0.31 acres with a design volume of 392,000 gallons. This provides 6.5 days of retention time at the proposed design flow of 60,000 gpd.

The area around the reactors and UV system will be raised to an elevation of approximately 312, which puts all structures a minimum of one foot above the 100 year flood elevation.

The two submerged aerated growth reactors will be connected into the existing outfall pile prior to the existing parshall flume. A flow splitter will separate the flow equally between the two reactors. The reactors will be constructed 6-feet deep with a water depth of approximately 5-feet. Aeration to the reactors will be provided by 2-7.5 horsepower blowers with design airflow of 113 scfm.

The ultraviolet disinfection system is sized to treat 100,000 gpd at 50% UV transmittance. They system will utilize Glasco UV system dosing at 21.5 gpm with 4 lamps, providing for treatment of 123,840 gpd. Maximum output at 253.7 nanometers and a rated effective life of 9,000 hours of 30,000  $\mu$ WSec/cm<sup>2</sup>.

The UV units shall be installed with alarms to separately indicate lamp failure and low UV intensity. Portable generator will be available for use to provide continuous disinfection per 10 CSR 20-8.140(8).

The project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater collection system.

## **6. OPERATING PERMIT MODIFICATION**

Operating permit MO-0114928 will require a modification to reflect the construction activities. Upon construction completion, submit a modification fee of \$200 and Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ( $\leq 100,000$  gallons per day). The draft operating permit modification was public noticed May 1, 2015 through June 1, 2015 with no comments received.

Leasue Meyers, EI  
Engineering Section  
[leasue.meyers@dnr.mo.gov](mailto:leasue.meyers@dnr.mo.gov)

**APPENDIX A: COST OF COMPLIANCE ANALYSIS**

**Missouri Department of Natural Resources  
Water Protection Program  
Cost Analysis for Compliance  
(In accordance with RSMo 644.145)**

**Anniston WWTP, Permit Renewal  
City of Anniston  
Missouri State Operating Permit #MO-0114928**

Section 644.145 RSMo requires the Department of Natural Resources (DNR) to make a “finding of affordability” when “issuing permits under” or “enforcing provisions of” state or federal clean water laws “pertaining to any portion of a combined or separate sanitary sewer system for publicly-owned treatment works.”

The Department is required to issue a permit with final effluent limits in accordance with 644.051.1.(1) RSMo, 644.051.1.(2) RSMo, and the Clean Water Act. The practical result of many affordability findings will be to allow longer compliance schedules to mitigate adverse impact to distressed populations resulting from the costs of upgrading the wastewater treatment facility.

This cost analysis is based on data available to the Department as provided by the permittee and data obtained from readily available sources. For the most accurate analysis, it is essential that the permittee provides the Department with current information about the City’s financial and socioeconomic situation.

**Cost Analysis for Compliance Summary Table**

Estimated present worth to upgrade to an SAGR system	Median Household Income (MHI) for the City of Anniston	Estimated monthly cost per user as a percent of MHI
\$670,000	\$32,929	1.35%

**Facility Description:**

Residential Connections:	<u>85</u>
Commercial Connections:	<u>86</u>
Industrial Connections:	<u>1</u>
Total Connections for this facility:	<u>172</u>

**New Permit Requirements:**

The City of Anniston has requested a permit modification to upgrade their treatment plant. The existing permit does not include disinfection or ammonia effluent limits. With the modification request to reduce the treatment plant’s design flow rating, this renewal/modification includes compliance with E. Coli disinfection requirements, ammonia effluent limits, secondary effluent limits for biochemical oxygen demand and total suspended solids, and a schedule of compliance for a C Class Operator .

**Anticipated Costs Associated with Complying with the New Requirements:**

The total cost estimated for upgraded treatment plant is \$670,000. This cost, as calculated by the City of Anniston and their engineer is expected to cost each household \$37.10 per month. A community sets their user rates based on several factors. The percentage of the current user rate that is available to cover new debt is unknown to the Department.

**(1) A community’s financial capability and ability to raise or secure necessary funding;**

Based on the current estimated total project cost, the funding breakdown is a \$150,000 grant from CDBG, a \$223,000 grant from USDA Rural Development, and a \$297,000 loan from USDA Rural Development. The City of Anniston has passed a \$900,000 bond for the project.

**(2) Affordability of pollution control options for the individuals or households at or below the median household income level of the community;**

The total cost estimated for the new treatment plant is \$670,000. This cost, if financed through user fees, might cost each household \$37.10 per month. This would make the additional cost per household as a percent of median household income (MHI) 1.35%<sup>2</sup> based on the City’s MHI of \$32,929. This is an increase of \$13 per month over their existing rates of \$24 per month, as reported in the 2014 MPUA rate survey.

**(3) An evaluation of the overall costs and environmental benefits of the control technologies;**

On August 22, 2013, the U.S. Environmental Protection Agency (EPA) finalized new water quality criteria for ammonia, based on toxicity studies of mussels and gill breathing snails. When new water quality criteria are established by the EPA, states must adopt them into their regulations in order to keep their authorization to issue permits under the National Pollutant Discharge Elimination System. This permit renewal requires final effluent limitations for Ammonia as N based on Missouri Water Quality Standards (WQS) 10 CSR 20-7.031 and the Clean Water Act. Ammonia (NH<sub>3</sub>) is toxic to early stages of aquatic life. NH<sub>3</sub> removal prevents damage to aquatic life and enables the receiving stream to support a healthier and diverse aquatic life community. The facility is upgrading their treatment plant to a SAGR system to meet the ammonia limits. Please see the Water Protection Program fact sheet titled “Changes to the Water Quality Standard for Ammonia” at <http://dnr.mo.gov/pubs/pub2481.htm>.

E. coli is an indicator of the presence of fecal contamination in water and possible disease-causing bacteria and viruses in water and wastewater. The receiving stream has a WBC (B) designated use to protect human health in accordance with Water Quality Standards (10 CSR 20-7.031) and the Clean Water Act. Disinfection benefits human health by reducing exposure to disease-causing bacteria and viruses. The City of Anniston is upgrading their treatment facility with a disinfection system in order to meet the final effluent limitations.

**(4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates:**

The community did not provide the Department with information, nor could it be found through readily available data.

**(5) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low and fixed income populations. This requirement includes but is not limited to:**

- (a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations.
- (b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained.

**Socioeconomic Data<sup>3-6:</sup>**

Potentially Distressed Populations – City of Anniston	
Unemployment	7.7%
Adjusted Median Household Income (MHI)*	\$32,929
Percent Change in MHI (1990-2012)	+107.1%
Percent Population Growth/Decline (1990-2012)	-3.1%
Change in Median Age in Years (1990-2012)	+15.2
Percent of Households in Poverty	24.1%
Percent of Households Relying on Food Stamps	25.6%

**(6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;**

The community did not report any other investments relating to environmental improvements

**(7) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards;**

**Secondary indicators for consideration:**

Indicators	Strong (3 points)	Mid-Range (2 points)	Weak (1 point)	Score
Bond Rating Indicator	Above BBB or Baa	BBB or Baa	Below BBB or Baa	---
Overall Net Debt as a % of Full Market Property Value	Below 2%	2% - 5%	Above 5%	---
Unemployment Rate	>1% below Missouri average of 6.6%	± 1% of Missouri average of 6.6%	>1% above Missouri average of 6.6%	1
Median Household Income	More than 25% above Missouri MHI (\$47,333)	± 25% of Missouri MHI (\$47,333)	More than 25% below Missouri MHI (\$47,333)	1
Percent of Households in Poverty*	>10% below Missouri average of 14.0%	± 10% of Missouri average of 14.0%	>10% above Missouri average of 14.0%	1
Percent of Households Relying on Food Stamps*	>5% below Missouri average of 11.4%	± 5% of Missouri average of 11.4%	>5% above Missouri average of 11.4%	1
Property Tax Revenues as a % of Full Market Property Value	Below 2%	2% - 4%	Above 4%	--
Property Tax Collection Rate	Above 98%	94% - 98%	Below 94%	---

\* Financial Capability Indicators are specific to the State of Missouri

Financial Capability (FCI) Indicators Average Score: 1

**Financial Capability Matrix:**

Financial Capability Indicators Score from above ↓	Residential Indicator (User cost as a % of MHI)		
	Low (Below 1%)	Mid-Range (Between 1.0% and 2.0%)	High (Above 2.0%)
Weak (below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (1.5 – 2.5)	Low Burden	Medium Burden	High Burden
Strong (above 2.5)	Low Burden	Medium Burden	High Burden

Estimated Financial Burden for Treatment Plant: High Burden

The resulting financial burden has been determined by comparing the Financial Capability Indicator score (FCI) with the Residential Indicator (RI) stated in Criteria #2. The cost associated with a new treatment plant could result in a High financial burden placed on the community due to the weak FCI paired with the mid-range RI. Please see Criteria #2 for more information on the costs specific to each treatment technology. However, the community has received \$373,000 in grants to pay for the treatment plant upgrades.

**(8) An assessment of any other relevant local community economic condition.**

The community did not report any other relevant local economic conditions.

**Conclusion and Finding**

As a result of the community's decision to upgrade their treatment plant as a result of forthcoming new regulations and permit requirements, the Department is proposing modifications to the current operating permit as a result of the community's plans to upgrade the treatment plant. The Department identified the actions for which cost analysis for compliance is required under Section 644.145 RSMo.

The Department considered the eight (8) criteria presented in subsection 644.145.3 when evaluating the cost associated with the relevant actions. Taking into consideration these criteria, this analysis examined whether the above referenced permit modifications affects the ability of an individual customer or household to pay a utility bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household. As a result of reviewing the above criteria, the Department hereby finds that the action described above may result in a high burden with regard to the community's overall financial capability; however the new permit requirements and the upgrade are affordable with the USDA Rural Development grant and loan and the CDBG grant.

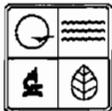
**References:**

1.  $((\text{Estimated cost for sampling annually}/\text{Total connections})/12 \text{ months}) = \text{Cost per household per month}$
2.  $(\text{Cost per household per month}/(\text{MHI}/12)) * 100 = \text{Cost per household as a percent of MHI}$
3. Unemployment data was obtained from Missouri Department of Economic Development (July 2014) – <http://www.missourieconomy.org/pdfs/ure11407.pdf>
4. Median Household Income data from American Community Survey – Median income in the past 12 months – <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?ftp=table>
5. Population trend data was obtained from online at: 2012 Census Bureau Population Data - <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?ftp=table>, 2000 Census Bureau Population Data - <http://www.census.gov/popest/data/cities/totals/2009/tables/SUB-EST2009-04-29.xls>, 1990 Census Bureau Population Data - <http://www.census.gov/prod/cen1990/cp1/cp-1-27.pdf>
6. Poverty data – American Community Survey- <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

# RECEIVED

OCT 24 2014

AP19933  
CP0001696  
MO-0114928



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

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$150.00	CHECK NO. 20707
DATE RECEIVED 10/24/14	\$B

### 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: USDA/CDBG 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: \_\_\_\_\_
- 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

Anniston Wastewater Improvements

2.2 PROJECT DESCRIPTION

The proposed project consists of a retrofit of the existing facultative lagoon facility to meet new limits for ammonia. The proposed project includes the installation of an aerated submerged growth reactor, the installation of an ultraviolet disinfection unit, and a new parshall flume.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Sludge is retained within the lagoon

2.4 DESIGN INFORMATION

- A. Current population: 232; Design population: 400
- B. Actual Flow: 28,500 gpd; Design Average Flow: 60,000 gpd;  
Actual Peak Daily Flow: 57,000 gpd; Design Maximum Daily Flow: 100,000 gpd

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 Anniston Wastewater Treatment Facility		TELEPHONE NUMBER WITH AREA CODE 573-649-5364	E-MAIL ADDRESS	
ADDRESS (PHYSICAL) County Road 328	CITY Anniston	STATE MO	ZIP CODE 63820	COUNTY Mississippi
Wastewater Treatment Facility: Mo- 0114928 (Outfall 1 Of 1 )				
3.1 Legal Description: <u>      </u> ¼, <u>NE</u> ¼, <u>NW</u> ¼, Sec. <u>10</u> , T <u>25N</u> , R <u>16E</u> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>3649575</u> Northing (Y): <u>-08918511</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Unamed Tributary to Stevenson Bayou</u>				

**4.0 PROJECT OWNER**

NAME City of Anniston		TELEPHONE NUMBER WITH AREA CODE (573) 649-5364	E-MAIL ADDRESS	
ADDRESS PO Box 246	CITY Anniston	STATE MO	ZIP CODE 63820	

**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 Same		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE	

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 Gregory Bell / S.H. Smith and Company		TELEPHONE NUMBER WITH AREA CODE (573) 785-9621	E-MAIL ADDRESS gregb@shsmithco.com	
ADDRESS 901 Vine Street	CITY Poplar Bluff	STATE MO	ZIP CODE 63901	

**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 		DATE 10/15/14
PRINTED NAME Gary Whybark		
TITLE OR CORPORATE POSITION Mayor	TELEPHONE NUMBER WITH AREA CODE (573) 649-5364	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.**

**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): \_\_\_\_\_

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: \_\_\_\_\_ (Use additional pages if greater than three basins.)

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.

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

9.4 Storage Basin operating levels (report as feet below emergency overflow level).  
Basin #1: Maximum operating water level \_\_\_\_\_ ft Minimum operating water level \_\_\_\_\_ ft  
Basin #2: Maximum operating water level \_\_\_\_\_ ft Minimum operating water level \_\_\_\_\_ ft  
Basin #3: Maximum operating water level \_\_\_\_\_ ft Minimum operating water level \_\_\_\_\_ ft

9.5 Design depth of sludge in storage basins.  
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 \_\_\_\_\_  
Location: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ County \_\_\_\_\_ Acres  
Location: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ County \_\_\_\_\_ Acres  
Location: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ 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 \_\_\_\_\_ Off-season \_\_\_\_\_

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: \_\_\_\_\_ gal Actual: \_\_\_\_\_ 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