

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Mr. Al Samons,
Owner
Peaceful Valley RV Park
25449 Manchester Drive
Lebanon, MO 65536

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

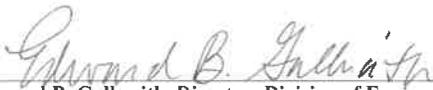
Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

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.

November 15, 2019
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

November 14, 2021
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The facility proposed to construct a non-discharging storage lagoon and a surface land application system.

The Southwest Regional Office must review and approve the closure plan prior to closure activities of the facility's unpermitted lagoons.

This 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 treatment facility.

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 consistent with plans and specifications signed and sealed by the Shoreline Surveying & Engineering and as described in this permit.
3. Contact the Department in writing prior to making any changes to the 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(11).

4. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's Southwest Regional Office per 10 CSR 20-7.015(9) (G).
5. The wastewater treatment facility shall be located at least fifty feet (50') from any dwelling or establishment. Lagoons-200 ft to residence and 50 ft to property line, Open RMFs- 200 ft to residence, Other discharging-50 ft to residence per 10 CSR 20-8.140(C)(2)
6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
7. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation per 10 CSR 20-8.140(2)(B).The minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300') per 10 CSR 20-8.140(2)(C)1.
8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 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 dnr.mo.gov/env/wpp/epermit/help.htm. See 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 dnr.mo.gov/env/wpp/401/ for more information.
10. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
 - The minimum berm width shall be eight feet (8') to permit access of maintenance vehicles. 10 CSR 20-8.200 (4) (A) 2.
 - Minimum freeboard shall be two feet (2'). 10 CSR 20-8.200 (4) (A) 3.
 - Provide an emergency spillway per 10 CSR 20-8.200 (4) (A) 4.
 - An emergency spillway must have the ability for a representative sample to be collected if a discharge occurs. 10 CSR 20-8.200 (4) (A) 4. C.

- Unlined corrugated metal pipe shall not be used for influent lines due to corrosion problems. 10 CSR 20-8.200 (4) (D) 1.
- A manhole shall be installed with its invert at least six inches (6") above the maximum operating level of the lagoon, prior to the entrance into the primary cell, and provide sufficient hydraulic head without surcharging the manhole. 10 CSR 20-8.200 (4) (D) 2.
- The influent line(s) shall be located along the bottom of the lagoon so that the top of the pipe is just below the average elevation of the lagoon seal; however, there shall be an adequate seal below the pipe. 10 CSR 20-8.200 (4) (D) 3.
- The wetted application area of a surface irrigation system must be located
 - Outside of flood-prone areas having a flood frequency greater than once every ten (10) years; 10 CSR 20-8.200 (6) (B) 1.
 - At least one hundred fifty feet (150') from existing dwellings or public use areas, excluding roads or highways; 10 CSR 20-8.200 (6) (B) 2. A.
 - At least fifty feet (50') inside the property line; 10 CSR 20-8.200 (6) (B) 2. B.
 - At least three hundred feet (300') from any sinkhole, losing stream, or other structure or physiographic feature that may provide direct connection between the ground water table and the surface; 10 CSR 20-8.200 (6) (B) 2. C.
 - At least three hundred feet (300') from any existing potable water supply well not located on the property. Adequate protection shall be provided for wells located on the application site; 10 CSR 20-8.200 (6) (B) 2. D.
 - One hundred feet (100') to wetlands, ponds, gaining streams (classified or unclassified; perennial or intermittent); 10 CSR 20-8.200 (6) (B) 2. E. and
 - If an established vegetated buffer or the wastewater is disinfected, the setbacks established in subsections (A)–(E) above may be decreased if the applicant demonstrates the risk is mitigated. 10 CSR 20-8.200 (6) (B) 2. F.
- The wetted application area of a surface irrigation system must be fenced, or if not fenced, provide in the construction permit application or the facility plan, the—
 - Method of disinfection being utilized; 10 CSR 20-8.200 (6) (B) 3. A.
 - Suitable barriers in place, 10 CSR 20-8.200 (6) (B) 3. B. or
 - Details on how public access is limited and not expected to be present. 10 CSR 20-8.200 (6) (B) 3. C.
- At a minimum, treatment prior to irrigation shall provide performance equivalent to that obtained from a primary wastewater lagoon cell and include 90 days wastewater storage in addition to the primary volume. 10 CSR 20-8.200 (6) (C)
- The public shall not be allowed into an area when irrigation is being conducted; 10 CSR 20-8.200 (6) (F) 2. and
- An automatic notification alarm system shall be installed on the pressure monitoring system, on each pivot and pump system, and be capable of notifying an on-call operator when a fault occurs in the system. 10 CSR 20-8.200 (6) (G)

11. Upon completion of construction:

- A. The owner of the facility will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of the as built if the project was not constructed in accordance with previously submitted plans and specifications;
- C. Submit the eDMR permit Holder and Certifier Registration, Form--MO 780-2204 to comply with your operating permit; and
- D. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N), Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ($\leq 100,000$ gallons per day), and the permit fee of \$150 to the Engineering Section of the Water Protection Program 60 days prior to operation. Identify that the application is for a General permit for land application of domestic wastewater, MO-G823.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The facility is a RV park owned by Mr. Al Samons. The existing wastewater treatment plant consists of multiple unpermitted lagoons. The Department issued a Letter of Warning in regards to the unpermitted lagoons and subsequently entered into a Schedule of Compliance with the owner. The owner proposed to construct a non-discharging storage lagoon and a surface land application wastewater treatment system.

2. FACILITY DESCRIPTION

The existing wastewater treatment plant consists of multiple unpermitted lagoons. The new facility will consist a non-discharging storage lagoon and a surface land application wastewater treatment system.

The Peaceful Valley RV WWTF is located at 25449 Manchester Drive, Lebanon City, in Laclede County, Missouri. The facility has a design average flow of 2,000 gpd and serves a hydraulic population equivalent of approximately 32 people. The design flow of the treatment system is based on the most recent water usage data provided by the Laclede PWSD No.1.

3. COMPLIANCE PARAMETERS

The proposed project is required to meet the requirements of MOG823 with an expiration date of August 24, 2022. The facility will be required to monitor storage basin freeboard, daily precipitation, daily volume land applied, application area and application rate.

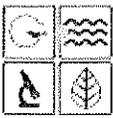
4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

- Sewer - Construction of approximately 1,300 lf of 2-inch PVC SDR-21 force mains with cleanouts and air release valves, 1 duplex lift stations with each pump capable of operating at 30 gpm at 70 feet of TDH to transfer collected wastewater from the RV Park into the proposed storage lagoon.
- Storage Lagoon – Lagoon will be constructed and sealed with a HDPE synthetic liner due to the geohydrologic evaluation finding of severe overall geologic limitations and moderate collapse potential performed at the lagoon site on July 11, 2019. The liner will be industrial grade XR-5 geomembrane with a minimum thickness of two-hundredths inch (0.02”) or 20 mil or equated quality. The basin will have 3:1 side slopes, a depth from the top of the berm to the lagoon floor of 9.5 ft, with 2 ft for sludge depth, and 2 ft of freeboard plus 0.5 feet above emergency spillway. The operating depth is 5 ft. The basin is non-aerated, has a surface area of 0.36 acres, and a volume of 320,710 gallons. This provides approximately 160 days of retention at the proposed design flow and 90 days at the 1 in 10-year rainfall minus evaporation for the proposed storage period. The storage lagoon is designed to be pumped to the minimum operating level of 2 feet in the fall to allow winter storage capacity. The berm width will be 8 ft. This lagoon site is going to be fenced.
- Land Application Pump Station – Construction of a duplex land application pump station to transfer treated wastewater from the lagoon to the land application site with each 2 HP pump capable of operating at 30 gpm at 90 feet of TDH.
- Land Application Site – Construction of approximately 1,350 lf of 2-inch PVC SDR-21 Sprinkler force main with cleanouts and air release valves to transfer wastewater from the land application pump station at the lagoon site to center pivots at the land application site. 16 center pivots with a radius of 40 ft each with drop pipe sprinklers equally divided into two zones will deliver wastewater for irrigation at the land application site. Telemetry will be provided for each pivot. The land application site is approximately 2 acres with grass. Maximum wastewater application rates are 0.005 inches/hour, 0.07 inch/day, 0.5 inches/week, and 18.5 inches/year.

5. OPERATING PERMIT

After completion of construction project submit a statement of work completed, as-built if the project was not constructed in accordance with previously submitted plans and specifications, an application Form B, and fee of \$150. Missouri State Operating Permit, General Permit MO-G823, will be issued after receipt of the above documents.

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



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

**APPLICATION FOR CONSTRUCTION PERMIT
WASTEWATER TREATMENT FACILITY**

RECEIVED

11 08 2019

Water Protection Program

FOR DEPARTMENT USE ONLY	
APP NO. AP33038	CP NO. CP0002089
FEE RECEIVED \$1000.00	CHECK NO. 3668
DATE RECEIVED 7-8-19	

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: _____ N/A
- 1.3 Has the department approved the proposed project's facility plan*?
 YES Date of Approval: _____ NO (If No, complete No. 1.4.)
- 1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan* for wastewater treatment facilities included with this application?
 YES NO Exempt because _____
- 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 and fee submittal. Denote which form: A B B2
 N/A: However, In the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice? YES NO
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? YES NO
- 1.9 Is the appropriate fee or JetPay confirmation included with this application? YES NO
*See Section 7.0

* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT Peaceful Valley RV Park	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ N/A
2.3 PROJECT DESCRIPTION Construction of a duplex lift station, approx. 1350 L.F. of 2" Forcemain, holding cell (lagoon), and approx. 1300 L.F. of 2" Forcemain for application area.	
2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION Contracted Hauling as needed	
2.5 DESIGN INFORMATION A. Current population: <u>32</u> ; Design population: <u>32</u> B. Actual Flow: <u>3185</u> gpd; Design Average Flow: <u>2000</u> gpd; Actual Peak Daily Flow: <u>3185</u> gpd; Design Maximum Daily Flow: <u>3594</u> gpd; Design Wet Weather Event: <u>2751</u>	
2.6 ADDITIONAL INFORMATION A. Is a topographic map attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO B. Is a process flow diagram attached? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

3.0 WASTEWATER TREATMENT FACILITY				
NAME Peaceful Valley RV Park		TELEPHONE NUMBER WITH AREA CODE 417-588-3600		E-MAIL ADDRESS
ADDRESS (PHYSICAL) 25449 Manchester Drive		CITY Lebanon	STATE MO	ZIP CODE 65536
COUNTY Laclede				
Wastewater Treatment Facility: Mo- (Outfall Of)				
3.1 Legal Description: <u>NW 1/4, SE 1/4, N 1/2 1/4, Sec. 6, T 34N, R 17W</u> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>1542871</u> Northing (Y): <u>683762</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Unnamed Tributary to Danceyard Creek</u>				
4.0 PROJECT OWNER				
NAME Al Samons		TELEPHONE NUMBER WITH AREA CODE 417-588-3600		E-MAIL ADDRESS
ADDRESS 25449 Manchester Drive		CITY Lebanon	STATE MO	ZIP CODE 65536
5.0 CONTINUING AUTHORITY: A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.				
NAME Same as Owner		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. <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 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 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 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 type="checkbox"/> YES <input type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Jared W. Wheaton, PE / Shoreline Surveying & Eng.		TELEPHONE NUMBER WITH AREA CODE 573-392-3312		E-MAIL ADDRESS jared@shorelinese.com
ADDRESS 3048 Hwy 52		CITY Eldon	STATE MO	ZIP CODE 65026
7.0 APPLICATION FEE				
<input type="checkbox"/> CHECK NUMBER <input type="checkbox"/> JETPAY CONFIRMATION NUMBER				
8.0 PROJECT OWNER: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.				
PROJECT OWNER SIGNATURE 				
PRINTED NAME Al Samons			DATE 7-2-2019	
TITLE OR CORPORATE POSITION Owner		TELEPHONE NUMBER WITH AREA CODE 417-588-3600		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): March - October

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.)

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 170 Width 90 Depth 9.5 Freeboard 2 Depth 7.5 Safety 7.0 % Slope 33
Basin #2: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #3: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).
Basin #1: Maximum operating water level 7 ft Minimum operating water level 2 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: 2 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 2 Total Acres 1.25 Maximum % field slopes 12
Location: NW 1/4, SE 1/4, N 1/2 1/4, 6 Sec. 34N T 17W R Lacle County 0.625 Acres
Location: NW 1/4, SE 1/4, N 1/2 1/4, 6 Sec. 34N T 17W R Lacle County 0.625 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 2000 Seasonal 2000 Off-season 2000

10.4 Land application rate (design flow including 1-in-10 year storm water flows):
Design: 24 inches/year 1/8 inches/hour 1 inches/day 3 inches/week
Actual: 24 inches/year 1/8 inches/hour 1 inches/day 3 inches/week

10.5 Total irrigation per year (gallons): Design: 814k gal Actual: 814k 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