

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Lazy Acres Homeowners Association
Lazy Acres Subdivision WWTP
14900 Pike 342
Bowling Green, MO 63334

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 22, 2021
Effective Date

June 21, 2023
Expiration Date


Edward B. Galbraith, Director, Division of Environmental Quality


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The project includes the installation of a 10,000-gallon recirculation tank and two Advantex AXC-100 textile filter pods to be used as a polishing filter.

This project will 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 Kyle Pociask with Four Points Land Surveying and Engineering, Inc., and as described in this permit.
3. The Department must be contacted 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 Northeast Regional Office per 10 CSR 20-7.015(9)(G).
5. The completed project shall be field tested to verify actual pumped volume of each dose. The timer controls shall be set to ensure a dosing rate not to exceed the manufacturer’s recommendation for synthetic media filters.

6. The wastewater treatment facility shall be located at least fifty feet (50') from any dwelling or establishment.
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 Army Corps of Engineers (USACE) Clean Water Act Section 404 Department of the Army permit and a Section 401 Water Quality Certification issued by the Department may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied or notification is provided that no Section 404 permit is required by the USACE. You must contact your local USACE district since they determine what waters are jurisdictional and which permitting requirements may apply. You may call the Department's Water Protection Program, Operating Permits Section at 573-522-4502 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.
 - Flood protection shall apply to new construction and to existing facilities undergoing major modification. 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. 10 CSR 20-8.140(2)(B)
 - Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140(2)(D)
 - The outfall shall be so constructed and protected against the effects of flood water, ice, or other hazards as to reasonably ensure its structural stability and freedom from stoppage. 10 CSR 20-8.140(6)(A)
 - All sampling points shall be designed so that a representative and discrete twenty-four (24) hour automatic composite sample or grab sample of the effluent discharge can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. 10 CSR 20-8.140(6)(B)
 - All outfalls shall be posted with a permanent sign indicating the outfall number (i.e., Outfall #001). 10 CSR 20-8.140(6)(C)

- All wastewater treatment facilities shall be provided with an alternate source of electric power or pumping capability to allow continuity of operation during power failures. 10 CSR 20-8.140(7)(A)1.
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the NFPA 70 *National Electric Code (NEC)* (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140(7)(B)
- An audiovisual alarm or a more advanced alert system, with a self-contained power supply, capable of monitoring the condition of equipment whose failure could result in a violation of the operating permit, shall be provided for all wastewater treatment facilities. 10 CSR 20-8.140(7)(C)
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140(7)(E)
- Adequate provisions shall be made to effectively protect facility personnel and visitors from hazards. The following shall be provided to fulfill the particular needs of each wastewater treatment facility:
 - Fencing. Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20-8.140(8)(A)
 - First aid equipment; 10 CSR 20-8.140(8)(C)
 - Appropriate personal protective equipment (PPE); 10 CSR 20-8.140(8)(E)
 - 10 CSR 20-8.140(8)(G) Portable lighting equipment complying with NEC requirements. See subsection (7)(B) of this rule;
 - Provisions for local lockout/tagout on stop motor controls and other devices; 10 CSR 20-8.140(8)(L)
 - Provisions for an arc flash hazard analysis and determination of the flash protection boundary distance and type of PPE to reduce exposure to major electrical hazards shall be in accordance with NFPA 70E *Standard for Electrical Safety in the Workplace* (2018 Edition), as approved and published August 21, 2017. 10 CSR 20-8.140(8)(M)
- Recirculating media filters with a capacity of twenty-two thousand five hundred gallons per day (22,500 gpd) or less shall not be located closer than 50' to a neighboring residence. See 10 CSR 20-2.010(68) for the definition of a residence. 10 CSR 20-8.180(3)(A) and 10 CSR 20-8.140(2)(C)2.
- A minimum of two (2) recirculating media filter beds and a diversion box are required for all design flows. 10 CSR 20-8.180(3)(B)
- Dosing. Both timer and float switch controls are required; timers are the primary method of operation and the float switch control is a back-up. 10 CSR 20-8.180(3)(C)
- The media is any of a number of physical structures whose sole purpose is to provide a surface to support biological growth. Commonly used media includes rock, gravel, and sand of various sizes, textile media, and peat. Finely crushed limestone, dolomite,

slag, any clay, limestone, or appreciable amounts of organic material are not acceptable.
10 CSR 20-8.180(3)(E)

- Polishing Reactors. The process shall—
 - Provide a minimum hydraulic retention time of three (3) hours; 10 CSR 20-8.210(2)(A)1.
 - Be based on actual reactor influent characteristics; 10 CSR 20-8.210(2)(A)2.
 - Include cold weather provisions, such as heaters, insulated covers, installation of temperature controlled enclosures for above-ground components to prevent freezing and to ensure ammonia removal; 10 CSR 20-8.210(2)(A)6. and
 - Provide a blower malfunction alarm able to notify the operator of alarm activations through audio-visual means. 10 CSR 20-8.210(2)(A)7.

11. Upon completion of construction:

- A. The Lazy Acres Homeowners Association will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of as-built plans if the project was not constructed in accordance with previously submitted plans and specifications; and
- C. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N). When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The facility did not meet final effluent ammonia limits required by the 2010 operating permit. The facility is now in enforcement and has been trying to upgrade the facility. A previous construction permit (first issued in 2014 then reissued in 2016) approved both Phase I and Phase II upgrades. Phase I was constructed. This construction permit includes the remaining Phase II upgrades, which are intended as polishing treatment (especially to reduce ammonia nitrogen) following the main treatment process. The design flow will stay the same.

2. FACILITY DESCRIPTION

The facility was constructed in approximately 2004, starting with construction of a 15,000-gallon recirculation tank and three AdvanTex AX-100 pods, as well as a collection system consisting of septic tank effluent pump (STEP) and septic tank effluent gravity (STEG) units. In 2014, the Department issued construction permit CP0001594 to expand the facility from three to six AX-100 pods and install a soda ash feed system (Phase I) and to install a second polishing stage (Phase II) including installation of a 10,000-gallons recirculating tank and two additional AX-100 pods. Construction permit CP0001834 essentially reissued the construction permit but added tablet chlorination and dechlorination for disinfection. Kyle Pociask submitted a

statement of work completed that was sealed August 26, 2016, but did not clarify what work was completed. This current construction permit (CP0002234) is to complete the work originally approved as Phase II upgrades.

The Lazy Acres Subdivision WWTP is located approximately 0.2 miles east of the intersection of Highway 161 and Pike Country Road 9314, between St. Clement and Bowling Green, in Pike County, Missouri. The facility has a design average flow of 10,000 gpd and serves a hydraulic population equivalent of approximately 100 people.

3. COMPLIANCE PARAMETERS

The facility is in enforcement and has periodically exceeded ammonia, BOD₅, *E. coli*, and TSS. The proposed project is required to meet permit limits and is specifically designed to meet final effluent limits for ammonia, as established in Missouri State Operating Permit MO-0129984.

The limits following the completion of construction will be applicable to the facility:

Parameter	Units	Monthly average limit
Ammonia as N-summer	mg/L	1.4
Ammonia as N-winter	mg/L	2.9

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Existing major components that will remain in use include the following:

- STEP/STEG collection system
- 15,000-gallon recirculation tank
- Six Advantex AX-100 recirculating textile media filter pods
- Orenco Soda Ash Chemical Feeder and Mixing Pit For Alkalinity Adjustment
- Tablet chlorination and dechlorination system with baffled concrete contact basin

Construction will cover the following items:

- Components are designed as polishing treatment for a design average flow of 10,000 gpd (a population equivalent of 100) based on hydraulic loading.
- Recirculation Tank – Installation of one recirculation tank to pump partially-treated wastewater to the polishing recirculating media filter. The recirculation tank is a 10-foot-diameter, fiberglass-reinforced plastic or concrete tank with a wastewater volume of approximately 10,000 gallons. The recirculation tank has two 1.5-HP submersible pumps, each capable of 50 gpm at 56.49 ft TDH and 25 gpm at 77.37 ft TDH. The pumps transfer wastewater to one AX-100 pod at a time by means of an automatic distributing valve and through a two-inch PVC force main.
- Recirculating Media Filter – The recirculation tank's pump will dose one AX-100 pod (recirculating media filter) at a time, alternating between the two pods. Each

pod is approximately 16 feet by 8 feet, with a total surface area of over 100 ft², giving a total hydraulic loading of less than 50 gpd/ft² in the polishing filter at design average flows. The standard AX-100 PVC laterals include spin nozzles and shielded orifices. The laterals are located above standard Advantex hanging textile media, with a specific surface area of over 2,000 ft² per ft³. Each filter bed flows by gravity back to the recirculation tank through a recirculating ball valve with a design recirc-blend ratio of approximately 4:1. Effluent flows from the polishing filter by gravity to the disinfection system.

5. OPERATING PERMIT

These construction activities do not require a modification to the operating permit. It is expected that the facility owner will include a new facility description and process flow diagram in their next operating permit renewal application to reflect the installation of a polishing treatment stage.

V. NOTICE OF RIGHT TO APPEAL

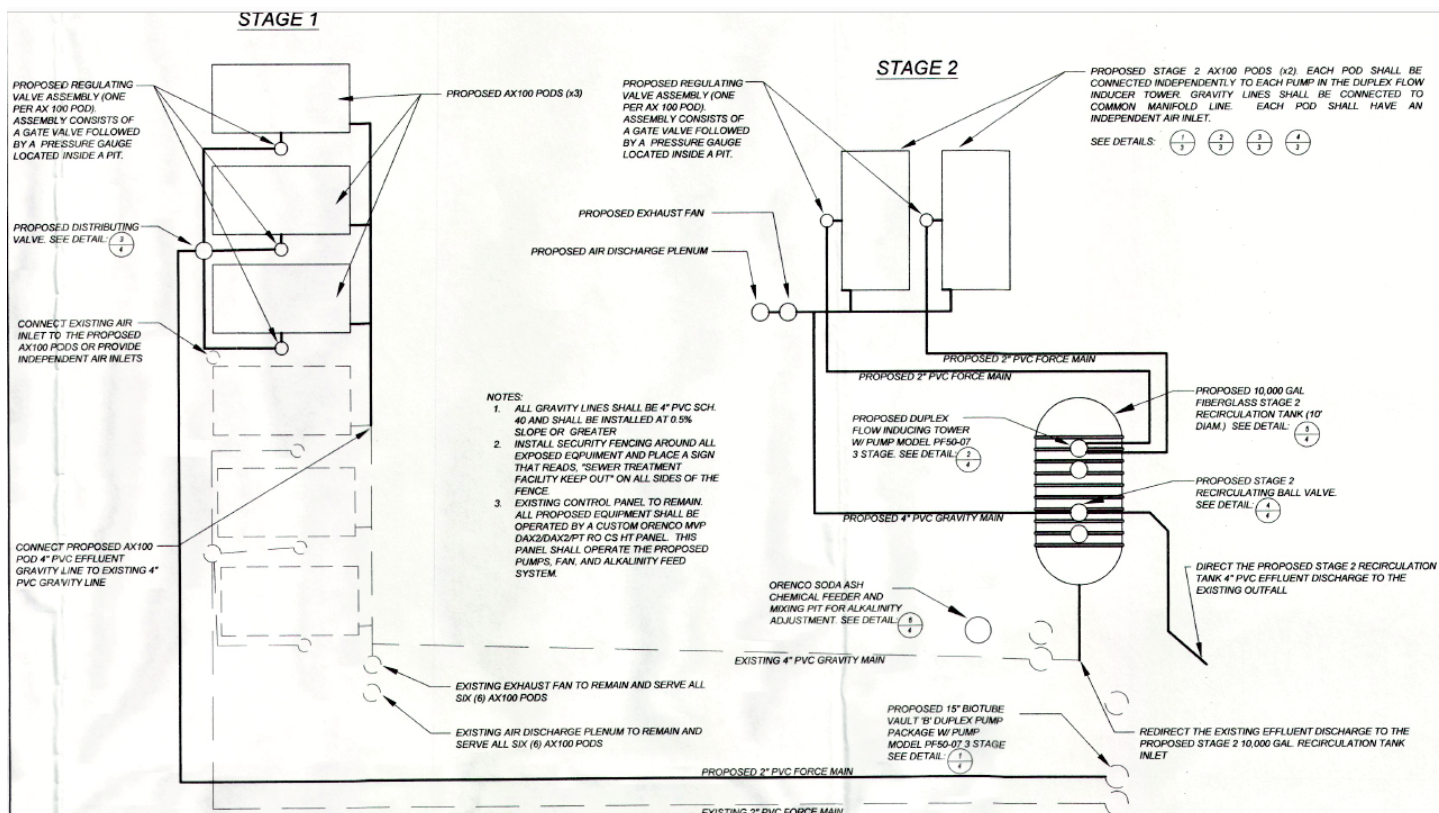
If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, 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 AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: <https://ahc.mo.gov>

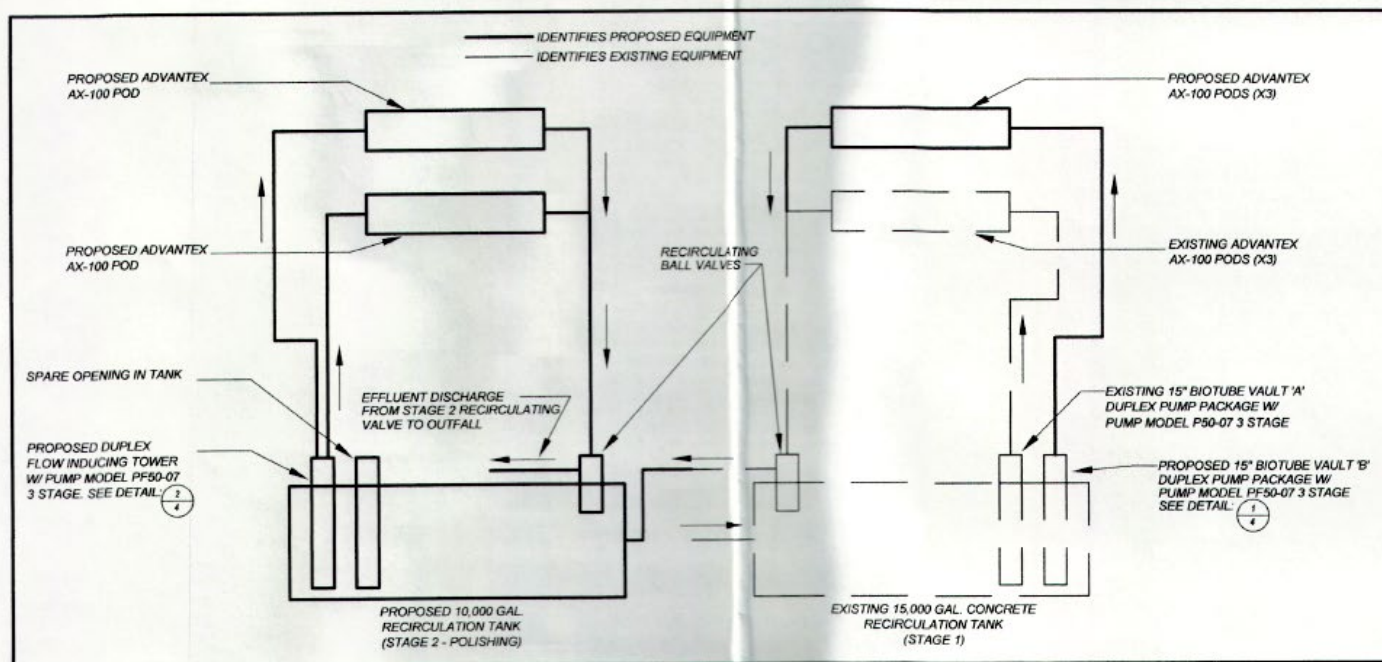
Scott Adams, PE
Engineering Section
scott.adams@dnr.mo.gov

APPENDIX A – Site Layout and Process Flow Diagram

(from the approved engineering plans, originally sealed March 18, 2016)

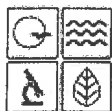


PROPOSED SITE LAYOUT



PROCESS FLOW DIAGRAM NOT TO SCALE

RECEIVED



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

APPLICATION FOR CONSTRUCTION PERMIT – WASTEWATER TREATMENT FACILITY

Water Protection Program

MAY 03 2021

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

100.00 2014 5-3-21 88

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

PART A – BASIC INFORMATION

1.0 APPLICATION INFORMATION (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

- 1.1 Is this a Federal/State funded project? ☐ YES ☒ N/A Funding Agency: _____ Project #: _____
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☐ YES Date of Approval: _____ ☒ N/A
- 1.3 Has the department approved the proposed project's facility plan*? → **INITIAL PROJECT REVIEWED ~2016 WAS APPROVED TO INCLUDE PHASE I+II. CURRENT APPLICATION IS FOR PHASE II INSTALLATION OF TWO ADD'L PODS.*
☐ 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 **COPY REQUESTED FROM ENGINEER. DOCUMENT TO BE SENT TO DNR UPON RECEIPT.*
- 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 Lazy Acres Homeowners Association - Septic Pod Installation Update 2021	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 12,000
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2.3 PROJECT DESCRIPTION
Installation of two additional septic system pods and update electrical, as needed, for handling of additional pods.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

2.5 DESIGN INFORMATION

A. Current population: _____; Design population: _____ ** TO BE PROVIDED UPON RECEIPT OF PLAN FROM ENGINEER*

B. Actual Flow: _____ gpd; Design Average Flow: _____ gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd; Design Wet Weather Event: _____

2.6 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 Lazy Acres Homeowners Association		TELEPHONE NUMBER WITH AREA CODE 573-470-9812		E-MAIL ADDRESS lazyacres342@gmail.com
ADDRESS (PHYSICAL) 14900 Pike 342	CITY Bowling Green	STATE MO	ZIP CODE 63334	COUNTY Pike
Wastewater Treatment Facility: Mo-0129984 (Outfall Of)				
3.1 Legal Description: _____ 1/4, _____ 1/4, _____ 1/4, Sec. _____, T _____, R _____ (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: _____				
4.0 PROJECT OWNER				
NAME Lazy Acres Homeowners Association		TELEPHONE NUMBER WITH AREA CODE 573-470-9812		E-MAIL ADDRESS lazyacres342@gmail.com
ADDRESS 14900 Pike 342	CITY Bowling Green	STATE MO	ZIP CODE 63334	
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 Lazy Acres Homeowners Association		TELEPHONE NUMBER WITH AREA CODE 573-470-9812		E-MAIL ADDRESS lazyacres342@gmail.com
ADDRESS 14900 Pike 342	CITY Bowling Green	STATE MO	ZIP CODE 63334	
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 checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Kyle Pociask / Four Points Land Surveying & Engineeri		TELEPHONE NUMBER WITH AREA CODE 573-639-1779 / 573.406.5533		E-MAIL ADDRESS kyle@fourpointssurvey.com
ADDRESS 17 Northport Plaza	CITY Hannibal	STATE MO	ZIP CODE 63401	
7.0 APPLICATION FEE				
<input checked="" type="checkbox"/> CHECK NUMBER 2014 <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 Kathleen Berry			DATE 4/24/2021	
TITLE OR CORPORATE POSITION LAHA, Treasurer		TELEPHONE NUMBER WITH AREA CODE 573-470-9812		E-MAIL ADDRESS lazyacres342@gmail.com
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176				
END OF PART A.				
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.				