Permit No. CP0002525

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

CONSTRUCTION PERMIT

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

Dean Still
Owner of Still RV Park
29105 State Hwy AX
Macon, MO 63552

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.

March 25, 2025
Effective Date

March 24, 2027
Expiration Date

John Hoke, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Construction upgrades to an existing earthen basin (previously constructed without a construction permit), including installing an emergency spillway, and influent manhole at sufficient elevation, and finishing any remaining construction to make a complete earthen storage basin for pump & haul. Construction of a duplex pumping station for 13 RV sites that are below the required depth to gravity flow to the basin.

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

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 publicly-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 Mark Bross, P.E., with Klinger & Associates 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. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.

    - Vacuum testing, if specified for concrete sewer manholes, shall conform to the test procedures in ASTM C1244 – 11(2017) *Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill*, as approved and published April 1, 2017, or the manufacturer's recommendation. 10 CSR 20-8.120(4)(F)1.

- Exfiltration testing, if specified for concrete sewer manholes, shall conform to the test procedures in ASTM C969 – 17 *Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines*, as approved and published April 1, 2017. 10 CSR 20-8.120(4)(F)2.
- 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: 10 CSR 20-8.130(3)(C)
  - 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)
- The distance between wastewater pumping stations and all potable water sources shall be at least 50 feet in accordance with 10 CSR 23-3.010(1)(B). 10 CSR 20-8.130(3)(D)
- Multiple pumps shall be provided except for design average flows of less than 1,500 gallons per day (gpd). 10 CSR 20-8.130(4)(B) 1.
- Electrical equipment. Electrical equipment shall be provided with the following requirements:
  - 10 CSR 20-8.130(4)(B)2.A. Electrical equipment must comply with 10 CSR 20-8.140(7)(B);
  - Utilize corrosive resistant equipment located in the wet well; 10 CSR 20-8.130(4)(B)2.B.
  - Provide a watertight seal and separate strain relief for all flexible cable; 10 CSR 20-8.130(4)(B)2.C.
  - Install a fused disconnect switch located above ground for the main power feed for all pumping stations. 10 CSR 20-8.130(4)(B)2.D.
  - When such equipment is exposed to weather, it shall comply with the requirements of weatherproof equipment; enclosure NEMA 4; NEMA 4X where necessary; and *NEMA Standard 250-2014*, published December 15, 2014. 10 CSR 20-8.130(4)(B)2.E.
  - Install lightning and surge protection systems; 10 CSR 20-8.130(4)(B)2.F.
  - Install a one hundred ten volt (110 V) power receptacle inside the control panel located outdoors to facilitate maintenance; 10 CSR 20-8.130(4)(B)2.G.
  - Provide Ground Fault Circuit Interruption (GFCI) protection for all outdoor receptacles. 10 CSR 20-8.130(4)(B)2.H.
- Water level controls must be accessible without entering the wet well. 10 CSR 20-8.130(4)(C)
- Valves shall not be located in the wet well unless integral to a pump or its housing. 10 CSR 20-8.130(4)(D)
- Covered wet wells shall have provisions for air displacement to the atmosphere, such as an inverted and screened “j” tube or other means. 10 CSR 20-8.130(4)(E)
- There shall be no physical connection between any potable water supply and a wastewater pumping station, which under any conditions, might cause contamination of the potable water supply. If a potable water supply is brought to the station, no piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply. 10 CSR 20-8.130(4)(G)
- 10 CSR 20-8.130(5)(C) Wet well access shall not be through the equipment compartment.

- 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 100-year flood elevation. 10 CSR 20-8.140(2)(B), 10 CSR 20-8.130(3)(A)
- Facilities shall be readily accessible by authorized personnel from a public right–of-way at all times. 10 CSR 20-8.140(2)(D), 10 CSR 20-8.130(3)(B).
- Submersible pump stations shall meet the applicable requirements under section (4) of this rule, except as modified in this section. 10 CSR 20-8.130(6)
    - Pump Removal. Submersible pumps shall be readily removable and replaceable without personnel entering, dewatering, or disconnecting any piping in the wet well. 10 CSR 20-8.130(6)(A)
    - 10 CSR 20-8.130(6)(B) Valve Chamber and Valves. Valves required under subsection (4)(D) of this rule shall be located in a separate valve chamber.
    - A minimum access hatch dimensions of 24 inches by 36 inches shall be provided. 10 CSR 20-8.130(6)(B)1.
    - A portable pump connection on the discharge line with rapid connection capabilities shall be provided. 10 CSR 20-8.130(6)(B)2.
- Alarm systems with an uninterrupted power source shall be provided for pumping stations. 10 CSR 20-8.130(7)
- For a pump station serving a WWTF with a design average flow of less than 100,000 gpd, a storage capacity for four 4-hour retention of the peak hourly flow is required. 10 CSR 20-8.130(8)(B)
- Force main system shall be designed to withstand all pressures (including water hammer and associated cyclic reversal of stresses) and maintain a velocity of at least two feet per second. 10 CSR 20-8.130(9)(A)
- Unless another distance is determined by the Missouri Geological Survey or by the department's Public Drinking Water Branch, the minimum distance between wastewater treatment facilities and all potable water sources shall be at least 300 feet. 10 CSR 20-8.140(2)(C)1.
- No treatment unit with a capacity of 22,500 gpd or less shall be located closer than the minimum distance of 200 feet to a neighboring residence and 50 feet to property line for lagoons. See 10 CSR 20-2.010(68) for the definition of a residence. 10 CSR 20-8.140(2)(C)2
- Enclose the pump and haul facility site with a fence designed to discourage the entrance of unauthorized persons and animals*;* 10 CSR 20-8.140(4)(A)2
- The alarm for pump and haul systems shall be activated in cases of high water levels. Follow the provisions in subsection (7)(C) of this rule for alarm systems. 10 CSR 20-8.140(4)(D)
- No piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply. 10 CSR 20-8.140(7)(D)1.
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140(7)(E)
- All wastewater treatment facilities must have a screening device, comminutor, or septic tank for the purpose of removing debris and nuisance materials from the influent wastewater. 10 CSR 20-8.150(2)

- Lagoon berms shall be constructed of relatively impervious material and compacted to at least 95 percent maximum dry density test method to form a stable structure. 10 CSR 20-8.200(5)(A)1.
- The minimum berm width shall be eight feet to permit access of maintenance vehicles. 10 CSR 20-8.200(5)(A)2.
- Minimum freeboard shall be two feet. 10 CSR 20-8.200(5)(A)3.
- An emergency spillway shall be provided that—
  - Prevents the overtopping and cutting of berms; 10 CSR 20-8.200(5)(A)4.A.
  - Is compacted and vegetated or otherwise constructed to prevent erosion; 10 CSR 20-8.200(5)(A)4.B. and
  - Has the ability for a representative sample to be collected, if discharging. 10 CSR 20-8.200(5)(A)4.C.
- The soil of the lagoon bottom shall be compacted with the moisture content between 2 percent below and 4 percent above the optimum water content and compacted to at least 95 percent maximum dry density test method. 10 CSR 20-8.200(5)(B)
- The lagoon shall be sealed to ensure that seepage loss is as low as possible and has a design permeability not exceeding 1.0 x 10-7 cm/sec. 10 CSR 20-8.200(5)(C)1.
- The minimum thickness of the compacted clay liner must be 12 inches. For permeability coefficients greater than 1.0 × 10-7 cm/sec or for heads over 5 feet such as an aerated lagoon system, the following formula shall be used to determine minimum seal thickness, Equation 200-1 per 10 CSR 20-8.200(5)(C)2.:

  Equation 200-1

  $$t = \frac{H \times K}{5.4 \times 10^{-7\ \text{cm/sec}}}$$

  where:

  K = the permeability coefficient of the soil in question;

  H = the head of water in the lagoon; and

  t = the thickness of the soil seal.
- Seep collars shall be provided on drainpipes where they pass through the lagoon seal. 10 CSR 20-8.200(5)(C)4.
- Unlined corrugated metal pipe shall not be used for influent lines due to corrosion problems. 10 CSR 20-8.200(5)(D)1.
- A manhole shall be installed with its invert at least six inches 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(5)(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(5)(D)3.

6. Upon completion of construction:

   A. Dean Still will become the continuing authority for operation and maintenance of these facilities;

   B. Submit an electronic copy of the as-built engineering plans if the project was not constructed in accordance with previously submitted plans and specifications; and

   C. Submit the Statement of Work Completed form to the department in accordance with 10 CSR 20-6.010(5)(N) (https://dnr.mo.gov/document-search/wastewater-construction-statement-work-completed-mo-780-2155)

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The existing earthen basin and gravity collection system were constructed without a construction permit and based on preliminary engineering plans. Approximately 13 RV sites cannot flow via gravity to the basin, so a pump station is needed. The influent manhole was installed at too low of an elevation, which does not allow utilizing the entire operating volume and could potentially result in draining the basin if a failure in the collection system were to occur. In addition, an emergency spillway and berm maintenance are needed.

2. FACILITY DESCRIPTION

The existing earthen basin and gravity collection system were originally constructed in approximately 2023 without a construction permit and based on preliminary engineering plans. Proposed construction upgrades include installing a duplex pumping station for 13 low-elevation RV sites, an emergency spillway, an influent manhole at sufficient elevation, and finishing any remaining construction to make a complete earthen storage basin to meet 10 CSR 20-8 and then operating as a pump & haul facility.

The Still Wastewater Holding Basin is located at 29031 Jay Place, in Macon, Macon County, Missouri 63552. The facility has a design average flow of 7,200 gpd and serves a hydraulic population equivalent of approximately 72 people.

3. COMPLIANCE PARAMETERS

This facility will be required to operate as a no-discharge facility by pumping and hauling all water and wastewater entering the basin, including rainfall minus evaporation. Any discharge from the earthen basin or collection system will be treated as a discharge without an operating permit in violation of RSMo 644.051.2 and 644.076.1, and 10 CSR 20-6.010 (1)(A) & (7)(A).

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

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

- Single-Cell Earthen Basin for Pump & Haul – The original non-aerated earthen basin was constructed in approximately 2023 without a construction permit and is now proposed to be modified for final use. Influent wastewater flows from the RV sites to the single earthen basin through an existing gravity line. The existing earthen basin is approximately 178 ft by 138 ft at the bottom (220 feet by 180 feet at the top of berm), with a seven-foot total depth and a 3:1 inner-berm side slope. The existing lagoon seal is reportedly two feet of compacted clay.

Construction will cover the following items:

- Components are designed for a hydraulic design average dry-weather flow of 7,200 gpd.

- Influent Pump Station – Construction of a duplex influent grinder pump station to serve 13 RV sites that are too low for the existing earthen basin. Each submersible grinder pump will be two horsepower, capable of operating at 29 gpm against 34.2 feet of TDH. The pump station will pump wastewater from the 13 RV sites into the basin via a two-inch SDR-21 PVC force main line. The remaining RV sites will flow via gravity through an existing collection system to the basin. The available storage in the wet well is approximately 875 gallons from the pump of float to the overflow (less the space of the equipment). Based on the 13 RVs contributing to the wet well at 90 gpd each and a peaking actor of 4, a minimum of 780 gallons would be required.

- Flow Measurement – Accurate flow measurement will give the treatment facility a means of improved data analysis.
  - The influent pump station will measure the pumped flow from the 13 RV below-grade sites, but the main method of measuring flow will be from pumping and hauling.

- Storage Basin Upgrades – Existing earthen basin will be upgraded to add a 12-inch deep, 10-foot-wide emergency spillway on the southern berm and raise the influent manhole on the east berm. The modified earthen basin will have two feet of freeboard from the four-foot design operating level to the proposed spillway (at six feet from bottom). The basin will remain non-aerated and has an operating water surface area of approximately 0.751 acres. With a one-foot minimum permanent water depth for protection of the clay seal, the operating capacity of the basin (from one to four feet) is approximately 663,200 gallons, which provides approximately 92 days of retention volume at the proposed dry-weather design flow. Since all wastewater is pumped and hauled, rainfall minus evaporation will also need to be periodically removed from the basin. The basin appears to have approximately 112 days of retention volume at the estimated 10-year wet-weather flow, based on the actual volume of approximately

1,377,000 gallons from the minimum seal protection to the spillway (from one to six feet). No modification of the basin's clay seal is proposed at this time, since the Missouri Geological Survey's June 30, 2022, geohydrologic evaluation indicated only slight collapse potential rating and slight overall geologic limitations rating. The berms will be recompacted as needed. The berm width will remain eight feet. This lagoon site is going to be fenced.

- Emergency Power – the owner has portable generators available as a part of his nearby business that can operate the pump station in event of power failure.

5. OPERATING PERMIT

An operating permit is not required for process waste holding structures from which the contents are hauled to a permitted treatment or disposal facility if the owner has a written contract with the hauler and approval from the receiving facility. [10 CSR 20-6.015(3)(B)12.] The owner has submitted two signed contracts with Lake Street, LLC, to pump & haul wastewater to either the City of Atlanta or to the City of Bevier wastewater treatment systems. Therefore, the facility will not require an operating permit. Note that the current contracts expire June 16, 2027, and must be extended for the facility to maintain the exemption.

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, P.E.
Engineering Section
scott.adams@dnr.mo.gov

Rcvd 11/12/24

DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

APPLICATION FOR CONSTRUCTION PERMIT – WASTEWATER TREATMENT FACILITY

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

APPLICATION OVERVIEW

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

PART A – BASIC INFORMATION

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

1.1 Is this a Federal/State funded project? ☐ YES ☑ N/A Funding Agency: _____ 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: 10/9/24 ☐ 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
Still RV Park Wastewater Treatment Facility

2.2 ESTIMATED PROJECT CONSTRUCTION COST
$ N/A

2.3 PROJECT DESCRIPTION
Construction of lagoon to be used as a holding cell for sewage. Sewage is hauled to either City of Bevier or City of Atlanta through agreements in place with both of them. This is not a discharging lagoon.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
Sludge retained in the lagoon and/or hauled to City of Bevier or City of Atlanta.

2.5 DESIGN INFORMATION

A. Current population: 36 ; Design population: 72

B. Actual Flow: 3600 gpd; Design Average Flow: 7200 gpd;
Actual Peak Daily Flow: 5400 gpd; Design Maximum Daily Flow: 7200 gpd; Design Wet Weather Event: 5400

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	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Still RV Park Wastewater Treatment Facility	660-651-8363	stilltowing@gmail.com

ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE	COUNTY
21905 State Highway AX	Macon	MO	63552	Macon

Wastewater Treatment Facility: Mo- N/A (Outfall Of)

3.1 Legal Description: SW ¼, SW ¼, SW ¼, Sec. 32, T 58N, R 14W
(Use additional pages if construction of more than one outfall is proposed.)

3.2 UTM Coordinates Easting (X): 542924 Northing (Y): _____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3.3 Name of receiving streams: N/A

4.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Dean Still	660-651-8363	stilltowing@gmail.com

ADDRESS	CITY	STATE	ZIP CODE
21905 State Highway AX	Macon	MO	63552

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	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Dean Still	660-651-8363	stilltowing@gmail.com

ADDRESS	CITY	STATE	ZIP CODE
21905 State Highway AX	Macon	MO	63552

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 ☑ 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? ☐ YES ☑ 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? ☐ YES ☑ NO

D. 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	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Mark C. Bross/Klingner & Associates, PC	573-221-0020	mcb@klingner.com

ADDRESS	CITY	STATE	ZIP CODE
4510 Paris Gravel Road	Hannibal	MO	63401

7.0 APPLICATION FEE

☐ CHECK NUMBER ☒ JETPAY CONFIRMATION NUMBER 20059265

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: Dean Still

PRINTED NAME	DATE
Dean Still	11-12-24

TITLE OR CORPORATE POSITION	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Owner	660-651-8363	stilltowing@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.

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 _____ Depth _____ Safety _____ % Slope _____
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 _____ 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