

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. John Bowman  
The Grove Subdivision  
5785 Cold Stream Drive  
Springfield, MO 65809

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

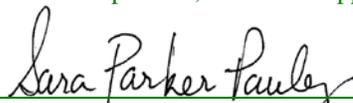
Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

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.

October 21, 2015  
Effective Date

  
Sara Parker Pauley, Director, Department of Natural Resources

October 20, 2017  
Expiration Date

  
John Madras, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

#### Collection system:

Individual septic tank and pump tank at each residence, 19 lots, 1,000 gallon septic tank with effluent filter, 1,000 gallon pump tank equipped with two Orenco Model PF2005, 0.5 HP effluent pumps, 1.5 inch PVC service laterals and approximately 4,500 feet of 1.5 inch PVC force main

#### Recirculating Sand Filter:

A recirculating sand filter treatment facility, consisting of septic tanks located at each individual residence, a 6,000 gallon recirculation tank with at least 2,650 gallons between the low water level and the high water "on" level, a dosing timer, two Orenco Model PF7510, 1.0 HP effluent pumps each having a capacity of 60 GPM at a TDH of 51 feet, a sand filter with a surface area of 1,225 square feet, distribution to be split into two zones each zone connected to one pump; filter to have concrete walls and floor, and 36 inches of filter media; flow splitter, discharge to drip system dosing tank

#### Soil Absorption Field:

A drainfield dosing tank with a nominal volume of 6,000 gallons, two 1.5 HP, Orenco Model PF3007 effluent pumps, with a discharge rate of 24 GPM at a TDH of 125 feet, 1.5-inch PVC supply line, a four-way flow alternator valve, a soil absorption field with a nominal area of 24,000 square feet, separated into 4 zones, each zone with 3,000 lineal feet of drip irrigation pipe, 30 lines of 100 feet each, 1.5-inch PVC return line, irrigation pipe is Wasteflow Dripline (PC ½ gph) dripline with an emitter rate of 0.53 gallons per hour per dripper, disc filters and all the necessary appurtenances to make the facilities complete and usable to treat the waste from a population equivalent of 60, with an average daily flow of 6,000 gallons. This is a non-discharging facility to be located in the SE 1/4, of the SE 1/4, of Section 17, T22N, R22W, Stone County, Missouri. (MO-G823072)

Drainfield approximate location: UTM (zone 15) X=470344, Y=4050814

### **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 in accordance with the plans and specifications submitted by Tate Engineering Consultants on August 25, 2015.
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 Southwest 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 Grove Homeowners Association 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.

#### **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.pdf>.

Since this is a no-discharge treatment facility, ammonia limitations are not applicable.

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

This project will provide sewage collection, treatment and disposal for a proposed 19 lot subdivision.

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

This will be a new treatment facility to serve all new construction. The design flow of 6,000 gallons per day will serve 19 single family homes. All sewage will be collected in septic tanks serving the individual residences and pumped to the treatment facility. The new no-discharge system will treat all wastewater with a recirculating sand filter. All treated effluent will be dosed to a soil absorption field using DRIP technology.

##### **4. COMPLIANCE PARAMETERS**

The proposed wastewater treatment plant will be a complete no-discharge treatment facility. All liquid waste will be treated and disposed on-site. Periodic removal of waste sludges will be necessary. A Missouri State Operating Permit is required to be maintained. Monitoring of the facility will be required along with annual reporting of maintenance activities. There are currently no sampling requirements.

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

### Collection and treatment:

Nineteen 1,000 gallon (nominal size) septic tanks, each followed by a pump tank, all septage pumped through common force mains; recirculation tank with a volume of 2,650 gallons between the low water level and the high water "on" level, this provides a flow equalization volume of 44%, two dosing pumps each with a capacity of 60 gpm at a TDH of 51 feet, a sand filter with a surface area of 1,225 square feet divided into two zones, loading rate is based on a design of 5 gpd/sq. ft., each zone to be connected to an exclusive pump, pumps will alternate operation and be controlled by a timer, distribution to filter is by a 2 X 2 distribution grid, flows from the filters are split with 80% being returned to recirculation tank and 20% sent to drainfield dosing tank, 100% of flow is returned when the recirculation tank is below the minimum low water level.

### Soil Absorption System:

A drainfield dosing tank with a nominal volume of 6,000 gallons, two 1.5 HP, Orenco Model PF3007 effluent pumps, with a discharge rate of 24 GPM at a TDH of 125 feet, 1.5-inch PVC supply line, in-line disc filter, a four-way flow alternator valve, a soil absorption field with a nominal area of 24,000 square feet, separated into 4 zones, each zone with 3,000 lineal feet of drip irrigation pipe, 30 lines of 100 feet spaced 2 feet on center, irrigation pipe is Wasteflow Dripline (PC ½ gph) dripline with an emitter rate of 0.53 gallons per hour per dripper, emitters are located every 2 feet, excess water is returned to the dosing tank through 1.5-inch PVC return lines. Absorption field size is based on a loading rate of 0.25 gallons per square foot per day. Detailed soil analysis was performed by Mr. Richard Henderson, Soil Scientist. The loading rate is in accordance with the recommended rates in the soil report.

## **6. OPERATING PERMIT MODIFICATION**

General operating permit MO-G823072 will be issued to The Grove Homeowners Association for operation of the facility. An application for this permit has been received by the department. The permit will be issued by the department's Southwest Regional Office.

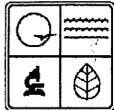
Andrew Appelbaum, P.E.  
Engineering Section  
[andy.appelbaum@dnr.mo.gov](mailto:andy.appelbaum@dnr.mo.gov)

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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<br>\$1000.00 | CHECK NO.<br>2617 |
| DATE RECEIVED<br>3/30/15  | 88                |

RECEIVED  
MAR 30 2015  
WATER PROTECTION PROGRAM

**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 Non-DISCHARGE SYSTEM*
  - 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: *3-23-15*  
 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  
**The Grove Subdivision**

2.2 PROJECT DESCRIPTION  
**19 lot residential subdivision  
Recirculating sand filter treatment facility  
Drip irrigation system disposal--non-discharge facility**

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION  
**Contract hauler**

2.4 DESIGN INFORMATION  
A. Current population: \_\_\_\_\_; Design population: 60  
B. Actual Flow: \_\_\_\_\_ gpd; Design Average Flow: 6000 gpd;  
Actual Peak Daily Flow: \_\_\_\_\_ gpd; Design Maximum Daily Flow: \_\_\_\_\_ gpd; Design Wet Weather Event: \_\_\_\_\_

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<br>The Grove Subdivision |  | TELEPHONE NUMBER WITH AREA CODE<br>4178493277 | E-MAIL ADDRESS<br>patandjohnbowman@gmail.com |  |
|-------------------------------|--|---|--|--|

|   |      |              |          |                 |
|---|------|--------------|----------|-----------------|
| ADDRESS (PHYSICAL)<br>Hwy. JJ & Dustin Lane | CITY | STATE<br>Mo. | ZIP CODE | COUNTY<br>Stone |
|---|------|--------------|----------|-----------------|

Wastewater Treatment Facility: Mo- (Outfall Of )

3.1 Legal Description: \_\_\_\_\_ 1/4, SE \_\_\_\_\_ 1/4, SE \_\_\_\_\_ 1/4, Sec. 17 \_\_\_\_\_, T 22 \_\_\_\_\_, R 22 \_\_\_\_\_  
(Use additional pages if construction of more than one outfall is proposed.)

3.2 UTM Coordinates Easting (X): 93.3W Northing (Y): 36.6 N  
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<br>John Bowman |  | TELEPHONE NUMBER WITH AREA CODE<br>(417) 849-3277 | E-MAIL ADDRESS<br>patandjohnbowman@gmail.com |  |
|---------------------|--|---|--|--|

|                                 |                     |              |                   |
|---------------------------------|---------------------|--------------|-------------------|
| ADDRESS<br>5785 Cold Stream Dr. | CITY<br>Springfield | STATE<br>Mo. | ZIP CODE<br>65809 |
|---------------------------------|---------------------|--------------|-------------------|

**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<br>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  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<br>Ralph Tate Tate Engineering Consultants |  | TELEPHONE NUMBER WITH AREA CODE<br>(417) 862-5684 | E-MAIL ADDRESS<br>tateengr@mchsi.com |  |
|---|--|---|--------------------------------------|--|

|                             |                     |             |                   |
|-----------------------------|---------------------|-------------|-------------------|
| ADDRESS<br>4054 W. Page Pl. | CITY<br>Springfield | STATE<br>MO | ZIP CODE<br>65802 |
|-----------------------------|---------------------|-------------|-------------------|

**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  


|                             |                        |
|-----------------------------|------------------------|
| PRINTED NAME<br>John Bowman | DATE<br>March 23, 2015 |
|-----------------------------|------------------------|

|                                      |   |  |
|--------------------------------------|---|--|
| TITLE OR CORPORATE POSITION<br>Owner | TELEPHONE NUMBER WITH AREA CODE<br>(417) 849-3277 | E-MAIL ADDRESS<br>patandjohnbowman@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. *DRIP IRRIGATION SYSTEM*  
 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** *N/A DRIP IRRIGATION SYSTEM*

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** *N/A DRIP IRRIGATION 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) \_\_\_\_\_

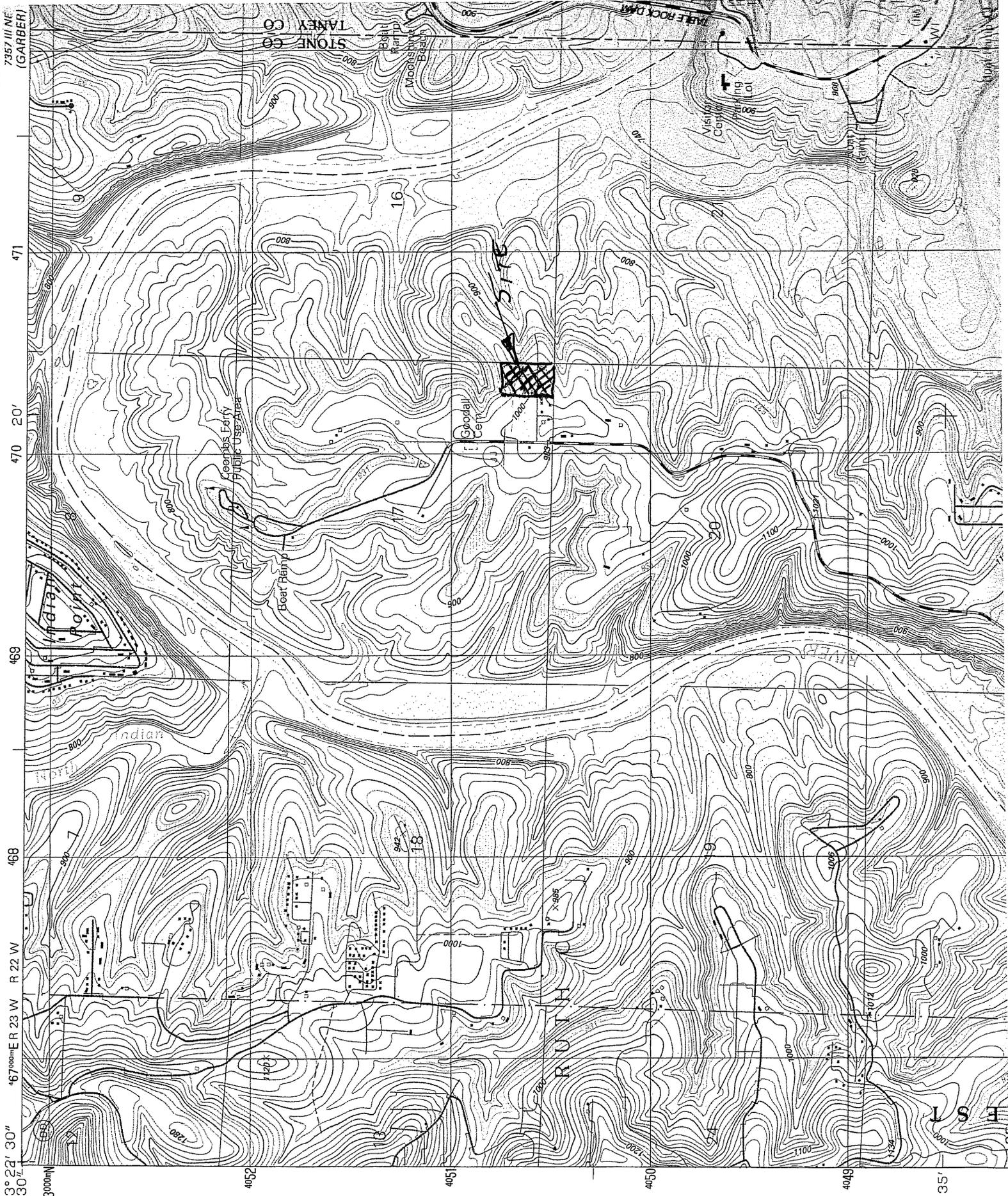
10.3 Wastewater flow (dry weather) gallons per day: Average annual \_\_\_\_\_ Seasonal \_\_\_\_\_ Off-season \_\_\_\_\_

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

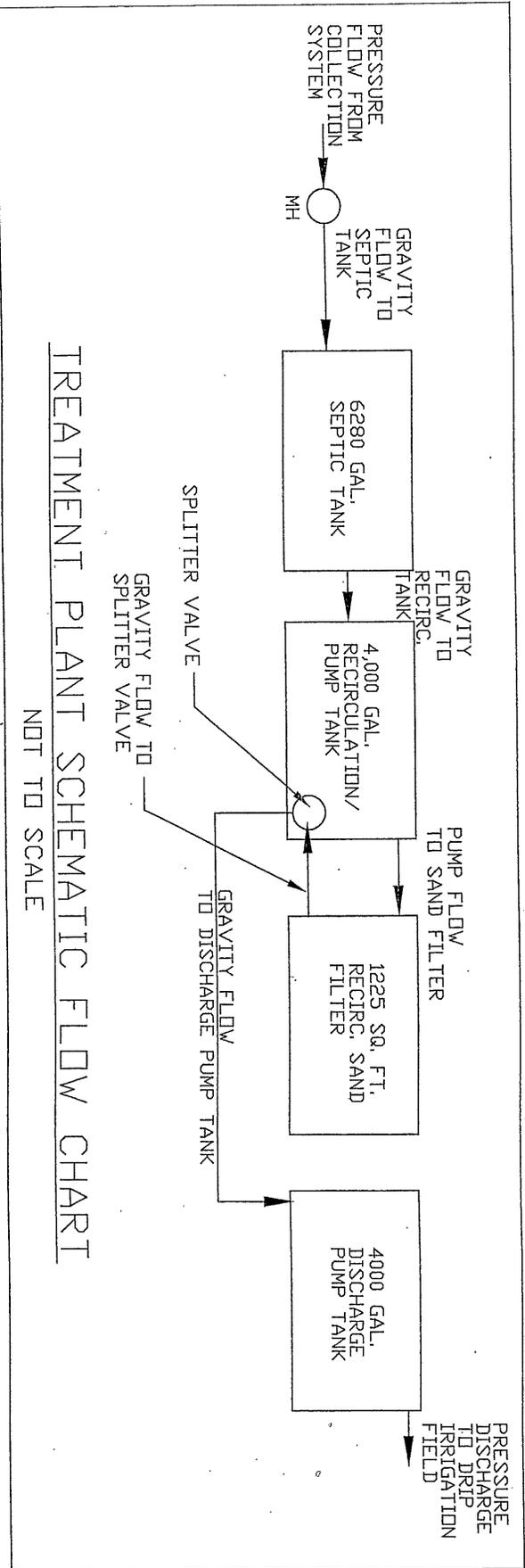
10.5 Total irrigation per year (gallons): Design: \_\_\_\_\_ gal Actual: \_\_\_\_\_ gal

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



↑ N  
TABLE  
Rock  
DAM  
QUAD



TREATMENT PLANT SCHEMATIC FLOW CHART

NOT TO SCALE