Permit No. CP0002022

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

CONSTRUCTION PERMIT

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

Gene Neff
Administrative Assistant
Orearville R-IV School District
32524 E. Highway P
Slater, MO 65349

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.

January 24, 2019
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

January 23, 2021
Expiration Date

Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

This is a **DEMONSTRATION** project and additional monitoring requirements are included in the operating permit in accordance with the Approval Process for Innovative Technology Factsheet.

The proposed project will add an Aquapoint – Bioclere, recirculating fixed film biological reactor, between the existing septic tanks and once through sand filter.

Recirculating fixed film biological reactor; Bioclere Model 16/25 is rated for an average design flow of 2000 gpd. Consists of two pumps, trickling filter, ventilation fan, final clarifier, and appropriate appurtenances.

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. Design flow of facility will remain at 2000 GPD and the outfall remains the same. Discharge is to Tributary to Rock Creek, near the center of Section 26, T51N, R20W, Saline County. UTM Coordinates: X=493983, Y=4335771.

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 make a "finding of affordability". Per Section 644.145.3, a "finding of affordability" is a statement as to whether or not an individual or household would be required to make unreasonable sacrifices in order to make the projected monthly payments for sewer services. While this facility is a publically-owned treatment works, the permittee accomplishes capital improvements through an established budget for operation and maintenance and not through the issuance of utility bills to customers for sewer services. Because of this, the Department cannot determine the "affordability" of the new permit requirements.

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 MECO Engineering Company on August 7, 2018.

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 Northeast Regional Office per 10 CSR 20-7.015(9)(E)2.

5. 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.

6. 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.

7. Upon completion of construction:

   A. Submit an electronic copy of the as builts if the project was not constructed in accordance with previously submitted plans and specifications; and

   B. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D) and request the operating permit modification be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The existing wastewater treatment system does not always meet effluent limits. The school intends to install a no-discharge soil adsorption system, but must also install advanced treatment prior to adsorption. In order to make the full project affordable the school will install the advanced treatment first (this project) then install the absorption system after funds become available.

2. FACILITY DESCRIPTION

The existing wastewater treatment system consists of septic tanks followed by a once-through open sand filter. The proposed construction will add a recirculating fixed film biological reactor to the treatment train prior to the sand filter.

The Orearville R-IV School Wastewater Treatment Facility is located at 32524 E. Highway P, in Saline County, Missouri. The facility has a design average flow of 2000 gpd and serves a population equivalent of approximately 20 people.

3. COMPLIANCE PARAMETERS

The proposed project is intended to meet final effluent limits of BOD and TSS of 30 mg/l and Ammonia limits of 1.4 mg/l in the warm months (April - September) and 2.9 mg/l in the colder months as established in Operating Permit MO-0098621.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The current design guides, 10 CSR 20-8, do not contain design parameters for the innovative recirculating fixed film biological reactor, Bioclere Model 16/25. As a **DEMONSTRATION** project, the data gathered with the operating permit will be used to help develop design criteria for future projects.

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

- Septic tanks – Influent first passes through one of two septic tanks, all kitchen waste also passes through a grease trap. One septic tank has a nominal capacity of 5000 gallons; the other has a nominal capacity of 1500 gallons. .

- The septage is distributed to an open sand filter with a surface are of approximately 900 square feet, approximate dimensions of 30 feet by 30 feet.

Construction will cover the following items:

- Recirculating fixed film biological reactor; Bioclere Model 16/25 is rated for an average design flow of 2000 gpd. Consists of two pumps, trickling filter, ventilation fan, final clarifier, and appropriate appurtenances. Overall dimensions are approximately 5.25 feet in diameter and approximately 14.2 feet tall

- Trickling filter dosing pump is a submersible, 0.75 HP pump with a capacity of 20 gpm at a TDH of 15 feet. Dosing of the trickling filter is controlled by timers. Water that does not exit the system is recycled onto the trickling filter.

- A fixed trickling filter consisting of PVC randomly packed filter media with a void ratio greater than 95%; surface dimension of approximately 5 foot diameter with a height of approximately 6 feet.

- Trickling filter is situated over a settling tank with a surface area of approximately 19 sq. ft. Settling tank has a hopper bottom configuration with a total water depth of approximately 4.8 feet.

- Sludge is returned to the septic tanks from the clarifier. Recycle pump sends sludge from the clarifier back to the septic tank located adjacent to the new Bioclere unit. Recycle pump is a submersible, 0.75 HP pump with a capacity of 15 gpm. Pump is controlled by a timer intended to waste/recycle approximately 30 gallons per day.

- Reconstruction of the distribution system onto the sand filter consisting of 4 inch pvc pipe. Five laterals placed at five feet on center, with distribution holes every 5 feet

5. OPERATING PERMIT

Operating permit MO-0098621 will require a modification to reflect the construction activities and add conditions of the demonstration project. The modified Orearville R-IV School District WWTF, MO-0098621, was successfully public noticed from November 7, 2018 to January 7, 2019, with no comments received. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D) and request the operating permit modification be issued.

Andrew Appelbaum, P.E.
Engineering Section
andy.appelbaum@dnr.mo.gov

AP 30412
CP0002022

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

APPLICATION FOR CONSTRUCTION PERMIT – WASTEWATER FACILITY

RECEIVED AUG 7 2018 WATER PROTECTION PROGRAM

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED $1000.00	CHECK NO. 3376
DATE RECEIVED 8-7-18 SB	

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Facility form is for construction pertaining to domestic wastewater treatment facilities, agrichemical facilities, and components thereof. This 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 Is this an application for an agrichemical? ☐ YES (See instructions.) ☒ N/A

1.3 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☐ YES Date of Approval: _____

1.4 Has the department approved the proposed project's facility plan*?
☐ YES Date of Approval: _____ ☐ NO ☑ N/A (If Not Applicable, complete No. 1.5.)

1.5 [Complete only if answered Not Applicable on No. 1.4] 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

1.6 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

1.7 Is a summary of design* included with this application? ☑ YES ☐ NO

1.8 Is a general operating permit applicable?
☐ YES Submit the appropriate operating permit application to the Regional Office at least 60 days prior to operation.
☑ NO Enclose the appropriate operating permit application and fee submittal. Denote which form: ☐ B ☐ B2

1.9 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☑ NO

1.10 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
Orearville School Wastewater Improvements

2.2 PROJECT DESCRIPTION
The addition of a packaged treatment system in front of the existing sand filter in order to meet future ammonia limits. It is intended to eliminate the sand filter and discharge to a soil absorption system within a year or two when the School accumulates the necessary funds to construct the onsite system.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
Sludge will accumulate in the septic tanks and grease trap. Sludge will be removed by septic tank pumper .

2.4 DESIGN INFORMATION
A. Current population: See Engr. Rep ; Design population: See Engr Rep
B. Actual Flow: 600 gpd; Design Average Flow: 900 gpd;
Actual Peak Daily Flow: UNK gpd; Design Maximum Daily Flow: 2000 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

2.6 ESTIMATED PROJECT CONSTRUCTION COST
$ 25,000.00

3.0 WASTEWATER TREATMENT FACILITY

NAME	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
Orearville RIV School	(660) 529-2481	gneff@cdsinet.net

ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE	COUNTY
32524 E. Highway P	Slater	MO	65349	Saline

Wastewater Treatment Facility: Mo- 0098621 (Outfall 001 Of)

3.1 Legal Description: ¼, NE ¼, SW ¼, Sec. 26 , T 51 , R 20
(Use additional pages if construction of more than one outfall is proposed.)

3.2 UTM Coordinates Easting (X): 494016 Northing (Y): 4335774
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3.3 Name of receiving streams: Unamed Tributary to Rock Cr (U)

4.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
Orearville R IV School	(660) 529-2481	gneff@cdsinet.net

ADDRESS	CITY	STATE	ZIP CODE
32524 E. Highway P	Slater	MO	65349

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	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
Same as above		

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	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
MECO Engineering Inc	(573) 893-5558	lneher@Mecoengineering.com

ADDRESS	CITY	STATE	ZIP CODE
2701 Industrial Drive	Jefferson City	MO	65109

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 Gene Neff

PRINTED NAME	DATE
Gene Neff	12-7-17

TITLE OR CORPORATE POSITION	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
Administrative Assistant	(660) 529-2481	gneff@cdsinet.net

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 ☐ Subsurface
☐ 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 two 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 _____

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

9.5 Design depth of sludge in storage basins.
Basin #1: _____ ft Basin #2: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.
Basin #1: _____ ft Basin #2: _____ ft

9.7 Total design sludge storage: _____ dry tons and _____ cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Type of land application: ☐ Fixed Head Sprinklers ☐ Center Pivot ☐ Traveling Gun ☐ Drip Dispersal
☐ Subsurface Low Pressure Pipe ☐ Other (describe) _____

10.2 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.)

10.3 Type of vegetation: ☐ Grass hay ☐ Pasture ☐ Timber ☐ Row crops
☐ Other (describe)

10.4 Wastewater flow (dry weather) gallons per day: Average annual _____
Seasonal _____ Off-season _____

10.5 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

10.6 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal

10.7 Actual months used for irrigation (check all that apply):
☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

10.8 Land application rate is based on:
☐ Hydraulic Loading ☐ Other (describe) _____
☐ Nutrient Management Plan (N and P) If N and P is selected, is the plan included? ☐ YES ☐ NO

INSTRUCTIONS FOR COMPLETING
APPLICATION FOR CONSTRUCTION PERMIT – WASTEWATER TREATMENT FACILITIES

All blanks must be filled in when the application is submitted to the Missouri Department of Natural Resources. This includes the **required signature**.

Note: Use the form Application for Construction Permit – Sewer Extension, MO 780-1632, if **only** collection system component(s) are to be constructed. This form is available at dnr.mo.gov/forms/780-1632-f.pdf.

A land disturbance permit is required if construction will result in the disturbance of one or more acres of land. A land disturbance permit is available through the department's ePermitting system at dnr.mo.gov/env/wpp/epermit/help.htm. A permit fee in accordance with 10 CSR 20-6.011(2)(F)1. is required.

After receiving a complete application, the Department enters the application information into the Missouri Clean Water Information System. You may search for the status of a construction permit online at dnr.mo.gov/mocwis_public/applicationInprocessSearch.do.

Part A – Basic Application Information

1.0 If any questions in this section are answered no, this application may be considered incomplete and returned to applicant.

1.1 Check the appropriate box. If the project is funded with federal or state monies, supply the funding agency name and project number.

1.2 Check the appropriate box. Agrichemical facilities complete sections 1.6, 1.10, 2.1, 2.2, 3.1-3.3, 5.0, 6.0, and 7.0.

1.3 Check the appropriate box. Provide the date of department approval for the antidegradation report. Include a copy of the approved *Water Quality and Antidegradation Review* with this application. Not every construction project may require an antidegradation review. For more information, guidance documents and forms concerning antidegradation visit dnr.mo.gov/env/wpp/permits/antideg-implementation.htm.

1.4 Check the appropriate box and provide the date of department approval. Per 10 CSR 20-8.110(3)(C), facility plans must be approved by the department prior to the submittal of plans and specifications and a construction permit application. "Facility plans must be completed for projects involving wastewater treatment facility projects and projects receiving funding through the grant and loan programs under 10 CSR 20-4" in accordance with 10 CSR 20-8.110(4)(A)4. The department has developed a fact sheet to aid in the development of an approvable facility plan. This document is available online at dnr.mo.gov/pubs/pub2416.htm.

1.5 Complete only if No. 1.3 is answered Not Applicable. Check the appropriate box. For wastewater treatment facilities with a design flow under 22,500 gallons per day, or gpd, an engineering report may be required by the department in accordance with 10 CSR 20-6.010(4)(D)1 and 10 CSR 20-8.020(3). The department will require an engineering report for any new wastewater treatment facilities and for any major modifications to an existing wastewater treatment facility.

1.6 Check the appropriate box. Provide a copy of the appropriate plans and specifications for department review when applying for a construction permit per 10 CSR 20-8.110(3)(C), 10 CSR 20-8.020(5) and 10 CSR 20-8.020(6). A Missouri registered professional engineering seal, signature and date is required on each sheet of the plans and the cover of the technical specifications.

The department will accept plans and specifications in electronic form on a CD and in the Adobe® PDF searchable format. If the plans are scanned, set the resolution to a minimum of 200 dpi at 17 by 22 inches.

Note: Additional sets of plans and specifications may be required by the department for final approval and issuance of the construction permit. See 10 CSR 20-8.110(6)(A)1.

1.7 Check the appropriate box. A summary of design shall accompany the plans and specifications when applying for a construction permit, per 10 CSR 20-8.110(5) and 10 CSR 20-8.020(7). A fact sheet to aid in the development of an acceptable summary of design is available online at dnr.mo.gov/pubs/pub2417.htm. For wastewater treatment facilities with a design flow under 22,500 gpd, a summary of design may not be required by the department.

1.8 Check the appropriate box. Include the applicable operating permit application when seeking a site-specific operating permit or modification of an existing operating permit. Facilities that qualify for a general operating permit may submit the operating permit application to the appropriate regional office at least 60 days prior to operation.

- Form B for facilities ≤ 100,000 gpd is available online at dnr.mo.gov/forms/780-1512-f.pdf.
- Form B2 for facilities > 100,000 gpd is available online at dnr.mo.gov/forms/780-1805-f.pdf.

Include the appropriate fee with your application. For more fee information, visit: http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf.

$200 for modifications to a Publicly Owned Treatment Works (POTW) operating permit accompanied by the appropriate operating permit form per 10 CSR 20-6.011(2)(H), if applicable.

$100 for modifications of name changes, address changes, or other nonsubstantive changes or for a modification of a general permit accompanied by the appropriate general permit form per 10 CSR 20-6.011(2)(H)1., if applicable.

25 Percent Annual Operating Fee for modifications to a Non-POTW operating permit accompanied by the appropriate operating permit form per 10 CSR 20-6.011(2)(H)2., if applicable.

Annual Operating Fee for issuing a new Non-POTW operating permit accompanied by the appropriate operating permit form, if applicable.

1.9 Check the appropriate box. More information about the Compliance and Enforcement Water Protection Program is available online at dnr.mo.gov/env/wpp/enf/index.html.

1.10 Check the appropriate box. Include the fee with your application.

$1,000 for a wastewater treatment facility with a design flow of less than 500,000 gpd per 10 CSR 20-6.011(2)(K)1.

$3,000 for a wastewater treatment facility with a design flow of 500,000 gpd or greater per 10 CSR 20-6.011(2)(K)2.

Note: Incomplete permit applications or related engineering documents will be returned by the department if they are not completed in the time frame established by the department in a comment letter to the project owner. Permit fees for returned applications shall be forfeited. See 10 CSR 20-6.010(4)(E). Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited. See 10 CSR 20-6.011(5)(B).

2.1 Provide the name of the proposed construction project.

2.2 Briefly describe the construction project by providing the number and capacity of each new unit.

2.3 Briefly describe the method of sludge handling, use and disposal at the treatment facility.

2.4 Provide the project design information and when required in the units specified.

A. Provide the current population and the design population to be served by the wastewater treatment facility.

B. Provide the estimated design flow information in accordance with 10 CSR 20-8.110(4)(C)4.A.

Design average flow – The design average flow is the average of the daily volumes to be received for a continuous 12 month period expressed as a volume per unit time. However, the design average flow for facilities having critical seasonal high hydraulic loading periods (e.g., recreational areas, campuses and industrial facilities) shall be based on the daily average flow during the seasonal period. (Expected daily average flow the facility is designed to treat.)

Design peak hourly flow – The design peak hourly flow is the largest volume of flow to be received during a one hour period expressed as a volume per unit time.

Design maximum daily flow – The design maximum daily flow is the largest volume of flow to be received during a continuous 24-hour period expressed as a volume per unit time. (Flow during the peak wet weather event the facility is designed to treat.)

Design Wet Weather Event –The wet weather event chosen for the design.

2.5 Provide the additional project information.

A. Attach a topographic map of the area extending at least one mile beyond the facility property boundaries. This map must show the outline of the facility and the following information. A topographic map is available online at dnr.mo.gov/internetmapviewer or from the Department of Natural Resources' Missouri Geological Survey in Rolla, Mo., at 573-368-2125. (Submittals of more than one map may be necessary to show the entire area.)

1. The area surrounding the wastewater treatment facility, including all unit processes.
2. The major pipes or other structures through which wastewater enters the treatment facility and the pipes or other structures through which treated wastewater is discharged from the treatment facility. Include outfalls from bypass piping, if applicable.
3. The actual point of discharge.
4. Wells, springs, other surface water bodies and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment facility and 2) listed in public record or otherwise known to the applicant.
5. Any areas where biosolids produced by the treatment facility are treated, stored, or disposed.
6. If the treatment facility receives waste classified as hazardous under the Resource Conservation and Recovery Act, or RCRA, by truck, rail, or special pipe, show on the map where hazardous waste enters the treatment works and where it is treated, stored or disposed.
7. Outline any wastewater land application sites.

B. Provide a process flow diagram with the influent and effluent design average flow and peak flow capabilities. Also, depict all of the treatment facility components and the corresponding hydraulic capacities of each component. In addition, include all recycle flows in the diagram. If land application is used, depict all irrigation equipment and application sites.

2.6 Provide the estimated project construction cost. This information will be useful to the department in conducting affordability analyses.

3.0 Complete the Wastewater Treatment Facility information. Include the Missouri State Operation Permit number, outfall number, physical location, and other appropriate contact information.

3.1 Provide the project legal description. The department's mapping system is available online at dnr.mo.gov/internetmapviewer.

3.2 A Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates.

3.3 Provide the name of the receiving stream(s) to which the discharge is directed and any subsequent tributary until a continuous flowing stream is reached.

4.0 Complete Project Owner information. Include the legal name, address, phone number with area code and email address.

5.0 Complete Continuing Authority contact information. If same as the Project Owner, write "Same as above".

Include the permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system. See 10 CSR 20-6.010(3) for the regulatory requirement regarding continuing authority.

5.1 Check the appropriate box. Include a letter signed by the continuing authority (if not same as the project owner) stating they will "accept, operate and maintain" the wastewater treatment facility after successful construction. The continuing authority may also complete the Continuing Authority and Receiving Wastewater Treatment Facility Acceptance form in lieu of a letter.

5.2 Complete if the continuing authority is a Missouri Public Service Commission, or PSC, regulated entity. See 10 CSR 20-6.010(3)(B)3 for more information. This information is not necessary for existing wastewater treatment facilities currently permitted with a PSC entity as owner and continuing authority.

5.3 Complete if the continuing authority is a property owners association. See 10 CSR 20-6.010(3) (B)5 for more information. This information is not necessary for existing wastewater treatment facilities currently permitted with the property owners association as owner and continuing authority.

6.0 Complete Engineer contact information.

7.0 All applications must be signed as follows in accordance with 10 CSR 20-6.010(2)(B) and the signatures must be original:

A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.

B. For a partnership or sole proprietorship, by a general partner or the proprietor.

C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

Part B – Land Application

Complete Part B only if the proposed construction project includes land application of wastewater from a treatment facility.

8.0 Provide the applicable Facility Information land application information. Check the appropriate boxes.

9.0 Provide the applicable Storage Basins information. Check the appropriate boxes.

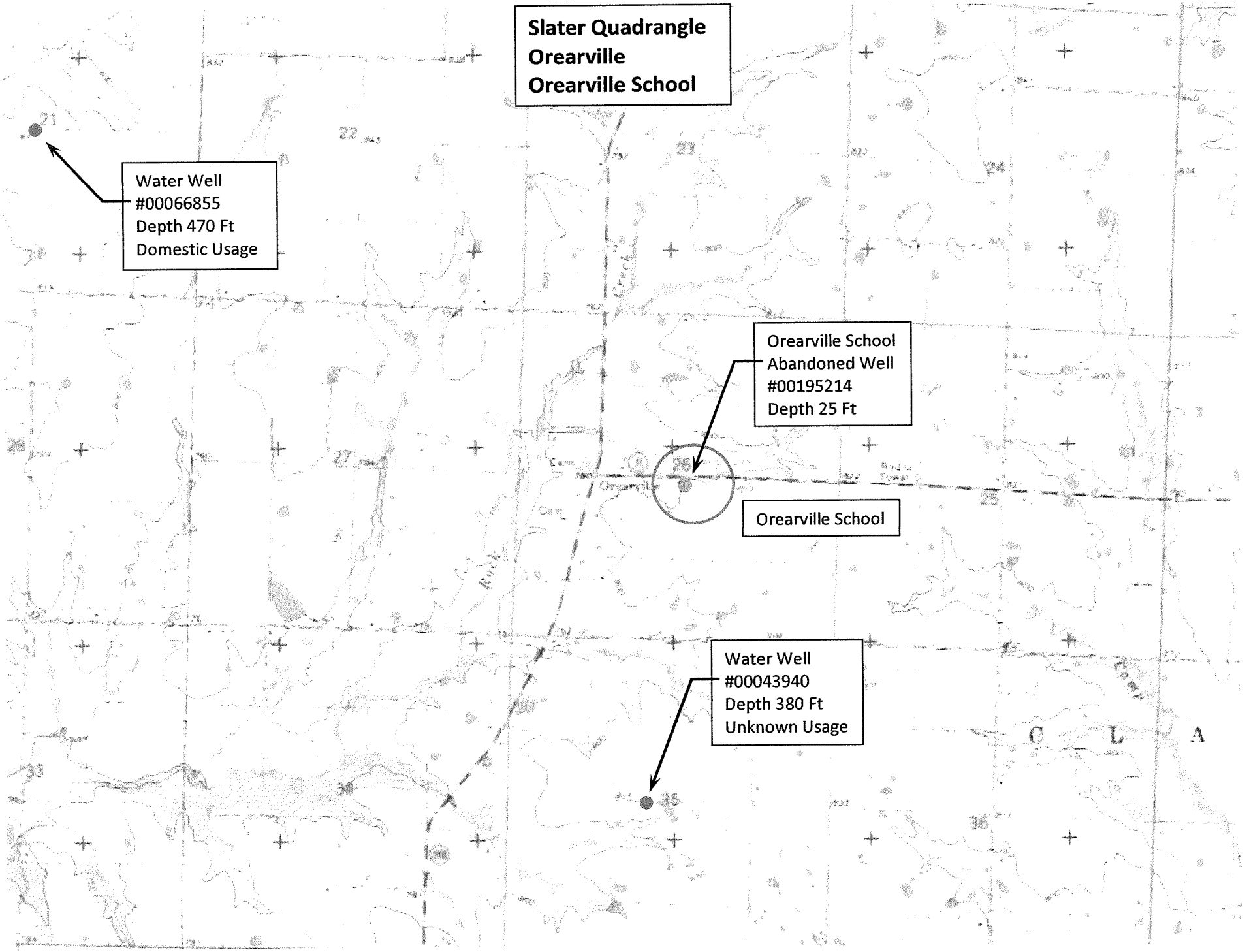
- Freeboard – The depth from the top of the berm to the emergency spillway. Minimum depth is one foot.
- Total Depth – The depth from the top of the berm to the bottom of the basin.
- Safety Volume – The depth to contain the 25-year, 24-hour storm event. Minimum depth is one foot.
- Maximum Operating Water Level – The water level at the bottom of the safety volume. Minimum depth is two feet below the top of the berm.
- Minimum Operating Water Level – The water level above the bottom of the lagoon basin for seal protection. Minimum depth is two feet and may be greater when additional treatment volume is included.
- Total Depth is from the top of the berm to the bottom of the lagoon basin including freeboard.

10.0 Provide the applicable Land Application System information. Check the appropriate boxes.

10.8 Check the appropriate box. If the land application rate is based on a Nutrient Management Plan, or N and P, include the plan with this application for department review.

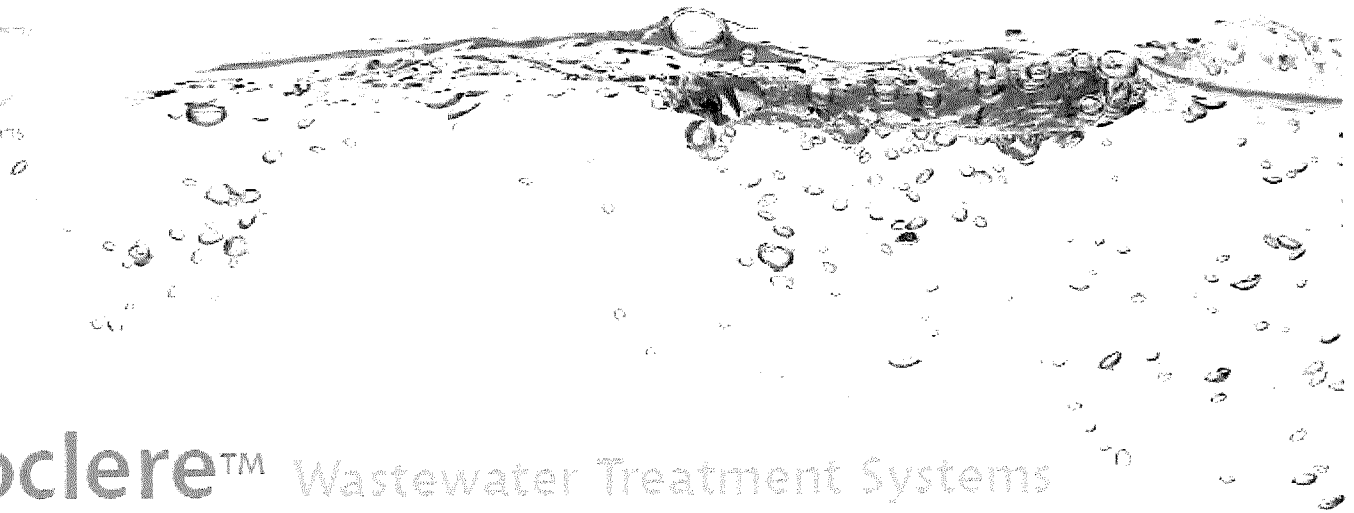
Mail the completed form and applicable fee to the department.

If there are any questions concerning this form, please contact the Department of Natural Resources, Water Protection Program at 800-361-4827 or 573-751-1300 or visit dnr.mo.gov/env/wpp/permits/ww-construction-permitting.htm.


Slater Quadrangle
Orearville
Orearville School
Water Well
#00066855
Depth 470 Ft
Domestic Usage
Orearville School
Abandoned Well
#00195214
Depth 25 Ft
Orearville School
Water Well
#00043940
Depth 380 Ft
Unknown Usage

AquaPoint

Performance Based Wastewater Treatment Solutions



Features & Benefits

- Treats flows from 200 to 100,000 gpd
- Cost effective treatment with efficient installation and operation
- Treats high strength wastewater
- Internal flow stabilization treats intermittent flows
- Fully automated pump system
- Self adjusting process control
- Small footprint / compact design
- Gravity flow system
- Quiet operation
- Sealed and insulated for seasonal conditions
- Durable UV resistant fiberglass construction
- Minimal energy usage
- Remote monitoring control options

Bioclere™ Wastewater Treatment Systems

The Bioclere Advantage

Bioclere is a modified trickling filter over a clarifier. It is designed to treat wastewater with varying organic and nutrient concentrations as well as intermittent flows. Bioclere's natural fixed film treatment process is stable, simple to maintain and inexpensive to operate.

Bioclere reduces biochemical oxygen demand (BOD5) and total suspended solids (TSS) to levels that meet or exceed NSF and EPA standards. As water trickles through the biofilter, organic material is consumed by a population of microorganisms that form on the surface of the media. Sloughed solids from the biofilter filter are returned to the primary tank as secondary sludge and treated water is displaced to the next treatment component or the disposal area.

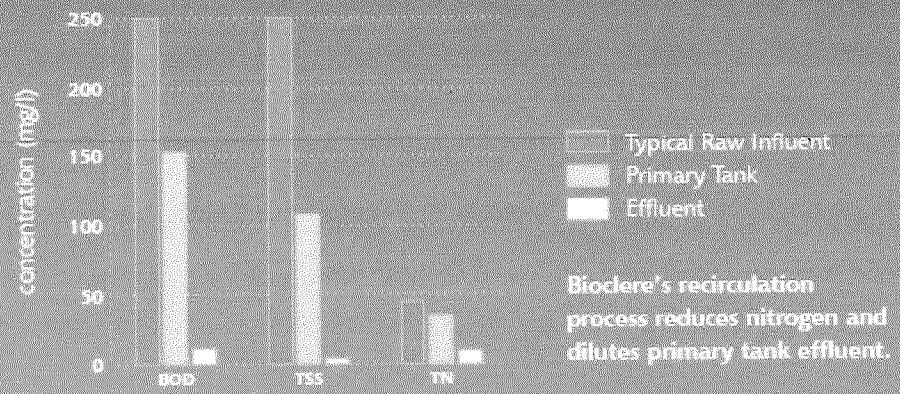
Bioclere is a modular technology. Units can be installed in parallel to accommodate large flows or in series to achieve high levels of treatment. The systems are sealed and insulated to minimize the impact of seasonal temperature variations on the treatment process.

Nitrogen Reduction

Bioclere systems can be designed to consistently convert and reduce nitrogen. Total nitrogen is reduced substantially and cost effectively by recirculating nitrified water from the Bioclere back to the primary settling tank. Large Bioclere systems may incorporate a second stage nitrifying Bioclere and a tertiary anoxic reactor to achieve < 10 mg/l total nitrogen.

Applications include

residential, commercial, institutional, light industrial and municipal wastewater treatment

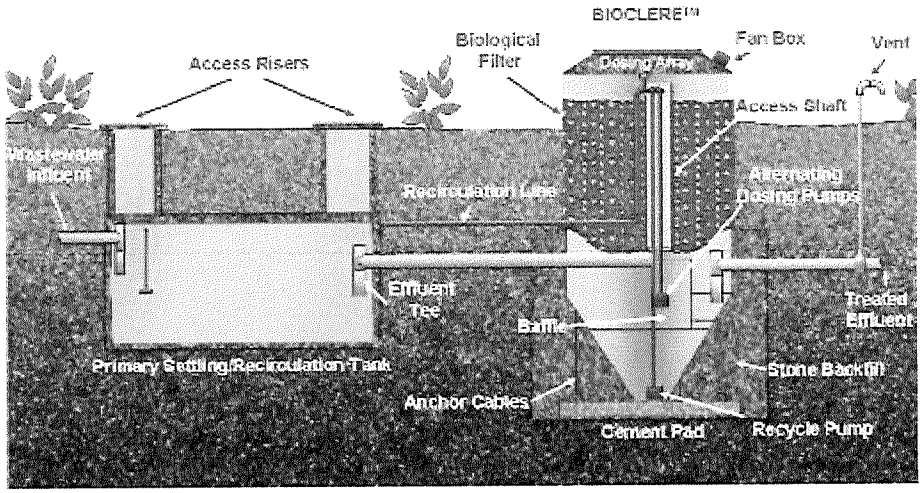


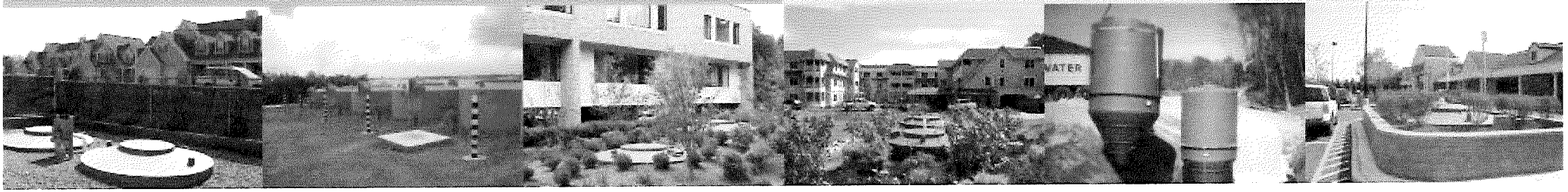
Bioclere's recirculation process reduces nitrogen and dilutes primary tank effluent.

Bioclere 10/12-350 is ANSI/NSF Standard 40 certified by the National Sanitation Foundation (NSF). The above performance results (BOD & TSS) are based on a six month accumulative average from NSF's certification testing program.

U.S. Environmental Protection Agency's (EPA) technology verification program. Total nitrogen results can be viewed at www.epa.gov/etv. Above TN results are based on achievable standards.

Standard single Bioclere™ installation:





AquaPoint

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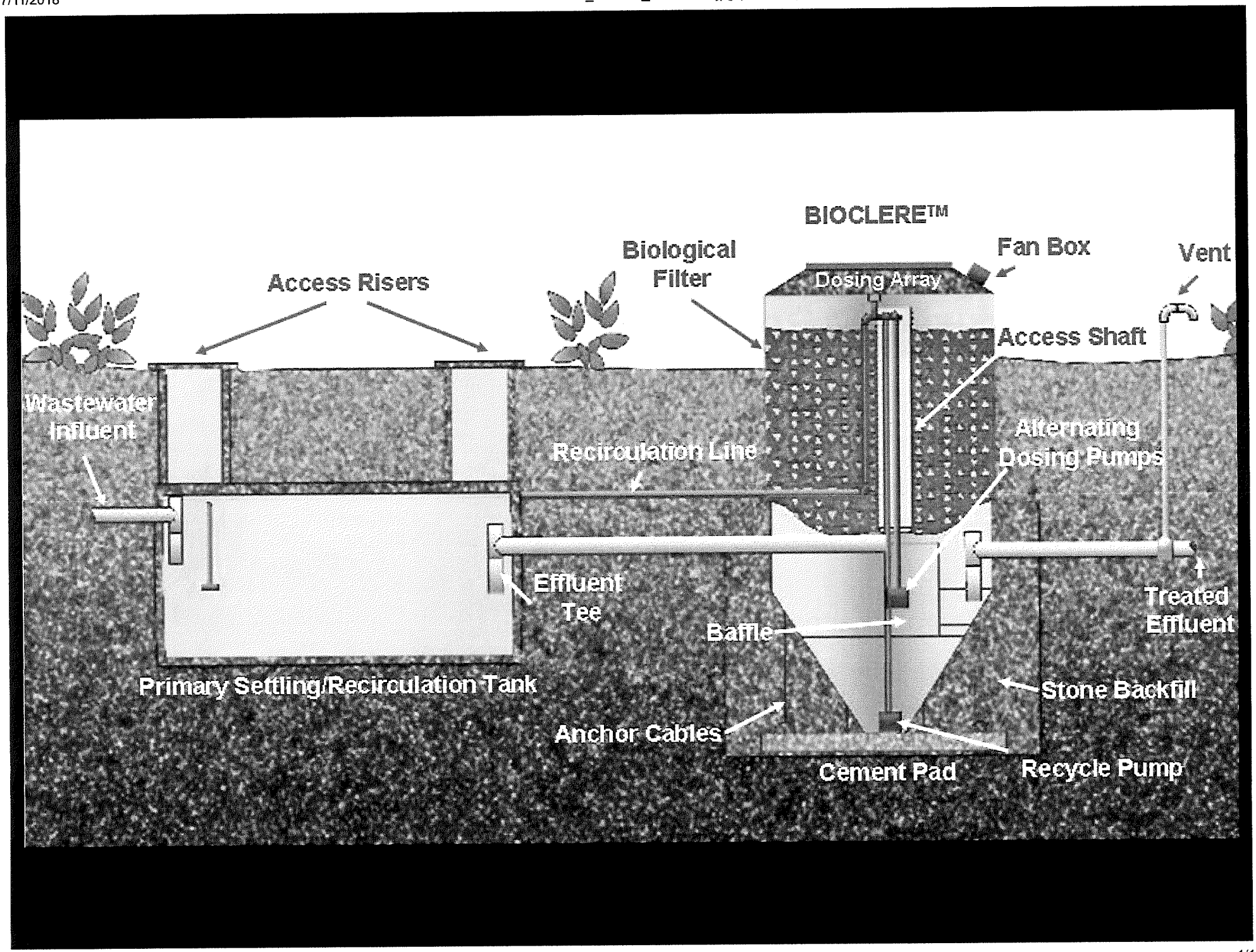
BIOCLERE™
Biological Filter
Fan Box
Vent
Access Risers
Dosing Array
Access Shaft
Wastewater Influent
Recirculation Line
Alternating Dosing Pumps
Effluent Tee
Treated Effluent
Baffle
Primary Settling/Recirculation Tank
Stone Backfill
Anchor Cables
Cement Pad
Recycle Pump