

April 10, 2023

Florida Department of Health
11805 S.W. 26th Street (Coral Way)
Miami, Fl. 33175

Attn.: Septic Tank and Drainfield Department

Ref.: 7725 SW 114 Street
Pinecrest, Florida. 33156.

To whom it may concern:

This letter and plans are to certify and request a S.T.S. system for the above mentioned project.

Sincerely,

Edmundo Largaespada
P.E. LEED AP BD+C
Reg. No. 56915

DRIP EFFLUENT DISPOSAL SYSTEMS

DESIGN CRITERIA

Drip effluent disposal systems shall be permitted as an alternative drainfield option for use in Performance-Based Treatment Systems in the State of Florida. The following criteria apply.

As Florida registered professional engineer, we are designing this drip effluent disposal system and the design shall include and consider the following:

1. Drip effluent disposal systems shall be considered performance-based treatment systems.
FOR S.T.S APPLICATION
2. Effluent for drip effluent disposal systems shall be pretreated to reduce both the 5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅), = OR < 20 mg/L Total Suspended Solids (TSS) = OR < 20mg/L, TN = or < N/A, TP = or < N/A & fecal Coliform= or < 200fc col/100ml
3. The infiltrative area required shall be the same as the area required for a mineral aggregate drainfield with reductions allowed for the reduction of CBOD₅ and TSS as noted in Florida Administrative Code, Chapter 64E-6, Part IV, Secondary Treatment Systems.
4. In a bed configuration, the drainfield area shall be calculated as extending one foot beyond the sides of the outermost emitter lines. *N/A*
5. In a trench containing a single distribution line, the drainfield area shall be calculated as 2 feet X the emitter spacing in feet X the number of emitters. **AND LINENS SHALL BE SEPERATED 25" MINIMUM AS PER PLANS**
6. Drip effluent disposal systems shall be considered pressure distribution systems. **Ok**
7. Head loss calculations shall be provided to insure proper hydraulic pressure at the emitter.
See plan
8. Pump selection shall be indicated in the design specification. Pump performance curves shall be provided. **See plan.**
9. Recirculation rates shall be indicated on the drawings. **See plan.**
10. Check valves, petcocks, inline filters, and vacuum breaking device location shall be indicated on the drawings. **See plan.**
11. Drip effluent disposal systems shall be time-dosed over the 24-hour period. Demand control dosing shall override timed-dosing in periods of flow where timed dosing cannot handle the excessive flow.
Ok
12. All drip emitter systems shall be designed as continuous loop circuits with no dead-end emitter lines. All systems need to incorporate a mechanism for backwashing or flushing. **Ok**

13. Drip effluent disposal systems shall meet the following operating parameters:
 - Minimum operating pressure at the emitter head shall be 10 PSI. ***It will be 25 PSI***
 - Maximum operating pressure at the emitter head shall be 45 PSI. ***It will be 30 PSI***
 - Maximum system operating pressure shall be 60 PSI. ***It will be 45 PSI***
 - Maximum discharge rate per emitter shall be 1.5 gallons per hour.
 14. Drip emitter lines shall be drawn to scale and drip emitter spacing shall be indicated on the drawings. ***SEE PLAN HERE IN ATTACHED***
 15. The maximum emitter longitudinal spacing on a distribution line shall be 2 feet. The maximum distribution line spacing in a bed configuration shall be 2 feet. ***N/A***
 16. The 24-inch separation from the seasonal high water table shall be measured from the emitter orifice. ***Ok***
 17. Setbacks shall be measured from the drip emitter lines. ***2'-0" AS PER PLAN***
 18. There is no drainfield sidewall in a drip effluent disposal system. The definition of a filled system in s. 64E-6.002(24), Florida Administrative Code, is not applicable to drip effluent disposal systems. A drip effluent disposal system is considered to be a mound system when any part of the bottom surface of any drip emitter line is located at or above the elevation of undisturbed native soil in the drainfield area. A drip effluent disposal system is considered a standard subsurface drainfield system when the entire bottom surface of every drip emitter line is installed below the elevation of undisturbed native soil in the drainfield area. ***Ok, SEE plan.***
 19. For mound systems there shall be a minimum separation of 18 inches between the emitter lines. Mound system slopes shall be in accordance with s. 64E-6.009(3) (f), Florida Administrative Code. Mound systems shall be stabilized in accordance with s. 64E-6.009(3) (f), Florida Administrative Code. ***NOT APPLICABLE.***
 20. For standard subsurface systems, the elevation of any fill covering the drainfield shall extend no less than 18 inches away from all emitter lines before tapering down to natural grade. ***Ok***
 21. Minimum cover on the distribution lines shall be 6 inches for standard subsurface systems and 9 inches for mound systems. The maximum cover for all systems shall be no greater than 12 inches. ***6" Cover over emitters. AS PER PLAN***
 22. The system shall include a petcock on the dosing pump discharge line for effluent sampling in lieu of the installation of monitoring ports required in s. 64E-6.029(2), Florida Administrative Code.
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23. All onsite sewage treatment and disposal systems that include a drip effluent disposal system shall have an annual operating permit, maintenance contract with an approved performance-based system maintenance entity and shall be inspected in accordance with s. 64E-6.027(5), Florida Administrative Code. ***OK TO BE SUBMITTED AT TIME OF FINAL INSTALATION ACCEPTANCE.***
 24. Manufacturers of drip effluent disposal system distribution lines, emitters, and components shall apply for and obtain approval for specific model numbers or part numbers prior to inclusion of the components on any site specific permit application. ***By installation contractor.***

25. Manufacturer's of drip effluent disposal system components shall provide design and installation manuals for engineering and construction guidance. Design manuals shall include tables that detail flow rates vs. pressure and pressure loss per length(s) of distribution pipe. ***Drip manual given to installer and Engineer.***

PERFORMANCE STANDARDS DESIGN REVIEW CHECKLIST

Application

1. Cover letter from engineer requesting the approval of a performance based system HEREIN ATTACHED
2. Initial site evaluation with estimated occasional high water table, soil LTAR 4.5
3. County Department of Health/Engineer concurrence on estimated seasonal high water table, soil LTAR AS PER WC-2.1

Design

1. Plans signed, dated, and sealed by an engineer registered in the State Of Florida. HEREIN ATTACHED

2. "Certification of Design" statement signed by the Engineer SEE SP-1 PLAN
3. Design adherence to setback requirements. COMPLY, SEE SP-1
If not, specify non-conformance setbacks. SEE SP-1
4. Design adherence to separation from the seasonal high water table WE ARE ABOVE THE 4.5 LTAR
5. Information required: +24"

System design criteria:

Performance level: STS (X) ASTS () AWTS ()

ASTS with enhanced nutrient removal (keys) (✓)

CBOD =or < 20 mg/l

TSS =or < 20 mg/l

TN =or < - mg/l N/A

TP =or < - mg/l N/A

S coli form =or < 200 fc for 100ml

System design calculations SEE SPP-1 FOR SYSTEM DESIGN CALCULATION

System design plans and drawings SEE SPP-1

Monitoring requirements:

Pollutant(s) to be monitored CBOD, TSS AND SCOLIFORM

Pollutant sampling frequency 1. Advanced wastewater treatment systems.

A). a maintenance report shall be kept by the performances system maintenance entity. A copy of all maintenance reports shall be provided to the county health department on monthly intervals, to begin one month after system operation has started. After the first six reports are provided to the county health department, reports shall be provided once every three months. All reports must be legible the report shall include the following information.

1. Address of performance based treatment system.
2. Date and time of inspection.
3. Sample collection time and date and person who collected sample.
4. Results of all sampling.
5. Volume of effluent treated to include total monthly and daily average.
6. Maintenance performed.
7. Problems noted with performance based treatment system and actions taken or proposed to overcome them.
8. during the first six months of system operation, or after the system has failed, system shall be monitored a minimum of once every two weeks. Monitoring shall include sampling for CBOD, TSS, TN, TP and fecal coli form. Monitoring shall occur at the time the system is expected to be at capacity, or as close to capacity as possible. Re-sampling within 48 hours of receipt of laboratory results shall be allowed on all samples that exceed design parameters in order to evaluate the validity of the original sample results. If the re-sample is in compliance with the appropriate performance based standard, the original result shall be disregarded. Laboratories must be approved by the department or the department of environmental protection for all analyses performed. All results shall be certified by the laboratory.

A). IF ANY TWO CONSECUTIVE SAMPLES EXCEED DESING TREATMENT STANDARDS BY MORE THAN 100 % THE SYSTEM DESING AND OPERATION SHALL BE INSPECTED BY THE DESIGN ENGINEER FOR CONFORMANCE WITH PERMITTING REQUIREMENTS, AND SHALL BE ADJUSTED TO BRING THE EFFLUENT QUALITY INTO compliance with permitting requirements, monitoring shall be increase at once per week, or more if the design engineer specifies such, until such time the violation is corrected. When two consecutive samples are 100 % of the design parameters monitoring shall be reduced every 2 weeks. For example if the parameter is 20 mg/l CBOD, a reading of 40 mg/l CBOD exceeds standard by 100 %.

B). after six month period of compliance with all applicable performance standards, sampling shall be performed quarterly.

C). when an applicant installs a system designed to meet advanced wastewater treatment standards, the monitoring frequency shall be reduced by 50 % if only one of the following three location and installation requirements is used and the other two remain at the standards required of prescriptive systems, the three requirements are.

(I). setbacks required in 64E-6.028(1) (a-c)

(II). Seasonal high water table 64E-6.028(1) (C) 4

(III). Authorized lot flow 64E-6.028(2)

(B). when four consecutive once every two weeks samples from a system are at or below the applicable standard, sampling frequency shall be reduced quarterly.

(C). when eight consecutive quarterly samples from a system are below the applicable standard sampling frequency shall be reduced one every six months.

(D). all reports of operating permits violations shall be operated to the department within five working days.

(E). if the system cannot be brought into compliance with design parameters, the contingency plan must be in forced.

(F). all failures of the performance- based treatment system shall be reported the the county health department by the maintenance entity within one working day from discovery of failure. The testing laboratory shall mail copies of all results to county health department.

(G). testing performed during periods of system non-use that exceed one week, shall not qualify as legitimate samples for purposes of compliance with any provisions of this rule.

Monitoring ports provided Valve Box and Piezometer Well

Monitoring locations identified (*See plan*)

6. Drain field:

Drain field infiltrative surfaces identification YES, SEE SPP-1

Drain field infiltrative surface calculations YES. SEE SPP-1

Drain field infiltrative surface reductions adherence to performance expectations YES SEE SPP-1

Design adherence to "effective storage volume" requirements SEE SPP1

Design adherence to "total storage volume" requirements SEE SPP-1

Design adherence to unobstructed area requirements SEE SPP-1

7. Modeling programs:

Model program inputs documented in tabular form N/A

Model program outputs included in the engineering submission N/A

8. System failure effluent collection contingency plan. If applicable SEE SPP-1

9. Installation Instructions HEREIN ATTACHED

Inspection

1. Operating manual HEREIN, ATTACHED

2. Operational maintenance manual/instructions HEREIN, ATTACHED

Operational maintenance frequency HEREIN, ATTACHED

3. Signed maintenance agreement between owner and maintenance entity *

4. Property owner has executed and recorded (In the public records at the county courthouse), a written notice that informs all subsequent property owners of the use of the performance based treatment system and the requirement for the system to be maintained. *

5. "Certification of installation" statement signed by the engineer, or an agent of the engineer *

6. Verification of system installation per design plans and specifications *

***= AT THE TIME OF FINAL INSPECTION AND CERTIFICATION OS SYSTEM.**