



COMAL COUNTY

ENGINEER'S OFFICE

License to Operate On-Site Sewage Treatment and Disposal Facility

Issued This Date: **05/02/2023** Permit Number: **115414**

Location Description: 1755 LIVE OAK DR
CANYON LAKE, TX 78133

Subdivision: Tamarack Shores
Unit: 2
Lot: 56R
Block: N/A
Acreage: 0.4600

Type of System: Aerobic
Drip Irrigation

Issued to: Anthony Collinworth

This license is authorization for the owner to operate and maintain a private facility at the location described in accordance to the rules and regulations for on-site sewerage facilities of Comal County, Texas, and the Texas Commission on Environmental Quality.

The license grants permission to operate the facility. It does not guarantee successful operation. It is the responsibility of the owner to maintain and operate the facility in a satisfactory manner.

Alterations to this permit including, but not limited to:

- Increase in the square feet of living area
- Increase in the number of bedrooms
- A change of use (i.e. residential to commercial)
- Relocation of system components (including the relocation of spray heads)
- Installation of landscaping
- Adding new structures to the system

may require a new permit. **It is the responsibility of the owner to apply for a new permit, if applicable.**

Inspection and licensing of a facility indicates only that the facility meets certain minimum requirements. It does not impede any governmental entity in taking the proper steps to prevent or control pollution, to abate nuisance, or to protect the public health.

This license to operate is valid for an indefinite period. The holder may transfer it to a succeeding owner, provided the facility has not been remodeled and is functioning properly.

Licensing Authority
Comal County Environmental Health

Issued This Date: 05/02/2023

Permit Number: 115414

Location Description: 1767 LIVE OAK DR
CANYON LAKE, TX 78133

Subdivision: Tamarack Shores
Unit: 2
Lot: 56R
Block: N/A
Acreage: 0.4600

Type of System: Aerobic
Drip Irrigation

Issued to: Anthony Collinsworth

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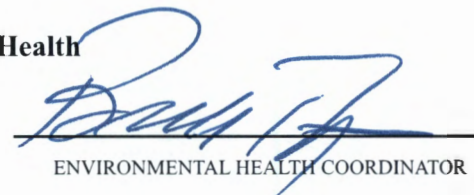
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Licensing Authority
Comal County Environmental Health


ENVIRONMENTAL HEALTH INSPECTOR

OS0032485


ENVIRONMENTAL HEALTH COORDINATOR

OS0007722

Comal County Environmental Health OSSF Inspection Sheet

Installer Name: _____

OSSF Installer #: _____

1st Inspection Date: _____

2nd Inspection Date: _____

3rd Inspection Date: _____

Inspector Name: _____

Inspector Name: _____

Inspector Name: _____

Permit#:		Address:					
No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
1	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Site and Soil Conditions Consistent with Submitted Planning Materials		285.31(a) 285.30(b)(1)(A)(iv) 285.30(b)(1)(A)(v) 285.30(b)(1)(A)(iii) 285.30(b)(1)(A)(ii) 285.30(b)(1)(A)(i)				
2	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Setback Distances Meet Minimum Standards		285.91(10) 285.30(b)(4) 285.31(d)				
3	SEWER PIPE Proper Type Pipe from Structure to Disposal System (Cast Iron, Ductile Iron, Sch. 40, SDR 26)		285.32(a)(1)				
4	SEWER PIPE Slope from the Sewer to the Tank at least 1/8 Inch Per Foot		285.32(a)(3)				
5	SEWER PIPE Two Way Sanitary - Type Cleanout Properly Installed (Add. C/O Every 100' &/or 90 degree bends)		285.32(a)(5)				
6	PRETREATMENT Installed (if required) TCEQ Approved List PRETREATMENT Septic Tank(s) Meet Minimum Requirements		285.32(b)(1)(G) 285.32(b)(1)(E)(iii) 285.32(b)(1)(E)(iv) 285.32(b)(1)(F) 285.32(b)(1)(B) 285.32(b)(1)(C)(i) 285.32(b)(1)(C)(ii) 285.32(b)(1)(D) 285.32(b)(1)(E) 285.32(b)(1)(A) 285.32(b)(1)(E)(ii)(II) 285.32(b)(1)(E)(i) 285.32(b)(1)(E)(ii)(I)				
7	PRETREATMENT Grease Interceptors if required for commercial		285.34(d)				

Inspector Notes:

**Comal County Environmental Health
OSSF Inspection Sheet**

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
8	SEPTIC TANK Tank(s) Clearly Marked SEPTIC TANK If Single Tank, 2 Compartments Provided with Baffle SEPTIC TANK Inlet Flowline Greater than 3" and " T " Provided on Inlet and Outlet SEPTIC TANK Septic Tank(s) Meet Minimum Requirements		285.32(b)(1) (E)285.91(2)285.32(b)(1) (F)285.32(b)(1)(E) (iii)285.32(b)(1)(E)(ii) (II)285.32(b)(1)(E)(ii) (I)285.32(b)(1)(E) (i)285.32(b)(1) (D)285.32(b)(1)(C) (ii)285.32(b)(1)(C) (i)285.32(b)(1) (B)285.32(b)(1) (A)285.32(b)(1)(E)(iv)				
9	ALL TANKS Installed on 4" Sand Cushion/ Proper Backfill Used		285.32(b)(1)(F) 285.32(b)(1)(G) 285.34(b)				
10	SEPTIC TANK Inspection / Clean Out Port & Risers Provided on Tanks Buried Greater than 12" Sealed and Capped		285.38(d)				
11	SEPTIC TANK Secondary restraint system provided SEPTIC TANK Riser permanently fastened to lid or cast into tank SEPTIC TANK Riser cap protected against unauthorized intrusions		285.38(d) 285.38(e)				
12	SEPTIC TANK Tank Volume Installed						
13	PUMP TANK Volume Installed						
14	AEROBIC TREATMENT UNIT Size Installed						
15	AEROBIC TREATMENT UNIT Manufacturer AEROBIC TREATMENT UNIT Model Number						
16	DISPOSAL SYSTEM Absorptive		285.33(a)(4) 285.33(a)(1) 285.33(a)(2) 285.33(a)(3)				
17	DISPOSAL SYSTEM Leaching Chamber		285.33(a)(1) 285.33(a)(3) 285.33(a)(4) 285.33(a)(2)				
18	DISPOSAL SYSTEM Evapo-transpirative		285.33(a)(3) 285.33(a)(4) 285.33(a)(1) 285.33(a)(2)				

**Comal County Environmental Health
OSSF Inspection Sheet**

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
19	DISPOSAL SYSTEM Drip Irrigation		285.33(c)(3)(A)-(F)				
20	DISPOSAL SYSTEM Soil Substitution		285.33(d)(4)				
21	DISPOSAL SYSTEM Pumped Effluent		285.33(a)(4) 285.33(a)(3) 285.33(a)(1) 285.33(a)(2)				
22	DISPOSAL SYSTEM Gravelless Pipe		285.33(a)(3) 285.33(a)(2) 285.33(a)(4) 285.33(a)(1)				
23	DISPOSAL SYSTEM Mound		285.33(a)(3) 285.33(a)(1) 285.33(a)(2) 285.33(a)(4)				
24	DISPOSAL SYSTEM Other (describe) (Approved Design)		285.33(d)(6) 285.33(c)(4)				
25	DRAINFIELD Absorptive Drainline 3" PVC or 4" PVC						
26	DRAINFIELD Area Installed						
27	DRAINFIELD Level to within 1 inch per 25 feet and within 3 inches over entire excavation		285.33(b)(1)(A)(v)				
28	DRAINFIELD Excavation Width DRAINFIELD Excavation Depth DRAINFIELD Excavation Separation DRAINFIELD Depth of Porous Media DRAINFIELD Type of Porous Media						
29	DRAINFIELD Pipe and Gravel - Geotextile Fabric in Place		285.33(b)(1)(E)				
30	DRAINFIELD Leaching Chambers DRAINFIELD Chambers - Open End Plates w/Splash Plate, Inspection Port & Closed End Plates in Place (per manufacturers spec.)		285.33(c)(2)				
31	LOW PRESSURE DISPOSAL SYSTEM Adequate Trench Length & Width, and Adequate Separation Distance between Trenches		285.33(d)(1)(C)(i)				

**Comal County Environmental Health
OSSF Inspection Sheet**

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
32	EFFLUENT DISPOSAL SYSTEM Utilized Only by Single Family Dwelling EFFLUENT DISPOSAL SYSTEM Topographic Slopes < 2.0% EFFLUENT DISPOSAL SYSTEM Adequate Length of Drain Field (1000 Linear ft. for 2 bedrooms or Less & an additional 400 ft. for each additional bedroom) EFFLUENT DISPOSAL SYSTEM Lateral Depth of 18 inches to 3 ft. & Vertical Separation of 1ft on bottom and 2 ft. to restrictive horizon and ground water respectfully EFFLUENT DISPOSAL SYSTEM Lateral Drain Pipe (1.25 - 1.5" dia.) & Pipe Holes (3/16 - 1/4" dia. Hole Size) 5 ft. Apart		285.33(b)(3)(A) 285.33(b)(3)(A) 285.33(b)(3) (B)285.91(13) 285.33(b)(3)(D) 285.33(b)(3)(F)				
33	AEROBIC TREATMENT UNIT Is Aerobic Unit Installed According to Approved Guidelines.		285.32(c)(1)				
34	AEROBIC TREATMENT UNIT Inspection/Clean Out Port & Risers Provided AEROBIC TREATMENT UNIT Secondary restraint system provided AEROBIC TREATMENT UNIT Riser permanently fastened to lid or cast into tank AEROBIC TREATMENT UNIT Riser cap protected against unauthorized intrusions						
35	AEROBIC TREATMENT UNIT Chlorinator Properly Installed with Chlorine Tablets in Place.						
36	PUMP TANK Is the Pump Tank an approved concrete tank or other acceptable materials & construction PUMP TANK Sampling Port Provided in the Treated Effluent Line PUMP TANK Check Valve and/or Anti- Siphon Device Present When Required PUMP TANK Audible and Visual High Water Alarm Installed on Separate Circuit From Pump						
37	PUMP TANK Inspection/Clean Out Port & Risers Provided PUMP TANK Secondary restraint system provided PUMP TANK Riser permanently fastened to lid or cast into tank PUMP TANK Riser cap protected against unauthorized intrusions						
38	PUMP TANK Secondary restraint system provided						
39	PUMP TANK Electrical Connections in Approved Junction Boxes / Wiring Buried						

**Comal County Environmental Health
OSSF Inspection Sheet**

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
40	APPLICATION AREA Distribution Pipe, Fitting, Sprinkler Heads & Valve Covers Color Coded Purple?		285.33(d)(2)(G)(iii)(II) 285.33(d)(2)(G)(iii)(III) 285.33(d)(2)(G)(v) 285.33(d)(2)(G)(iii) 285.33(d)(2)(G)(iv) 285.33(d)(2)(G)(i) 285.33(d)(2)(G)(ii) 285.33(d)(2)(G)(iii)(I)				
41	APPLICATION AREA Low Angle Nozzles Used / Pressure is as required APPLICATION AREA Acceptable Area, nothing within 10 ft of sprinkler heads? APPLICATION AREA The Landscape Plan is as Designed		285.33(d)(2)(G) (i)285.33(d)(2) (A)285.33(d)(2)(F)				
42	APPLICATION AREA Area Installed						
43	PUMP TANK Meets Minimum Reserve Capacity Requirements						
44	PUMP TANK Material Type & Manufacturer						
45	PUMP TANK Type/Size of Pump Installed						



COMAL COUNTY

ENGINEER'S OFFICE

Permit of Authorization to Construct an On-Site Sewage Facility Permit Valid For One Year From Date Issued

Permit Number: 115414
Issued This Date: 11/17/2022
This permit is hereby given to: Anthony Collinsworth

To start construction of a private, on-site sewage facility located at:

1755 LIVE OAK DR
CANYON LAKE, TX 78133

Subdivision: Tamarack Shores
Unit: 2
Lot: 56R
Block: N/A
Acreage: 0.4600

APPROVED MINIMUM SIZES AS PER ATTACHED DESIGN

Type of System: Aerobic
Drip Irrigation

This permit gives permission for the construction of the above referenced on-site facility to commence. Installation must be completed by an installer holding a valid registration card from the Texas Commission on Environmental Quality (TCEQ). Installation and inspection must comply with current TCEQ and Comal County requirements.

Call (830) 608-2090 to schedule inspections.

RECEIVED

By Kathy Griffin at 3:56 pm, Oct 31, 2022



COMAL COUNTY

ENGINEER'S OFFICE

OSSF DEVELOPMENT APPLICATION CHECKLIST

Staff will complete shaded items

		115414
<i>Date Received</i>	<i>Initials</i>	<i>Permit Number</i>

Instructions:

Place a check mark next to all items that apply. For items that do not apply, place "N/A". This OSSF Development Application Checklist **must** accompany the completed application.

OSSF Permit

- Completed Application for Permit for Authorization to Construct an On-Site Sewage Facility and License to Operate
- Site/Soil Evaluation Completed by a Certified Site Evaluator or a Professional Engineer
- Planning Materials of the OSSF as Required by the TCEQ Rules for OSSF Chapter 285. Planning Materials shall consist of a scaled design and all system specifications.
- Required Permit Fee - See Attached Fee Schedule
- Copy of Recorded Deed
- Surface Application/Aerobic Treatment System
 - Recorded Certification of OSSF Requiring Maintenance/Affidavit to the Public
 - Signed Maintenance Contract with Effective Date as Issuance of License to Operate

I affirm that I have provided all information required for my OSSF Development Application and that this application constitutes a completed OSSF Development Application.

Signature of Applicant

Date

___ COMPLETE APPLICATION

Check No. _____ Receipt No. _____

INCOMPLETE APPLICATION
____ (Missing Items Circled, Application Refused)



COMAL COUNTY
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

195 DAVID JONAS DR
NEW BRAUNFELS, TX 78132
(830) 608-2090
WWW.CCEQ.ORG

Date 10/17/2022 Permit Number 115414

1. APPLICANT / AGENT INFORMATION

Owner Name Anthony Collinsworth Agent Name John J. Haag, P.E.
Mailing Address 156 Canyon Bend Agent Address 15831 Secret Trails
City, State, Zip Canyon Lake, Texas 78133 City, State, Zip San Antonio, Tx. 78247
Phone # 830-935-4980 Phone # 210-705-4268
Email tonycollinsworth2002@yahoo.com Email jhaag@satx.rr.com

2. LOCATION

Subdivision Name Tamarack Shores Unit 2 Lot 56R Block _____
Survey Name / Abstract Number _____ Acreage 0.294591
Address 1755 and 1767 Live Oak Dr. City Canyon Lake State Tx. Zip 78133

3. TYPE OF DEVELOPMENT

Single Family Residential
Type of Construction (House, Mobile, RV, Etc.) 2 - Houses
Number of Bedrooms 3-each house
Indicate Sq Ft of Living Area 950-ea. house

Non-Single Family Residential
(Planning materials must show adequate land area for doubling the required land needed for treatment units and disposal area)
Type of Facility _____
Offices, Factories, Churches, Schools, Parks, Etc. - Indicate Number Of Occupants _____
Restaurants, Lounges, Theaters - Indicate Number of Seats _____
Hotel, Motel, Hospital, Nursing Home - Indicate Number of Beds _____
Travel Trailer/RV Parks - Indicate Number of Spaces _____
Miscellaneous _____

Estimated Cost of Construction: \$ 150000 (Structure Only)

Is any portion of the proposed OSSF located in the United States Army Corps of Engineers (USACE) flowage easement?

Yes No (If yes, owner must provide approval from USACE for proposed OSSF improvements within the USACE flowage easement)

Source of Water Public Private Well

4. SIGNATURE OF OWNER

- By signing this application, I certify that:
- The completed application and all additional information submitted does not contain any false information and does not conceal any material facts. I certify that I am the property owner or I possess the appropriate land rights necessary to make the permitted improvements on said property.
- Authorization is hereby given to the permitting authority and designated agents to enter upon the above described property for the purpose of site/soil evaluation and inspection of private sewage facilities..
- I understand that a permit of authorization to construct will not be issued until the Floodplain Administrator has performed the reviews required by the Comal County Flood Damage Prevention Order.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

[Signature] Date 10-17-2022



COMAL COUNTY
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

195 DAVID JONAS DR
NEW BRAUNFELS, TX 78132
(830) 608-2090
WWW.CCEO.ORG

Planning Materials & Site Evaluation as Required Completed By John J. Haag, P.E.

System Description Proprietary aerobic drip disposal

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 240 ~~500~~ 360 EA HOUSE min. ea. house Absorption/Application Area (Sq Ft) 1200 min ea. house

Gallons Per Day (As Per TCEQ Table III) 240 ea. house

(Sites generating more than 5000 gallons per day are required to obtain a permit through TCEQ.)

Is the property located over the Edwards Recharge Zone? Yes No

(If yes, the planning materials must be completed by a Registered Sanitarian (R.S.) or Professional Engineer (P.E.))

Is there an existing TCEQ approved WPAP for the property? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing WPAP.)

If there is no existing WPAP, does the proposed development activity require a TCEQ approved WPAP? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed WPAP. A Permit to Construct will not be issued for the proposed OSSF until the proposed WPAP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? Yes No

Is there an existing TCEQ approval CZP for the property? Yes No

(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? Yes No

If yes, indicate the city: _____

By signing this application, I certify that:

- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

John J. Haag, P.E.
Signature of Designer

04/05/23
Date

RECEIVED

By Brandon M. Olvera at 8:31 am, Nov 04, 2022



202206047228 11/02/2022 11:52:53 AM 1/1

L
OS

THE COUNTY OF COMAL

STATE OF TEXAS

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

According to Texas Commission on Environmental Quality (TCEQ) Rules for On- Site Sewage Facilities, this document is filed in the Deed Records of Comal County, Texas.

I

The Texas Health and Safety Code, Chapter 366 authorizes the TCEQ to regulate on-site sewage facilities (OSSFs). Additionally, the Texas Water Code (TWC), § 5.012 and § 5.013, gives the TCEQ primary responsibility for implementing the laws of the State of Texas relating to water and adopting rules necessary to carry out its powers and duties under the TWC. The TCEQ, under the authority of the TWC and the Texas Health and Safety Code, requires owner's to provide notice to the public that certain types of OSSFs are located on specific pieces of property. To achieve this notice, the TCEQ requires a recorded affidavit. Additionally, the owner must provide proof of the recording to the OSSF permitting authority. This recorded affidavit is not a representation or warranty by the TCEQ of the suitability of this OSSF, nor does it constitute any guarantee by the TCEQ that the appropriate OSSF was installed.

II

An OSSF requiring a maintenance contract, according to 30 Texas Administrative Code §285.91(12) will be installed on the property described as (insert legal description):

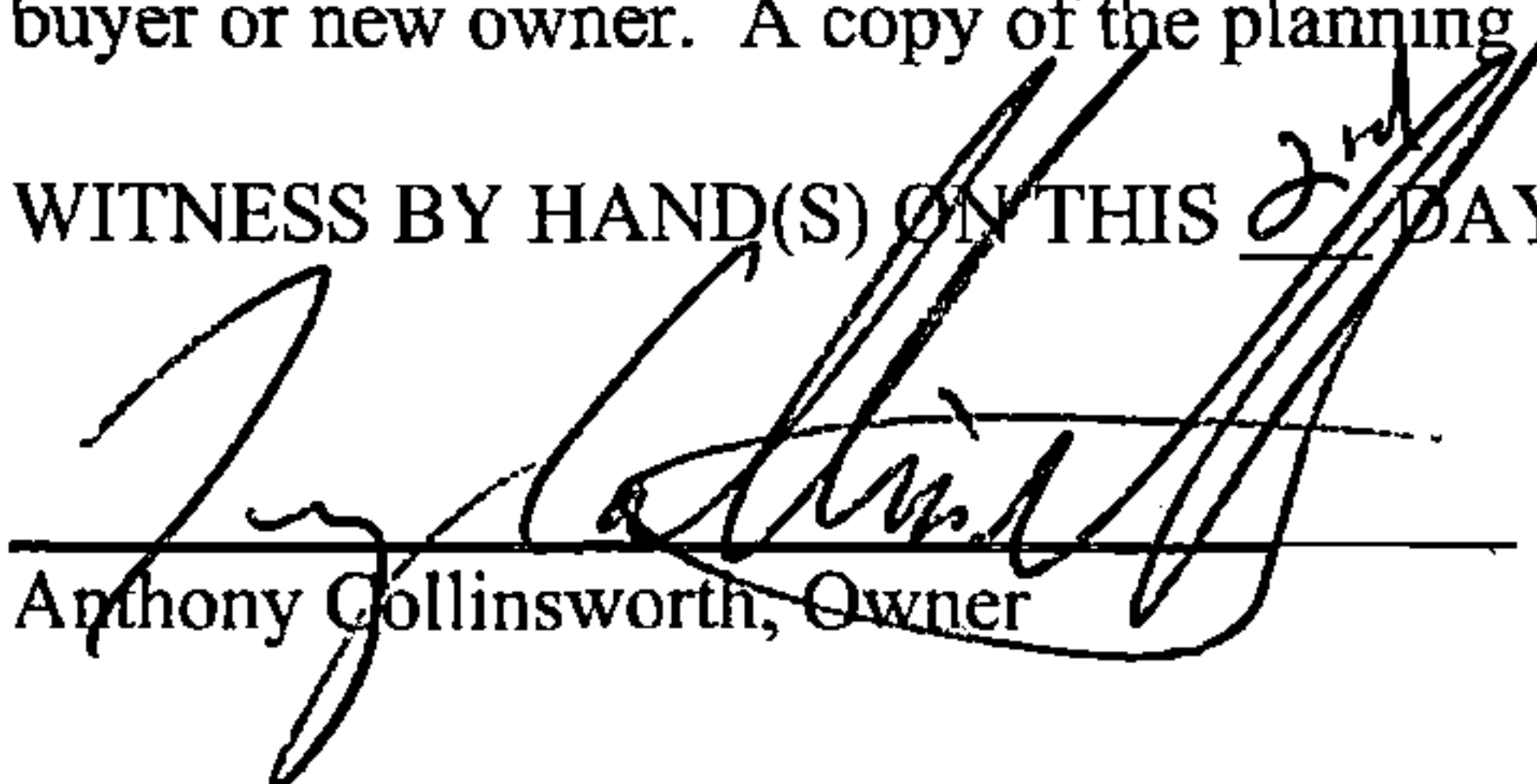
Legal Description: Lot 56R Tamarack Shores Section II on Canyon Lake

This property is owned by: Anthony Collinworth

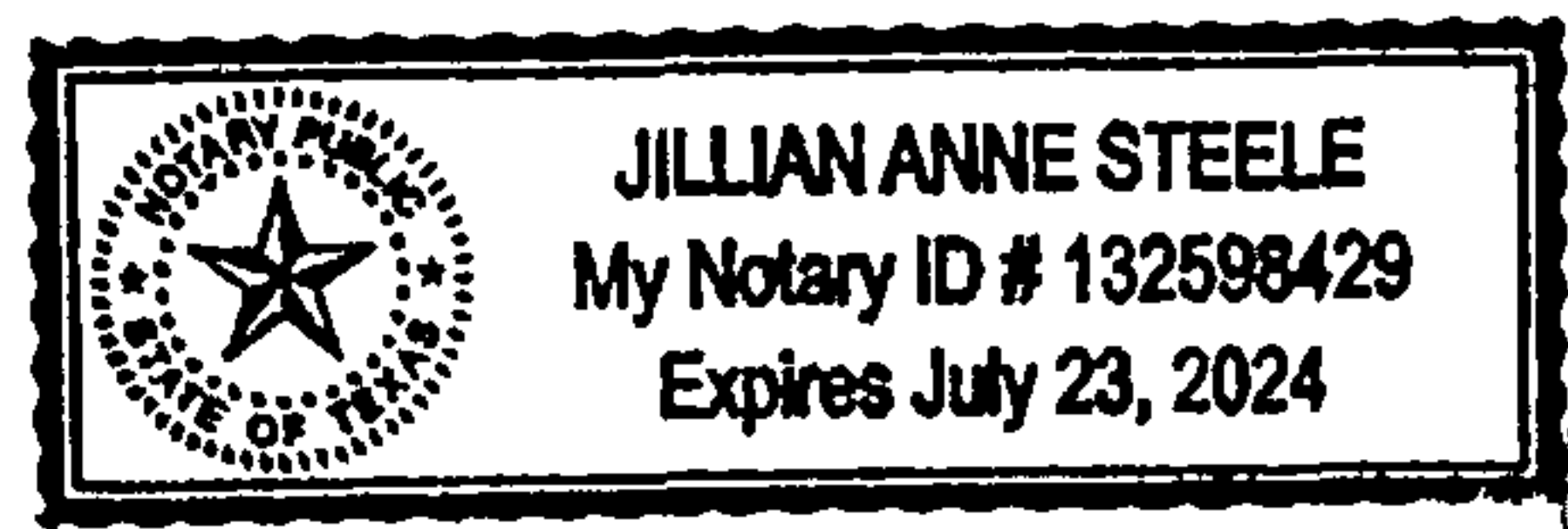
This OSSF must be covered by a continuous maintenance contract for the first two years. After the initial two year service policy, the owner of an aerobic system for a single family residence shall either obtain a maintenance contract within 30 days or maintain the system personally.

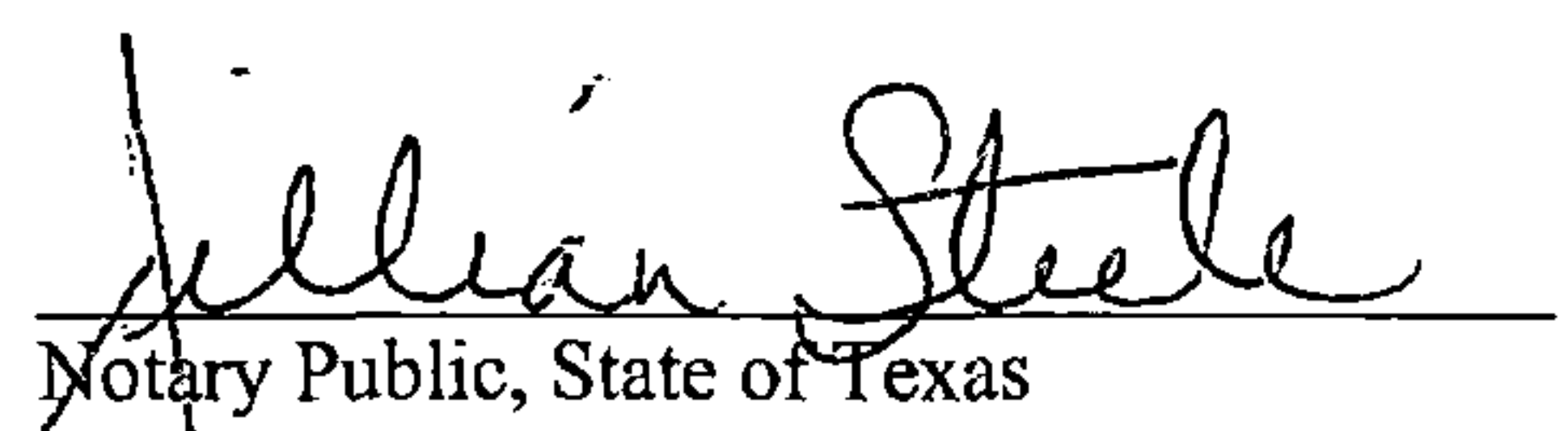
The owner will, upon any sale or transfer of the above-described property, request a transfer of the permit for the OSSF to the buyer or new owner. A copy of the planning materials for the OSSF can be obtained from Comal County.

WITNESS BY HAND(S) ON THIS 2nd DAY OF November, 2022.


Anthony Collinworth, Owner

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 2nd DAY OF November, 2022.




Notary Public, State of Texas

Filed and Recorded
Official Public Records
Bobbie Koepf, County Clerk
Comal County, Texas
11/02/2022 11:52:53 AM
TERRI 1 Page(s)
202206047228

DAVID WINTERS SEPTICS, LLC
PO BOX 195
SPRING BRANCH, TX 78070
830-935-2477 OFFICE
830-935-2477 FAX
wintersseptics@gvvc.com

MP0001686

Routine Maintenance and Inspection Agreement

This Work-for-Hire Agreement (hereafter referred to as this "Agreement") is entered into, by, and between Anthony Collinsworth (referred to as "Client") and David Winters Septic's, LLC, Inc. (hereafter referred to as "Contractor") located at 1755 and 1767 Live Oak, Canyon Lake, Tx. 78133 Date beginning on LTO and contract ending _____

By this agreement the Contractor agrees to render professional service, as described herein, and the Client agrees to fulfill the terms of this Agreement as described herein.

This agreement will provide for all required inspections, testing, and service for your Aerobic Treatment System. The policy will include the following:

1. Three (3) inspections per year/service calls (at least one every four months), for a total of six (6) over the two-year period, including inspection, adjustment, and servicing of the mechanical, electrical and other applicable component parts to ensure proper function. This includes inspecting control panel, air pumps, air filters, diffuser operation, and replacing or repairing any component not found to be functioning correctly. Any alarm situations affecting the proper function of the Aerobic process will be addressed within a 48-hour time frame. This contract does not include labor on warranty and non-warranty parts.
2. An effluent quality inspection consisting of a visual check of color, turbidity, scum overflow and examination for odors. A test for chlorine residual and pH will be taken and reported as necessary.
3. If any improper operation is observed, which cannot be corrected at the time of the service visit, you will be notified on your inspection report.
4. The Client is responsible for the chlorine tablets and/or liquid chlorine; they must be filled before or during the service visit.
5. Any additional visits, inspections or sample collection required by specific Municipalities, Water/River Authorities, and County Agencies the TCEQ or any other authorized regulatory agency in your jurisdiction will not be covered by this policy.

At the conclusion of the initial service policy, our company will make available, for purchase on an annual basis, a continuing service policy cover NORMAL inspection, maintenance and repair.

The Homeowners Manual must be strictly followed or warranties are subject invalidation. Pumping of sludge build up is not covered by this policy and will result in additional charges.

This agreement does not cover any labor or parts for items which must be replaced due to acts of God, i.e., lightning strikes, high winds, flooding, freezing.

This agreement DOES NOT COVER materials or parts which must be replaced due to misuse or abuse of the system. These include but are not limited to: Sewage flows exceeding the recommended daily hydraulic design capabilities, Disposal of Non-Biodegradable materials, such as chemicals, grease or oil, sanitary napkins, tampons, baby wipes, disposable diapers, Clogs in the line between the house and the tank.

This agreement DOES NOT COVER LABOR OR PARTS for out- of- warranty items.

ACCESS BY CONTRACTOR

The contractor or anyone authorized by the contractor may enter the property at reasonable times without prior notice for the purpose of service described above.

PAYMENT AGREEMENT

The client will pay compensation to the contractor for the services in the amount of _____. This compensation shall be payable in one lump sum payment upon acceptance of this agreement. Payments not received within 30 days of the above described due date will be subject to a \$25.00 late penalty.

TERMINATION OF THIS AGREEMENT

Either party may terminate this agreement within 10 days of written notice in the event of substantial failure to perform in accordance with its terms by other party without fault of the terminating party. If this agreement is terminated, the contractor will immediately notify the appropriate health authority.

LIMIT OF LIABILITY

The Contractor will not be liable for indirect, consequential, incidental or punitive damages, whether in contract or any other theory. In no event shall the Contractor's liability for direct damages exceed the price for the services described in this agreement.

Permit # _____

The effective date of this initial maintenance agreement shall be the date the license to operate is issued.

Client

Anthony Collinsworth

Name

156 Canyon Bend

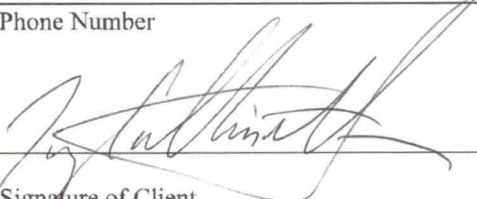
Address

Canyon Lake, Texas 78133

City/State/Zip Code

830-935-4958

Phone Number



Signature of Client

Contractor

David Winters Septic's, LLC, Inc. License #: OS5924

P.O. Box 195

Spring Branch, Texas 780170

Office 830-935-2477 Fax 830-935-2477

By: 

Signature of Contractor

ON-SITE SEWAGE FACILITY (OSSF) SITE EVALUATION FORM

1. OWNER INFORMATION	
Property Owner's Full Legal Name: Anthony Collinsworth	

2. PROPERTY INFORMATION				
City: Canyon Lake			Zip Code: 78133	
Legal Description:				
Lot: 56R	Block:	Subdivision: Tamarack Shores	Section: 2	Phase:
If not located in subdivision: Survey:				
Abstract:			Recorded (Vol/Pg):	

3. SITE EVALUATION INFORMATION:	
Name of Site Evaluator: John J. Haag	PE #: 90158
Date Performed: 09/29/2022	Proposed Excavation Depth: Surface

4. REQUIREMENTS:

- At least two soil evaluations must be performed on the site at opposite ends of the proposed disposal area. Locations of soil evaluations must be shown on the application site drawing or designer's site drawing.
- For subsurface disposal, soil evaluations must be performed to a depth of at least 2 feet below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.

Soil Profile Hole Number: 1					
Depth (ft.)	Textural Class	Gravel Analysis	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations
0	III	<30%	No	Yes	Limestone @ surface
1					
2					
3					
4					
5					

ON-SITE SEWAGE FACILITY (OSSF) SITE EVALUATION FORM

Soil Profile Hole Number: 2					
Depth (ft.)	Textural Class	Gravel Analysis	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations
0	III	<30%	No	Yes	Limestone @ surface
1					
2					
3					
4					
5					

5. FEATURES OF SITE AREA:

- | | |
|---|---|
| Presence of 100 year flood zone: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Presence of adjacent ponds, streams or water impoundments | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Existing or proposed water well in nearby area | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Organized sewage available to lot or tract | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Recharge features within 150 feet | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

6. I certify that the above statements are true and correct and are based on my own field observations.



John J. Haag, P.E.

10/31/2022

Haag Engineering Consultants, Inc.
Firm: F-5789

PIPE AND FITTINGS:

All supply and return pipes and fittings for the drip tubing system shall be 1" schedule 40 pvc. All joints shall be sealed with approved solvent type pvc cement. Clipper type cutters are recommended to prevent pvc burrs during cutting of pipes causing possible plugging.

Designed in accordance with Chapter 285, Subchapter D, §285 and §285.40 Texas Commission on Environmental Quality (Revised March 2013).



02/14/2023

Haag Engineering Consultants, Inc.
Firm No.: F-5786

**AEROBIC TREATMENT
DRIP TUBING SYSTEM
FOR:
LOT 56R (1755 AND 1767 LIVE OAK DR.)
TAMARACK SHORES, SECTION 2**

SITE DESCRIPTION:

Located in Tamarack Shores, Section 2, lot 56R, the proposed separate OSSF systems will serve two 3-bedroom, 950 s.f. residences situated with soils per the Site Evaluation report. An aerobic treatment plant utilizing a two-zone drip irrigation field was chosen as the most appropriate system to serve the conditions on this lot.

PROPOSED SYSTEMS:

A 3 or 4 inch SCH-40 pipe discharges from each residence into Solar Aerobic SA800-1000PT (800 gpd) aerobic treatment plant containing a 461 gallon pretreatment tank and 1000 gallon pump chamber. The pump chamber contains a 0.5 HP Franklin C1-Series-20XC1-05P4-2W115 submersible well pump. The well pump is activated by a Intermatic Model FM1D20-120 time controller (pin timer shall not be used) allowing the distribution ten times per day with the float setting at min. 480 gallons. A high level audible and visual alarm will activate should the pump fail. Distribution is through self-flushing 100-micron Arkal Disk filter then through 1" SCH-40 manifolds to minimum 2400 sf drip tubing field with Netifim Bioline drip lines approximately two feet apart with 0.61 gph emitters set every two feet as per the attached schematic. A pressure regulator Model PMR35MF 35 psi installed in the pump tank on the manifolds to the field will maintain pressure at 35 psi/zone. 1" SCH-40 return lines are installed to continuously flush the systems by cycling 1" ball valves. Solids caught in the disk filter are flushed each cycle back to the trash tank. Agricultural Products, Inc. (Model #VBK-1) 1" PVC vacuum breakers installed on the highest points on each manifold zone will prevent siphoning of effluent from higher to lower parts in the field. The field areas shall be scarified and then built up so that a minimum of 12" of Type II or III soil is above any bedrock or type IV soils (9" thickness includes any existing Type II or III soils within disposal area) then the drip tubing shall be laid and capped with a minimum of 6" of Type II or Type III soil (NOT SAND). The field areas shall be covered with a Bermuda seeded erosion control mats prior to system startups. The tanks must have at grade risers on each opening with watertight caps that must be 65# or have padlocks or can only be removed with tools – all risers shall meet the minimum requirements of 30 TAC 285 effective 12/29/16. Secondary plugs, caps or suitable restraints must be provided below riser caps to prevent tank entry should the caps be damaged or removed.

DESIGN SPECIFICATIONS:

Daily flow = $Q=480$ gpd
Pretreatment tank size: 461 gal
Plant size: SA800-1000PT; 800 gpd (TCEQ approved)
Pump tank size: 1000 gal
Min. Reserve capacity after high level: 160 gal (1/3 day req'd)
Application rate: $Ra=0.2$ gal/sf
Total absorption area: $Q/Ra = \text{min. } 2,400$ sf (2,464 sf actual)
Total linear feet of drip tubing: 1,232 Netifim Bioline drip tubing
Pump requirement: 0.5 HP Franklin C1-Series-20XC1-05P4-2W115 ea. tank

Note: The calc's shown on Page 2 of 3 apply to both 1755 and 1767 Live Oak Drive served by one tank and one zone

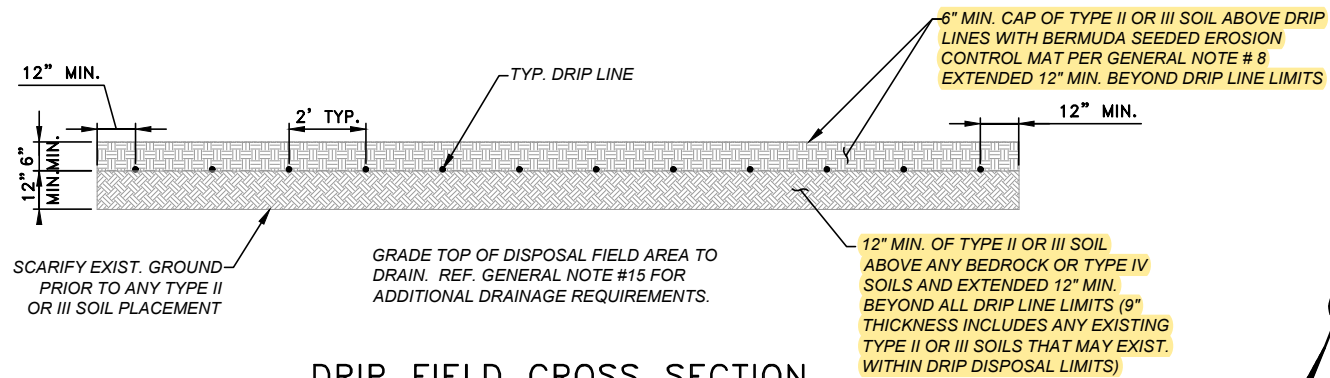
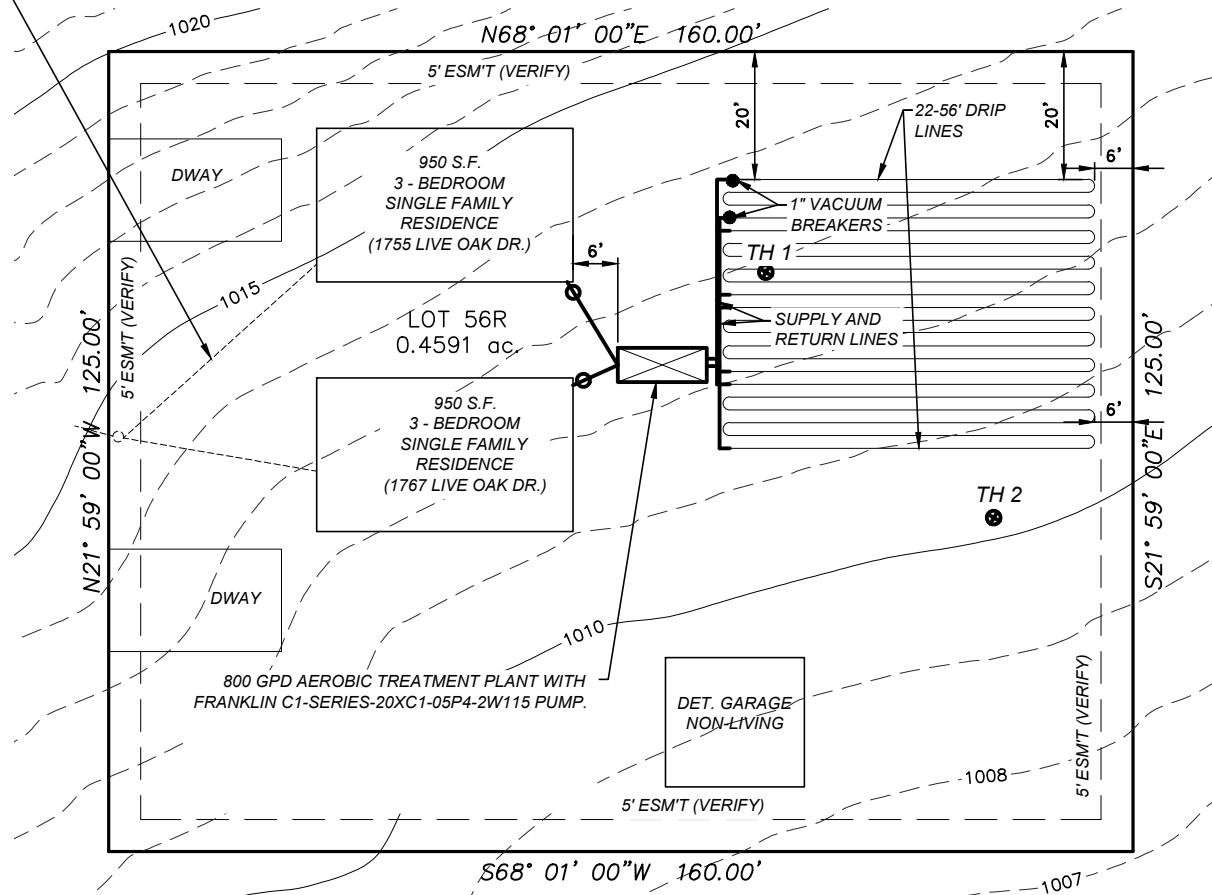
Calculation Outputs	
Total System Information	
Application Area Provided (square feet)	2,464
Total Amount of Bioline [®] Required (feet)	1,232
Total Number of Emitters in the Dripfield	616
Zone Information	
Number of Zones	1
Amount of Bioline [®] Per Zone (feet)	1,232
Number of Emitters Per Zone	616
Minimum Number of Laterals Per Zone	2
Maximum Number of Laterals Per Zone	9
Number of Laterals That Will be Used	4
Maximum Length of Bioline [®] Laterals Based on Inlet Pressure	391
Flow Rate Per Zone (GPM)	6.3
Holding Capacity of Dripperline Per Zone (Gallons)	16.4
Additional Flow Requirement to Accommodate Flushing Velocity	6.4
Holding Capacity of Piping	
Holding Capacity (Gallons) of Supply Line & Supply & Flush Manifolds	4.5
Holding Capacity (Gallons per Zone) of Bioline	16.4
Holding Capacity (Gallons) of Supply Line, Manifolds and Dripperline	20.9
Head Loss Data - Dosing & Flushing Cycle	
Friction Loss per 100' (psi) in Supply Line & Manifolds	3.7
Velocity (fps)	4.7
Friction Loss in Supply Line & Supply Manifolds (psi)	3.7
Friction Loss in Supply Line & Supply Manifolds (Feet of Head)	8.6
Additional Pressure Required for Return Manifold and Piping to Tank (psi)	3.8
Additional Pressure Required for Return Manifold and Piping to Tank (Feet of Head)	8.7
TDH (Total Dynamic Head) in Feet of Head	105.1
Control Settings Information	
Total System Runtime Per Day (Minutes)	77
Total Runtime Per Zone Per Day (Minutes)	77
Total System Dosing Events Per Day	10
Runtime For Each Dose (Minutes)	8
Off Time Between Doses in the Same Zone (Hours to nearest 0.1)	2.3
Miscellaneous Information	
Dosing Volume Per Emitter Per Dose (gallons)	0.08
Inches Per Week of Dosing	2.19
Volume of a Single Dose (gallons)	50.1
Pump Selection	
Pump Flow Rating (GPM)	12.7
TDH (Total Dynamic Head in Feet of Head)	105.1
Pump Manufacturer	Franklin
Pump Model	20XC1-05P4-2W115

GENERAL NOTES:

- NO VEHICULAR TRAFFIC IS ALLOWED ON ANY PORTION OF THE DISPOSAL SYSTEM, UNLESS THE DESIGN SPECIFIES OTHERWISE.
- PIPE ALIGNMENT TO THE DISPOSAL BEDS MAY BE ALTERED AS REQUIRED. ANY CHANGE FROM THE PLANS MUST BE APPROVED BY THE ENGINEER AND THE APPROPRIATE GOVERNMENTAL AGENCY(IES).
- CONTRACTOR SHALL PROTECT TREES WHICH ARE NOT IN THE EXCAVATED CONSTRUCTION AREAS. CONTRACTOR SHALL MINIMIZE ROOT DAMAGE AND REASONABLY ADHERE TO THE DESIGN.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING A MINIMUM OF 1/4" PER FOOT OF FALL FROM THE BUILDING TO THE SEPTIC TANK.
- NOT AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED OVER THE DISPOSAL AREAS. ANY WATERING IN THESE AREAS SHALL BE DONE BY HAND AND ONLY WHEN REQUIRED TO MAINTAIN GRASS COVER.
- ALL CONSTRUCTION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY - TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AND ANY APPLICABLE LOCAL BUILDING AND SAFETY CODES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS SYSTEM.
- THE DRIP FIELD SHALL BE VEGETATED WITH A BERMUDA SEEDER EROSION CONTROL MAT.
- FIELDS MUST BE MOWED AT REGULAR INTERVALS. FAILURE TO PROPERLY MAINTAIN VEGETATIVE COVER MAY RESULT IN SYSTEM FAILURE AND SHALL BE THE RESPONSIBILITY OF THE OWNER.
- ALL PIPES SHALL BE SCHEDULE 40 PVC OR APPROVED EQUAL, UNLESS NOTED OTHERWISE. ALL JOINTS SHALL BE CLEANED WITH THE APPROPRIATE SOLVENT AND GLUED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- ALL POTABLE WATER LINES SHALL BE A MINIMUM OF 10 FEET FROM ANY DISPOSAL SYSTEM OR SEWERAGE PIPE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF WATER LINES LESS THAN 10 FEET FROM THE DISPOSAL AREA.
- HIGH WATER ALARM SHALL BE LOCATED IN A NOTICEABLE LOCATION. THE ALARM SHALL BE A VISUAL AND AUDIBLE ALARM AND WIRED ON A SEPARATE CIRCUIT FROM THE PUMPS. ALL EXTERIOR CONTROLS AND CONNECTIONS SHALL BE ENCLOSED IN A WEATHER-PROOF HOUSING. ELECTRICAL CONSTRUCTION SHALL COMPLY WITH ALL LOCAL ELECTRICAL AND BUILDING CODES.
- NO EXCAVATION IS PERMITTED NEAR THE DISPOSAL FIELDS THAT WILL RESULT IN THE NONCOMPLIANCE OF APPLICABLE SETBACKS STATED IN THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY.
- ONLY GOOD QUALITY SANDY LOAM SHALL BE APPLIED OVER THE DISPOSAL FIELDS. CLAY LOAM IS UNACCEPTABLE AND WILL CAUSE SYSTEM FAILURE. SANDY LOAM SHALL BE DEFINED AS SHOWN IN TABLE VI (USDA SOIL TEXTURAL CLASSIFICATIONS) OF THE RULES AND REGULATIONS OF THE TCEQ. THE INSTALLER IS RESPONSIBLE FOR VERIFYING THE QUALITY OF EACH LOAD OF LOAM PLACED ON THE SYSTEM.
- STORM WATER (RAINFALL RUNOFF) SHOULD NOT BE ALLOWED TO FLOW OVER THE DISPOSAL FIELDS OR THE TANKS. DIVERSION BERMS, SWALES AND/OR RAIN GUTTERS SHOULD BE INSTALLED AS NECESSARY TO PREVENT SUCH RUNOFF.
- THE CONTRACTOR IS RESPONSIBLE FOR STAKING AND VERIFYING THE GRADES PRIOR TO EXCAVATION. ANY DISCREPANCIES OF MORE THAN 6 INCHES SHALL BE REPORTED TO THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL NOT DEVIATE FROM THESE PLANS WITHOUT THE WRITTEN CONSENT OF THE APPROPRIATE AUTHORITY AND THE ENGINEER.
- CONTRACTOR SHALL REPORT TO THE ENGINEER ANY ELEVATION DIFFERENCES GREATER THAN 4 FEET BETWEEN THE HIGHEST AND LOWEST TRENCH IN THE FIELD. THIS SHOULD BE CHECKED PRIOR TO INSTALLING THE LATERALS AND MANIFOLD.
- THIS DISPOSAL SYSTEM HAS BEEN DESIGNED TO OPERATE PROPERLY AT SPECIFICATIONS NOTED IN THESE PLANS. ALTERATIONS TO THE SYSTEM BY THE OWNER, INCLUDING BUT NOT LIMITED TO LANDSCAPING, DRAINAGE, BUILDING AND/OR WATER USAGE, MAY CAUSE PREMATURE FAILURE AND SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PLUMBING FIXTURES ARE CONNECTED TO THE DESIGNATED SEPTIC TANK(S). LOW FLOW TOILETS (1.6 GAL), SHOWERHEADS AND FAUCETS SHALL BE USED IN THE STRUCTURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR JOBSITE SAFETY AND PROTECTION OF THE PUBLIC FROM INJURY DURING CONSTRUCTION. THE OWNER SHALL BE RESPONSIBLE FOR THE PREVENTION OF PERSONAL INJURY TO ANYONE ON OR NEAR THE DISPOSAL SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL TANKS HAVE ADEQUATE STRENGTH AND INTEGRITY TO PERFORM SATISFACTORILY AS SHOWN ON THESE PLANS.
- THE WASTEWATER FLOW TO THE SEPTIC SYSTEM SHALL NOT EXCEED THE DESIGN FLOW SHOWN ON THIS PLAN.

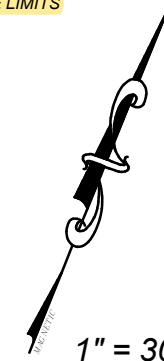
ASSUMED LOCATION OF WATER METER SERVICE LINE ALIGNMENT FROM METER TO HOUSE. NOTE: WATER SERVICE LINE SHALL BE SLEEVED WITH SCH. 40 PVC WHEREVER IT IS 10' OR CLOSER TO PROPOSED OSSF DISPOSAL AREA LIMITS AND/OR ANY SYSTEM COMPONENT(S). EXTEND PVC SLEEVING 10' MIN. BEYOND EACH SIDE OF OSSF DISPOSAL AREA LIMITS AND/OR SYSTEM COMPONENTS.

LIVE OAK DR.



DRIP FIELD CROSS SECTION

SCALE: 1"=5'



1" = 30'



03/31/23

PLAN REVISION NOTE:

THIS PLAN WAS REVISED ON 03/31/2023 TO REFLECT, AS MUCH AS POSSIBLE, AS-BUILT INFORMATION PROVIDED TO HAAG ENGINEERING CONSULTANTS BY THE SEPTIC SYSTEM INSTALLER. HAAG ENGINEERING CONSULTANTS HAS NOT FIELD VERIFIED ANY SEPTIC SYSTEM AS-BUILT CONDITIONS FOR THIS PROJECT AND DOES NOT ATTEST TO ITS VALIDITY AND/OR ACCURACY.

ADD'L. NOTES:

- DESIGN DAILY WASTEWATER FLOW = 240 GPD EA. HOUSE (WATER SAVING DEVICES WERE ASSUMED FOR SEPTIC SYSTEM DESIGN).
- TOPOGRAPHIC DATA SOURCE: FEMA 2011 DATA
- INSTALLER SHALL VERIFY ALL EASEMENTS, SETBACKS AND PROPERTY LINE BEARINGS AND DISTANCES PRIOR TO CONSTRUCTION.

NOTE: OSSF IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE OR FEMA 100 YEAR FLOODPLAIN. SITE EVALUATION BY JOHN J. HAAG, P.E. ON 09/29/22

DRAWN BY: JJH
 CHECKED BY: JJH
 DATE: 03/31/23
 JOB NO. SUNNY22008

SHEET 1 OF 1



15831 SECRET TRAILS
 SAN ANTONIO, TEXAS 78247
 FIRM: F-5789

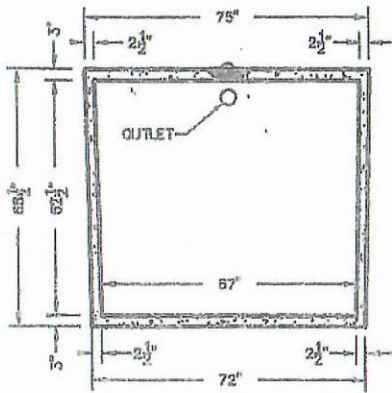
TEL: (210) 705-4268

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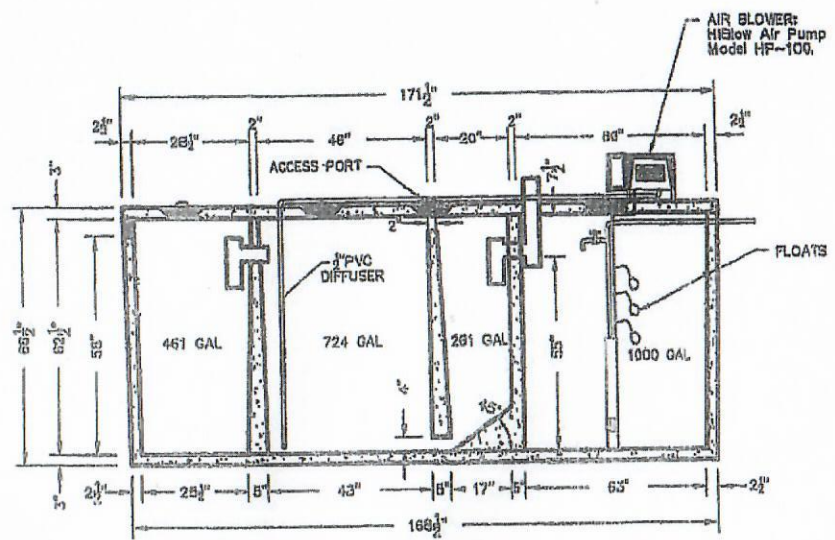
OSSF LAYOUT
LOT 56R, 1755 AND 1767 LIVE OAK DR.
TAMARACK SHORES, SECTION 2
CANYON LAKE, TEXAS

REVISED

11:03 am, Feb 17, 2023



SECTION B-B

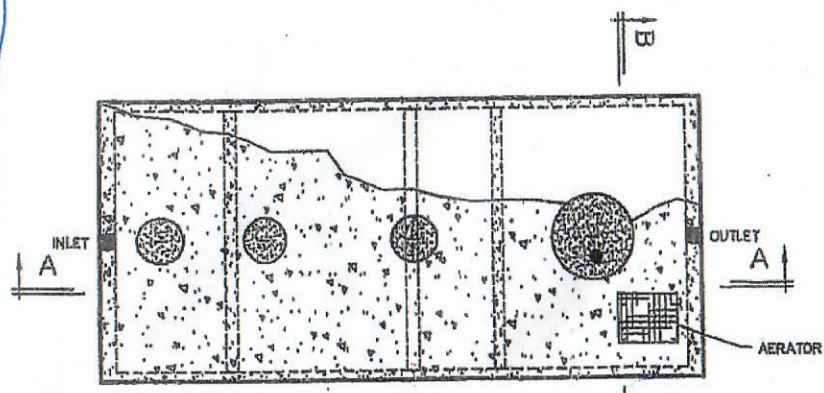


SECTION A-A

Pump float settings for 480 gpd design flow and min. 160 gal reserve w/Franklin 20CX1-05P4-2W115 bottom suction pump:
Pump off position: 12" above tank bott. (approx. 218 gal.)
Pump on position: 39" above tank bott. (approx. 709 gal)
Alarm on position: 45" above tank bott. (approx. 818 gal)
Approx. 182 gal. reserve at 55" above tank bott.



J.J. Haag, P.E.
02/14/23



PLAN VIEW

REVISION	DATE	BY	DESCRIPTION

MODEL SA800-1000PT
SEWER TREATMENT SYSTEM

SOLAR AEROBIC
6754 HWY 90 EAST
LAKE CHARLES, LA 70615
PHONE: (337) 439-0680

TREATMENT PLANT
SA-5
JULY 2011
NONE

C1 SERIES

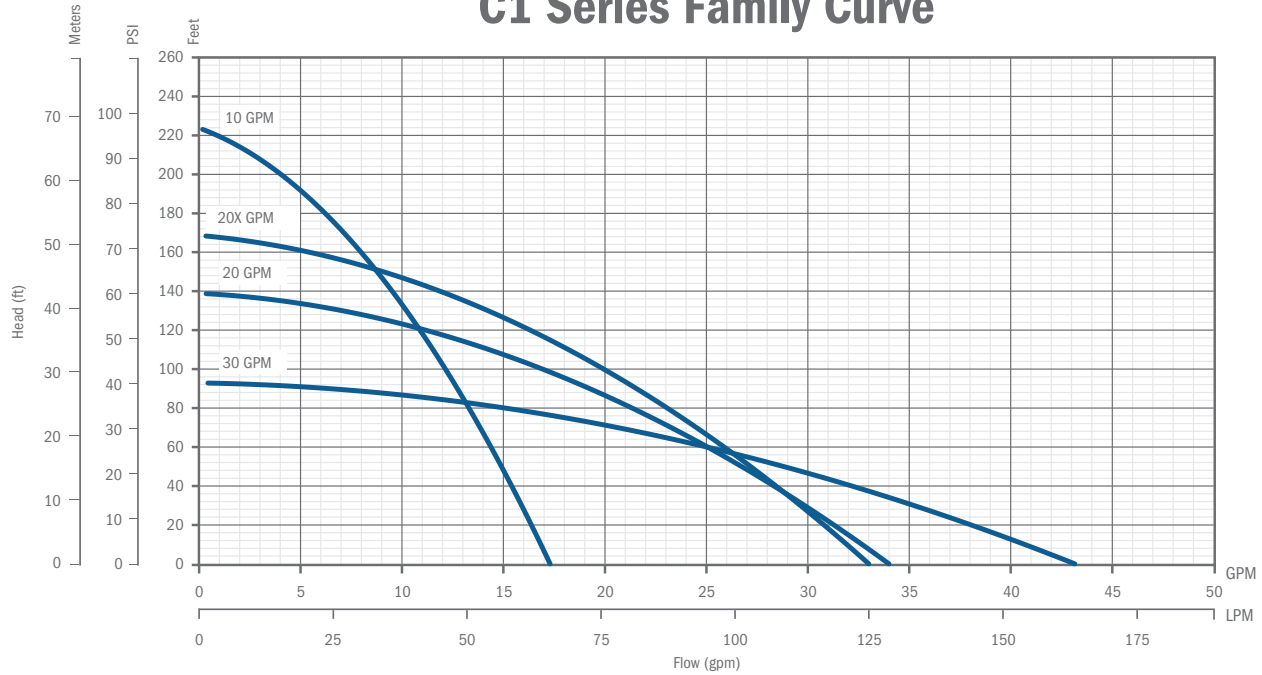
CISTERN PUMPS

Designed for use in gray water / filtered effluent service applications, the C1 Series cistern pump provides high performance and long life in less than ideal water conditions. The C1 Series pump is able to pass solids up to 1/8" without having a negative effect on the internal hydraulic components.

The pump's unique bottom suction design allows for maximum fluid drawdown without compromising durability or overall life, and it does not require the use of a flow induction sleeve. Intended specifically for use in a cistern or tank, C1 Series pumps are suitable for use in agricultural, residential, and commercial installations.



C1 Series Family Curve



FEATURES

- Supplied with a removable 5" base for secure and reliable mounting
- Bottom suction design
- Robust thermoplastic discharge head design resists breakage during installation and operation
- Single shell housing design provides a compact unit while ensuring cool and quiet operation
- Hydraulic components molded from high quality engineered thermoplastics
- Optimized hydraulic design allows for increased performance and decreased power usage
- All metal components are made of high grade stainless steel for corrosion resistance
- Available with a high quality 115 V or 230 V, 1/2 hp motor
- Fluid flows of 10, 20, and 30 gpm, with a max shut-off pressure of over 100 psi
- Heavy duty 600 V 10 foot SJ00W jacketed lead

APPLICATIONS

- Gray water pumping
- Filtered effluent service water pumping
- Water reclamation projects such as pumping from rain catchment basins
- Aeration and other foundation or pond applications
- Agriculture and livestock water pumping

ORDERING INFORMATION

C1 Series Pumps							
GPM	HP	Volts	Stage	Model No.	Order No.	Length (in)	Weight (lbs)
10	1/2	115	7	10C1-05P4-2W115	90301005	26	17
		230	7	10C1-05P4-2W230	90301010	26	17
20		115	5	20C1-05P4-2W115	90302005	25	16
		230	5	20C1-05P4-2W230	90302010	25	16
20X		115	6	20XC1-05P4-2W115	90302015	26	17
		230	6	20XC1-05P4-2W230	90302020	26	17
30		115	4	30C1-05P4-2W115	90303005	25	16
		230	4	30C1-05P4-2W230	90303010	25	16

Note: All units have 10 foot long SJ00W leads.

FM1D20 Series

One Channel Panel Mount

The FM1D20 Series One Channel Electronic Time Switches are compact electronic 24-Hour/7-Day modules with heavy-duty relay contacts for switching low or line voltage loads. The timers are applicable for time-of-day control of pumps, fans, heaters, HVAC control circuits, lighting, machinery and many other types of commercial, industrial, and agricultural equipment.

Features

- 24-Hour or 7-Day applications
- 20 setpoint programs
- 3 preset adjustable block programs
- Easy-to-follow menu driven programming
- Manual override with status indication
- Battery backup
- Large LCD

Ratings

Size:	2.37" x 2.37" (60.1 mm x 60.1 mm)
Power Consumption:	4VA
Supply Voltage:	24, 120, 240 VAC
Switch Rating:	SPDT relay
N.O. Contact:	½ HP, 120 VAC 1 HP, 240 VAC 12A, Ballast 120 VAC 8A, Ballast 240 VAC 720 VA, 240 VAC Pilot Duty 360 VA, 120 VAC Pilot Duty 600W, Tungsten 120 VAC 1000W, Tungsten 240 VAC
N.C. Contact:	16A, 277 VAC Resistive 8A, 24 VDC Pilot Duty 360 VA, 120 VAC Pilot Duty
Wiring Connections:	¼" quick connect terminals
Operating Temperature:	-13°F to 131°F (-25°C to 55°C) (limited display function at -13°F)
Shipping Weight:	.10 lbs
Warranty:	Limited 1 year

Project: _____

Location: _____

Product Type: _____

Contact/Phone: _____

Model #: _____



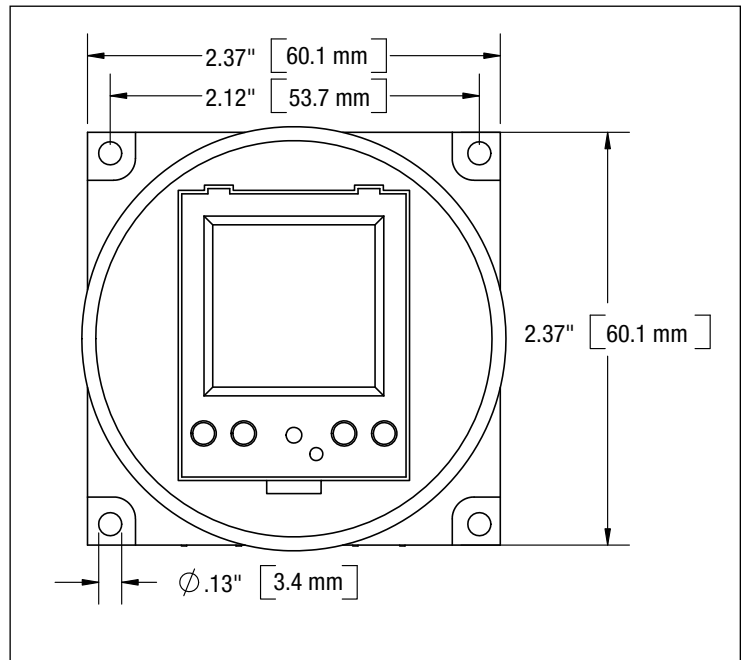
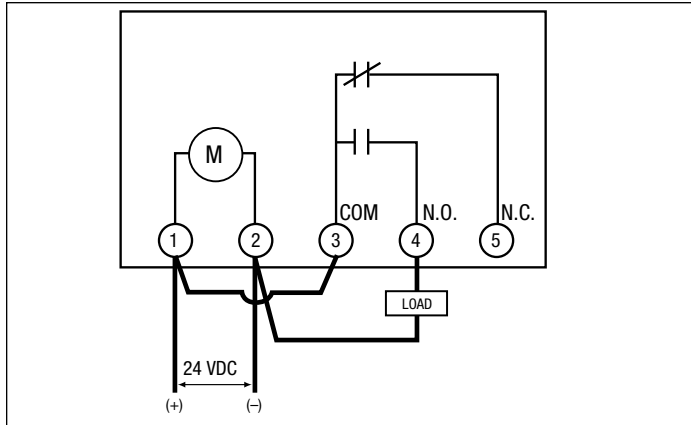
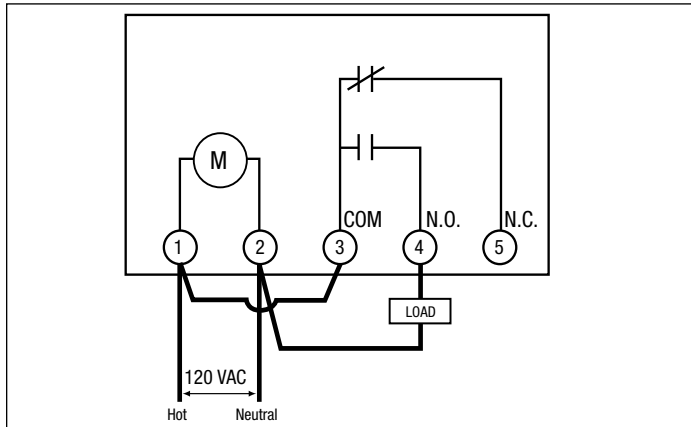
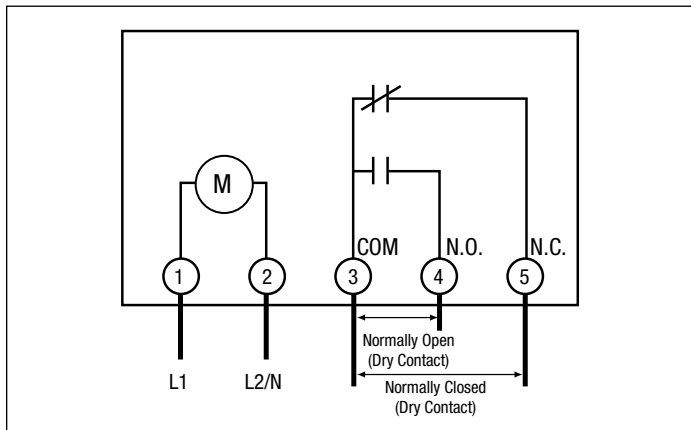
Model Number	Voltage	Programs	Mounting
FM1D20-24*	24 VDC, 50/60Hz	20	Panel
FM1D20-120	120 VAC, 50/60Hz	20	Panel
FM1D20-240	240 VAC, 50/60Hz	20	Panel

*24V model will operate on AC or DC

Specification

Furnish and install a Grässlin FM1D20 24-Hour/7-Day electronic time switch. This 1-circuit control shall have 24-Hour/7-Day programming, 10 ON and 10 OFF setpoint programs, and 3 preset block programs to allow a selection of any combination of days for different weekday schedules. The LCD shall display time of day in AM/PM or 24-Hour (military time) format. A Daylight Saving Time adjustment button shall also be provided. The time switch will be programmable to-the-minute and also offer a manual override for temporary ON or OFF to the next scheduled event. The LCD shall provide load status indication. The SPDT relay output will be rated for 16A Resistive @277 VAC. Reserve carryover of 7 years (non-replaceable, non-rechargeable battery).

Diagrams



1" SUPER/LONG MANUAL DISC FILTER

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

FEATURES

- A "T" shaped reinforced plastic filter with two 1" male connections.
- Filter element consists of grooved discs, mounted on a spine, forming a cylindrical filter element. The discs are compressed together by a spring located at the bottom of the filter cover.
- Screw-on filter cover.
- Resistant to chemicals and liquid fertilizers.
- Available filtration grades: 040, 080, 120, 140 and 200.



TECHNICAL DATA

FLOW RANGE	10 - 35 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	78 sq. in.
FILTERING VOLUME	36 cu. in.
LENGTH	13 13/32"
WIDTH	6 7/32"
WEIGHT	3.11 lbs.
DISTANCE BETWEEN ENDS	6 7/32"
INLET/OUTLET DIAMETER	1" Male
MAXIMUM TEMPERATURE	158° F
pH	5 - 11

MESH/MICRON

MESH	MICRON	DISC COLOR
040	400	Blue
080	200	Yellow
120	130	Red
140	115	Black
200	55	Green

INSTALLATION

1. Filter can be installed either vertically or horizontally.
2. Use Teflon tape on filter threads - Do Not Use Pipe Dope.
3. Ensure correct inlet/outlet direction.
4. When connecting filter to pipe, do not overtighten.
5. Never use spanners for tightening the filter cover.

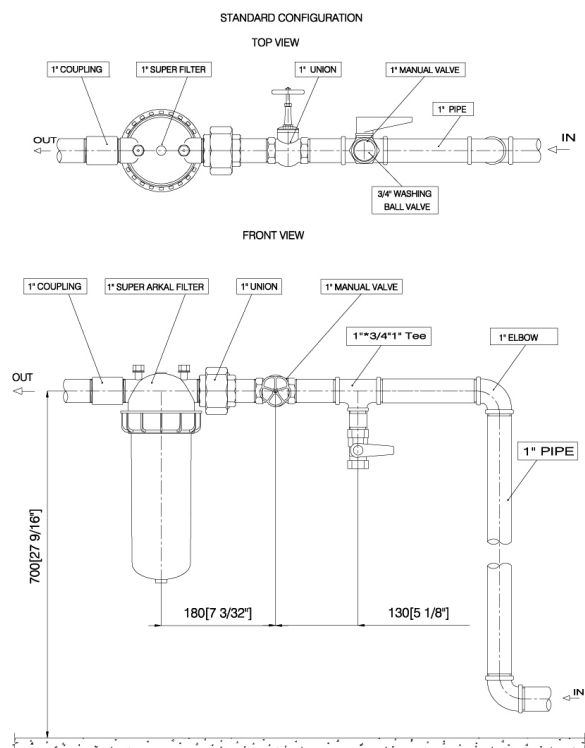
MAINTENANCE AND CLEANING

DISMANTLING

1. Ensure system is turned off and no pressure remains in the pipeline.
2. Unscrew cover from the filter body.
3. Pull out entire filter element.

CLEANING

1. Move tightening ring to end of spine and flush discs with pressurized water.
2. If discs are not clean after flushing with water:
 - a. If the discs have an accumulation of algae in the grooves, soak the discs and spine in a small bucket of Clorox bleach for one hour and then reflush with fresh water.
 - b. If the discs have an accumulation of iron in the grooves, soak the discs and spine in a small bucket of 10% Muriatic Acid for one hour and then reflush with fresh water. Muriatic Acid can be purchased at any pool supply store.



MAINTENANCE AND CLEANING

ASSEMBLY

1. Verify that spring is in place inside the filter cover.
2. Insert filter element and make sure it is seated correctly.
3. Replace cover.
4. Tighten filter cover securely by turning the fixing nut clockwise and do not overtighten.

WINTERIZATION

Drain all the water from the filter to avoid cracking due to freezing.

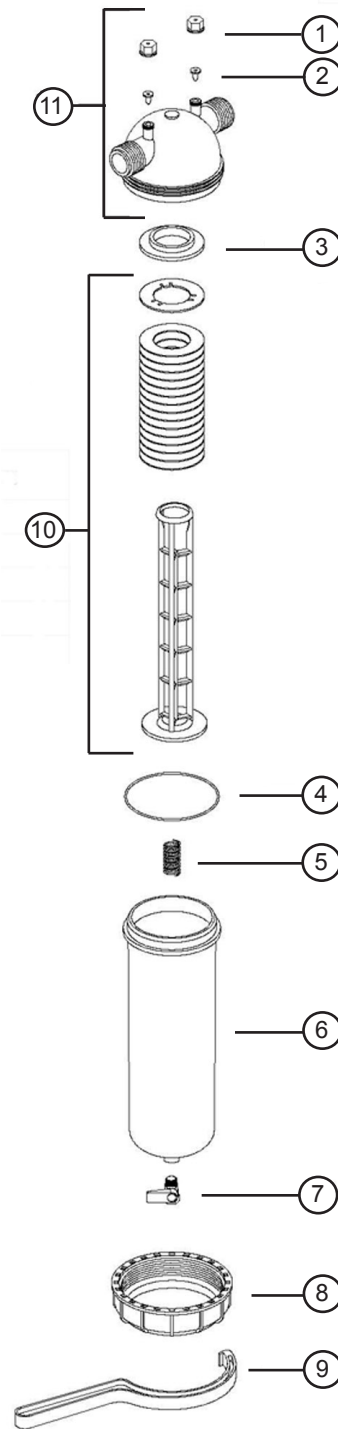
PARTS BREAKDOWN - 1" SUPER/LONG FILTER

KEY	MODEL NUMBER	DESCRIPTION	MATERIALS
1	SEE # 11	GAUGE PORT NUT	R.PP
2	SEE # 11	GAUGE PORT SEAL	EPDM
3	-	FILTER ADAPTER RING	R.PA
4	25AP531140	COVER O RING	NR
5	25AP50440011	COMPRESSION SPRING	SS
6	25AP23113	FILTER COVER	R.PA
7	-	1/4" TAP (OPTIONAL)	BRASS
8	25AP231131	FIXING NUT	R.PA
9	25AP131199	FILTER WRENCH	R.PA
10	25AP21121-***	RING SET WITH SPINE	PP
11	25AP25000101	FILTER BODY COMPLETE	-

Substitute *** for proper mesh size.

MATERIALS KEY

CODE	MATERIAL
SS	STAINLESS STEEL
PP	POLYPROPYLENE
NR	NITRILE RUBBER
R.PP	REINFORCED POLYPROPYLENE
R.PA	REINFORCED POLYAMIDE
EPDM	ETH. PROPY. RUBBER

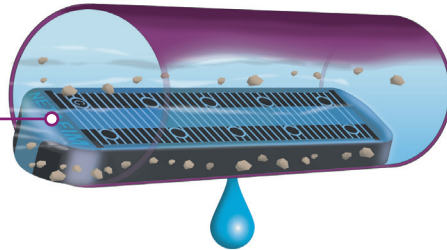


BIOLINE® DRIPLINE

THE WORLD'S MOST ADVANCED CONTINUOUS
SELF-CLEANING, PRESSURE COMPENSATING DRIPLINE
SPECIFICALLY DESIGNED FOR WASTEWATER

CROSS SECTION OF BIOLINE DRIPLINE

Bioline dripper inlets are positioned in the center of flow where water is the cleanest



PRODUCT ADVANTAGES

- Pressure compensation - all drippers deliver equal flow, even on sloped or rolling terrain.
- Unique flow path - Turbonet technology provides more control of water and a high resistance to clogging.
- Continuous self-flushing dripper design - flushes debris, as it is detected - throughout operation, not just at the beginning or end of a cycle. Ensures uninterrupted dripper operation.
- Single hole dripper outlet from tubing:
 - Better protection against root intrusion
 - Allows the dripline to be used in subsurface applications without need for chemical protection
- Drippers capture water flow from the center of the tubing - ensures that only the cleanest flow enters the dripper.
- Built-in physical root barrier - drippers are protected from root intrusion without the need for chemical protection. Water exits dripper in one location while exiting the tubing in another.
- Three dripper flow rates - provides the broadest range of flow rates available. Allows the designer to match the dripline to any soil or slope condition.
- Bioline tubing is completely wrapped in purple - easily identifying it for non-potable use, regardless of how the tubing is installed.
- Anti-bacterial-impregnated drippers - prevents buildup of microbial slime.
- Can be used subsurface - Bioline can be installed on-surface, under cover or subsurface.
- No special storage requirements - does not degrade if stored outdoors.
- Techfilter compatible - an optional level of protection, provides a limited lifetime warranty against root intrusion.

APPLICATIONS

- Typically installed following a treatment process
- Can be used with domestic septic tank effluent with proper design, filtration and operation
- Reuse applications including municipally treated effluent designated for irrigation and other disinfected and non-disinfected water sources.

SPECIFICATIONS

- Dripper flow rates: 0.4, 0.6 or 0.9 GPH
- Dripper spacings: 12", 18" or 24" dripper spacings and blank tubing
- Pressure compensation range: 7 to 58 psi (stainless steel clamps recommended above 50 psi)
- Maximum recommended system pressure: 50 psi
- Tubing diameter: 0.66" OD, 0.57" ID
- Tubing color: Purple color indicates non-potable
- Coil lengths: 500' or 1,000' (Blank tubing in 250')
- Recommended filtration: 120 mesh
- Bending radius: 7"
- UV resistant
- Tubing material: Linear low-density polyethylene

Additional spacing and pipe sizes available by special order. Please contact Netafim USA Customer Service for details.

BIOLINE DRIPLINE

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 3.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.3 GPM REQUIRED PER LATERAL TO ACHIEVE 3 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	102	94	84	136	127	113	161	151	137
	25	151	136	118	203	184	161	245	223	197
	35	193	171	146	260	232	200	315	283	245
	40	211	186	158	286	254	218	347	311	267
	45	228	200	169	310	274	233	377	335	287
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 3 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.0 GPM REQUIRED PER LATERAL TO ACHIEVE 2.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	128	115	100	172	155	136	205	187	165
	25	183	161	137	248	220	188	301	268	231
	35	228	198	166	310	272	229	379	333	283
	40	248	214	178	338	295	247	413	362	305
	45	266	229	190	364	316	263	447	389	327
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.6 GPM REQUIRED PER LATERAL TO ACHIEVE 2.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	161	141	119	217	191	164	263	233	201
	25	221	190	157	302	261	218	369	321	270
	35	269	229	187	370	316	260	455	391	324
	40	290	246	200	399	340	278	493	421	347
	45	310	261	212	427	362	296	527	449	369
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.2 GPM REQUIRED PER LATERAL TO ACHIEVE 1.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	201	171	140	275	235	194	337	289	241
	25	266	222	179	366	308	251	453	383	313
	35	316	262	210	437	365	295	543	455	369
	40	337	280	223	469	391	313	583	487	393
	45	358	296	235	497	413	331	619	517	415
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.8 GPM REQUIRED PER LATERAL TO ACHIEVE 1.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	248	205	163	344	285	228	427	355	285
	25	315	258	203	440	361	286	549	453	359
	35	367	299	234	513	419	331	643	527	417
	40	389	316	248	545	445	350	683	559	441
	45	409	332	260	574	468	367	721	589	463
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 0.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.4 GPM REQUIRED PER LATERAL TO ACHIEVE 0.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	301	242	188	422	341	265	531	429	335
	25	369	296	228	520	418	323	655	527	409
	35	421	337	260	595	476	368	749	603	467
	40	443	354	273	626	501	387	790	635	491
	45	464	371	285	656	524	404	829	665	513
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 0.5 fps flushing/scouring velocity

Netafim recommends flushing velocities capable of breaking free any accumulated bioslimes and debris in the piping network.

- Notes:
1. Refer to local regulations for information on flushing velocities that may be written into codes.
 2. Netafim does not endorse a specific flushing velocity.
 3. Flushing velocities should be determined based on regulations, quality of effluent, and type of flushing control.
 4. Using a flushing velocity less than 1 fps does not provide turbulent flow as defined by Reynolds Number.
 5. Higher flushing velocities provide more aggressive flushing.

From: [Ritzen, Brenda](#)
To: ["jhaag@satx.rr.com"](mailto:jhaag@satx.rr.com)
Cc: [Olvera, Brandon](#)
Subject: RE: 115414 revision
Date: Thursday, February 23, 2023 3:46:00 PM
Attachments: [image001.png](#)

John,

The permit file has been updated accordingly. The installer may proceed with installation as per your design.

Thank you,



Brenda Ritzen
Environmental Health Coordinator
195 David Jonas Dr.
New Braunfels, TX 78132
DR:OS00007722
830-608-2090
www.cceo.org

From: jhaag@satx.rr.com <jhaag@satx.rr.com>
Sent: Tuesday, February 21, 2023 6:38 AM
To: Ritzen, Brenda <rabbjr@co.comal.tx.us>
Cc: Olvera, Brandon <Olverb@co.comal.tx.us>
Subject: RE: 115414 revision
Importance: High

This email originated from outside of the organization.

Do not click links or open attachments unless you recognize the sender and know the content is safe.

- Comal IT

Hi Brenda:

I just received an email that Brandon will be out of the office until 02/27. Can you please take care of this?



Please see attached revised app sheet 2.

Olvera,Brandon

From: Olvera,Brandon
Sent: Friday, February 17, 2023 11:32 AM
To: 'jhaag@satx.rr.com'
Subject: RE: 115414 revision

Good Morning,

File has been updated.

1. Application Page 2
 Update the Tank Size to match the design
2. Based on the site and soil evaluation you will need to have 12" of imported material beneath the drip tubing
 Update all documents to match accordingly.
3. Revise accordingly and resubmit.

Thank You,

Brandon Olvera | Designated Representative | Comal County | www.cceo.org

195 David Jonas Dr, New Braunfels, TX-78132 | t: 830-608-2090 | f: 830-608-2078 | e: olverb@co.comal.tx.us

From: jhaag@satx.rr.com <jhaag@satx.rr.com>
Sent: Tuesday, February 14, 2023 10:16 AM
To: Ritzen, Brenda <rabbjr@co.comal.tx.us>; Olvera,Brandon <Olverb@co.comal.tx.us>
Subject: 115414 revision

This email originated from outside of the organization.

Do not click links or open attachments unless you recognize the sender and know the content is safe.

- Comal IT

Good morning:

Decided to go with a single tank to serve both houses and the drip fields with 2 zones.

Thanks,

John J. Haag, P.E.
Haag Engineering Consultants, LLC, Firm #: F-5789
15831 Secret Trails
San Antonio, Texas 78247
Tel 210-705-4268

Confidentiality Note: This eMail note and attached document(s) accompanying the eMail message contain information belonging to Haag Engineering Consultants, Inc. which is confidential and/or legally privileged. The information is intended only for the use of the individual(s) or entity named above and any disclosure to third parties may violate the Engineer-client privilege or Company restrictions on the use of confidential material. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance of the contents of this telecopied information is strictly prohibited. If you have received this electronic transmission in error, please immediately notify us and destroy the eMail and attachment(s).



VOID

Planning Materials & Site Evaluation as Required Completed By John J. Haag, P.E.

System Description Proprietary aerobic drip disposal

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 500 gpd min. ea. house Absorption/Application Area (Sq Ft) 2400 min ea. house

Gallons Per Day (As Per TCEQ Table III) 240 ea. house

(Sites generating more than 5000 gallons per day are required to obtain a permit through TCEQ.)

Is the property located over the Edwards Recharge Zone? Yes No

(If yes, the planning materials must be completed by a Registered Sanitarian (R.S.) or Professional Engineer (P.E.))

Is there an existing TCEQ approved WPAP for the property? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing WPAP.)

If there is no existing WPAP, does the proposed development activity require a TCEQ approved WPAP? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed WPAP. A Permit to Construct will not be issued for the proposed OSSF until the proposed WPAP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? Yes No

Is there an existing TCEQ approval CZP for the property? Yes No

(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? Yes No

If yes, indicate the city: _____

By signing this application, I certify that:

- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

John J. Haag, P.E.
Signature of Designer

10/31/22
Date

THE COUNTY OF COMAL

STATE OF TEXAS

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

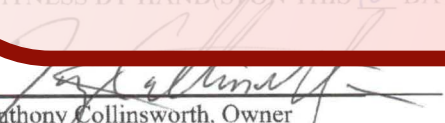
According to Texas Commission on Environmental Quality (TCEQ) Rules for On- Site Sewage Facilities, this document is filed in the Deed Records of Comal County, Texas.

I
The Texas Health and Safety Code, Chapter 366 authorizes the TCEQ to regulate on-site sewage facilities (OSSFs). Additionally, the Texas Water Code (TWC), § 5.012 and § 5.013, gives the TCEQ primary responsibility for implementing the laws of the State of Texas relating to water and adopting rules necessary to carry out its powers and duties under the TWC. The TCEQ, under the authority of the TWC and the Texas Health and Safety Code, requires owner's to provide notice to the public that certain types of OSSFs are located on specific pieces of property. To achieve this notice, the TCEQ requires a recorded affidavit. Additionally, the owner must provide proof of the recording to the OSSF permitting authority. This recorded affidavit is not a representation or warranty by the TCEQ of the suitability of this OSSF, nor does it constitute any guarantee by the TCEQ that the appropriate OSSF was installed.

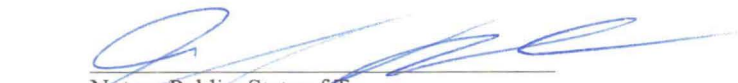
VOID

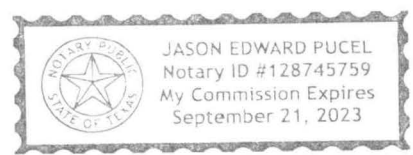
II
An OSSF required by a maintenance contract for a first time will be installed on the property described as (insert description)
Legal Description: Lot 56, Tract 1, Section II, Twp 10N, R 10W, Co. 10, State of Texas
This property is owned by Anthony Collinsworth
This OSSF must be maintained by a contract for the first two years. After the first two year service policy, the owner of an OSSF system for a residential use shall obtain and maintain the system personally within 30 days or maintain
The owner will, upon any sale or transfer of the above-described property, request a transfer of the permit for the OSSF to the buyer or new owner. A copy of the planning materials for the OSSF can be obtained from Comal County.

WITNESS BY HAND(S) ON THIS 18th DAY OF October, 2022.


Anthony Collinsworth, Owner

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 18th DAY OF October, 2022.


Notary Public, State of Texas



**AEROBIC TREATMENT
DRIP TUBING SYSTEM
FOR:
LOT 56R (1755 AND 1767 LIVE OAK DR.)
TAMARACK SHORES, SECTION 2**

SITE DESCRIPTION:

Located in... 950
sf residences situated with soils per the Site Evaluation report. Independent aerobic treatment plants
utilizing drip irrigation was chosen as the most appropriate system to serve the conditions on this lot.

PROPOSED SYSTEMS:

A 3 or 4 inch... 500-768LP (500 gpd)
aerobic treatment plants containing a 3... and... chambers. The
pump chamber contain a... C1-Series-20XC1-05P4-2W115 submersible well pump. The
well pumps are... Model FM1... (pin time... not used)
allowing the... with the... 2... gallons. High... audible and
visual alarms... should the... flushing 10... Arkal Disk
filters then through... minimum... sf... drip lines
approximately... per the... schematic.
Pressure regulator... in the... to the fields will
maintain pressure... 1" SCH... flush the systems by
cycling 1" ball valves. Solids caught in the disk filters are flushed each cycle back to the trash tanks.
Agricultural Products, Inc. (Model #VBK-1) 1" PVC vacuum breakers installed on the highest points on each
manifold will prevent siphoning of effluent from higher to lower parts in the fields. The field areas shall be
excavated and then built up so that a minimum of 9" of Type II or III soil is above any bedrock or type IV soils
then a...

The field areas shall be covered with a Bermuda seeded erosion control mats prior to system startups. The
tanks must have at grade risers on each opening with watertight caps that must be 65# or have padlocks
or can only be removed with tools – all risers shall meet the minimum requirements of 30 TAC 285 effective
12/29/16. Secondary plugs, caps or suitable restraints must be provided below riser caps to prevent tank
entry should the caps be damaged or removed.

DESIGN SPECIFICATIONS:

- Daily flow = Q=240 gpd ea. house
- Pretreatment tank size: 353 gal ea. tank
- Plant size: SA500-768LP; 500 gpd ea. house (TCEQ approved)
- Pump tank size: 768 gal
- Min. Reserve capacity after high level: 80 gal ea. tank (1/3 day req'd)
- Application rate: Ra=0.1 gal/sf ea. field
- Total absorption area: Q/Ra = min. 2,400 sf (2,552 sf actual ea. field)
- Total linear feet of drip tubing: 1,276' Netifim Bioline drip tubing ea. field
- Pump requirement: 0.5 HP Franklin C1-Series-20XC1-05P4-2W115 ea. tank

Note: The calculations shown on Page 2 of 3 apply to both 1755 and 1767 Live Oak Drive

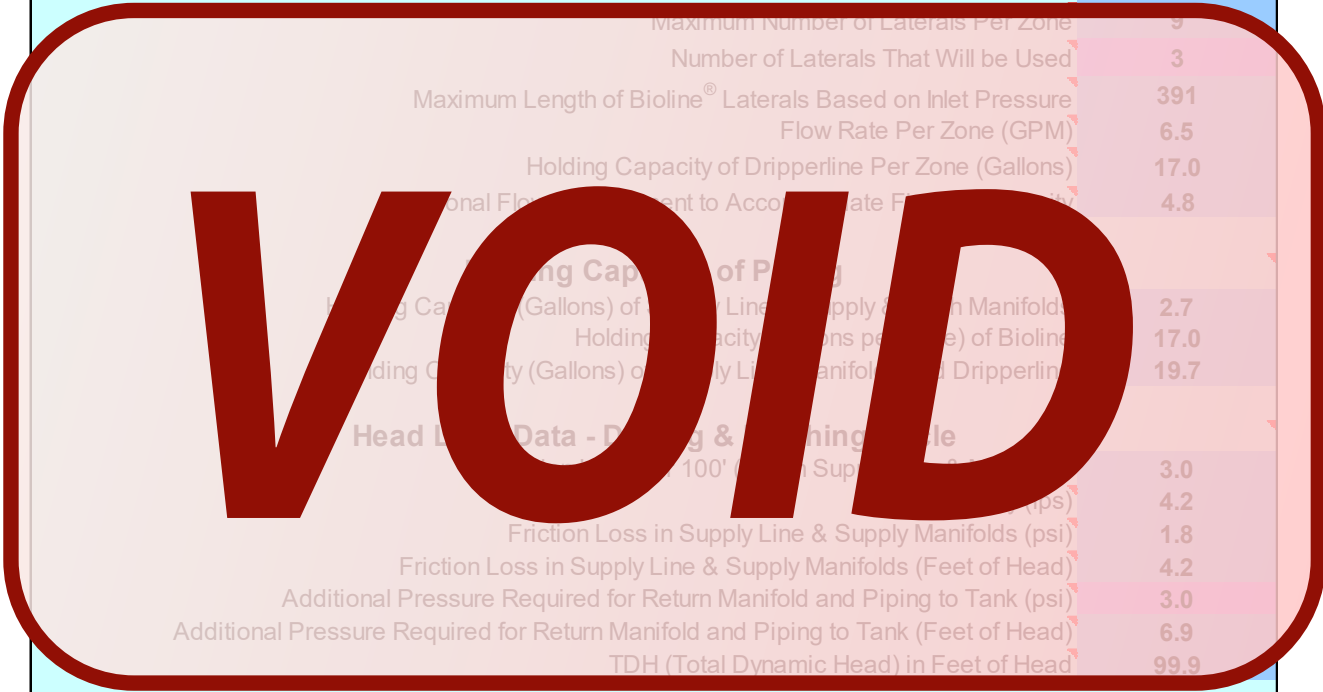
Calculation Outputs

Total System Information

Application Area Provided (square feet)	2,552
Total Amount of Bioline® Required (feet)	1,276
Total Number of Emitters in the Dripfield	638

Zone Information

Number of Zones	1
Amount of Bioline® Per Zone (feet)	1,276
Number of Emitters Per Zone	638
Minimum Number of Laterals Per Zone	2



Maximum Number of Laterals Per Zone	3
Number of Laterals That Will be Used	3
Maximum Length of Bioline® Laterals Based on Inlet Pressure	391
Flow Rate Per Zone (GPM)	6.5
Holding Capacity of Dripperline Per Zone (Gallons)	17.0
Additional Flow Required to Accommodate Flow Rate	4.8

Holding Capacity (Gallons) of Supply Line & Supply Manifolds	2.7
Holding Capacity (Gallons) of Bioline®	17.0
Holding Capacity (Gallons) of Supply Line & Supply Manifolds & Dripperline	19.7

Friction Loss in 100' Supply Line	3.0
Friction Loss in Supply Line & Supply Manifolds (psi)	4.2
Friction Loss in Supply Line & Supply Manifolds (Feet of Head)	1.8
Friction Loss in Supply Line & Supply Manifolds (Feet of Head)	4.2
Additional Pressure Required for Return Manifold and Piping to Tank (psi)	3.0
Additional Pressure Required for Return Manifold and Piping to Tank (Feet of Head)	6.9
TDH (Total Dynamic Head) in Feet of Head	99.9

Control Settings Information

Total System Runtime Per Day (Minutes)	37
Total Runtime Per Zone Per Day (Minutes)	37
Total System Dosing Events Per Day	10
Runtime For Each Dose (Minutes)	4
Off Time Between Doses in the Same Zone (Hours to nearest 0.1)	2.3

Miscellaneous Information

Dosing Volume Per Emitter Per Dose (gallons)	0.04
Inches Per Week of Dosing	1.06
Volume of a Single Dose (gallons)	25.9

Pump Selection

Pump Flow Rating (GPM)	11.3
TDH (Total Dynamic Head in Feet of Head)	99.9

Pump Manufacturer **Franklin**

Pump Model 20XC1-05P4-2W115

PIPE AND FITTINGS:

All pipes and fittings for both drip tubing systems shall be 1" schedule 40 pvc. All joints shall be sealed with approved solvent type pvc cement. Clipper type cutters are recommended to prevent pvc burrs during cutting of pipes causing possible plugging.

Designed in accordance with Chapter 285, Subchapter D, §285 and §285.40 Texas Commission on Environmental Quality (Revised March 2013).

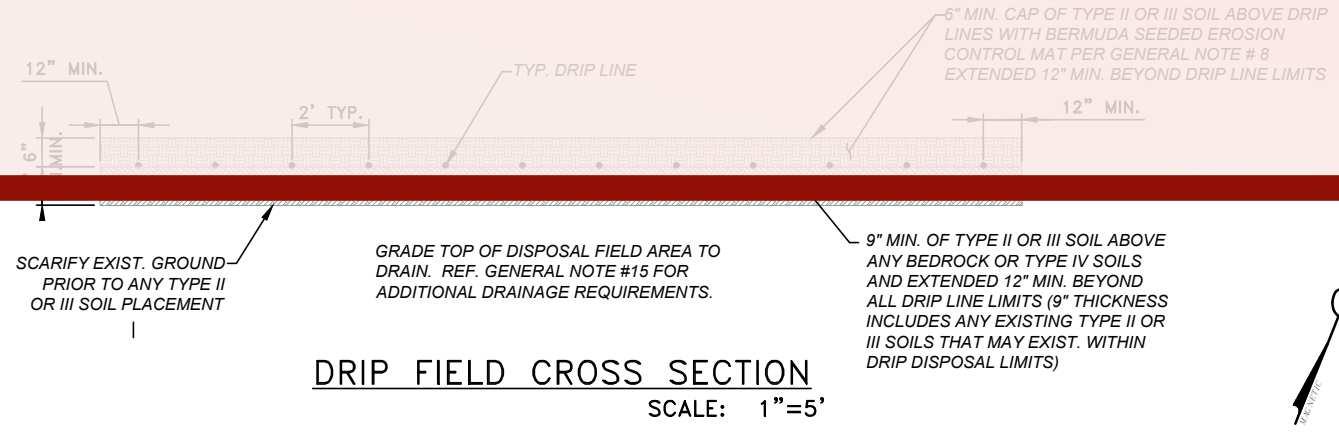
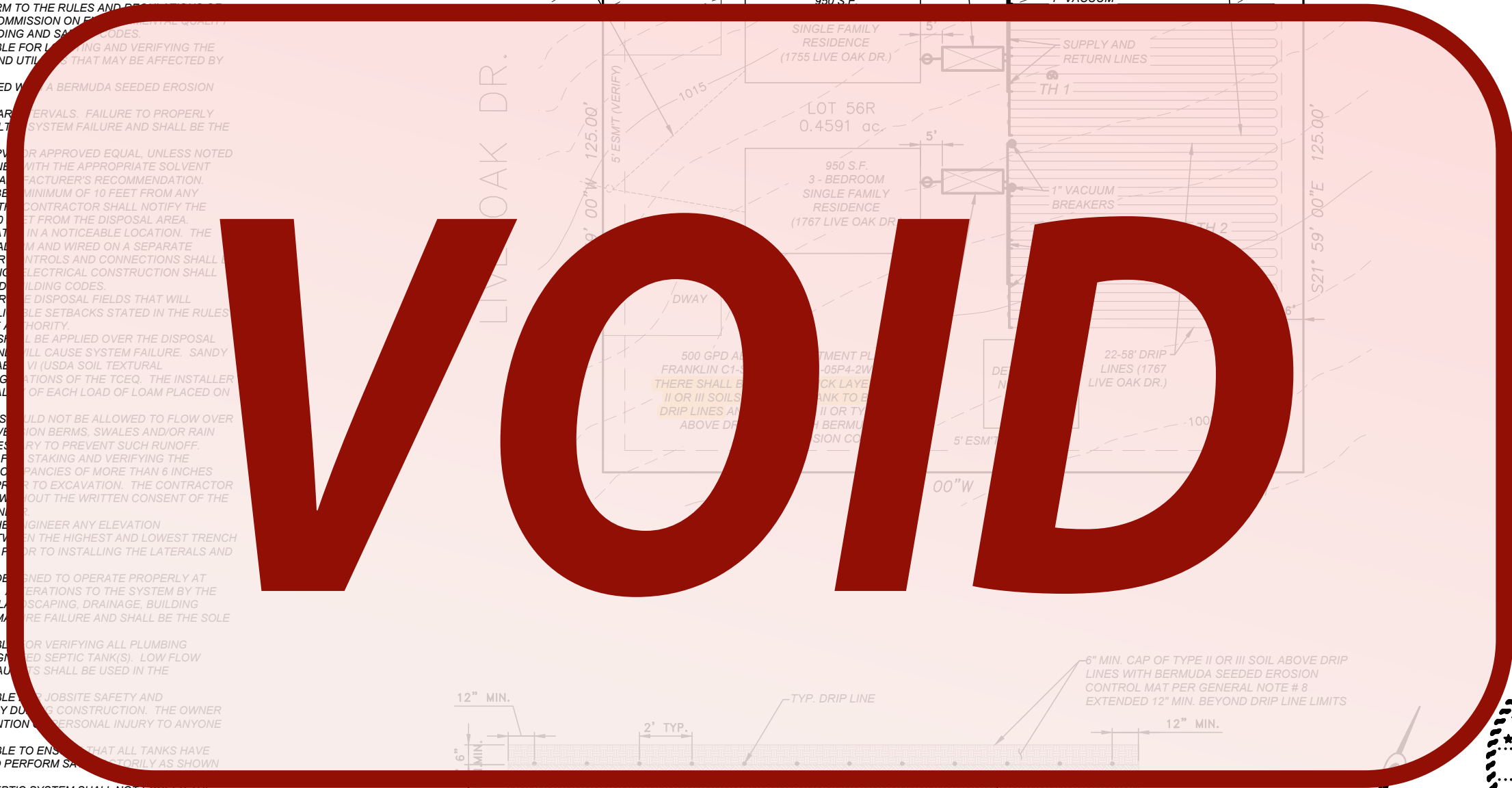


GENERAL NOTES:

- NO VEHICULAR TRAFFIC IS ALLOWED ON ANY PORTION OF THE DISPOSAL SYSTEM, UNLESS THE DESIGN SPECIFIES OTHERWISE.
- PIPE ALIGNMENT TO THE DISPOSAL BEDS MAY BE ALTERED AS REQUIRED. ANY CHANGE FROM THE PLANS MUST BE APPROVED BY THE ENGINEER AND THE APPROPRIATE GOVERNMENTAL AGENCY(IES).
- CONTRACTOR SHALL PROTECT TREES WHICH ARE NOT IN THE EXCAVATED CONSTRUCTION AREAS. CONTRACTOR SHALL MINIMIZE ROOT DAMAGE AND REASONABLY ADHERE TO THE DESIGN.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING A MINIMUM OF 1/4" PER FOOT OF FALL FROM THE BUILDING TO THE SEPTIC TANK.
- NOT AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED OVER THE DISPOSAL AREAS. ANY WATERING IN THESE AREAS SHALL BE DONE BY HAND AND ONLY WHEN REQUIRED TO MAINTAIN GRASS COVER.
- ALL CONSTRUCTION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY - TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AND ANY APPLICABLE LOCAL BUILDING AND SAFETY CODES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS SYSTEM.
- THE DRIP FIELD SHALL BE VEGETATED WITH A BERMUDA SEEDED EROSION CONTROL MAT.
- FIELDS MUST BE MOWED AT REGULAR INTERVALS. FAILURE TO PROPERLY MAINTAIN VEGETATIVE COVER MAY RESULT IN SYSTEM FAILURE AND SHALL BE THE RESPONSIBILITY OF THE OWNER.
- ALL PIPES SHALL BE SCHEDULE 40 PVC OR APPROVED EQUAL, UNLESS NOTED OTHERWISE. ALL JOINTS SHALL BE CLEANED WITH THE APPROPRIATE SOLVENT AND GLUED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- ALL POTABLE WATER LINES SHALL BE A MINIMUM OF 10 FEET FROM ANY DISPOSAL SYSTEM OR SEWERAGE PIPE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF WATER LINES LESS THAN 10 FEET FROM THE DISPOSAL AREA.
- HIGH WATER ALARM SHALL BE LOCATED IN A NOTICEABLE LOCATION. THE ALARM SHALL BE A VISUAL AND AUDIBLE ALARM AND WIRED ON A SEPARATE CIRCUIT FROM THE PUMPS. ALL EXTERIOR CONTROLS AND CONNECTIONS SHALL BE ENCLOSED IN A WEATHER-PROOF HOUSING. ELECTRICAL CONSTRUCTION SHALL COMPLY WITH ALL LOCAL ELECTRICAL AND BUILDING CODES.
- NO EXCAVATION IS PERMITTED NEAR THE DISPOSAL FIELDS THAT WILL RESULT IN THE NONCOMPLIANCE OF APPLICABLE SETBACKS STATED IN THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY.
- ONLY GOOD QUALITY SANDY LOAM SHALL BE APPLIED OVER THE DISPOSAL FIELDS. CLAY LOAM IS UNACCEPTABLE AND WILL CAUSE SYSTEM FAILURE. SANDY LOAM SHALL BE DEFINED AS SHOWN IN TABLE VI (USDA SOIL TEXTURAL CLASSIFICATIONS) OF THE RULES AND REGULATIONS OF THE TCEQ. THE INSTALLER IS RESPONSIBLE FOR VERIFYING THE QUALITY OF EACH LOAD OF LOAM PLACED ON THE SYSTEM.
- STORM WATER (RAINFALL RUNOFF) SHOULD NOT BE ALLOWED TO FLOW OVER THE DISPOSAL FIELDS OR THE TANKS. DIVERSION BERMS, SWALES AND/OR RAIN GUTTERS SHOULD BE INSTALLED AS NECESSARY TO PREVENT SUCH RUNOFF.
- THE CONTRACTOR IS RESPONSIBLE FOR STAKING AND VERIFYING THE GRADES PRIOR TO EXCAVATION. ANY DISCREPANCIES OF MORE THAN 6 INCHES SHALL BE REPORTED TO THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL NOT DEVIATE FROM THESE PLANS WITHOUT THE WRITTEN CONSENT OF THE APPROPRIATE AUTHORITY AND THE ENGINEER.
- CONTRACTOR SHALL REPORT TO THE ENGINEER ANY ELEVATION DIFFERENCES GREATER THAN 4 FEET BETWEEN THE HIGHEST AND LOWEST TRENCH IN THE FIELD. THIS SHOULD BE CHECKED PRIOR TO INSTALLING THE LATERALS AND MANIFOLD.
- THIS DISPOSAL SYSTEM HAS BEEN DESIGNED TO OPERATE PROPERLY AT SPECIFICATIONS NOTED IN THESE PLANS. OPERATIONS TO THE SYSTEM BY THE OWNER, INCLUDING BUT NOT LIMITED TO LANDSCAPING, DRAINAGE, BUILDING AND/OR WATER USAGE, MAY CAUSE PREMATURE FAILURE AND SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PLUMBING FIXTURES ARE CONNECTED TO THE DESIGNATED SEPTIC TANK(S). LOW FLOW TOILETS (1.6 GAL), SHOWERHEADS AND FAUCETS SHALL BE USED IN THE STRUCTURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR JOBSITE SAFETY AND PROTECTION OF THE PUBLIC FROM INJURY DURING CONSTRUCTION. THE OWNER SHALL BE RESPONSIBLE FOR THE PREVENTION OF PERSONAL INJURY TO ANYONE ON OR NEAR THE DISPOSAL SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL TANKS HAVE ADEQUATE STRENGTH AND INTEGRITY TO PERFORM SAFELY AS SHOWN ON THESE PLANS.
- THE WASTEWATER FLOW TO THE SEPTIC SYSTEM SHALL NOT EXCEED THE DESIGN FLOW SHOWN ON THIS PLAN.

ASSUMED LOCATION OF WATER METER SERVICE LINE ALIGNMENT FROM METER TO HOUSE. NOTE: WATER SERVICE LINE SHALL BE SLEEVED WITH SCH. 40 PVC WHEREVER IT IS 10' OR CLOSER TO PROPOSED OSSF DISPOSAL AREA LIMITS AND/OR ANY SYSTEM COMPONENT(S). EXTEND PVC SLEEVING 10' MIN. BEYOND EACH SIDE OF OSSF DISPOSAL AREA LIMITS AND/OR SYSTEM COMPONENTS.

500 GPD AEROBIC TREATMENT PLANT WITH FRANKLIN C1-SERIES-20XC1-05P4-2W115 PUMP. THERE SHALL BE 12" MIN. THICK LAYER OF TYPE II OR III SOILS AT TOP OF TANK TO BOTTOM OF DRIP LINES AND 6" OF TYPE II OR TYPE III SOILS ABOVE DRIP LINES WITH BERMUDA SEEDED EROSION CONTROL MAT.



OSSF LAYOUT
LOT 56R, 1755 AND 1767 LIVE OAK DR.
TAMARACK SHORES, SECTION 2
CANYON LAKE, TEXAS

ADD'L. NOTES:

- DESIGN DAILY WASTEWATER FLOW = 240 GPD EA. HOUSE (WATER SAVING DEVICES WERE ASSUMED FOR SEPTIC SYSTEM DESIGN).
- TOPOGRAPHIC DATA SOURCE: FEMA 2011 DATA
- INSTALLER SHALL VERIFY ALL EASEMENTS, SETBACKS AND PROPERTY LINE BEARINGS AND DISTANCES PRIOR TO CONSTRUCTION.

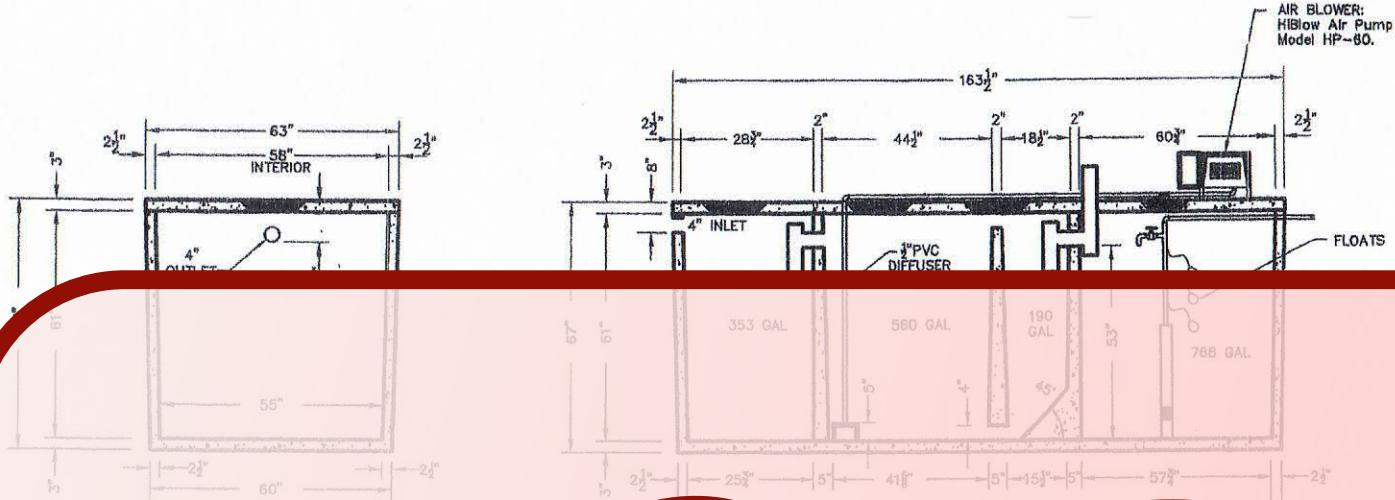
NOTE: OSSF IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE OR FEMA 100 YEAR FLOODPLAIN.
 SITE EVALUATION BY JOHN J. HAAG, P.E. ON 09/29/22

DRAWN BY: JJH
 CHECKED BY: JJH
 DATE: 10/31/22
 JOB NO. SUNNY22008

HAAG ENGINEERING CONSULTANTS

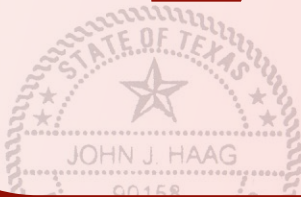
15831 SECRET TRAILS
 SAN ANTONIO, TEXAS 78247
 FIRM: F-5789
 TEL: (210) 705-4268
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SHEET 1 OF 1

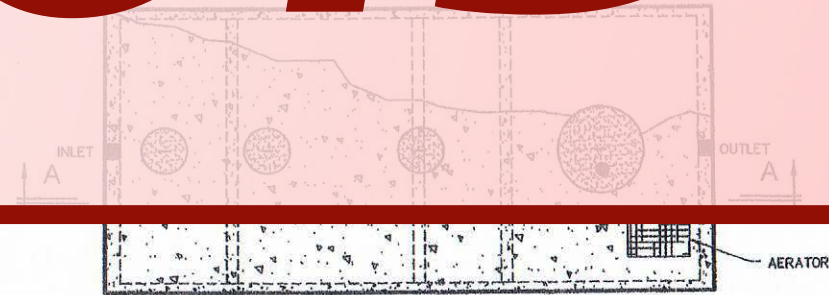


VOID

Pump float settings for maximum flow are 30 gal reserve:
 Pump off position: 12" above tank bottom approx. 1
 Pump on position: 29" above tank bottom approx. 4
 Alarm on position: 35" above tank bottom (approx. 5
 Approx. 261 gal. reserve at tank bottom.



John J. Haag, P.E.
 04/08/19



PLAN VIEW

REVISION:	DATE:	BY:

MODEL SA500-768PT
 SEWER TREATMENT SYSTEM

SOLAR AEROBIC
 6754 HWY 90 EAST
 LAKE CHARLES, LA 70615
 PHONE: (337) 439-0680

TREATMENT PLANT
SA-2
JULY 2011
NONE

**AEROBIC TREATMENT
DRIP TUBING SYSTEM
FOR:
LOT 56R (1755 AND 1767 LIVE OAK DR.)
TAMARACK SHORES, SECTION 2**

SITE DESCRIPTION:

Located in Tamarack Shores, Section 2, lot 56R, the proposed separate OSSF systems will serve two 3-bedroom, 950 s.f. residences situated with soils per the Site Evaluation report. An aerobic treatment plant utilizing a two-zone drip irrigation field was chosen as the most appropriate system to serve the conditions on this lot.

PROPOSED SYSTEMS:

VOID

A 3 or 4 inch SCH-40 pipe discharge into a 1000 gallon Aerobic Treatment Tank (800 gpd) aerobic treatment plant containing a 1000 gallon pretreatment tank and 1000 gallon pump tank. The pump chamber contains a 0.5 HP Franklin C1-Series-20XC1-05P4-2W115 ea. submersible pump. The well pump is activated via Intermatic Model FM1000 20 timer (control timer shall be used) allowing the distribution timer to run one day with the timer setting at min. 40 minutes. A high level audible and visual alarm will activate should the pump fail to distribute effluent through self-flushing 1 micron Arkal Disk filter to a 1" SCH-40 manifold to maintain a 48" drip tubing field with Netifim Bioline drip lines approx. 20 feet apart at 0.61 gph. The flow is set to two feet per the proposed schematic. A pressure transducer Model PMR1000 is installed in the pump tank to monitor the pressure to the field will maintain pressure at 35 psi/zone. 1" ball valves are installed to allow manual flush the systems by cycling 1" ball valves. Solids caught in the disk filter are flushed each cycle back to the trash tank. Agricultural Products, Inc. (Model #VBK-1) 1" PVC vacuum breakers installed on the highest points on each manifold zone will prevent siphoning of effluent from higher to lower parts in the field. The field areas shall be scarified and then built up so that a minimum of 9" of Type II or III soil is above any bedrock or type IV soils (9" thickness includes any existing Type II or III soils within disposal area) then the drip tubing shall be laid and capped with a minimum of 6" of Type II or Type III soil (NOT SAND). The field areas shall be covered with a Bermuda seeded erosion control mats prior to system startups. The tanks must have at grade risers on each opening with watertight caps that must be 65# or have padlocks or can only be removed with tools – all risers shall meet the minimum requirements of 30 TAC 285 effective 12/29/16. Secondary plugs, caps or suitable restraints must be provided below riser caps to prevent tank entry should the caps be damaged or removed.

DESIGN SPECIFICATIONS:

- Daily flow = Q=480 gpd
- Pretreatment tank size: 461 gal
- Plant size: SA800-1000PT; 800 gpd (TCEQ approved)
- Pump tank size: 1000 gal
- Min. Reserve capacity after high level: 160 gal (1/3 day req'd)
- Application rate: Ra=0.1 gal/sf
- Total absorption area: Q/Ra = min. 4800 sf (4,928 sf actual)
- Total linear feet of drip tubing: 2,464 Netifim Bioline drip tubing
- Pump requirement: 0.5 HP Franklin C1-Series-20XC1-05P4-2W115 ea. tank

Note: The calc's shown on Page 2 of 3 apply to both 1755 and 1767 Live Oak Drive served by one tank and two zones

Calculation Outputs

Total System Information

Application Area Provided (square feet)	4,928
Total Amount of Bioline® Required (feet)	2,464
Total Number of Emitters in the Dripfield	1,232

Zone Information

Number of Zones	2
Amount of Bioline® Per Zone (feet)	1,232
Number of Emitters Per Zone	616
Minimum Number of Laterals Per Zone	2
Maximum Number of Laterals Per Zone	9

Maximum Length of Bioline® Laterals Based on Inlet Pressure	391
Flow Rate Per Zone (GPM)	6.3
Holding Capacity of Dripperline Per Zone (Gallons)	16.4
Additional Flow Requirement to Accommodate Flushing Velocity	6.4

VOID

Control Settings Information

Total System Runtime Per Day (Minutes)	38
Total System Dosing Events Per Day	20
Runtime For Each Dose (Minutes)	2
Off Time Between Doses in the Same Zone (Hours to nearest 0.1)	2.4

Miscellaneous Information

Dosing Volume Per Emitter Per Dose (gallons)	0.04
Inches Per Week of Dosing	1.09
Volume of a Single Dose (gallons)	25.1

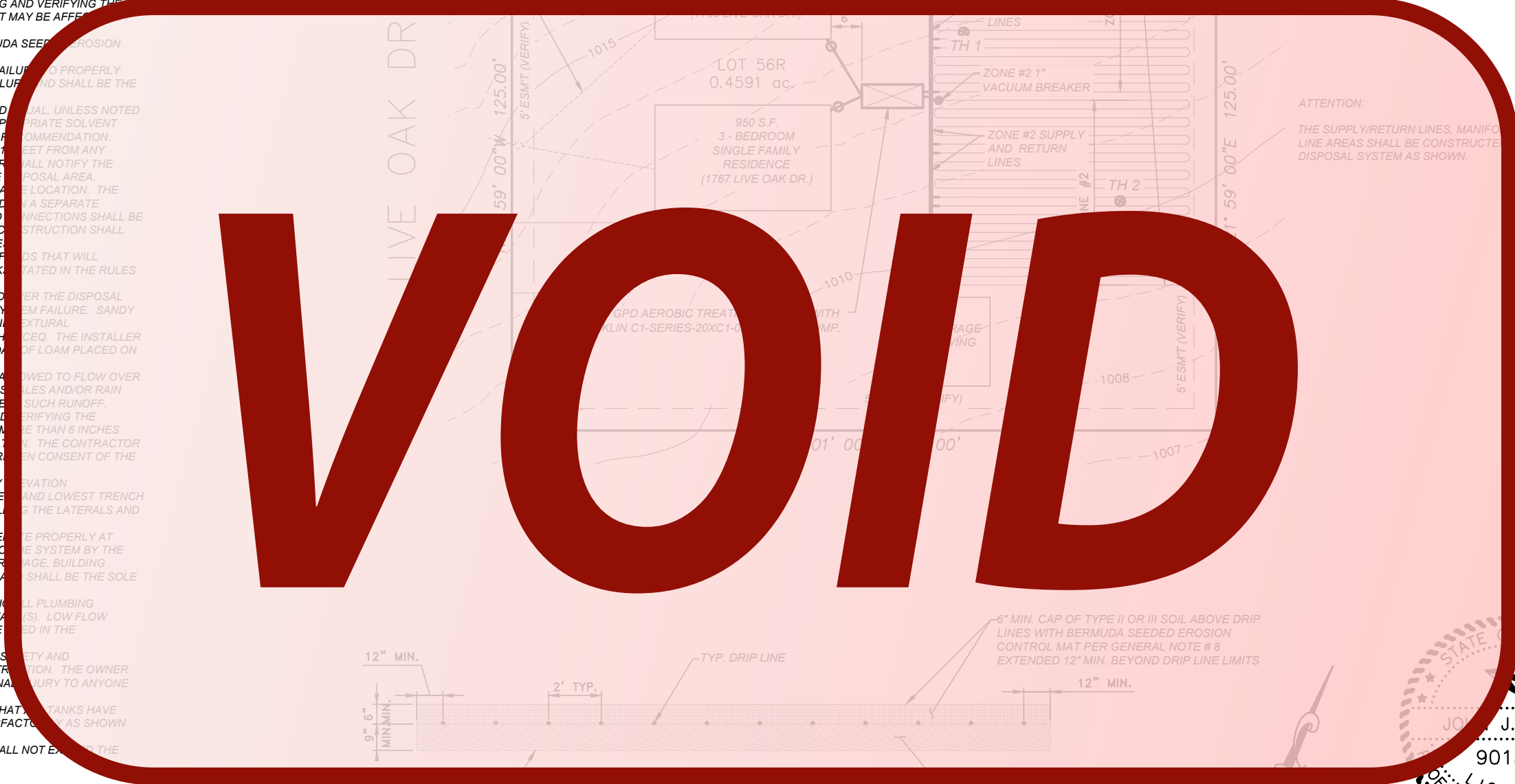
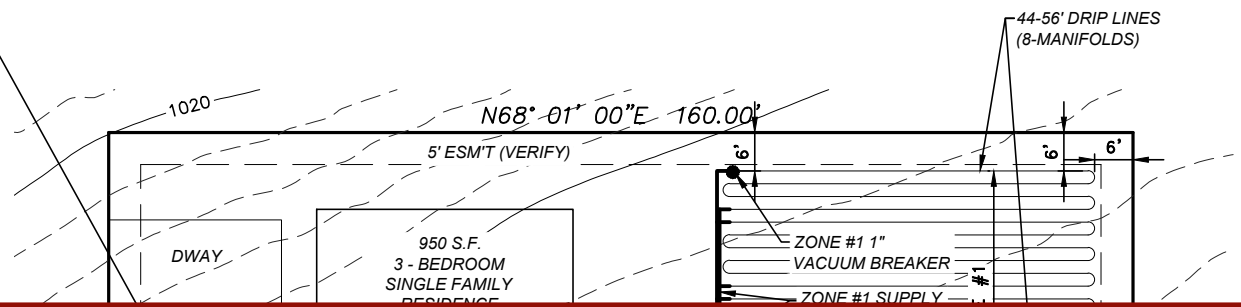
Pump Selection

Pump Flow Rating (GPM)	12.7
TDH (Total Dynamic Head in Feet of Head)	112.5
Pump Manufacturer	Franklin
Pump Model	20XC1-05P4-2W115

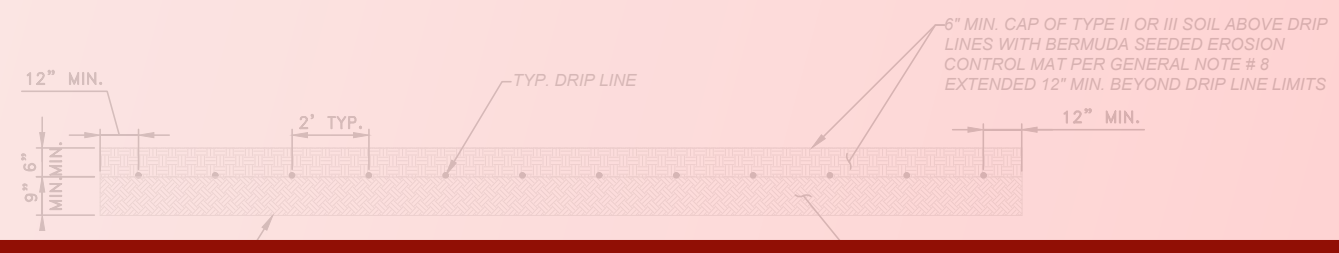
GENERAL NOTES:

- NO VEHICULAR TRAFFIC IS ALLOWED ON ANY PORTION OF THE DISPOSAL SYSTEM, UNLESS THE DESIGN SPECIFIES OTHERWISE.
- PIPE ALIGNMENT TO THE DISPOSAL BEDS MAY BE ALTERED AS REQUIRED. ANY CHANGE FROM THE PLANS MUST BE APPROVED BY THE ENGINEER AND THE APPROPRIATE GOVERNMENTAL AGENCY(IES).
- CONTRACTOR SHALL PROTECT TREES WHICH ARE NOT IN THE EXCAVATED CONSTRUCTION AREAS. CONTRACTOR SHALL MINIMIZE ROOT DAMAGE AND REASONABLY ADHERE TO THE DESIGN.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING A MINIMUM OF 1/4" PER FOOT OF FALL FROM THE BUILDING TO THE SEPTIC TANK.
- NOT AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED OVER THE DISPOSAL AREAS. ANY WATERING IN THESE AREAS SHALL BE DONE BY HAND AND ONLY WHEN REQUIRED TO MAINTAIN GRASS COVER.
- ALL CONSTRUCTION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY - TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AND ANY APPLICABLE LOCAL BUILDING AND SAFETY CODES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS SYSTEM.
- THE DRIP FIELD SHALL BE VEGETATED WITH A BERMUDA SEEDED EROSION CONTROL MAT.
- FIELDS MUST BE MOWED AT REGULAR INTERVALS. FAILURE TO PROPERLY MAINTAIN VEGETATIVE COVER MAY RESULT IN SYSTEM FAILURE AND SHALL BE THE RESPONSIBILITY OF THE OWNER.
- ALL PIPES SHALL BE SCHEDULE 40 PVC OR APPROVED EQUIVALENT, UNLESS NOTED OTHERWISE. ALL JOINTS SHALL BE CLEANED WITH THE APPROPRIATE SOLVENT AND GLUED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- ALL POTABLE WATER LINES SHALL BE A MINIMUM OF 10 FEET FROM ANY DISPOSAL SYSTEM OR SEWERAGE PIPE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF WATER LINES LESS THAN 10 FEET FROM THE DISPOSAL AREA.
- HIGH WATER ALARM SHALL BE LOCATED IN A NOTICEABLE LOCATION. THE ALARM SHALL BE A VISUAL AND AUDIBLE ALARM AND WIRED TO A SEPARATE CIRCUIT FROM THE PUMPS. ALL EXTERIOR CONTROLS AND CONNECTIONS SHALL BE ENCLOSED IN A WEATHER-PROOF HOUSING. ELECTRICAL CONNECTIONS SHALL COMPLY WITH ALL LOCAL ELECTRICAL AND BUILDING CODES.
- NO EXCAVATION IS PERMITTED NEAR THE DISPOSAL AREAS THAT WILL RESULT IN THE NONCOMPLIANCE OF APPLICABLE SETBACKS, EASEMENTS, AND REGULATIONS OF THE APPROPRIATE AUTHORITY.
- ONLY GOOD QUALITY SANDY LOAM SHALL BE APPLIED OVER THE DISPOSAL AREAS. SANDY LOAM IS UNACCEPTABLE AND WILL CAUSE SYSTEM FAILURE. SANDY LOAM SHALL BE DEFINED AS SHOWN IN TABLE VI (USDA SOIL TEXTURAL CLASSIFICATIONS) OF THE RULES AND REGULATIONS OF THE TCEQ. THE INSTALLER IS RESPONSIBLE FOR VERIFYING THE QUALITY OF EACH LOAD OF LOAM PLACED ON THE SYSTEM.
- STORM WATER (RAINFALL RUNOFF) SHOULD NOT BE ALLOWED TO FLOW OVER THE DISPOSAL FIELDS OR THE TANKS. DIVERSION BERMS, SWALES AND/OR RAIN GUTTERS SHOULD BE INSTALLED AS NECESSARY TO PREVENT SUCH RUNOFF.
- THE CONTRACTOR IS RESPONSIBLE FOR STAKING AND VERIFYING THE GRADES PRIOR TO EXCAVATION. ANY DISCREPANCIES OF MORE THAN 6 INCHES SHALL BE REPORTED TO THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL NOT DEVIATE FROM THESE PLANS WITHOUT THE WRITTEN CONSENT OF THE APPROPRIATE AUTHORITY AND THE ENGINEER.
- CONTRACTOR SHALL REPORT TO THE ENGINEER ANY ELEVATION DIFFERENCES GREATER THAN 4 FEET BETWEEN THE HIGHEST AND LOWEST TRENCH IN THE FIELD. THIS SHOULD BE CHECKED PRIOR TO INSTALLING THE LATERALS AND MANIFOLD.
- THIS DISPOSAL SYSTEM HAS BEEN DESIGNED TO OPERATE PROPERLY AT SPECIFICATIONS NOTED IN THESE PLANS. ALTERATIONS TO THE SYSTEM BY THE OWNER, INCLUDING BUT NOT LIMITED TO LANDSCAPING, DRAPAGE, BUILDING AND/OR WATER USAGE, MAY CAUSE PREMATURE FAILURE AND SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PLUMBING FIXTURES ARE CONNECTED TO THE DESIGNATED SEPTIC TANK(S). LOW FLOW TOILETS (1.6 GAL), SHOWERHEADS AND FAUCETS SHALL BE INSTALLED IN THE STRUCTURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR JOBSITE SAFETY AND PROTECTION OF THE PUBLIC FROM INJURY DURING CONSTRUCTION. THE OWNER SHALL BE RESPONSIBLE FOR THE PREVENTION OF PERSONAL INJURY TO ANYONE ON OR NEAR THE DISPOSAL SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT TANKS HAVE ADEQUATE STRENGTH AND INTEGRITY TO PERFORM SATISFACTORILY AS SHOWN ON THESE PLANS.
- THE WASTEWATER FLOW TO THE SEPTIC SYSTEM SHALL NOT EXCEED THE DESIGN FLOW SHOWN ON THIS PLAN.

ASSUMED LOCATION OF WATER METER SERVICE LINE ALIGNMENT FROM METER TO HOUSE. NOTE: WATER SERVICE LINE SHALL BE SLEEVED WITH SCH. 40 PVC WHEREVER IT IS 10' OR CLOSER TO PROPOSED OSSF DISPOSAL AREA LIMITS AND/OR ANY SYSTEM COMPONENT(S). EXTEND PVC SLEEVING 10' MIN. BEYOND EACH SIDE OF OSSF DISPOSAL AREA LIMITS AND/OR SYSTEM COMPONENTS.



ATTENTION:
THE SUPPLY/RETURN LINES, MANIFOLDS AND DRIP LINE AREAS SHALL BE CONSTRUCTED AS A 2-ZONE DISPOSAL SYSTEM AS SHOWN.



DRIP FIELD CROSS SECTION
SCALE: 1"=5'

STATE OF TEXAS
JOHN J. HAAG
90158
LICENSED PROFESSIONAL ENGINEER
J. Haag, P.E.
02/14/23

ADD'L. NOTES:

- DESIGN DAILY WASTEWATER FLOW = 240 GPD EA. HOUSE (WATER SAVING DEVICES WERE ASSUMED FOR SEPTIC SYSTEM DESIGN).
- TOPOGRAPHIC DATA SOURCE: FEMA 2011 DATA
- INSTALLER SHALL VERIFY ALL EASEMENTS, SETBACKS AND PROPERTY LINE BEARINGS AND DISTANCES PRIOR TO CONSTRUCTION.

NOTE: OSSF IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE OR FEMA 100 YEAR FLOODPLAIN.
SITE EVALUATION BY JOHN J. HAAG, P.E. ON 09/29/22

DRAWN BY: JJH
CHECKED BY: JJH
DATE: 02/14/23
JOB NO. SUNNY22008

SHEET 1 OF 1

HAAG ENGINEERING CONSULTANTS

15831 SECRET TRAILS
SAN ANTONIO, TEXAS 78247
FIRM: F-5789
TEL: (210) 705-4268
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OSSF LAYOUT
LOT 56R, 1755 AND 1767 LIVE OAK DR.
TAMARACK SHORES, SECTION 2
CANYON LAKE, TEXAS

Olvera,Brandon

From: Olvera,Brandon
Sent: Tuesday, April 4, 2023 2:52 PM
To: 'jhaag@satx.rr.com'; Ritzen, Brenda
Cc: 'Garrett Winters'; 'Susan'
Subject: RE: 115414 as built

Good Afternoon,

File has been updated.

- ✓ Application states 4800 sq. ft. minimum for both structures, the design and planning materials are for 2464 sq. ft.
2. Revise accordingly and resubmit

Thank You,

Brandon Olvera | Designated Representative | Comal County | www.cceo.org

195 David Jonas Dr, New Braunfels, TX-78132 | t: 830-608-2090 | f: 830-608-2078 | e: olverb@co.comal.tx.us

From: jhaag@satx.rr.com <jhaag@satx.rr.com>
Sent: Friday, March 31, 2023 1:39 PM
To: Ritzen, Brenda <rabbjr@co.comal.tx.us>; Olvera,Brandon <Olverb@co.comal.tx.us>
Cc: 'Garrett Winters' <gwintersseptics@gmail.com>; 'Susan' <wintersseptics@gvtc.com>
Subject: 115414 as built
Importance: High

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Please see as-built drip summary and OSSF layout plan attached.

Changes:

1. Total drip line area reduced and location change;
2. Min. 12" type II or III soil below drip lines required now;
3. Ra = 0.2 now;
4. Only 1 zone now;
5. Vacuum breakers location change.

Thanks,

John J. Haag, P.E.
Haag Engineering Consultants, LLC, Firm #: F-5789
15831 Secret Trails
San Antonio, Texas 78247
Tel 210-705-4268



Planning Materials & Site Evaluation as Required Completed By John J. Haag, P.E.

System Description Proprietary aerobic drip disposal

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 800 gal ea house Absorption/Application Area (Sq Ft) 4800 sq ft min JKH

Gallons Per Day (As Per TCEQ Table III) 4800 gpd min JKH

(Sites generating more than 5000 gallons per day are required to obtain a permit through TCEQ.)

Is the property located over the Edwards Discharge Zone? Yes No

(If yes, the planning materials must be reviewed by a Regional Supervisor (R.S.) or Professional Engineer (P.E.).)

Is there an existing TCEQ approved CZP for the property? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? Yes No

Is there an existing TCEQ approval CZP for the property? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing CZP.)

VOID

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? Yes No

If yes, indicate the city: _____

By signing this application, I certify that:

- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

John J. Haag, P.E.
Signature of Designer

10/31/22
Date

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ON-SITE SEWAGE FACILITY APPLICATION

Planning Materials & Site Evaluation as Required Completed By John J. Haag, P.E.

System Description Proprietary aerobic drip disposal

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 500 gpd min. ea. house Absorption/Application Area (Sq Ft) 1200 min ea. house

Gallons Per Day (As Per TCEQ Table III) 240 ea. house

(Sites generating more than 5000 gallons per day are subject to a permit from TCEQ)

VOID

Is the property located over the Edwards Contributing Zone? Yes No
(If yes, the planning materials must be completed by a Registered Professional Engineer (P.E.)

Is there an existing TCEQ approved WPAP for the property? Yes No
(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing WPAP.)

If there is no existing WPAP, does the proposed development activity require a TCEQ approved WPAP? Yes No
(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed WPAP. A Permit to Construct will not be issued for the proposed OSSF until the proposed WPAP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? Yes No

Is there an existing TCEQ approval CZP for the property? Yes No

(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? Yes No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? Yes No

If yes, indicate the city: _____

By signing this application, I certify that:

- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

John J. Haag, P.E.
Signature of Designer

04/05/23
Date

Olvera,Brandon

From: Olvera,Brandon
Sent: Thursday, April 6, 2023 10:49 AM
To: 'jhaag@satx.rr.com'; Ritzen, Brenda
Cc: 'Garrett Winters'; 'Susan'
Subject: RE: 115414 as built

Good Morning,

File has been updated. Based on the application you sent in the ATU size does not meet the minimum shown on your application. 500 GPD each house would require a 1000 GPD ATU.

Thank You,

Brandon Olvera | Designated Representative | Comal County | www.cceo.org

195 David Jonas Dr, New Braunfels, TX-78132 | t: 830-608-2090 | f: 830-608-2078 | e: olverb@co.comal.tx.us

From: jhaag@satx.rr.com <jhaag@satx.rr.com>
Sent: Wednesday, April 5, 2023 10:07 AM
To: Olvera,Brandon <olverb@co.comal.tx.us>; Ritzen, Brenda <rabbjr@co.comal.tx.us>
Cc: 'Garrett Winters' <gwintersseptics@gmail.com>; 'Susan' <wintersseptics@gvtc.com>
Subject: RE: 115414 as built

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- Comal IT

Good morning:

Please find revised app sheet 2 attached.

Thanks,

John J. Haag, P.E.
Haag Engineering Consultants, LLC, Firm #: F-5789
15831 Secret Trails
San Antonio, Texas 78247
Tel 210-705-4268

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Olvera,Brandon

From: Olvera,Brandon
Sent: Thursday, April 20, 2023 12:21 PM
To: 'jhaag@satx.rr.com'
Subject: RE: Emailing: 115414_RevisedAppSheet2.pdf

Good Afternoon,
File has been updated.

Thank You,
Brandon Olvera | Designated Representative: OS0034792 | Comal County | www.cceo.org
195 David Jonas Dr, New Braunfels, TX-78132 | t: 830-608-2090 | f: 830-608-2078 | e: olverb@co.comal.tx.us

-----Original Message-----

From: jhaag@satx.rr.com <jhaag@satx.rr.com>
Sent: Friday, April 14, 2023 11:58 AM
To: Olvera,Brandon <Olverb@co.comal.tx.us>
Subject: Emailing: 115414_RevisedAppSheet2.pdf

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- Comal IT

Hi Brandon:

Please see revised app sheet 2 per our telephone conversation today.

Thanks,

John J. Haag, P.E.
Haag Engineering Consultants, LLC, Firm #: F-5789
15831 Secret Trails
San Antonio, Texas 78247
Tel 210-705-4268

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2148839-CLF/ITC

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General Warranty Deed

Date: August 12, 2021

Grantor: Miriam Luna f/k/a Miriam Martinez, a single woman, and Magaly Martinez, a single woman

Grantor's Mailing Address:

Miriam Luna f/k/a Miriam Martinez
Miriam Luna f/k/a Miriam Martinez
431 Elizabeth Uvalde, TX 78801

Magaly Martinez
Magaly Martinez
431 Elizabeth Uvalde TX 78801

Grantee: Anthony Collinsworth, a single man

Grantee's Mailing Address:

156 Canyon Bend, Canyon Lake, Texas 78133

Consideration: Cash and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged.

Property (including any improvements):

Lot 56R, TAMARACK SHORES SECTION II ON CANYON LAKE, Comal County, Texas, according to the map or plat thereof, recorded in Volume 4, Pages 8-9, Map and Plat Records, amended by instrument recorded in Document No. 200106038001, Official Public Records, Comal County, Texas, together with a 1983 Fleetwood Homes Oak Knoll Manufactured Home, Label/Seal# TXS0584267, Serial # TXFL1AD410308191.

Reservations from Conveyance: None

Exceptions to Conveyance and Warranty: Validly existing easements, rights-of-way, and prescriptive rights, whether of record or not; all presently recorded and validly existing instruments, other than conveyances of the surface fee estate, that affect the Property; and taxes for 2021, which Grantee assumes and agrees to pay, and subsequent assessments for that and prior years due to change in land usage, ownership, or both, the payment of which Grantee assumes.

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

When the context requires, singular nouns and pronouns include the plural.

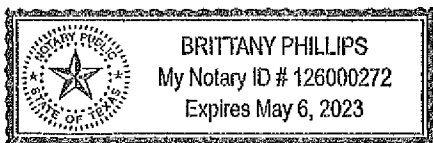
Miriam Luna f/k/a Miriam Martinez

Magaly Martinez

STATE OF TEXAS)

COUNTY OF COMAL)

This instrument was acknowledged before me on August 12, 2021, by Miriam Luna f/k/a Miriam Martinez, and Magaly Martinez.



Notary Public, State of Texas

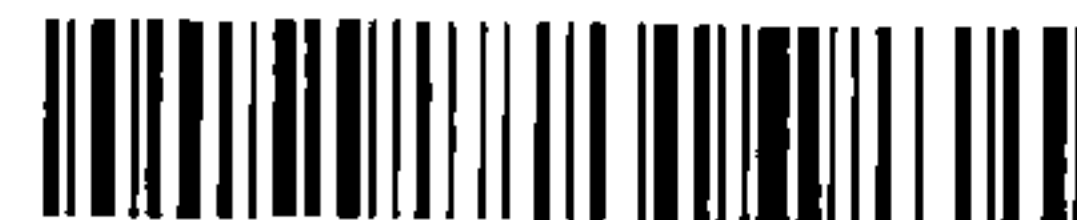
PREPARED IN THE OFFICE OF
Stevens & Malone, P.L.L.C.
P.O. Box 1744
Canyon Lake, TX 78133
Tel: (830) 964-4442

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
08/17/2021 09:14:30 AM
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Bobbie Koepp

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THE COUNTY OF COMAL

STATE OF TEXAS

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

According to Texas Commission on Environmental Quality (TCEQ) Rules for On- Site Sewage Facilities, this document is filed in the Deed Records of Comal County, Texas.

I

The Texas Health and Safety Code, Chapter 366 authorizes the TCEQ to regulate on-site sewage facilities (OSSFs). Additionally, the Texas Water Code (TWC), § 5.012 and § 5.013, gives the TCEQ primary responsibility for implementing the laws of the State of Texas relating to water and adopting rules necessary to carry out its powers and duties under the TWC. The TCEQ, under the authority of the TWC and the Texas Health and Safety Code, requires owner's to provide notice to the public that certain types of OSSFs are located on specific pieces of property. To achieve this notice, the TCEQ requires a recorded affidavit. Additionally, the owner must provide proof of the recording to the OSSF permitting authority. This recorded affidavit is not a representation or warranty by the TCEQ of the suitability of this OSSF, nor does it constitute any guarantee by the TCEQ that the appropriate OSSF was installed.

II

An OSSF requiring a maintenance contract, according to 30 Texas Administrative Code §285.91(12) will be installed on the property described as (insert legal description):

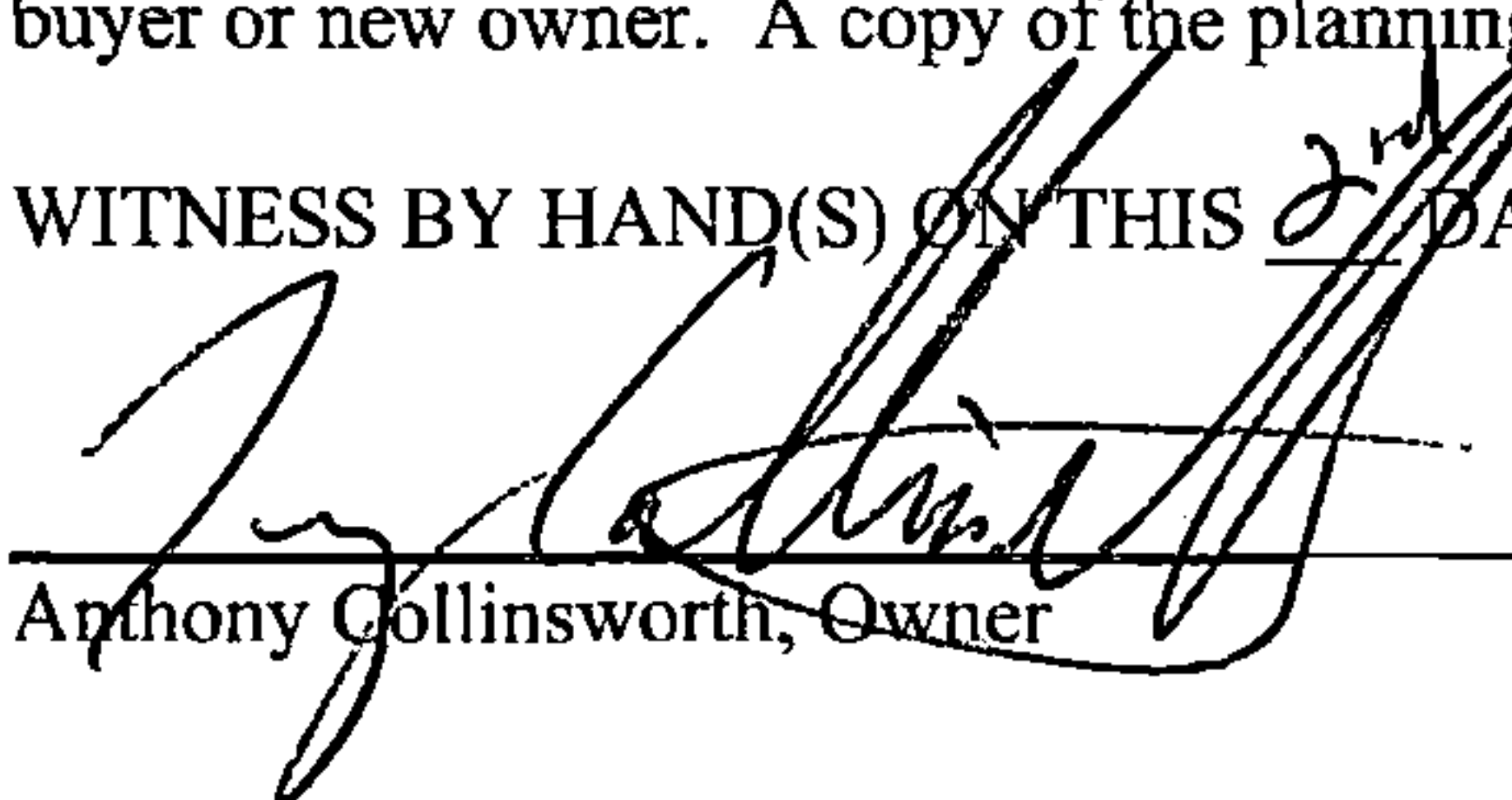
Legal Description: Lot 56R Tamarack Shores Section II on Canyon Lake

This property is owned by: Anthony Collinworth

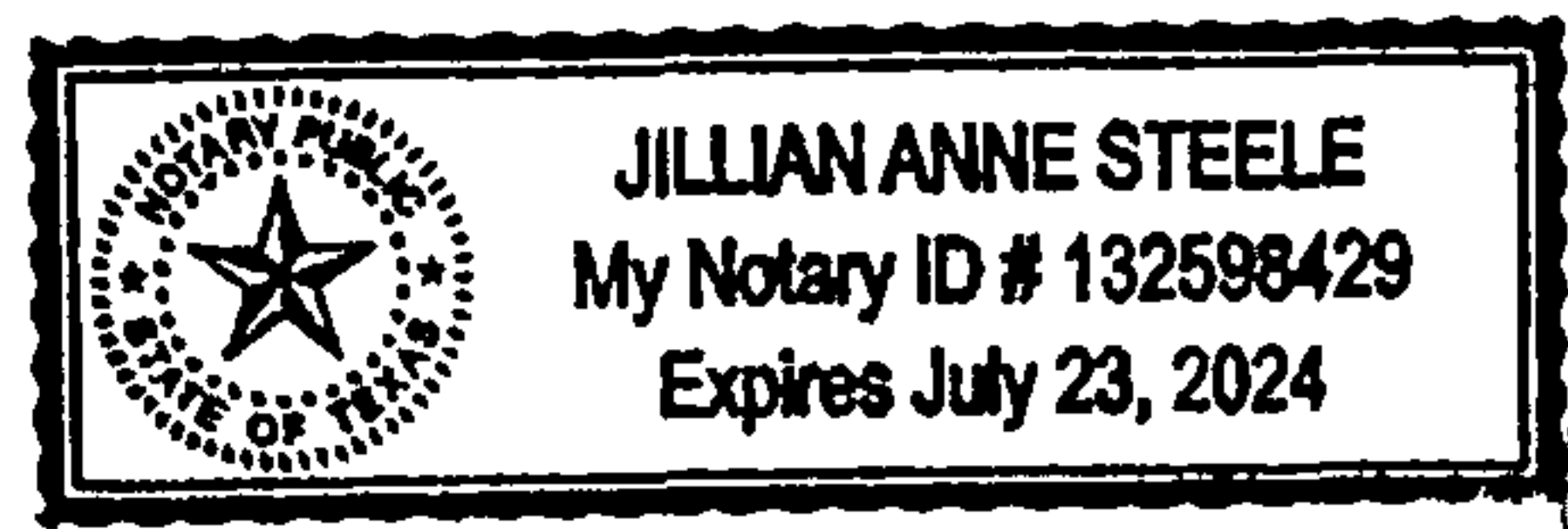
This OSSF must be covered by a continuous maintenance contract for the first two years. After the initial two year service policy, the owner of an aerobic system for a single family residence shall either obtain a maintenance contract within 30 days or maintain the system personally.

The owner will, upon any sale or transfer of the above-described property, request a transfer of the permit for the OSSF to the buyer or new owner. A copy of the planning materials for the OSSF can be obtained from Comal County.

WITNESS BY HAND(S) ON THIS 2nd DAY OF November, 2022.


Anthony Collinworth, Owner

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 2nd DAY OF November, 2022.

 Jillian Steele
Notary Public, State of Texas

Filed and Recorded
Official Public Records
Bobbie Koepf, County Clerk
Comal County, Texas
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