Preliminary Field Check For Drip Systems

DATE: 03/28/2025

INSPECTOR: Efrain Gallegos

OBSERVATION: Could not gain access to property

Olvera,Brandon

From: Olvera,Brandon
Sent: Thursday, March 27, 2025 2:39 PM
To: Greg Johnson; pbwood@frontier.com
Subject: 118418

Property Owner/Agent,

Our office will be conducting a site visit this week. No one needs to be there for the inspection. No other deficiencies at this time.

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 |

RECEIVED
By Kathy Griffin at 3:10 pm, Feb 26, 2025

COMAL COUNTY
ENGINEER'S OFFICE

OSSF DEVELOPMENT APPLICATION CHECKLIST

Staff will complete shaded items

		118418
Date Received	*Initials*	*Permit Number*

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

02/24/2025
Date

___ COMPLETE APPLICATION

Check No._____ Receipt No._____

INCOMPLETE APPLICATION
—— (Missing Items Circled, Application Refused)

Revised: September 2019

RECEIVED
By Kathy Griffin at 3:10 pm, Feb 26, 2025

COMAL COUNTY
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

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

Date February 17, 2025 Permit Number 118418

1. APPLICANT / AGENT INFORMATION

Owner Name	PAMELA WOOD	Agent Name	GREG JOHNSON, P.E.
Mailing Address	687 HENERSON DRIVE	Agent Address	170 HOLLOW OAK
City, State, Zip	SPRING BRANCH TEXAS 78070	City, State, Zip	NEW BRAUNFELS TEXAS 78132
Phone #	425-238-1854	Phone #	830-905-2778
Email	pbwood@frontier.com	Email	gregjohnsonpe@yahoo.com

2. LOCATION

Subdivision Name CANYON LAKE ESTATES Unit SEC 1 Lot 65 Block A

Survey Name / Abstract Number _____ Acreage _____

Address 2413 FULLER DRIVE City CANYON LAKE State TX Zip 78133

3. TYPE OF DEVELOPMENT

☒ Single Family Residential

Type of Construction (House, Mobile, RV, Etc.) HOUSE

Number of Bedrooms 2

Indicate Sq Ft of Living Area 1400

☐ 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: $ 280,000 (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 ☐ Rainwater Collection

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 of Owner _____ Date 2/19/25

Revised January 2021

CANYON LAKE ESTATES, SECTION 1, BLOCK A, LOT 65

COMALCOUNTY
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 GREG W. JOHNSON, P.E.

System Description PROPRIETARY; AEROBIC TREATMENT AND DRIP TUBING

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

Tank Size(s) (Gallons) CLEARSTREAM 600NC3T Absorption/Application Area (Sq Ft) 1500

Gallons Per Day (As Per TCEQ Table 111) 180

(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.)

Is there at least one acre per single family dwelling as per 285.40(c)(1)? ☐ Yes ☒ No

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

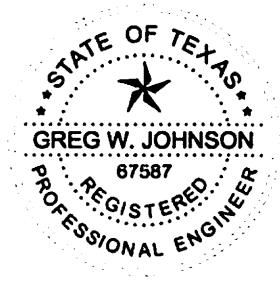
(if yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

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 UP has been approved by the appropriate reg

Is this property within an incorporated city? ☐ Yes ☒ No

If yes, indicate the city: _____



FIRM #2585

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.

Signature of Designer

February 19, 2025
Date

Revised March 2024

AFFIDAVIT

THE COUNTY OF COMAL
STATE OF TEXAS

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

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

I

The Texas Health and Safety Code, Chapter 366 authorizes the Texas Commission on Environmental Quality (TCEQ) to regulate on-site sewage facilities (OSSFs). Additionally, the Texas Water Code (TWC), § 5.012 and § 5.013, gives the commission 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 commission, 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 commission 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 commission of the suitability of this OSSF, nor does it constitute any guarantee by the commission 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):

1 UNIT/PHASE/SECTION A BLOCK 65 LOT CANYON LAKE ESTATES SUBDIVISION

IF NOT IN SUBDIVISION: _____ ACREAGE _____ SURVEY

The property is owned by (insert owner's full name): PAMELA WOOD

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 treatment system for a single family residence shall either obtain a maintenance contract within 30 days or maintain the system personally.

Upon sale or transfer of the above-described property, the permit for the OSSF shall be transferred to the buyer or new owner. A copy of the planning materials for the OSSF can be obtained from the Comal County Engineer's Office.

WITNESS BY HAND(S) ON THIS 21 DAY OF FEBRUARY ,20 25

Owner(s) signature(s)

PAMELA WOOD
Owner (s) Printed name (s)

PAMELA WOOD SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 21 DAY OF FEBRUARY ,20 25

Notary Public Signature

GREG W. JOHNSON
Notary Public, State of Texas
Comm. Expires 05-17-2026
Notary ID 124218310

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
02/24/2025 08:10:11 AM
TERRI 1 Pages(s)
202506005092

Bobbie Koepp

PERMIT#

SOTX SEPTIC SERVICES
15656 CRANES MILL RD.
CANYON LAKE, TX 78133
(830) 481-3249
SOTXSERVICES@GMAIL.COM

On-Site Sewage Facility (OSSF) Service Agreement

I. **General:** This Work for Hire Agreement (hereinafter referred to as "Agreement") is entered into by and between PAMELA WOOD, (hereinafter referred to as "Client") and SOTX Septic Services (hereinafter to as "Contractor"). By this agreement, Contractor agrees to render services, as described herein, and the Client agrees to fulfill his/her/their responsibilities under this agreement as described herein.

II. **Effective Dates:** This agreement commences on receipt of full payment and runs for two (2) years. Agreement's... Starting Date: (Date License to Operate is Issued) Ending Date: (2yrs. From Date of LTO)

III. **Services by Contractor**: Contractor will provide the following services (hereinafter referred to as the "Services"):

1. In compliance with Agency (TCEQ and/or County) and manufacturer's requirements, inspect and perform routine maintenance on the On-Site Sewage Facility (hereinafter referred to as the "OSSF") three (3) times per year (approximately once every four (4) months).
2. Report to the appropriate regulatory authority and to the Client, as is required by both the State's on-site rules and the local Agency's rules, if more stringent. All findings must be reported to the local Agency within 14 days.
3. If any components of the OSSF are found to need repair during the inspection, the Contractor will notify the Client of the repairs needed.
4. Visit in response to Client's request(s) for unscheduled service(s) within two business days from the date of Contractor's receipt of Client's request. All unscheduled responses are in addition to the fee covered by this Agreement and will be billed to the Client.
5. Provide notification of arrival to site to the homeowner or to site personnel. Additionally, written notification of the visit will be left at the site or with site personnel upon completion or inspection, as well as, forwarded to agency within 14 days.

IV. **Site Location**: The Services are to be performed at the property located at:

2413 FULLER DRIVE, CANYON LAKE, TX 78133

CANYON LAKE ESTATES, SECTION 1, BLOCK A, LOT 65

V. **Payment(s):** The fee for this Agreement only covers the Services describes herein. This fee does not cover equipment, parts or labor supplied for the repairs or charges for unscheduled Client-request trips to the site. Payments for such additional services are due when service is provided or rendered. Payments not received within 30 days from due date will be subjected to a $20.00 late penalty and / or a 1.5% carrying charge, whichever is greater, in addition the reasonable attorney's fees and all costs of collection incurred by Contractor in collection of any unpaid debt(s). By signing this contract, the Client is authorizing the Contractor to remove any parts which were installed but not paid for at the end of 30 days. The Client is still responsible for any labor costs associated with the installation and remove of said parts.

Initials... Customer: X PBW Contractor: CDH

Client's Responsibilities: The Client is responsible for each and all the following:

1. Maintain chlorinator and provide proper chlorine supply, if OSSF is equipped with same.
2. Provide all necessary yard or lawn maintenance and removal of obstacles as needed to allow the OSSF to function properly, and to allow Contractor easy access to all parts of the OSSF.
3. Maintain a current license to operate and abide by the conditions and limitations of that license and all requirements for on-site sewage facilities (OSSF's) from the State and local regulatory agency, as well as manufacturer's recommendations.
4. Immediately notify the Contractor and Agency of all problems with, including the failure of the OSSF.
5. Upon receiving a written notification of services needed from the Contractor, it becomes the Client's responsibility to contact the Contractor to authorize the service. If the Client chooses to use a different contractor to perform the service, the Client's responsible for ensuring the contractor holds the proper license (installer II) and is certified by the manufacturer. Also, the Client is responsible for ensuring proper notification is given to the Agency, as required by the State and local Agency rules.
6. Provide the Contractor with water usage records, upon request, for evaluation by the Contractor of the OSSF performance.
7. Clients residing in Harris County should allow for samples at both the inlet and outlet to the OSSF to be obtained by the Contractor for the purpose of evaluating the OSSF's performance when requested by the Client. If these samples are sent to the lab for testing, the Client will directly pay the lab for the cost of the testing plus pay the Contractor for all man-hours expended in providing this additional service at the rate of $75.00 per hour measured from office to site, site to lab, and lab to office, otherwise known as portal to portal.
8. Not allow the backwash from water treatment or water conditioning equipment to enter the OSSF.
9. Provide for pumping of tanks, when needed, at Clients expense.
10. Maintain site drainage to prevent adverse effects on OSSF.
11. Promptly and fully pay Contactor's bills, fees, or invoices as described herein.

VI. **Access by Contractor:** Contractor, or personnel authorized by the Contractor, may enter the property at reasonable times without prior notice for the purpose of performing the above-described Services. Contractor will require access to the OSSF electrical and physical components, including tanks, by means of manways or risers for the purpose of evaluations required by manufacturer, and/ or rules. If such manways or risers are not in place, excavation together with other labor and materials will be required and will be billed to Client as additional service at the rate of $75.00 per hour, plus materials billed at list price. Excavated soil is to be replaced as best as reasonably possible.

VII. **Application or Transfer of Payments:** The fees paid for this agreement may transfer to subsequent owner(s); however, this agreement will not transfer. The subsequent owner(s) must sign a similar agreement authorizing Contractor to perform the above-described Services and accepting Client's responsibilities. This replacement Agreement must be signed and received within 30 days of transfer of ownership. Contractor will apply all funds received from Client first to any past due obligations arising from this Agreement including late charges, return check charges, and charges for repairs or services not paid within 30 days of invoicing. The consumption of the payment in this manner may lead to early termination of the agreement by Contractor.

VIII. **Termination of Agreement:** This Agreement may be terminated by either party within 30 days written notice in the event of substantial failure to perform in accordance with its terms by the other party without fault of the terminating party. If this Agreement is so terminated, Contractor shall be paid at the rate of $75.00 per hour for any work performed, but not yet paid. The party terminating will immediately notify the other party, the equipment manufacturer, and the regulatory agency of the termination.

IX. **Limits of Liability:** In no event shall the Contractor be liable for indirect, consequential, incidental or punitive damages, whether in contact tort or any other theory. In no event the Contractor's liability for direct damages exceed the price for the Services described in this Agreement.

X. **Severability:** If any provision in the Agreement shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If court finds that any provision of this

Agreement is invalid or unenforceable, but that by limiting such provision it would become valid and enforceable, then such provision shall be written, construed, and enforced as so limited.

XI. **Performance of Agreement:** Commencement of performance by Contractor under this agreement is contingent on the following conditions (1) Contractor receiving a fully execute original copy of this agreement. (2) Contractor receiving payment in full for the fee as described in Section V. If the above conditions are not met, then Contractor is not obligated to perform any portion of this agreement.

XII. **Entire Agreement:** This agreement contains the entire agreement parties, and there are no other promises or conditions in any other agreement, oral or written.

Client... (And/or authorized agent)

Printed Name: PAMELA WOOD **Signature:** _____ **Date:** _____

Printed Name: _____ **Signature:** _____ **Date:** _____

Physical Address: 2413 FULLER DRIVE, CANYON LAKE **Zip:** 78133

Mailing Address: 687 HENDERSON DR, SPRING BRANCH **Zip:** 78070

Phone # _____ **Cell#** 425-238-1854 **County:** COMAL

Email: pbwood@frontier.com **Gate Code:** _____

==========Contractor==========Contractor==========

SOTX Septic Services **Clarence D. Hinds Jr** Clarence D Hinds Jr.

15656 Cranes Mill Rd. **Lic #: OSSF Installer II #: OS0030965**

Canyon Lake, TX 78133 **Maintenance Provider #: MP0002439**

830-481-3249

sotxservices@gmail.com **Installer Name:** BRAD PARKER

Phone #: 830-310-2344

Email: parker.construction@yahoo.com

Lic #: OS#0035249

Manufacturer: CLEARSTREAM

GPD: (600) 800 1000 **Other:** _____

Disposal: Spray (Drip) **Other:** _____

Initials... Customer: PBW Contractor: CDH

ON-SITE SEWERAGE FACILITY
SOIL EVALUATION REPORT INFORMATION

Date Soil Survey Performed: **February 18, 2025**

Site Location: **CANYON LAKE ESTATES, SECTION 1, BLOCK "A", LOT 65**

Proposed Excavation Depth: **N/A**

Requirements:

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.
Locations of soil boring or dug pits must be shown on the site drawing.
For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.
Describe each soil horizon and identify any restrictive features on the form. Indicate depths where features appear.

SOIL BORING NUMBER **SURFACE EVALUATION**

Depth (Feet)	Texture Class	Soil Texture	Gravel Analysis	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
0 – 4"	**III**	**CLAY LOAM**	**N/A**	**NONE OBSERVED**	**LIMESTONE @ 4"**	**BROWN**
1						
2						
3						
4						
5						

SOIL BORING NUMBER **SURFACE EVALUATION**

Depth (Feet)	Texture Class	Soil Texture	Gravel Analysis	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
0	**SAME**		**AS**		**ABOVE**	
1						
2						
3						
4						
5						

I certify that the findings of this report are based on my field observations and are accurate to the best of my ability.

Greg W. Johnson, P.E. 67587-F2585, S.E. 11561

02/18/25
Date

OSSF SOIL EVALUATION REPORT INFORMATION

Date: February 19, 2025

Applicant Information:

Name: PAMELA WOOD
Address: 687 HENDERSON DRIVE
City: SPRING BRANCH State: TEXAS
Zip Code: 78070 Phone: (425) 238-1854

Site Evaluator Information:

Name: Greg W. Johnson, P.E., R.S, S.E. 11561
Address: 170 Hollow Oak
City: New Braunfels State: Texas
Zip Code: 78132 Phone & Fax (830)905-2778

Property Location:

Lot 65 Unit A Blk 1 Subd. CANYON LAKE ESTATES
Street Address: 2413 FULLER DRIVE
City: CANYON LAKE Zip Code: 78133
Additional Info.:

Installer Information:

Name:
Company:
Address:
City: State:
Zip Code: Phone

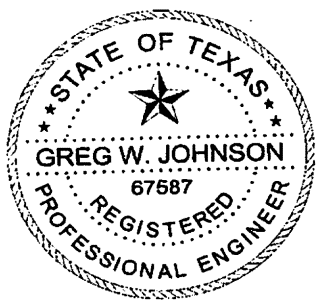
Topography: Slope within proposed disposal area: 6 %

Presence of 100 yr. Flood Zone:	YES ___ NO X
Existing or proposed water well in nearby area.	YES ___ NO X
Presence of adjacent ponds, streams, water impoundments	YES ___ NO X
Presence of upper water shed	YES ___ NO X
Organized sewage service available to lot	YES ___ NO X

I HAVE PERFORMED A THOROUGH INVESTIGATION BEING A REGISTERED PROFESSIONAL ENGINEER AND SITE EVALUATOR IN ACCORDANCE WITH CHAPTER 285, SUBCHAPTER D, §285.30, & §285.40 (REGARDING RECHARGE FEATURES), TEXAS COMMISSION OF ENVIRONMENTAL QUALITY (EFFECTIVE DECEMBER 29, 2016).

GREG W. JOHNSON, P.E. 67587 - S.E. 11561

02/19/25
DATE



FIRM #2585

AEROBIC TREATMENT
DRIP TUBING SYSTEM
DESIGNED FOR:
PAMELA WOOD
687 HENDERSON DRIVE
SPRING BRANCH, TEXAS 78070

SITE DESCRIPTION:
Located in Canyon Lake Estates Section 1, Block A, Lot 65, at 2413 Fuller Drive, the proposed system will serve a two bedroom residence (1400 sf.) situated in an area with shallow Type III soil as described in the Soil Evaluation Report. Native grasses and oak trees were found throughout this property. An aerobic treatment plant utilizing drip irrigation was chosen as the most appropriate system to serve the conditions on this lot.

PROPOSED SYSTEM:
A 3-inch SCH-40 pipe discharges from the residence into a Clearstream NC3T 600 gpd aerobic plant containing a 400-gallon pretreatment tank, an aerobic treatment plant, and a 700-gallon pump chamber containing a submersible (0.5 HP Clearstream P-20 or equivalent) well pump. The well pump is activated by a time controller allowing the distribution ten times per day with an 8 minute run time with float setting at 180 gallons. A high level audible and visual alarm will activate should the pump fail. Distribution is through a self flushing 100 micron disc filter (Arkal) then through a 1" SCH-40 manifold to a 1500 sf. drip tubing field, with ***Netifim Bioline*** drip lines set approximately two feet apart with ***0.61 gph*** emitters set every two feet, as per the attached schematic. A pressure regulator PMR-MF 40psi installed in the pump tank on the manifold to the field will maintain pressure at 40 psi. A 1" SCH-40 return line is installed to continuously flush the system by cycling a 1" ball valve to the pump tank. Solids caught in the Arkal disk filter are flushed each cycle back to the trash tank. Vacuum breakers installed at the highest point on each manifold will prevent siphoning of effluent from higher to lower parts of the field. Field area will be scarified and built up with 8" of Type II or Type III soil, then the drip tubing will be laid and capped with 6" of Type II or Type III soil ***(NOT SAND). A minimum of 12" soil required between drip tubing and rock/tank.*** The field area will be sodded with grass prior to system startup. **Risers are required on tank inspection ports as per 30 TAC 285.38 (9/1/2023). This includes access limitation (<65lbs lid or hardware secured lid), inspection and cleanout ports shall have risers over the port openings which extend to a minimum of two inches above grade. A secondary plug, cap, or other suitable restraint system shall be provided below the riser cap to prevent tank entry if the cap is unknowingly damaged or removed.**

DESIGN SPECIFICATIONS:
Daily waste flow: 2 Br. Res Q=(2+1)*75-(20%) = 180 GPD

Pretreatment tank size: 428Gal
Plant Size: Clearstream NC3T 600gpd (TCEQ Approved)
Pump tank size: 700 Gal
Reserve capacity after High Level: 60 Gal (1/3 day Req'd)
Application Rate: Ra = 0.2 gal/sf
Total absorption area: Q/Ra = 180 GPD/0.20 = 900 sf. (Actual 1500sf.)
Total linear feet drip tubing: 750' ***Netifim Bioline*** drip tubing .61 GPH
Pump requirement: 375 emitters @ .61 gph @ 30 psi = 3.8125 gpm
Pump Requirement (cont.): (0.5 HP Clearstream P-20 pump or equiv.)
MINIMUM SCOUR VELOCITY (**MSV**) > 2 FPS
IN DRIP TUBING W/ NOM. DIA. 0.55" ID

MSV = 2 FPS (Πd↑2)/4*7.48 gal/cf*60 sec/min
MSV = 2(3.14159((.55/12)↑2)/4)*7.48*60
MSV = 1.5 gpm PER LINE * 2 LINES = 3 GPM MIN FLOW RATE

IN RETURN MANIFOLD W/ NOM. DIA 1.049" ID

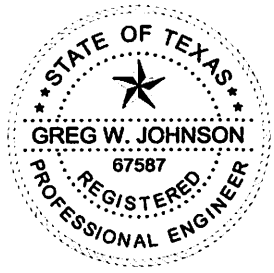
MSV = 2 FPS (Πd↑2)/4*7.48 gal/cf*60 sec/min
MSV = 2(3.14159((1.049/12)↑2)/4)*7.48*60
MSV = 5.4 GPM

PIPE AND FITTINGS:
All pipes and fittings in this 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, §285.30 and §285.40 Texas Commission On Environmental Quality. (Effective December 29, 2016)

02/19/25

Greg W. Johnson, P.E. No. 67587 / F-2585
170 Hollow Oak
New Braunfels, Texas 78132
830/905-2778

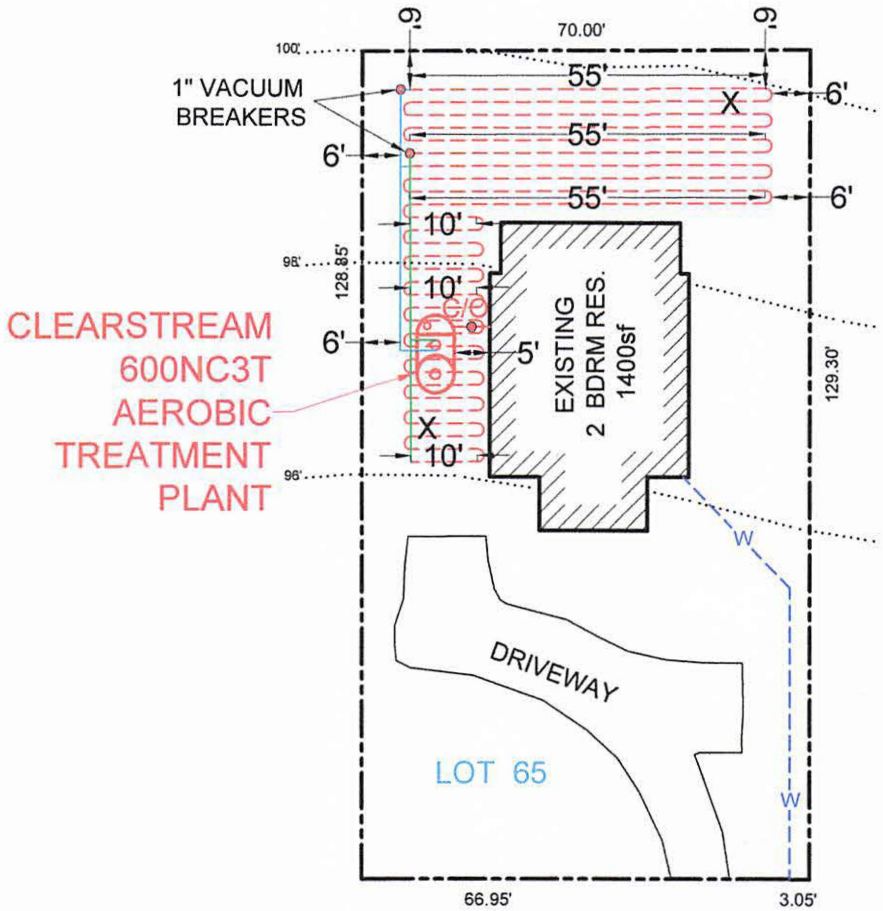


INSTALL 1500sf OF FIELD USING 750' OF DRIP TUBING. THERE SHALL BE NO PARKING, DRIVING OR STORAGE ON THE SEPTIC FIELD AT ANY TIME FOR ANY REASON.

*USE TWO WAY CLEAN OUT
**USE SCH-40 OR SDR-26 TO TANK

X= TEST HOLE

NOTE:
EXISTING SEPTIC TANK TO BE PUMPED, CRUSHED AND BACK FILLED. EXISTING SEPTIC SYSTEM TO BE ABANDONED

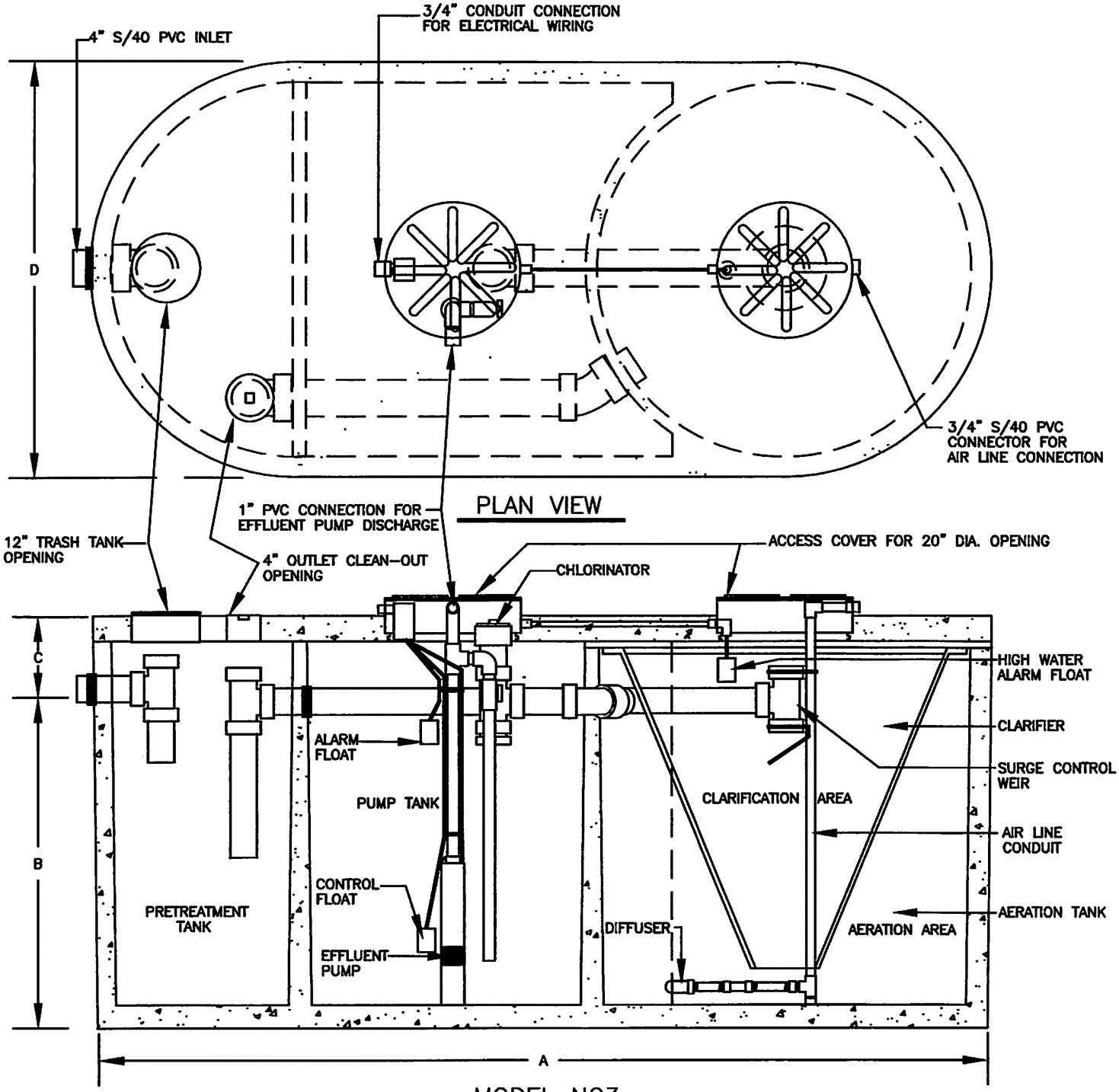


FULLER DRIVE

STATE OF TEXAS
GREG W. JOHNSON
67587
REGISTERED PROFESSIONAL ENGINEER

OWNER: PAMELA WOOD					DRAWN BY: EJS III
STREET ADDRESS: 2413 FULLER DRIVE					
LEGAL DESC: CANYON LAKE ESTATES		UNIT/SECTION/PHASE: 1	BLOCK: A	LOT: 65	
PREPARED BY: GREG W. JOHNSON, P.E. F#002585	SCALE: 1"=30'	DATE: 2/19/2025	REVISED:		

DESIGN DRAWINGS



MODEL NC3
SECTION

DIMENSIONAL DATA

MODEL	A	B	C	D
500NC3-500	12'-2"	60"	10"	75"
500NC3-750	13'-5"	60"	10"	75"
600NC3	12'-7"	60"	10"	82"

STATE OF TEXAS
GREG W. JOHNSON
67587
REGISTERED
PROFESSIONAL ENGINEER

F-2585

TANK NOTES:

Tanks must be set to allow a minimum of 1/8" per foot fall from the residence.

Tightlines to the tank shall be SCH-40 PVC.

A two way sanitary tee is required between residence and tank.

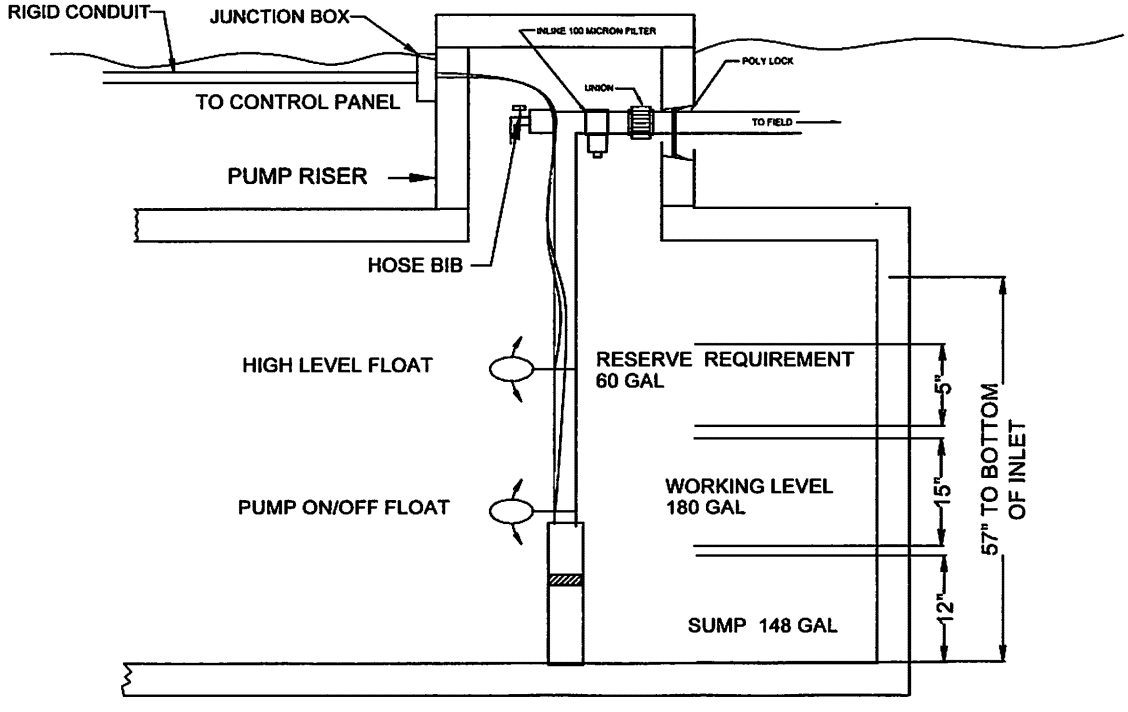
A minimum of 4" of sand, sandy loam, clay loam free of rock shall be placed under and around tanks

Tanks must be left uncovered and full of water for inspection by the permitting authority.

STATE OF TEXAS
GREG W. JOHNSON
67587
REGISTERED
PROFESSIONAL ENGINEER

F-2585

ALL WIRING MUST BE IN COMPLIANCE WITH THE MOST RECENT NATIONAL ELECTRIC CODE



TYPICAL PUMP TANK CONFIGURATION
CLEARSTREAM 600NC3T W/ 700 GAL PUMP TANK

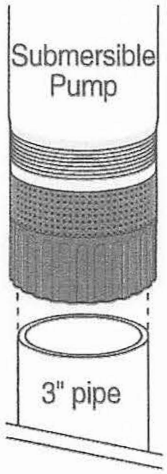


Figure 1: Insert a 3" PVC pipe in the bottom of the motor to raise the pump in the tank.

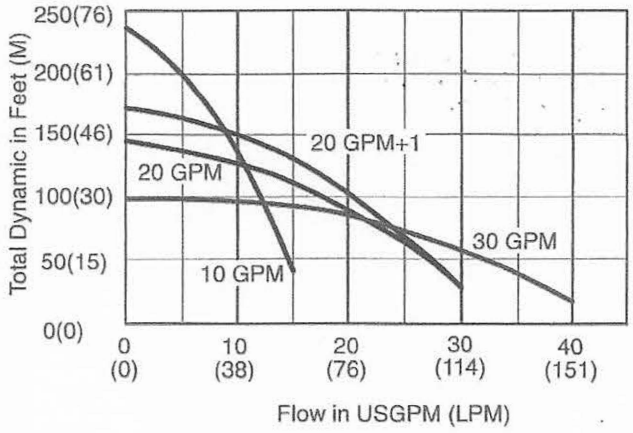


Figure 2: Performance in Feet of Head at Gallons per Minute (M@LPM).

Table 1: Recommended Fusing Data

60 Hz/1 Phase 2-Wire Cable

Model	HP	Voltz/Hz/ Phase	Max Load Amps	Locked Rotor Amps	Fuse Size Standard/ Dual Element
10DOM05121	1/2	115/60/1	11.0	30.0	15
20DOM05121	1/2	115/60/1	9.5	30.0	15
30DOM05121	1/2	115/60/1	9.5	30.0	15
10DOM05221	1/2	230/60/1	5.5	14.5	10
20DOM05221	1/2	230/60/1	4.6	14.5	10
30DOM05221	1/2	230/60/1	4.6	14.5	10
20DOM05121+1	1/2	115/60/1	10.6	30.0	15
20DOM05221+1	1/2	230/60/1	5.3	14.5	10

Arkal 1" Super Filter

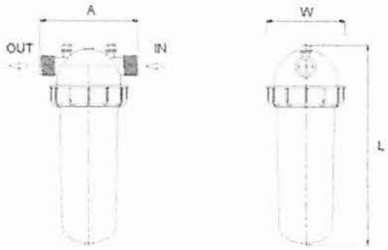
Catalog No. 1102 0_ _ _

Features

- A "T" shaped filter with two 1" male threads.
- A "T" volume filter for in-line installation on 1" pipelines.
- The filter prevents clogging due to its enlarged filtering area that collects sediments and particles.
- Manufactured entirely from fiber reinforced plastic.
- A cylindrical column of grooved discs constitutes the filter element.
- Spring keeps the discs compressed.
- Screw-on filter cover.
- Filter discs are available in various filtration grades.

Technical Data

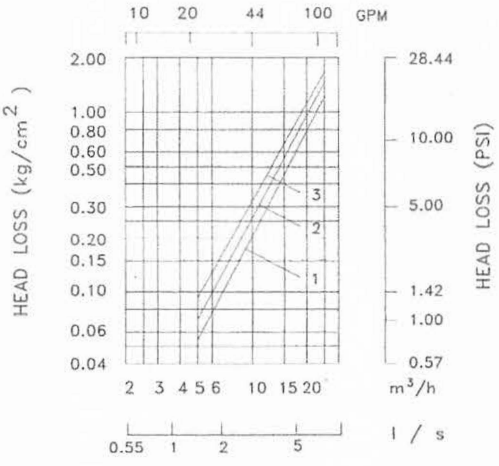
Inlet/outlet diameter	1" BSPT (male) 25.0 mm – nominal diameter 33.6 mm – pipe diameter (O. D.)	1" NPT (male)
Maximum pressure	10 atm	145 psi
Maximum flow rate	8 m^3/h (1.7 l/sec)	35 gpm
General filtration area	500 cm^2	77.5 in^2
Filtration volume	600 cm^3	37 in^3
Filter length L	340 mm	13 13/32"
Filter width W	130 mm	5 3/32"
Distance between end connections A	158 mm	6 7/32"
Weight	1.420 kg	3.13 lbs.
Maximum temperature	70° C	158 °F
pH	5-11	5-11



Filtration Grades

Blue (400 micron / 40 mesh)
Yellow (200 micron / 80 mesh)
Red (130 micron / 120 mesh)
Black (100 micron /140 mesh)
Green (55 micron)

Head Loss Chart



PMR-MF

PRESSURE-MASTER REGULATOR - MEDIUM FLOW

Specifications

The pressure regulator shall be capable of operating at a constant, factory preset, non-adjustable outlet pressure of 6, 10, 12, 15, 20, 25, 30, 35, 40, 50, or 60 PSI (0.41, 0.69, 0.83, 1.03, 1.38, 1.72, 2.07, 2.41, 2.76, 3.45, or 4.14 bar) with a flow range between:

4 - 16 GPM (909 - 3634 L/hr) for 6 - 10 PSI models or
2 - 20 GPM (454 - 4542 L/hr) for 12 - 60 PSI models.

The pressure regulator shall maintain the nominal pressure at a minimum of 5 PSI (0.34 bar) above model inlet pressure and a maximum of 80 PSI (5.52 bar) above nominal model pressure*. Refer to the PRU performance curve to establish specific outlet pressures based on relative inlet pressure and flow rate. Always install downstream from all shut off valves. Recommended for outdoor use only. Not NSF certified.

All pressure regulator models shall be equipped with one of these inlet-x-outlet configurations:

Inlet	Outlet
¾-inch Female National Pipe Thread (FNPT)	¾-inch Female National Pipe Thread (FNPT)
1-inch Female National Pipe Thread (FNPT)	1-inch Female National Pipe Thread (FNPT)
1-inch Female British Standard Pipe Thread (FBSPT)	1-inch Female British Standard Pipe Thread (FBSPT)

The upper housing, lower housing, and internal molded parts shall be of engineering-grade thermoplastics with internal elastomeric seals and a reinforced elastomeric diaphragm. Regulation shall be accomplished by a fixed stainless steel compression spring, which shall be enclosed in a chamber isolated from the normal water passage.

Outlet pressure and flow shall be clearly marked on each regulator.

The pressure regulator shall carry a two-year manufacturer's warranty on materials, workmanship, and performance. Each pressure regulator shall be water tested for accuracy before departing the manufacturing facility.

The pressure regulator shall be manufactured by Senninger Irrigation in Clermont, Florida. Senninger is a Hunter Industries Company.

Physical

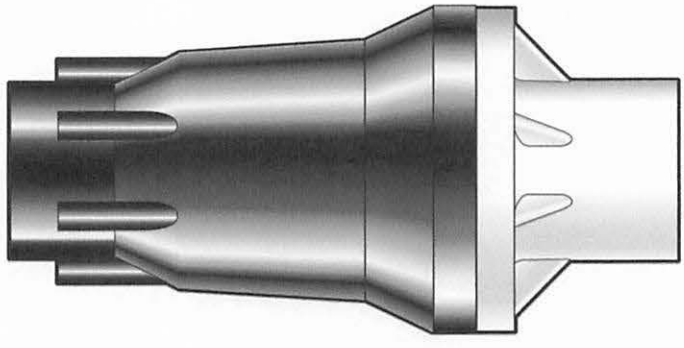
3/4" FNPT x 3/4" FNPT model *(shown on right)*

Overall Length	5.2 inches (13.1 cm)
Overall Width	2.5 inches (6.4 cm)

1" FNPT x 1" FNPT model

1" FBSPT x 1" FBSPT model

Overall Length	5.8 inches (14.6 cm)
Overall Width	2.5 inches (6.4 cm)



* Please consult factory for applications outside of recommended guidelines.

PMR-MF

PRESSURE-MASTER REGULATOR - MEDIUM FLOW

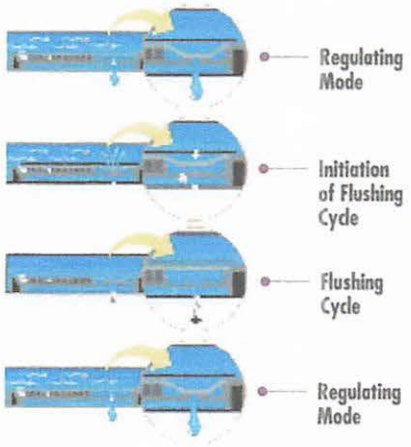
Model Numbers

Model #	Flow Range	Preset Operating Pressure	Maximum Inlet Pressure
PMR-6 MF	4 - 16 GPM (909 - 3634 L/hr)	6 PSI (0.41 bar)	80 psi (5.51 bar)
PMR-10 MF	4 - 16 GPM (909 - 3634 L/hr)	10 PSI (0.69 bar)	90 psi (6.20 bar)
PMR-12 MF	2 - 20 GPM (454 - 4542 L/hr)	12 PSI (0.83 bar)	90 psi (6.20 bar)
PMR-15 MF	2 - 20 GPM (454 - 4542 L/hr)	15 PSI (1.03 bar)	95 psi (6.55 bar)
PMR-20 MF	2 - 20 GPM (454 - 4542 L/hr)	20 PSI (1.38 bar)	100 psi (6.89 bar)
PMR-25 MF	2 - 20 GPM (454 - 4542 L/hr)	25 PSI (1.72 bar)	105 psi (7.24 bar)
PMR-30 MF	2 - 20 GPM (454 - 4542 L/hr)	30 PSI (2.07 bar)	110 psi (7.58 bar)
PMR-35 MF	2 - 20 GPM (454 - 4542 L/hr)	35 PSI (2.41 bar)	115 psi (7.93 bar)
PMR-40 MF	2 - 20 GPM (454 - 4542 L/hr)	40 PSI (2.76 bar)	120 psi (8.27 bar)
PMR-50 MF	2 - 20 GPM (454 - 4542 L/hr)	50 PSI (3.45 bar)	130 psi (8.96 bar)
PMR-60 MF	2 - 20 GPM (454 - 4542 L/hr)	60 PSI (4.14 bar)	140 psi (9.65 bar)

NETAFIM™

Bioline® Dripperline

Pressure Compensating Dripperline for Wastewater



BioLine's Self-Cleaning, Pressure Compensating Dripper is a fully self-contained unit molded to the interior wall of the dripper tubing.

As shown at left, BioLine is continuously self-cleaning during operation, not just at the beginning and end of a cycle. The result is dependable, clog free operation, year after year.

Product Advantages

The Proven Performer

- Tens of millions of feet used in wastewater today.
- Bioline is permitted in every state allowing drip disposal.
- Backed by the largest, most quality-driven manufacturer of drip products in the U.S.
- Preferred choice of major wastewater designers and regulators.
- Proven track record of success for many years of hard use in wastewater applications.

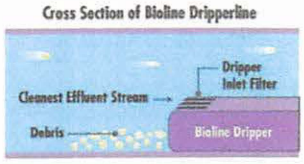
Quality Manufacturing with Specifications Designed to Meet Your Needs

- Pressure compensating drippers assure the highest application uniformity - even on sloped or rolling terrain.
- Excellent uniformity with runs of 400 feet or more - reducing installation costs.
- Highest quality-control standards in the industry: Cv of 0.25 (coefficient of manufacturer's variation).
- A selection of flows and spacings to satisfy the designer's demand for almost any application rate.

Long-Term Reliability

- Protection against plugging:
  - Dripper inlet raised 0.27" above wall of tubing to prevent sediment from entering dripper.
  - Drippers impregnated with Vinyzene to prevent buildup of microbial slime.
  - Unique self-flushing mechanism passes small particles before they can build up.

Cross Section of Bioline Dripperline



Root Safe

- A physical barrier on each BioLine dripper helps prevent root intrusion.
- Protection never wears out - never depletes - releases nothing to the environment.
- Working reliably for up to 15 years in subsurface wastewater installations.
- Additional security of chemical root inhibition with Techfilter - supplies Trifluralin to the entire system, effectively inhibiting root growth to the dripper outlets.

Applications

- For domestic strength wastewater disposal.
- Installed following a treatment process.
- Can be successfully used on straight septic effluent with proper design, filtration and operation.
- Suitable for reuse applications using municipally treated effluent designated for irrigation water.

Specifications

Wall thickness (mil): 45*

Nominal flow rates (GPH): .4, .6, .9*

Common spacings: 12", 18", 24"*

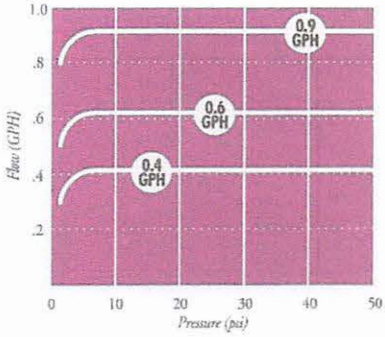
Recommended filtration: 120 mesh

Inside diameter: .570*

Color: Purple tubing indicates non-potable source

*Additional flows, spacings, and pipe sizes available by request. Please contact Netafim USA Customer Service for details.

BIOLINE Flow Rate vs. Pressure



NETAFIM™

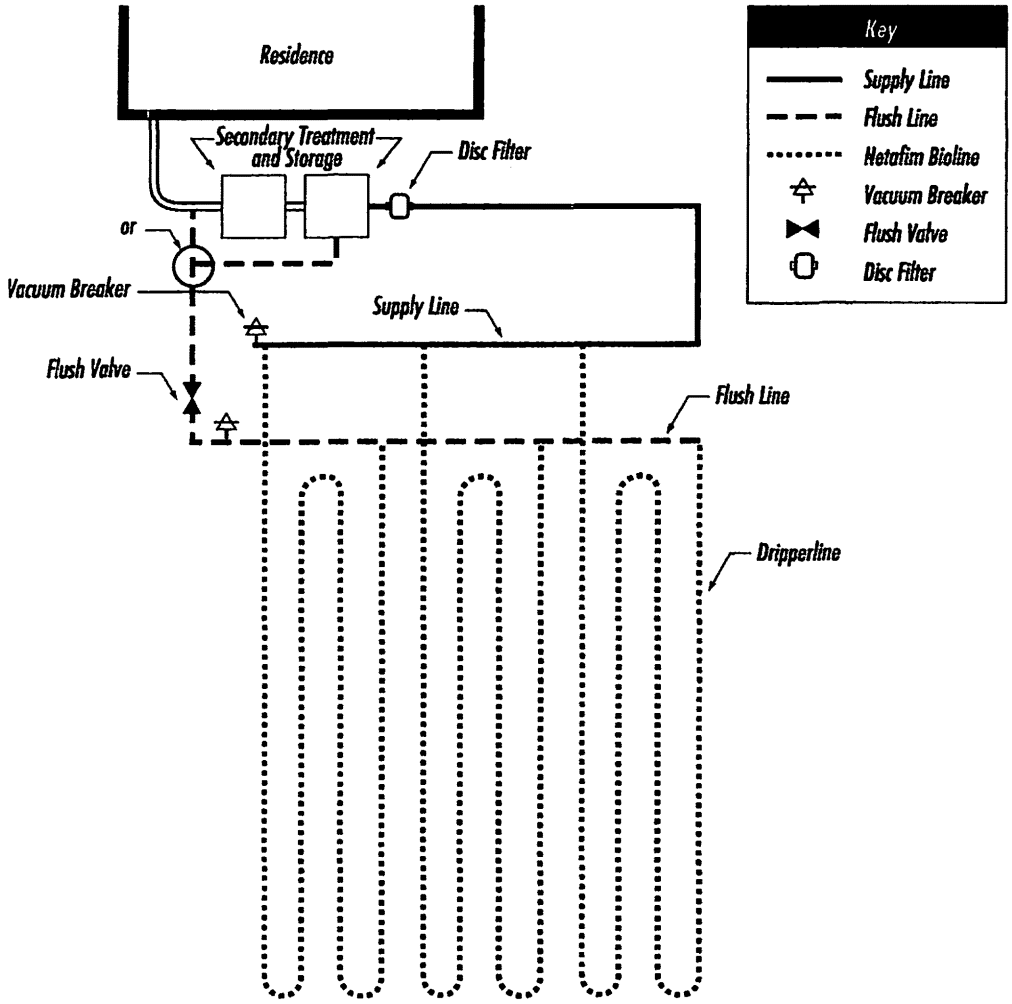
NETAFIM USA
5470 E. Home Ave. • Fresno, CA 93727
888.638.2346 • 559.453.6800
FAX 800.695.4753
www.netafimusa.com

SAMPLE DESIGNS

SINGLE TRENCH LAYOUT

Rectangular field with supply and flush manifold on same side and in same trench;

- Locate supply and flush manifold in same trench
- Dripperlines are looped at the end opposite the supply and flush manifolds
- The longest Bioline length should not exceed 400 ft. Drip fields 200 ft. in length might loop the Bioline once; drip dispersal fields under 100 ft. might be looped twice, as illustrated



2
TC
1409132922STCLCV

WARRANTY DEED WITH VENDOR'S LIEN

Date: June 5, 2014

Grantor: KENNETH M. YARBROUGH

Grantor's Mailing Address (including county): 2413 Fuller Dr.
Canyon Lake, Texas 78133
Comal County

Grantee: PAMELA WOOD

Grantee's Mailing Address (including county): 2922 Desert Morning
San Antonio, Texas 78251
Bexar County

Consideration:

TEN AND NO/100 DOLLARS and other good and valuable consideration and the further consideration of a note of even date, that is in the principal amount of TWENTY NINE THOUSAND AND 00/100 DOLLARS ($29,000.00) and is executed by Grantee, payable to the order of KENNETH M. YARBROUGH. It is secured by a vendor's lien retained in this deed and by a deed of trust of even date, from Grantee to RUBEN N. MORENO, Trustee.

The vendor's lien against and superior title to the property are retained until each note described is fully paid according to its terms, at which time this deed shall become absolute.

Property (including any improvements):

Lot 65, Block A, CANYON LAKE ESTATES, SECTION ONE, Comal County, Texas, according to plat thereof recorded in Volume 1, Page 17, Map and Plat Records of Comal County, Texas.

Reservations From and Exceptions to Conveyance and Warranty:

This conveyance is made and accepted subject to matters filed of record in the Office of the County Clerk, Comal County, Texas.

Grantor, for the consideration, receipt of which is acknowledged, and subject to the reservations from and 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 wise belonging, to have and hold it to Grantee, Grantee's heirs, executors, administrators, successors or assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators and successors to warrant and forever defend all and singular the property to Grantee and Grantee's heirs, executors, administrators, successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from and exceptions to conveyance and warranty.

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

KENNETH M. YARBROUGH

ACKNOWLEDGMENT

STATE OF TEXAS §
§
COUNTY OF COMAL §

This instrument was acknowledged before me on June 5, 2014, by KENNETH M. YARBROUGH.

CHERI VOSS
Notary Public
STATE OF TEXAS
My Comm. Exp. 04-09-2015

Notary Public, State of Texas

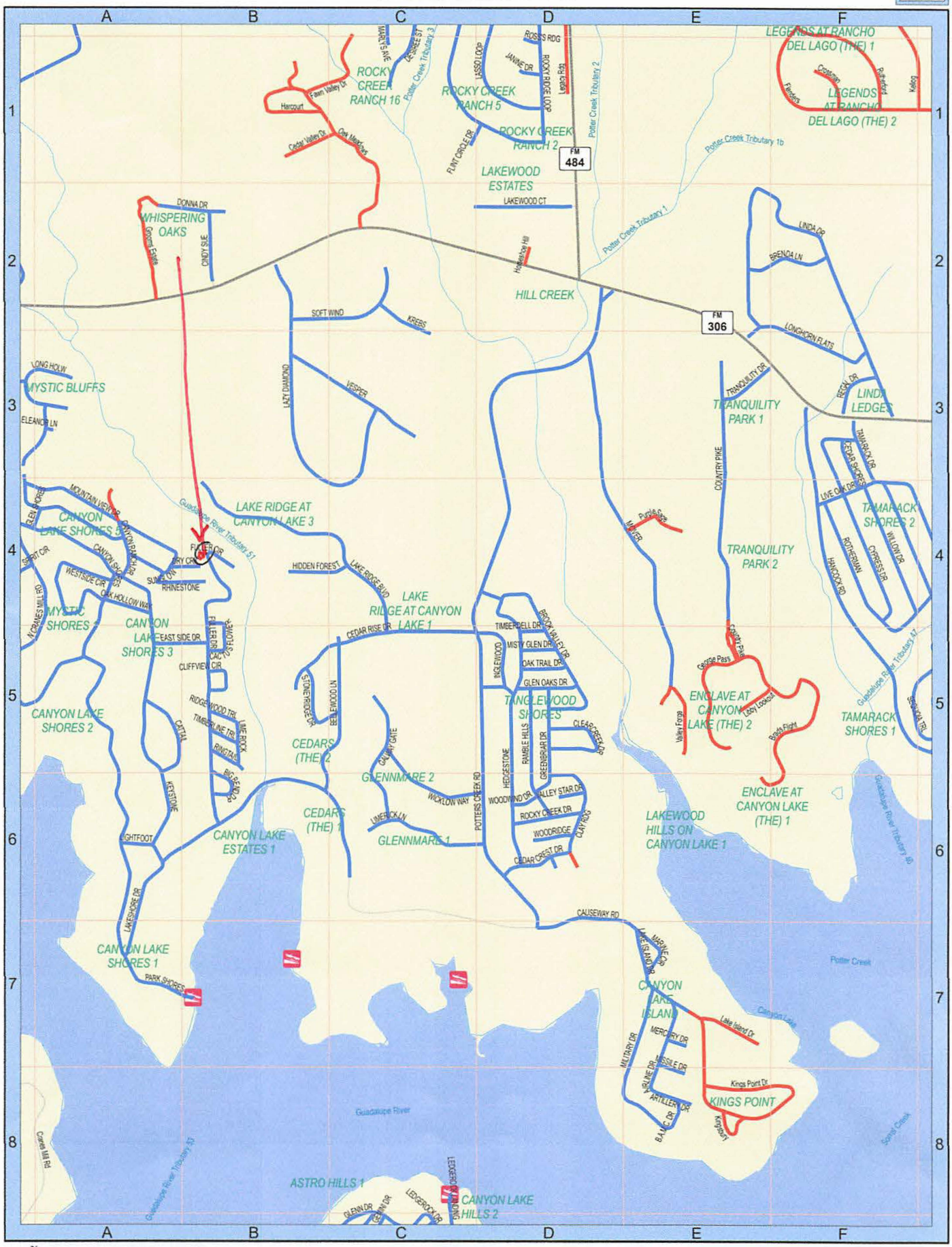
AFTER RECORDING RETURN TO:

PAMELA WOOD
2922 Desert Morning
San Antonio, Texas 78251

Filed and Recorded
Official Public Records
Joy Streater, County Clerk
Comal County, Texas
06/05/2014 03:04:48 PM
CATHLEEN 2 Page(s)
201406018898

Joy Streater

SEE PAGE 1



N
W E
S

0 1,250 2,500
Feet

0 0.25 0.5
Miles

Produced by the Comal County Engineer's Office - 7/17/2023