

License to Operate On-Site Sewage Treatment and Disposal Facility

| Issued This Date: | 01/22/2024 | | Permit Number: | 112878 |
|-----------------------|---|---|----------------|--------|
| Location Description: | 1755 RIADA DR NEW BRAUNFEL | S, TX 78132 | | |
| | Subdivision: Unit: Lot: Block: Acreage: | RIADA (Vacating and Re-st 1 20 0 0.0000 | ubdivision) | |
| Type of System: | Aerobic Drip Irrigation | | | |
| Issued to: | CHARLES Y. & R | YAN W. ARMSTRONG | | |

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)

OS0036769

- 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

Assistant OS0034792

ENVIRONMENTAL HEALTH INSPECTOR

ENVIRONMENTAL HEALTH COORDINATOR

| Co | mal County Environmen | tal Health |
|----------------------|-----------------------|---------------------------------------|
| | OSSF Inspection She | eet 9/22/23 CH notes on last page |
| | | 8/29/23 JC final see last page note |
| Installer Name: | OSSF Installer | #: |
| | 6/ | 9/23 JC cancelled in field, not ready |
| 1st Inspection Date: | 2nd Inspection Date: | 3rd Inspection Date: |
| Inspector Name: | Inspector Name: | Inspector Name: |

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

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 SingleTank, 2Compartments Provided withBaffle SEPTIC TANK Inlet Flowline Greater than3" and " T " Provided on Inlet and OutletSEPTIC TANK Septic Tank(s) MeetMinimum 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) (I)285.32(b)(1)(E)(ii) (I)285.32(b)(1)(E) (i)285.32(b)(1)(C) (ii)285.32(b)(1)(C) (ii)285.32(b)(1) (B)285.32(b)(1) (A)285.32(b)(1)(E)(iv) | | | | |
| | ALL TANKS Installed on 4" Sand | | | | | | |
| 9 | 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 providedSEPTIC TANK Riser permanently fastened to lid or cast into tank SEPTIC TANK Riser cap protected against unauthorized intrusions | | 285.38(d) 285.38(e) | | | | |
| | SEPTIC TANK Tank Volume | | | | | | |
| 12 | Installed | | | | | | |
| | PUMP TANK Volume Installed | | | | | | |
| 13 | | | | | | | |
| 14 | Installed | | | | | | |
| 14 | AEROBIC TREATMENT UNIT | | | | | | |
| 15 | Manufacturer AEROBIC TREATMENT UNIT Model Number | | | | | | |
| 1.5 | DISPOSAL SYSTEM Absorptive | | | | | | |
| 16 | | | 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) | | | | |
| <u> </u> | DISPOSAL SYSTEM Drip | | | | | | |
| | Irrigation | | 285.33(c)(3)(A)-(F) | | | | |
| 18 | | | | | | | 1 |

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 | 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)(ii) 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 | | | | | | |

8/29/23 JC Drip field unacceptable in current condition. Unable to confirm sleeving called out by previous inspector. ON NEXT FINAL INSPECTION AN INSTALLER II MUST BE ON SITE AT TIME OF INSPECTION.

9/22/23 CH: Tight line not sleeved where within 5 feet of foundation, portion of tight line covered by casita foundation is in close proximity to pool lines and must be addressed by designer, field covered but not sodded, require re-inspection fee

1/2/24 CA: Covered need curlex revision before LTO.



Yard sewer

9/26/2023

Armstrong Residence

1755 Riada Dr

New Braunfels, TX 78132

To whom It may concern,

Ott plumbing installed the house yard building sewer line from the house to the private septic system up to 2018 IPC code. This project was completed 11/17/2022

President of Ott Plumbing Co., Inc.

TEXAS STATE BOARD OF PLUMBING EXAMINERS 929 EAST 41st. STREET AUSTIN, TEXAS 78765 1-800-845-6584 LIC#M688 Bryan Ott



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

| Permit Number: | 112878 |
|---------------------------------|--------------------------------|
| Issued This Date: | 07/22/2021 |
| This permit is hereby given to: | CHARLES Y. & RYAN W. ARMSTRONG |

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

1755 RIADA DR NEW BRAUNFELS, TX 78132

| Subdivision: | RIADA |
|--------------|--------|
| Unit: | 1 |
| Lot: | 20 |
| Block: | 0 |
| Acreage: | 0.0000 |

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 KG at 1:20 pm, Jul 07, 2021 | |
|---|-------------------------|
| ENGINEER'S OFFICE | Staff will complete sha |
| C. A. | Date Received Initials |

APPLICATION ST

ded items

112878

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.

| oss | F Permit |
|----------|---|
| \times | Completed Application for Permit for Authorization to Construct an On-Site Sewage Facility and License to Operate |
| \times | Site/Soil Evaluation Completed by a Certified Site Evaluator or a Professional Engineer |
| \times | 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. |
| \times | Required Permit Fee - See Attached Fee Schedule |
| \times | Copy of Recorded Deed |
| \times | 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

| | COMPLETE APPLICATION | |
|----------|----------------------|--------------|
| Check No | Receipt No | CONVECTOR NO |

202) Ď Date



Revised: September 2019

| RECEIVED By KG at 1:20 pm, Jul 07, 2021 | | | | | |
|---|--|--|--|---|---------------------------------------|
| COMAL COUNTY ENGINEER'S OFFICE ON-SI | TE SEWAGE FAC | | CATION | 195 DAVIL NEW BRAUN (830) (<u>WWW.C</u> | FELS, TX 78132 308-2090 CEO.ORG |
| Date | | | Permit Numb | per <u>11287</u> | 78 |
| 1. APPLICANT / AGENT INFORMATION | | | | | |
| Owner Name CHARLES Y. ARMSTRONG & R | YAN W. ARMSTRONG | Agent Name | GREG V | W. JOHNSON, P.E. | |
| Mailing Address c/o 23011 FM 3 | 06 | Agent Address | 170 | Hollow Oak | |
| City, State, Zip Canyon Lake, TX 73 | 8133 | City, State, Zip | New Br | aunfels, TX 7813 | 2 |
| Phone # 830-935-4930 | 6 | Phone # | 83 | 0-905-2778 | |
| Email katelyn@paulswoyers | septics.com | Email | gregjohns | sonpe@yahoo.co | m |
| 2. LOCATION | | | | | |
| Subdivision Name RIADA (VACATING | +RESUBDIVISION) | U | nit 1 | Lot 20 | Block |
| Survey Name / Abstract Number | / | | | Acreage | |
| Address 1755 RIADA DRIVE | (| City NEW BRAU | INFELS | State TX Zi | p 78132 |
| 3. TYPE OF DEVELOPMENT | | , , | | | |
| X Single Family Residential | | | | | |
| Type of Construction (House, Mobile, | RV, Etc.) HOUS | E + DETACHED LI | VING (CASITA) | 27 | |
| Number of Bedrooms 6+1 | | | | - | |
| Indicate Sq Ft of Living Area 5902 + | 648 | | | | |
| Non-Single Family Residential | | | | | |
| (Planning materials must show adequate I | and area for doubling the | e required land nee | ded for treatment | t units and dispose | al area) |
| Type of Facility | | | | | |
| Offices, Factories, Churches, Schools | , Parks, Etc Indicate | Number Of Occ | upants | | |
| Restaurants, Lounges, Theaters - Ind | icate Number of Seats | ; | | | |
| Hotel, Motel, Hospital, Nursing Home | - Indicate Number of I | Beds | | | |
| Travel Trailer/RV Parks - Indicate Nur | nber of Spaces | | | | |
| Miscellaneous | | | | | |
| | | | | | |
| Estimated Cost of Construction: \$ | (S) 600,00 | structure Only) | | | |
| Is any portion of the proposed OSSF loca | ted in the United State | s Army Corps of | Engineers (US | ACE) flowage ea | asement? |
| Yes X No (If yes, owner must provide | approval from USACE for p | proposed OSSF impro | ovements within the | USACE flowage ea | isement) |
| Source of Water Public 🕅 Private | Well | | | | |
| 4. SIGNATURE OF OWNER | | | | | |
| By signing this application, I certify that: - The completed application and all additional info facts. I certify that I am the property owner or I [| ormation submitted does possess the appropriate | not contain any fal land rights necessa | se information ar ary to make the p | nd does not concea ermitted improven | al any material nents on said |
| Authorization is hereby given to the permitting a site/soil evaluation and inspection of private sev | authority and designated wage facilities | agents to enter upo | on the above des | cribed property for | the purpose of |
| understand that a permit of authorization to co by the Comal County Flood Damage Preventior I affirmatively consent to the online posting/public | nstruct will not be issued n Order. lic release of my e-mail a | until the Floodplair | with this permit a | as performed the r | licable. |
| | A. A. | 110 | | Pproduct, do dpp | |
| Signature of Owner O Jugan | At 2 | $-\frac{100}{\text{Date}}$ | 21 | | Page 1 of 2 |

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Page 1 of 2 Revised January 2021

* * * COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH * * *

APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

| Planning Materials & Si | te Evaluation as Required Complet | ted By GREG W. JOHNSON, P.E. |
|---|--|---|
| System Description | PROPRIETARY; | AEROBIC TREATMENT AND DRIP TUBING |
| Size of Septic System R | equired Based on Planning Materia | als & Soil Evaluation |
| Tank Size(s) (Gallons) | MAXX AIR M1000 & 1000 PUMP TANK | _Absorption/Application Area (Sq Ft)4000 |
| Gallons Per Day (As Per (Sites generating more that | er TCEQ Table III) 480 In 5000 gallons per day are required to | o obtain a permit through TCEQ) |
| Is the property located of (If yes, the planning mater | over the Edwards Recharge Zone? ials must be completed by a Registered | ☑ Yes ☐ No d Sanitarian (R.S.) or Professional Engineer (P.E.)) |
| Is there an existing TCE (if yes, the R. S. or P. E. sl | Q approved WPAP for the property nall certify that the OSSF design compli | y? Yes X No ies with all provisions of the existing WPAP.) |
| If there is no existing W (If yes, the R.S. or P. E. sh not be issued for the prope | PAP, does the proposed developm nall certify that the OSSF design will co osed OSSF until the proposed WPAP h | nent activity require a TCEQ approved WPAP? Yes No mply with all provisions of the proposed WPAP. A Permit to Construct will has been approved by the appropriate regional office.) |
| Is the property located of Is there an existing TCE | over the Edwards Contributing Zone | ₽? ☐ Yes ⊠ No ☐ Yes ⊠ No |
| If there is no existing C2 (if yes, the P.E. or R.S. sha not be issued for the prop | ZP, does the proposed developmer all certify that the OSSF design will com posed OSSF until the CZP has been a | as with all provisions of the existing CZP) nt activity require a TCEQ approved CZP? Yes No uply with all provisions of the proposed CZP. A Permit to construct will) approved by the appropriate regional office.) |
| Is this property with If yes, indicate the c | in an incorporated city? 🔲 Yes | S NO |
| • | | GREG W. JOHNSON GREG W. JOHNSON GREG W. JOHNSON GISTEREO GISTEREO GISTEREO FIRM #2585 |
| By signing this application, | 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

July 2, 2021

Page 2 of 2 Revised July 2018

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

Date

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.

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 | BLO | CK 20 | LOT | RIADA | SUBDIVISION |
|---|--------------------|-----|-------|-----|-------|-------------|
| | \bigcirc | | | | | |

| IF NOT IN SUBDIVISION: | ACREAGE | SURVEY |
|------------------------|---------|--------|
| | | |

The property is owned by (insert owner's full name): CHARLES Y. ARMSTRONG & RYAN W. ARMSTRONG

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 20 DAY OF 1 | APP11 ,2021 |
|--|--|
| Chules have for | CHARLES Y. ARMSTRONG |
| Ryan W. Ant 15 | RYAN W. ARMSTRONG |
| Owner(s) signature(s) | Owner (s) Printed name (s) |
| Charles Y. + 12 yan W. Arnstang SWORN TO | AND SUBSCRIBED BEFORE ME ON THIS <u>20</u> DAY OF |
| April ,20.21 WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW | Filed and Recorded Official Public Records Bobbie Koepp, County Clerk Comal County, Texas 07/06/2021 08:46:02 AM TERRI 1 Pages(s) 202106035794 |
| | Babbie Keepp |

RECEIVED By Allyse Gros at 2:04 pm, Jul 22, 2021

CERTIFICATION OF SINGLE FAMILY DWELLING

| According to Texas Commission of Environmental Quality Rules for On-Site Sewage Facilities, this document is filed in the Deed Records of COMAL COUNTY , TEXAS . |
|---|
| Ι |
| Before me this day appeared <u>CNAMES AVMSATDNO</u> , being the owners of the referenced property at <u>1755 RIADA DPIVE</u> . They further state that the Residence and any additional living space on this property will be occupied only by a single family. |
| An OSSF requiring a Certification of Single Family Dwelling, will be installed on the property described as: |
| <u>1</u> UNIT <u>BLOCK 20</u> LOT <u>RIADA</u> SUBDIVISION |
| IF NOT IN SUBDIVISION: ACREAGE SURVEY |
| The property is owned by CHARLES Y. ARMSTRONG & RYAN W. ARMSTRONG |
| WITNESS MY HAND ON THIS 12 OF DAY OF July, 2021. |
| OWINER (SIGNATURE) |
| SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 12 DAY OF, 2021_BY CHARLES Y. ARMSTRONG OWNER NAME (PRINTED) OWNER NAME (PRINTED) |
| Notary Public Signature |
| KATELYN NICOLE NEUMANN Notary Public, State of Texas Comm. Expires 04-23-2023 Notary ID 131984094 |

:



CHRISTOPHER RYAN SEIDENSTICKER

ADVICTOONO & DVANUAL ADVICTOONO

| | Customer: CHARLES Y. ARMSTRONG & RY | AN W. ARMSTRONG |
|---|-------------------------------------|-------------------|
| PROPERTY LEGAL DESCRIPTION: | Site Address: 1755 RIADA DRIVE | |
| LOT 20, VACATING AND RE-SUBDIVISION PART OF RIADA SUNDIVISON - UNIT 1 | City/State: NEW BRAUNFELS, TX | Zip: 78132 |
| | County: COMAL Permit#: | |
| | Phone Number: | |
| | E-mail: | |

- I. General: This On-Site Sewage Facility Service Agreement (hereinafter referred to as "Agreement") is entered into by and between
 CHARLES Y. ARMSTRONG & RYAN W. ARMSTRONG
 (hereinafter referred to as "Client") and PS Supply & Service LLC.
 (hereinafter referred to as "Contractor"). By this agreement, Contractor agrees to render services, as described herein (the "Services"), and the client agrees to fulfill his/her/their responsibilities under this agreement herein.
- II. Effective Dates: This agreement commences on the date of License to Operate is issued for Three (3) years.

Date of License to Operate: LTO Last Date of Service: 3 yrs from LTO

- III. Services by Contractor: Contractor will provide the following Services:
 - 1. Inspect and perform routine maintenance on the On-Site Sewage Facility ("OSSF") in compliance with the code, regulations, and/or rules of the Texas Commission on Environmental Quality ("TCEQ") and county in which the OSSF is located (the "County") and the manufacturer's requirements, at a frequency of approximately once every four (4) months.
 - 2. Report to the appropriate regulatory authority and to Client, as required by the State of Texas' on-site rules and, if required, TCEQ or County rules. All findings must be reported to the appropriate regulatory authority within 14 days.
 - Notify Client and repair any components of the OSSF that are found to be in need of repair during the inspection. If warranty, you just do it. If not, Client will be responsible. Repairs will be made so brought up to compliance and bill forward.
 - 4. Visit site in response to Client's request for unscheduled service within two business days from the date of Contractor's actual receipt of Client's request. Unscheduled service visits are not included in the fee agreement herein and will be billed to the client in addition to fees under this Agreement.
 - Provide notification of arrival to site to the Client or to site personnel. Additionally, Contractor will leave written notification of the visit at the site or with site personnel upon completion of inspection, and forward such notice to the appropriate regulatory authority within fourteen (14) days.
- IV. Payment(s): Client shall pay to Contractor included w/ septic for the Services describe herein (the "Inspection and Routine Maintenance Fee"), excepting those described in Section III (4), or Section IX, herein. The Fee does not include equipment, parts or labor supplied for anything beyond routine inspection and routine maintenance. Payments for such additional services are due at the time services are provided or rendered. Payments not received within thirty (30) days from the due date will be subject the greater of a \$20.00 late penalty or 1.5% carrying charge on the original balance for each month or portion thereof a balance in past due. If for any reason such charges are found to be usurious by a court of competent jurisdiction, such charges shall be reduced to the maximum allowable by law. By signing this contract, Client authorizes Contractor to remove any parts installed, but not paid in full at the end of the thirty (30) days. Client agrees to pay for any labor cost associated with the installation and the reasonable cost of removal of said parts.

Contractor:

V. Client's Responsibilities: Client is responsible for each and all of the following:

- 1. To maintain chlorinator and provide proper chlorine supply, if OSSF is so equipped.
- To provide all necessary yard or lawn maintenance and removal of obstacles as needed to allow the OSSF to function properly, and to allow Contractor ready access to all parts of the OSSF.
- 3. To maintain a current license to operate, and abide by the conditions and limitations of that license and all requirements for onsite sewage facilities from the State and local regulatory agency.
- 4. To maintain the OSSF in accordance with manufacturer's recommendations.
- 5. To immediately notify Contractor and Agency of any and all problems with, the OSSF, including failure thereof.
- 6. Upon receipt of any written notification of required services from Contractor, to contact Contractor and authorize the required service. If Client elects a different contractor to perform the required service, Client is responsible for ensuring the substitute contractor holds the proper license (Installer II) and is certified by the manufacturer. Additionally, Client shall be responsible for ensuring proper notification is given to the appropriate regulatory authority, as required by the State and/or local regulatory authority rules.
- 7. To provide Contractor with water usage records, upon request, for evaluation by Contractor of the OSSF performance.
- To pay required sampling charges for samples collected for testing (e.g. Biological Oxygen Demand/Total Suspended Solids ("BOD/TSS") that may be required on the OSSF.
- 9. To prevent backwash from water treatment or water conditioning equipment to enter the OSSF.
- 10. To provide, at Client's expense, for pumping of tanks as needed.
- 11. To maintain site drainage sufficient to prevent adverse effects on the OSSF.
- 12. To promptly and fully pay Contractor's bills, fees, or invoices as described herein.
- VI. Access by Contractor: Client agrees to allow Contractor, or personnel authorized by the Contractor, to enter the property at reasonable times without prior notice for the purpose of performing the Services described herein. Such entry shall include access to the OSSF electrical and physical components, including tanks, by means of manways or risers for the purpose of evaluations required by the manufacturer, and/or regulatory authority rules. If such manways or risers are not in place, Client shall allow and be responsible for payment of required excavation, including labor and materials, necessary to allow access to the OSSF or any required components. Such excavation shall be billed at the rate of \$75.00 per hour for labor, plus materials billed at list price. Contractor shall make only those efforts reasonable under the circumstances to replace excavated soil.
- VII. Application or Transfer of Payment: The fees paid for this agreement may transfer to any subsequent owner(s) of the property on which the OSSF is located. The subsequent owner(s) must sign a similar agreement authorizing Contractor to perform the above-described Services, and accepting Client's responsibilities. The 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 termination of the agreement by Contractor
- VIII. Termination of Agreement: This agreement may be terminated by either party with 30 days written notice. If this agreement is so terminated by Client, Contractor shall be paid at the rate of \$75.00 per hour for any worked performed or required, but not yet paid. If terminated by Contractor, all amounts outstanding shall be due within thirty days of termination. The party terminating will immediately notify the other party, the equipment manufacturer, and the regulatory agency of the termination.
- IX. Limitation of Liability: In no event shall Contractor be liable for indirect, consequential, incidental or punitive damages, whether in contract, tort, or any other theory of liability. In no event shall the Contractor's liability for direct damages exceed payments by the Client under this Agreement.
- X. Severability and Reformation: If any provision in this Agreement shall be held to be invalid or unenforceable for any reason, it shall be reformed to the minimum extent necessary to effect the intent of the Parties. If any provision is such that it cannot reasonably be reformed, it shall be struck from this Agreement and the remaining provisions shall continue to be valid and enforceable.
- XI. Performance of Agreement: Commencement of performance by Contractor under this agreement is contingent on the following conditions: (1) Contractor receiving a fully executed original copy of this agreement. (2) Contractor receiving payment in full of the fee(s) described herein. If the above conditions are not met, then Contractor is from any obligation to perform any portion of this agreement.
- XII. Modification. This Agreement may not be changed or modified except by an instrument in writing, signed by both Contractor and Client.
- XIII. Waiver. Except as otherwise noted in this Agreement, the waiver by other party of a breach of any provision of this Agreement shall not operate or be construed as a continuing waiver or as a consent to or waiver of any subsequent breach hereof.

Client

Contractor: 125

- XIV. Headings. The Article and Section headings in this Agreement are for the convenience of reference only and do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof.
- XV. GOVERNING LAW AND CHOICE OF VENUE. EACH OF THE PARTIES HERETO HEREBY CONSENTS TO THE EXCLUSIVE JURISDICTION OF THE COURTS OF THE STATE OF TEXAS, COUNTY OF COMAL, AND TO THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS - SAN ANTONIO DIVISION, AS WELL AS TO THE JURISDICTION OF ALL COURTS TO WHICH AN APPEAL MAY BE TAKEN FROM SUCH COURTS, FOR THE PURPOSE OF ANY SUIT, ACTION, OR OTHER PROCEEDING ARISING OUT OF, OR IN CONNECTION WITH, THIS AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREBY, INCLUDING, WITHOUT LIMITATION, ANY PROCEEDING RELATING TO ANCILLARY MEASURES IN AID OF ARBITRATION, PROVISIONAL REMEDIES AND INTERIM RELIEF, OR ANY PROCEEDING TO ENFORCE ANY ARBITRAL DECISION OR AWARD. EACH PARTY HERETO EXPRESSLY WAIVES ANY AND ALL RIGHTS TO BRING ANY SUIT, ACTION, OR OTHER PROCEEDING IN OR BEFORE ANY COURT OR TRIBUNAL OTHER THAN COURTS OF THE STATE OF TEXAS, COUNTY OF COMAL, AND COVENANTS THAT IT SHALL NOT SEEK IN ANY MANNER TO PROSECUTE OR DEFEND ANY DISPUTE OTHER THAN AS SET FORTH IN THIS ARTICLE XVI OR TO CHALLENGE OR SET ASIDE ANY DECISION, AWARD, OR JUDGMENT OBTAINED IN ACCORDANCE WITH THE PROVISIONS HEREOF. EACH OF THE PARTIES HERETO HEREBY EXPRESSLY WAIVES ANY AND ALL OBJECTIONS IT MAY HAVE TO VENUE, INCLUDING, WITHOUT LIMITATION, THE INCONVENIENCE OF SUCH FORUM, IN ANY OF SUCH COURTS.
- XVI. JURY TRIAL WAIVER. THE PARTIES HEREBY UNCONDITIONALLY WAIVE THEIR RIGHT TO A JURY TRIAL OF ANY AND ALL CLAIMS OR CAUSES OF ACTION ARISING FROM OR RELATING TO THEIR RELATIONSHIP. THE PARTIES ACKNOWLEDGE THAT A RIGHT TO A JURY IS A CONSTITUTIONAL RIGHT, THAT THEY HAVE HAD AN OPPORTUNITY TO CONSULT WITH INDEPENDENT COUNSEL, AND THAT THIS JURY WAIVER HAS BEEN ENTERED INTO KNOWINGLY AND VOLUNTARILY BY ALL PARTIES TO THIS AGREEMENT. IN THE EVENT OF LITIGATION, THIS AGREEMENT MAY BE FILED AS A WRITTEN CONSENT TO A TRIAL BY THE COURT. MP#0001708

CHRISTOPHER RYAN SEIDENSTICKER Approved by Contractor: Approved by Client

- XVII. Reservation of Rights. Contractor reserves all rights not specifically granted herein.
- XVIII. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together will constitute one and the same instrument.
- XIX. Counsel. Contractor has previously recommended that Client engage counsel to assist him/her/it in reviewing this Agreement and all other matters relating to it. Contractor and Client shall each bear his/her/its own costs and expenses in connection with the negotiation and documentation of this Agreement.
- XX. Entire Agreement: This agreement contains the entire agreement of the parties, and there are no promises or conditions in any other agreement, oral or written. The Parties expressly disclaim reliance on any prior statements, oral or written, by either party not expressly provided for herein.

RA Client: A

Contractor:

Greg W. Johnson, P.E. 170 Hollow Oak New Braunfels, Texas 78132 830/905-2778

July 02, 2021

Comal County Office of Environmental Health 195 David Jonas Drive New Braunfels, Texas 78132-3760

RE- SEPTIC DESIGN 1755 RIADA DRIVE VACATING AND RESUBDIVISION OF RIADA, UNIT 1, LOT 20 NEW BRAUNFELS, TX 78132 ARMSTRONG RESIDENCE

Ms. Brenda Ritzen / Allyse Gros,

The referenced property is located within the Edwards Aquifer Recharge Zone. This property is exempt from a WPAP because it is not a regulated activity according to \$213.5(h)(2) "exempt ... does not exceed 20 % impervious cover on the site. To my knowledge no WPAP exists for this property.

Temporary erosion and sedimentation controls should be utilized as necessary prior to construction. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, activities must be suspended immediately and the applicant or his agent must immediately notify the TCEQ Regional Office. After that operations can only proceed after the Executive Director approves required additional engineered impact plans.

Designed in accordance with Chapter 285, Subchapter D, §285.40, 285.41, & 285.42, Texas Commission on Environmental Quality (Effective December 29, 2016).

07/07/2021

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



ON-SITE SEWERAGE FACILITY SOIL EVALUATION REPORT INFORMATION

Date Soil Survey Performed: _____June 29, 2021

Site Location:

RIADA, UNIT 1, LOT 20

Proposed Excavation Depth: <u>N/A</u>

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 12" 1 2 3 4 5 | ΠΙ | CLAY LOAM | N/A | NONE OBSERVED | LIMESTONE @ 12" | BROWN |

| SOIL BORING NUMBER SURFACE EVALUATION | | | | | | |
|---------------------------------------|------------------|-----------------|--------------------|---------------------------------------|------------------------|--------------|
| Depth (Feet) | Texture Class | Soil Texture | Gravel Analysis | Drainage (Mottles/ Water Table) | Restrictive Horizon | Observations |
| 0 1 | SAME | | AS | | ABOVE | |
| 2 | | | | | | |
| 4 | | | | | | |
| <u>، د</u> | | | | | | |

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

06/29/202)

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

Date

OSSF SOIL EVALUATION REPORT INFORMATION

| Date:June 30, 2021 | |
|---|--|
| Applicant Information: | Site Evaluator Information: |
| Name: CHARLES Y. & RYAN W. ARMSTRONG | Name: Greg W. Johnson, P.E., R.S, S.E. 11561 |
| Address: c/o 23011 F.M. 306 | Address: 170 Hollow Oak |
| City: CANYON LAKE State: TEXAS | City: <u>New Braunfels</u> State: <u>Texas</u> |
| Zip Code: <u>78133</u> Phone: <u>(830) 935-4936</u> | Zip Code: <u>78132</u> Phone & Fax (830)905-2778 |
| Property Location: Lot 20 Unit 1 Blk Subd. RIADA Street Address: 1755 RIADA DRIVE | Installer Information: Name: Company: |
| Additional Infa : | Address: |
| | State: |
| Topography: Slope within proposed disposal area: Presence of 100 yr. Flood Zone: Existing or proposed water well in nearby area. Presence of adjacent ponds, streams, water impoundments Presence of upper water shed Organized sewage service available to lot | 6 to 12 % YES X YES NO |

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).

HNSON P.E. 67587 - S.E. 11561 GREG

06/30/2021



#1/2878

AEROBIC DRIP SYSTEM DESIGNED FOR: CHARLES Y. & RYAN W. ARMSTRONG c/o 23011 FM 306 CANYON LAKE, TEXAS 78133

SITE DESCRIPTION:

Located in the Riada Unit 1, Lot 20 at 1755 Riada Drive, the septic system serves a six bedroom house (5602sf) & a one bedroom detached living (648sf). Shallow Type III soils (See OSSF Soil Evaluation Report) were found throughout. Aerobic treatment with drip irrigation was selected as the most appropriate system for the conditions on this lot.

PROPOSED SYSTEM:

A three or four inch SCH-40 pipe discharges from the residence and detached living into, Maxx Air M-1000 1000 gpd containing a 639 trash tank. After processing flow continues to a 1000 gallon pump tank with and effluent pump and liquid chlorinator. The well pump is activated by a cycle timer activated by a time controller allowing the distribution dose every four hours with an 10 minute run time with float setting at 480 gallons. A high level audible and visual alarm will activate should the pump fail. Distribution from each pump is through a self flushing 100 micron 1" Arkal disc filter then through a 1" SCH-40 manifold to a total of 4000sf. 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 Model PMR30HF installed in the pump tank on the manifold to the field will maintain pressure at 30 psi. A 1" SCH-40 return line is installed to periodically flush the system by cycling a 1" ball valve. Solids caught in the disc 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. Prior to installing the drip tubing field area will be excavated 18" and 12" of Type II or III soil will be installed. Field area will be capped with 6" of Type II or Type III soil (NOT SAND). The field area will be covered in Curlex erosion control blankets and heavily seeded or 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:

Q design rate = 480 gpd 7 BR Residence Req'd Application Area = Q/Ra = 480 gpd/0.2 = 2400 sf. (Actual 4000 sf) Total feet drip tubing: 2000' *Netifim Bioline* drip tubing .61 GPH Pump requirement: 1000 emitters @ .61 gph @ 30 psi = 10.16 gpm Two way cleanouts Sch-40 PVC 639 gal trash tank 1000 gpd (TCEQ Approved) Class I Aerobic Treatment Plant 1000 gallon pump tank (27.75 g/in.) Liquid Chlorinator TCEQ approved. Pump:0.5 HP FPS E-Series-20FE05P4-2W115 Submersible Pump or equivalent. Alarms: Audible & visual high water level alarm & air pump malfunction alarm *Note: All electrical wiring must be in conduit*

AEROBIC PUMP TANK SETTINGS:

1000 gallon tank =27.75 gal/in. Reserve capacity after High Level: 160 gal (1/3 day flow) Volume below working level = 12" = 333 gal Working level = 480 gal = 17.5" Reserve = 160 gal. = 6" A cycle timer will allow dosing every four hours for 10 minutes.

According to the FEMA floodplain map a portion of the referenced property is located within the 100 year flood plain (Flood Zone A), with the septic system within Flood Zone A. The system has been designed so that during a 100 year flood event, in my professional opinion, no damage will occur to the OSSF as to cause contamination to the environment or a nuisance.

BUOYANCY CALCULATIONS:

Maxx Air M-1000 Volume of Tank = $H^*W^*L = 6.42'^*5.667*12 = 436.6$ cf. Upward Buoyancy force = 436.6 cf * 8.34 #/gal*7.48 gal/sf = 27,236 #Overburden w/.5' of soil = AREA*fill Height*Wt of fill/cf = 5.667'*12*90#/cf*.5' = 3,060#Tank Weight of B-1500 = 16,600#Downward force of tank & min.water & overburden=16,600#+(2086)*8.34#/gal+3,060# =37.057#Downward force > Upward Force 37,057# > 27,236# Tank will not float with 0.5' of cover 1000 gal Pump Tank Volume of Tank = $H^*W^*L = 4.333'^*6.67'^*9.33' = 269$ cf. Upward Buoyancy force = 269cf * 8.34 #/gal*7.48gal/sf = 16,801 # Overburden w/15" of soil = L*W* fill Height*Wt of fill/cf = 9.33'*6.67'*1.25'*90#/cf = 7001# Tank Weight of Tank = 8,000# Downward force of tank & min.water & overburden= 8,000#+(333)*8.34#/gal+ 7001# =17,778# Downward force > Upward Force 17,778# > 16,801# Tank will not float with 1.25' of cover Designed in in accordance with Chapter 285, Subchapter D, §285.30, Texas Commission on Environmental Quality (Effective December 29, 2016).

Ol

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









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.



TYPICAL PUMP TANK CONFIGURATION 1000 GAL BLOCK SEPTIC TANKS

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 |
| рН | 5-11 | 5-11 |



OUT



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



Disc filter, irrigation systems, irrigationglobal.com



NETAFIM

Bioline[®] Dripperline

Pressure Compensating Dripperline for Wastewater



BioLine's Self-Cleaning, Pressure Compensating Dripper is a fully selfcontained 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.

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



Dripper Inlet Filter

Cross Section of Bioline Dripperline

Cleanest Effluent Stre

Debris ---

NETAFIM WASTEWATER DISPERSAL SYSTEM DESIGN GUIDE

SAMPLE

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



| From: | Gros, Allyse |
|----------|-----------------------------------|
| To: | Katelyn Neumann |
| Cc: | Greg Johnson |
| Subject: | Permit 112878 Deficiency Comment |
| Date: | Thursday, July 8, 2021 9:50:00 AM |
| | |

RE: 1755 Riada Drive, Riada Vacating and Resubdivision Unit 1, Lot 20

Property Owner & Agent,

We received planning materials for the referenced permit application on July 7, 2021 and found those planning materials to be deficient. In order to continue processing this permit, we need the following:

Submit a notarized affidavit for single family use of all structures.
Clarify what is meant by the septic line going through the detached living. Is it going through the foundation of the structure? Has this been installed by a licensed plumber or will it be installed by the septic installer?

. Indicate the length of septic line from structure to structure and from structure to tank.

4. Revise accordingly and resubmit.

If you have any questions, you can email me or call the office.

Thank you,



Allyse N. Gros, OS0035605

Environmental Health Asst.

Comal County Engineer's Office

195 David Jonas Dr New Braunfels, TX 78132 830-608-2090 www.cceo.org









AEROBIC DRIP SYSTEM DESIGNED FOR: CHARLES Y. & RYAN W. ARMSTRONG c/o 23011 FM 306 CANYON LAKE, TEXAS 78133

SITE DESCRIPTION:

Located in the Riada Unit 1, Lot 20 at 1755 Riada Drive, the septic system serves a six bedroom house (5602sf) & a one bedroom detached living (648sf) Shallow Type III soils (See OSSF) Sca Evaluation Report) were found throughout. Aerobic treatment with drip irrigation was elected as the most appropriate system for the conditions on this lot. PROPOSED SYSTEM: A three or for ing into, Maxx Air M-1000 and li a cycle timer a ited h urs with me ution float np fa hing 100 micron 1" Arka field, with Neti he attached **30HF** installed in the pump tank on the manifold to the field will maintain pressure at 30 psi. A 1" SCH-40 return line is installed to periodically flush the system by cycling a 1" ball valve. Solids caught n the disc filter are flushed each cycle back to the trash tank. Vacuum breakers installed at the h thest point on each manifold will prevent siphoning of effluent from higher to lower parts of the field. They to instanting the drip turning field area will be encavated to and 12 of Type II

or III soil will be installed. Field area will be capped with 6" of Type II or Type III soil (NOT SAND). The field area will be sodded with grass prior to system startup.

Tank must have at grade risers on each opening with watertight caps that must be at least 65# or have a padlock or can only be removed with tools. A secondary plug, cap, or suitable restraint must be provided below riser cap to prevent tank entry should the cap be damaged or removed, in compliance with Chapter §285.38.

DESIGN SPECIFICATIONS:

Q design rate = 480 gpd 7 BR Residence (6 BR + 1 BR DETACHED LIVING) Req'd Application Area = Q/Ra = 480 gpd/0.2 = 2400 sf. (Actual 4000 sf) Total feet drip tubing: 2000' *Netifim Bioline* drip tubing .61 GPH Pump requirement: 1000 emitters @ .61 gph @ 30 psi = 10.16 gpm Two way cleanouts Sch-40 PVC 639 gal trash tank 1000 gpd (TCEQ Approved) Class I Aerobic Treatment Plant
1000 gallon pump tank (27.75 g/in.)
Liquid Chlorinator TCEQ approved.
Pump:0.5 HP FPS E-Series-20FE05P4-2W115 Submersible Pump or equivalent.
Alarms: Audible & visual high water level alarm & air pump malfunction alarm
Note: All electrical wiring must be in conduit

AEROBIC PUMP TANK SETTINGS:

1000 gallon tank =27.75 gal/in. Reserve capacity after High Level: 160 gal (1/3 day flow) Volume below working level = 12" = 333 gal Working level = 480 gal = 17.5"

A cycle timer will allow dosing every four hours for 10 minutes.

According to the FEMA floodplain map a portion of the referenced property is located within the 100 year flood plain (Flood Zone A), with the septic system within Flood Zone A. The



=37.057#

Downward force > Upward Force 37,057# > 27,236# Tank will not float with 0.5' of cover

1000 gal Pump Tank

Volume of Tank = $H^*W^*L = 4.333'*6.67'*9.33' = 269$ cf.

Upward Buoyancy force = 269cf * 8.34 #/gal*7.48gal/sf = 16,801 #

Overburden w/ 15" of soil = L*W*fill Height*Wt of fill/cf = 9.33'*6.67'*1.25'*90#/cf = 7001#Tank Weight of Tank = 8,000#

Downward force of tank & min.water & overburden= 8,000#+(333)*8.34#/gal+ 7001# =17,778#

Downward force > Upward Force 17,778 # > 16,801 # Tank will not float with 1.25' of cover

Designed in in accordance with Chapter 285, Subchapter D, §285.30, Texas Commission on Environmental Quality (Effective December 29, 2016).

01/01/02/ No. 67587 - F#2585

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





Independence Title Com

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS:

YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

GENERAL WARRANTY DEED RESERVING VENDOR'S LIEN IN FAVOR OF THIRD PARTY

THE STATE OF TEXAS §
KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF COMAL §

THAT JAMES W. HALEY, Trustee of the JAMES W. HALEY TRUST U/W CATHERINE F. HALEY, Deceased, hereinafter called Grantor, for and in consideration of the sum of TEN AND NO/I00 DOLLARS (\$10.00) cash and other good and valuable consideration in hand paid by CHARLES Y. ARMSTRONG and RYAN W. ARMSTRONG, hereinafter called Grantee, the receipt and sufficiency of which is hereby acknowledged and confessed and the further consideration of the execution and delivery by the said Grantee of one certain Promissory Note of even date herewith executed by in the principal sum of THREE HUNDRED TWENTY THOUSAND AND NO/100 (\$320,000.00) DOLLARS, executed by Grantee hereto and payable to the order of GROCKETT NATIONAL BANK, hereinafter called Mortgagee, said Note being payable as therein provided, bearing interest at the rate therein specified, providing for attorney's fees and acceleration of maturity at the rate and in the events therein set forth, and payment of said Note being secured by a vendor's lien and superior title retained herein in favor of said Mortgagee, and by Deed of Trust of even date herewith from Grantee to TODD E, HUCKABEE, Trustee, to which reference is hereby made for all purposes; and,

WHEREAS, Mortgagee has, at the special instance and request of said Grantee herein, paid to Grantor herein \$320,000.00 of the purchase money for the property hereinafter described as represented by the above described Note, said Note, together with the vendor's lien and Deed of Trust Lien against said property securing the payment of said Note is, without recourse upon the Grantor herein, hereby assigned, transferred and delivered to Mortgagee, the Grantor hereby conveying to the said Mortgagee the said superior title to said property, and subrogating the said Mortgagee unto all the rights and remedies of Grantor in the premises by virtue of said Note and liens; the indebtedness evidenced by said Note being due and payable as therein provided, both principal and interest being due and payable at the office of CROCKETT NATIONAL BANK;

HAS GRANTED, SOLD and CONVEYED, and by these presents does GRANT, SELL and CONVEY unto the said Grantee, the following described property, to-wit:

Lot 20, VACATING AND RE-SUBDIVISION PART OF RIADA SUBDIVISION – UNIT 1, according to the map or plat thereof, recorded in Volume 6, page 109, Map and Plat, Comal County, Texas.

This conveyance is made subject to, all and singular, the restrictions, easements and covenants, if any, applicable to and enforceable against the above described property as reflected by the records of the County Clerk of Comal County, Texas.

Taxes for the current year have been prorated and are assumed by Grantee.

It is expressly agreed and stipulated that a vendor's lien is retained in favor of the payee in said Note against the above described property, premises and improvements, until said Note, and all interest thereon, is fully paid according to the face and tenor, effect and reading thereof, when this deed shall become absolute.

TO HAVE AND TO HOLD the above described premises, together with, all and singular, the rights and appurtenances thereto in anywise belonging unto the said Grantee, Grantee's heirs and assigns forever.

Grantor does hereby bind Grantor, Grantor's heirs, executors, administrators and successors to warrant and forever defend, all and singular, the said premises unto the

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said Grantee, Grantee's heirs, executors, administrators, successors and assigns, against

every person whomscever claiming or to claim the same or any part thereof.

DATED this the <u>3</u>⁽²⁾ day of February, 2020. TO BE EFFECTIVE FEBRUARY 5, 2020

JAMES W. HALEY, Trustee of the JAMES W. HALEY TRUST U/W CATHERINE F. HALEY, Deceased

STATE OF TEXAS § COUNTY OF § Collin

This instrument was acknowledged before me on this the 3_ day of February, 2020, by JAMES W. HALEY, Trustee of the JAMES W. HALEY TRUST U/W CATHERINE F. HALEY, Deceased.

Notary Public, State of Texa

Grantee's Malling Address: 630 Williams WAY -1910-12x000 rountels. TX 130

7125d.DEEDS Independence Title Co. (JD) GF #1950801-NBF



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FUBLIC STATE OF COMM. EXP. 10-07/20 **EARY ID 13220710**

> **Filed and Recorded Official Public Records Bobbie Koepp, County Clerk Comal County, Texas** 02/07/2020 08:37:04 AM LAURA 3 Pages(s) 202006004739



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