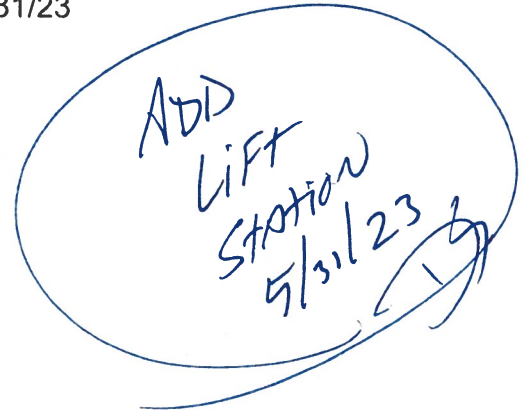


Aerobic Treatment System

Name:
Phone:
Address: 5439 FM 1148
City: --
County: Palo Pinto
Subdivision / Legal: PK Lake 29-1-72 Area 6-Q Lot 7S
Lot: --Block: --

Date: 5/31/23



Design Parameters

Type of System: Residence Lot Size: 0.456 Acres
Square Foot of Facility 2394 # Bedrooms: 3
Water Saving Devices: ☒ Yes ☐ No
GPD – Design Capacity: 240
Max Loading Rate: 0.20 Gal/Sq Ft/Day
Required Area: 1200 Sq Ft Proposed Area: 1200 Sq Ft

Lift Station Parameters

Lift Station: 500 Gallon minimum lift station tank
Alarm: Audible and Visible high water alarm
Pump: ½ HP Float Activated Grinder Pump with 2" Discharge
Supply Line: 2" sch 40 PVC

Aerobic System Parameters (SEE ATTACHED PAGE 2 FOR EMITTER DETAILS)

Trash Tank: 400 Gallon
Aeration Tank: TCEQ Approved Class 1 Aerobic Treatment System (500 GPD)
Pump Tank: 770 Gal
Alarm: Audible and visible with Timer
Comments: A secondary plug, cap, or other suitable restraint system shall be provided below the riser caps to prevent tank entry if the cap is unknowingly damaged or removed. If emitter lines are run over tanks, there must be 1' of soil between bottom of emitter line to top of tank.

Soil Classification

Soil Classification/Suitability: III w/ rock / US
Design Classification: Aerobic Unit w/ drip emitter application
Comments:

Landscape Plan

Surface application area will:
☐ support native vegetation
☒ have sod applied before use
Comments:

Note: It should be understood that data given in this report does not cover installation of the sewage system. Construction, installation and final inspection should be based on specifications and conditions affecting each location and meet requirements of the state and local governing authorities. Due to variances of nature and man, no guarantee is expressed or implied.

Designer:

Date:

5/31/23

Dan Shaw R.S. 4215
OSSF S.E. OS0026729

Aerobic OSSF w/ Drip Irrigation Pressure Emitter Lines

5439 FM 1148

0.456 Acre, PK Lake 29-1-72 Area 6-Q Lot 7S

Palo Pinto County, TEXAS

REQUIRED :

2394 sq ft / 3 Bedroom = 240 gpd

Class III Soil Effluent Loading Rate = 0.20 g/sq ft

240 gpd / 0.20 g/sq ft = 1200 sq ft Area Required

1200sq ft / 2 = 600 ft Emitter Lines

PROPOSED: Geoflow WFPC16-2-24 WASTEFLOW PC 24"/.53 gallons/hour

20 lines @ 30' each = 600'

Total = **600** ft Emitter Lines total @ 20 psi

Pump - Schaefer E Series, Model #20LE05P4-2W115, 20 GPM, 1/2 HP, 115 V submersible pump.

Supply Line & Header – 1" SCH 40 PVC

Return Line & Header – 1" SCH 40 PVC

Vacuum Breakers - to be placed at highest point of supply and return line

Emitter Line spacing – 2 ft center to center

Emitter Spacing – 24 inches

Total # Emitters - 300

Emitter flow rate – 0.53 gallons/hour @ 20 psi

Total flow rate – 159 gallons/hour @ 20 psi (2.65 gallons/minute)

A pressure regulator should be installed capable of accommodating inlet pressure of 150 psi and maintaining an outlet pressure of 20 psi. The pressure regulator should be installed with a by-pass in order to flush system when needed. A 100 micron filter capable of filtering 7 – 28 gallons per minute should be installed. Trench emitter line trenches at 1 foot deep and 2 feet center to center. There shall be a minimum of one foot of soil between the emitter line and groundwater and six inches between the emitter and solid rock, or fractured rock. Trench emitters around trees. Cut the tubing to appropriate length and tape the ends to prevent dirt from entering the lines. Place the lines in the trenches at 2 foot centers. Install the supply manifold and connect the emitter line to the header. When connecting the emitter line to the header only use the approved spin lock connectors supplied by the manufacturer and leave enough slack to allow for settling. Make sure the tubing does not have any kinks. Connect the discharge header to the emitter lines. Install the vacuum breakers to the highest point of the supply manifold and discharge header. Emitter lines should be backfilled native class III & IV soil and no heavy equipment should be allowed on the drip field. The entire drip field should be graded to prevent collecting of rainwater on the field. The areas surrounding the drip field should be graded to take runoff surface water away from the drip field. Sod should be applied to entire drip field prior to use.

DOSING: 240 Gallons/Day

Total flow rate – 159 gallons/hour @ 20 psi (2.65 gallons/minute)

Total Flow Rate for 5 Minute Cycle: 13.25 Gallons

18 x 5 minute cycles = 238.5 Gallons

1 x 5 minute cycle every 75 minutes (1 hour 15 minutes)

18 x 5 minute cycles in 24 hours = 238.5 Gallons/day



[Handwritten Signature]
1/12/24
OSSF 00050026729

5439 FM 1148

0.456 ACRES

PK LAKE 29-1-72 AREA 6-Q LOT 75
PALO PINO COUNTY, TEXAS

ADD LIFT
STATION
5/31/23
Du 82

A- ELECTRIC CONTROL w/ timer

B-4" PVC CLEANOUT

C-400 Gallon TRASH TANK

D-500 Gallon/DAY CLASS I AERATOR TREATMENT UNIT

E-770 Gallon Pump tank

F-PRESSURE REGULATOR w/ gauge

G-HARDWORKS ASSEMBLY w/ SCREEN FILTER

H-SUPPLY LINE

I-SUPPLY MANIFOLD

J-RETURN MANIFOLD

K-RETURN LINE

L-FLUSH VALVE

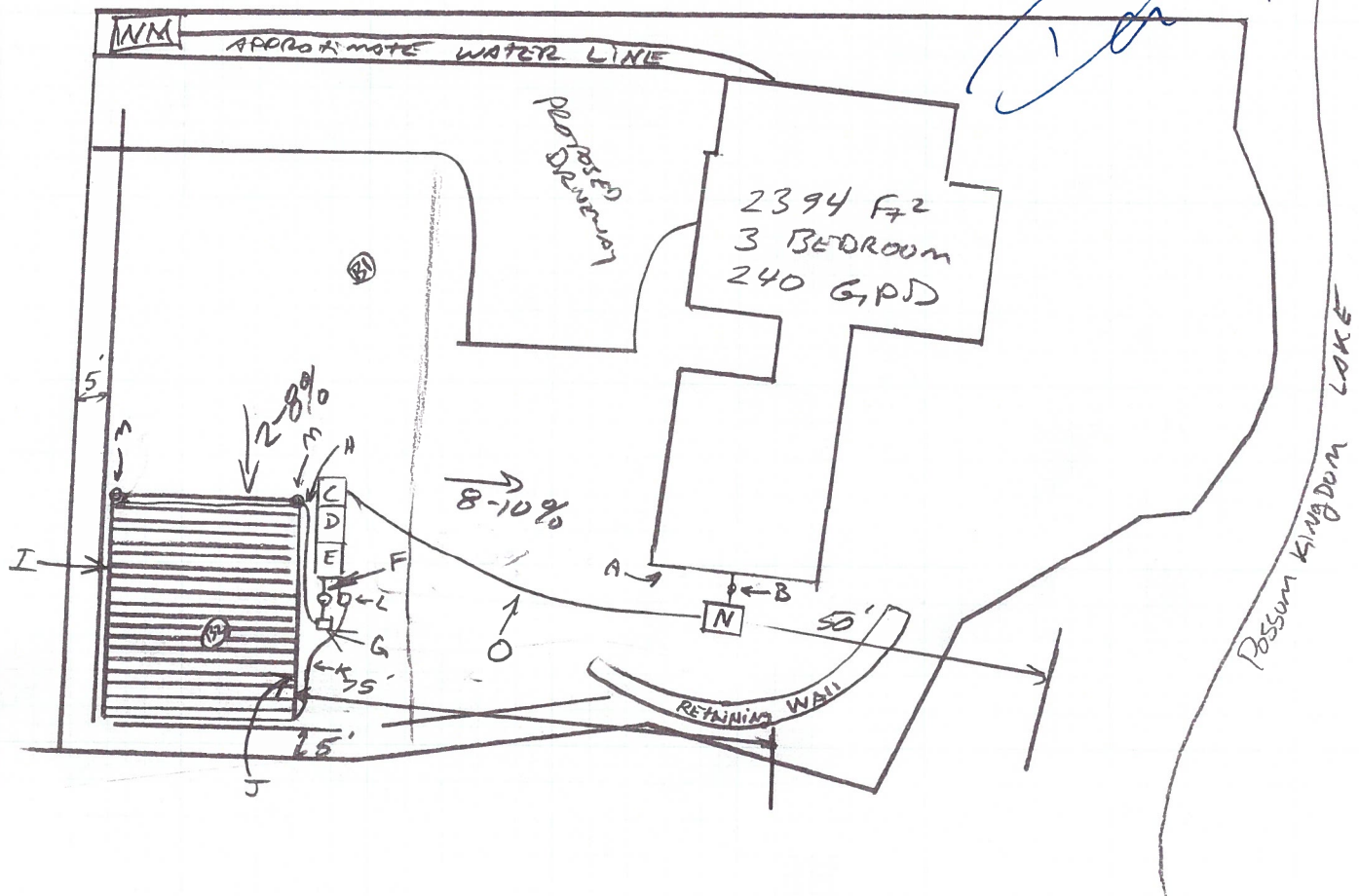
M-AIR VACUUM BREAKERS

N-500 Gallon MINIMUM LIFT
STATION TANK w/ AUDIBLE +
VISIBLE HIGH WATER ALARM +
1/2 HP Float Activated
GRINDER PUMP w/ 2"
DISCHARGE

O-2" MINIMUM SCH 40 PVC
SUPPLY LINE



NORTH
1"=30'



05/20/2023
1/20/23

Site Evaluation Report

Name: _____ Date: 12/20/23
 Phone: _____
 Address: 5439 FM 1148
 City: --
 County: Palo Pinto
 Subdivision/Legal: PK Lake 29-1-72 Area 6-Q Lot 7S
 Lot: --Block: --

Site Notes:

Site Area: 0.456 (acres)
 Proposed Depth of OSSF Excavation: 1' (feet)
 Restrictive Horizon Present: ☒ Yes ☐ No Depth: 4'
 Presence of Groundwater: ☐ Yes ☒ No Depth: --
 Existing or Proposed Well w/in 100ft of OSSF: ☐ Yes ☒ No (see design)
 Estimated Slope of OSSF Area: 2-8%
 Presence of Ponds, Streams, Drainage: ☒ Yes ☐ No (see design)
 Trees / Undergrowth in OSSF Area: ☐ Yes ☒ No (see design)
 OSSF Area in FEMA designated 100 year floodway: ☐ Yes ☒ No
 Notes:

Overall Site Suitability:

Soil: ☐ suitable ☒ unsuitable
 Site: ☒ suitable ☐ unsuitable
 Notes:

Site Schematic: See Attached

Soil Borings:

B-1

B-2

Depth	Soil Type	Soil Class	Suitable/ Unsuitable	Depth	Soil Type	Soil Class	Suitable/ Unsuitable
0-6"	Loam	II	S	0-6"	Loam	II	S
6"-2'	Sandy Loam w/ 20% gravel	III	S	6"-2'	Sandy Loam w/ 20% gravel	III	S
2'-3'	Clay Loam	III	S	2'-3'	Clay Loam	--	US
3'	Auger Refusal (rock)	--	US	3'	Auger Refusal (rock)	--	US

Signature: Dan Shaw OS0026729

Date: 1/20/23



Site Evaluation Report

Name: _____ Date: 12/20/23
Phone: _____
Address: 5439 FM 1148
City: --
County: Palo Pinto
Subdivision/Legal: PK Lake 29-1-72 Area 6-Q Lot 7S
Lot: --Block: --

Site Notes:

Site Area: 0.456 (acres)
Proposed Depth of OSSF Excavation: 1' (feet)
Restrictive Horizon Present: ☒ Yes ☐ No Depth: 4'
Presence of Groundwater: ☐ Yes ☒ No Depth: --
Existing or Proposed Well w/in 100ft of OSSF: ☐ Yes ☒ No (see design)
Estimated Slope of OSSF Area: 2-8%
Presence of Ponds, Streams, Drainage: ☒ Yes ☐ No (see design)
Trees / Undergrowth in OSSF Area: ☐ Yes ☒ No (see design)
OSSF Area in FEMA designated 100 year floodway: ☐ Yes ☒ No
Notes:

Overall Site Suitability:

Soil: ☐ suitable ☒ unsuitable
Site: ☒ suitable ☐ unsuitable
Notes:

Site Schematic: See Attached

Soil Borings:

B-1

Depth	Soil Type	Soil Class	Suitable/Unsuitable
0-6"	Loam	II	S
6"-2'	Sandy Loam w/ 20% gravel	III	S
2'-3'	Clay Loam	III	S
3'	Auger Refusal (rock)	--	US

B-2

Depth	Soil Type	Soil Class	Suitable/Unsuitable
0-6"	Loam	II	S
6"-2'	Sandy Loam w/ 20% gravel	III	S
2'-3'	Clay Loam	--	US
3'	Auger Refusal (rock)	--	US

Signature: _____

Dan Shaw OSSF S.E. OS0026729

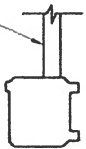
Date: _____

1/20/23

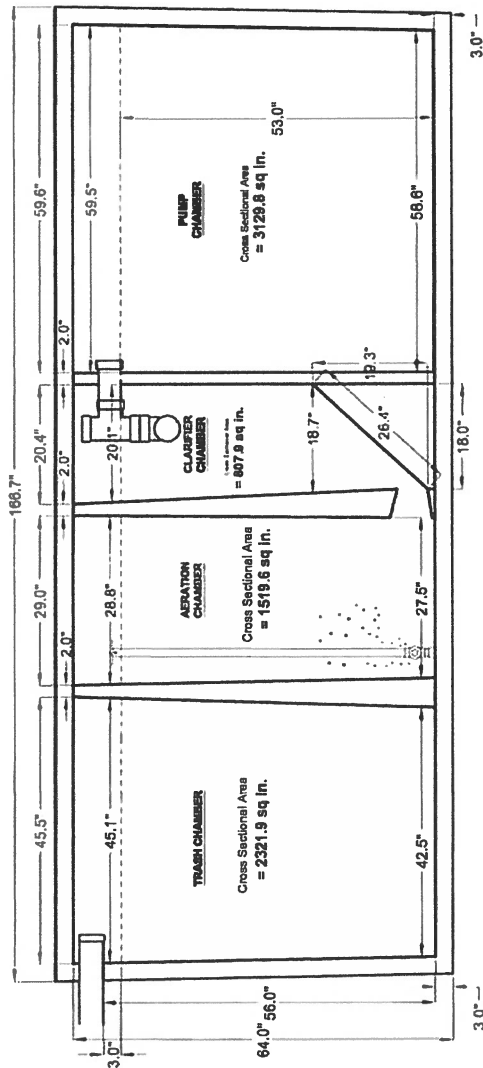


1/20/23
#050307

1/2" Discharge

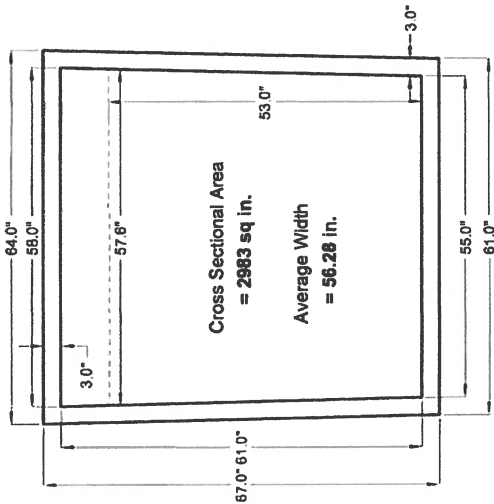


BLOWER



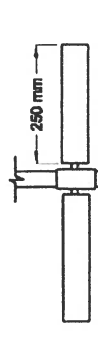
SIDE SECTION VIEW

SCALE: 1" = 30"



END SECTION VIEW

SCALE: 1" = 30"



DIFFUSER DETAIL

2 - 250 mm

Max flow per diffuser
= 55 liters/minute

Title:

Model D-500-m

500 gallon per day Aerobic Treatment Unit

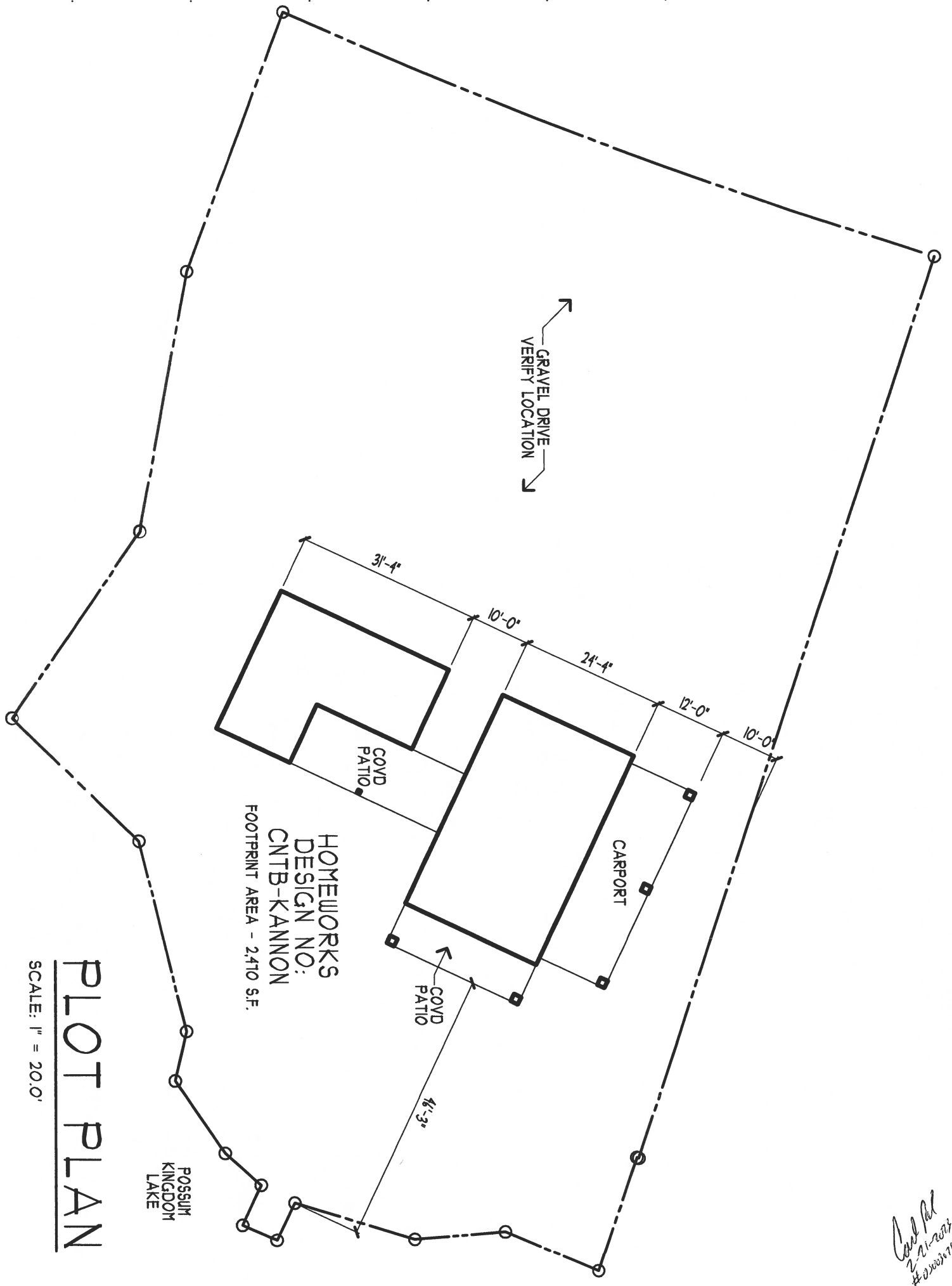
Company Name:

Aeris Aerobics

Date:

2-22-2015

Handwritten signature and date:
2-24-2015
#020202



PLOT PLAN

SCALE: 1" = 20.0'

Carl Pat
2/21/2012
#0000000000



817-999-6208
elementsystemstx.com

Two-Year Maintenance Contract

Upon payment, Element Systems agrees to the following conditions of this maintenance contract:

1. This contract is to be valid from _____ to _____. Inspections will be made a minimum of once every four (4) months. Aerobic Treatment Unit model # D-500-m.
2. Inspections will include:
 - A. An effluent quality inspection consisting of a visual check for color and examination for odor.
 - B. As necessary, measure the settled solids in the aeration chamber.
 - C. Measure chlorine residual in the system, homeowner is responsible for adding chlorine as necessary to the system.
 - D. User or homeowner will be notified of any improper condition or malfunction.
 - E. All diffusers and filters will be checked.

Any necessary repairs or replacement parts, pumping of the unit, laboratory work, and any other service will be conducted only upon verbal or written agreement between the homeowner and Element Systems. Homeowner is responsible for keeping proper wastewater chlorine in the chlorinator at all times.

Important: This service agreement does not cover the service calls, labor, or materials which are required due to "misuse or abuse" of the system, failure of a part no longer under warranty, failure to maintain electrical power to the system, sewage flows exceeding the hydraulic/organic capabilities, and usage contrary to the requirements listed in the owner's manual or as advised by Element Systems

Owner's Signature Mark Kannon

Owner's Name Printed Mark Kannon

Property Address 5439 FM 1148, Graham, TX 76450

Phone # _____

Email Address _____

Installer Signature Austin L Brinkley (MP0001832, OS0028771)

ELEMENT SYSTEMS, LLC., PO BOX 800, 389 CR 4853, NEWARK, TX 76071

Handwritten signature and date:
2/21/2013
#00010113

PALO PINTO COUNTY
STATE OF TEXAS



Office: (940) 659-1240
Mobile: (940) 452-6141
Fax: (940) 659-3828

David S. McDonald
Public Works Director
O.S.S.F. Designated Representative

AFFIDAVIT TO THE PUBLIC

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

The Texas Health and Safety Code, Chapter 366 authorizes the Texas Commission on Environmental Quality (commission) to regulate on-site sewage facilities (OSSF's). 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 owners to provide notice to the public that certain types of OSSF's 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.

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 of property & physical address):

Acres: 0.456, PK LAKE 29-1-72 Area G-Q LOT 7 S

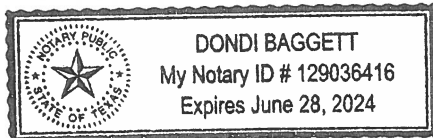
The property is owned by (insert owner's name): Mark Kannon

Name of Installer: Element Systems / Dan Shaw

This OSSF shall be covered by a continuous service agreement for the first 2 (two) years. After the initial two-year service agreement, 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 may be obtained from the Palo Pinto County Public Works Department.

WITNESS MY HAND(S) ON THIS THE 7 DAY OF February, 2023.



Mark Kannon
(Owner's signature(s))

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 7 DAY OF February, 2023
BY Mark Kannon
(Who appeared in front of Notary)

Dondi Baggett
Notary Public, State of Texas

Cal
2-21-2023
#05030712