Leaning Pine Sewer, LLC

Annual Report

2023

INTRODUCTION

Leaning Pine Sewer, LLC (L.P.S. LLC) is a Large Soil Absorption System (LSAS) located on the east side of Lake Coeur d'Alene. It obtained the services of E-3 Consulting, LLC in the third quarter of 2022. Information in this report has been collected by wastewater operators employed by E-3 Consulting, and licensed in the State of Idaho. Information about the system has been gathered during visits by visually inspecting all areas of the wastewater collection and drainfield site. Should a problem arise while E-3 Consulting staff is not on site, please refer to the emergency contact list at the end of this report.

Aerial Overview

System Description

The Leaning Pine Sewer, LLC system consists of a community pressure sewer and two drain fields which have been installed by LPS, Inc. to serve up to fourteen (14) dwellings. Sewage treatment is by individually owned septic tanks. The newly installed tanks are each fitted with Orenco pump inserts with float controls, an alarm float, and control panels are mounted on the dwellings. The Cooke system was existing and the equipment differs. The effluent is discharged through 1-1/4 inch service lines to the common 2-inch pressure sewer. This service line is also owned and maintained by the respective lot owner. A PVC check valve and shut-off ball valve are at each service connection to the pressure sewer. Stub-outs with these valves are provided for undeveloped lots. There are seven (7) active connections and five (5) stub-outs.

The common pressure sewer discharges to a 1,000 gallon concrete dosing tank located up-slope of Drainfield "A", the northern field. Two Orenco dosing siphons Model OSI 348 installed in the tank alternate automatically. Each siphon cycle discharges approximately 1,000 gallons to one-half of the operating drain field. The selector or diverter valves for each siphon discharge are located approximately 25 feet from the dosing tank. The discharge from the diverter valves is split uniformly by a distribution manifold to 200 linear foot drain field modules.

There are two diverter valves with PVC risers and caps. There are four manifolds which can be located by their l-inch PVC vents. Each manifold in Drainfield "A" loads six (6) modules and each manifold in Drainfield "B" loads five (5) modules. The modules are constructed of l0-inch diameter gravel-less drain tubing with 200 feet connected in series so as to fill the upper trench slightly more than half the depth before overflowing to the next lower segment.

2023 System Update

As recommended by Welch-Comer Engineers & Surveyors Letter (Appendix 2), L.P.S. LLC installed a flow meter on the main effluent sewer line. Location is approximately 30 feet Northwest from Highway 97 on the west side of the highway. All flow from service connections are recorded monthly at a single source point (Flow Meter). Recording at this point started May 17th, 2023 and ended November 1st, 2023.

The Flow meter was installed by United Crown on May 17th, 2023 with the reading starting at (00000 x 100). Commencing June 1st and continuing through November 1st, 2023, all flow meter readings were recorded on the 1st of the month.

Operation and Maintenance

Septic Tank/Pump basins

The septic tanks should be inspected at two year intervals to evaluate the rate of sludge and scum accumulation. If inspections are not made, the tanks should be cleaned by a licensed septic tank

pumper at 3 to 5 year intervals. Records of this maintenance can be kept in the pump control box. At that time the screen in the pump insert can be cleaned by a stream from a garden hose.
The pump should be checked for operation annually preferably at the beginning of the season. Remove the cover from the pump riser and set the selector switch in the pump control box to manual momentarily to look and listen for pump operation. Reset it to auto. Hose off the float switches. Each float can be lifted or tipped by an insulated hook to check the pump and the alarm circuits for operation. If the pump operates on manual, but not on auto when the float is lifted, the float switch is faulty and must be replaced. Such service as switch replacement or pump repairs should be done by a qualified electrician.

Pressure Sewer and Air Release Valve

It is recommended to operate the ball valves at the service line connections to the main pressure sewer annually. These are quarter-turn valves. When the valve handle is in line with the valve body it is open and this is the normal position. When the handle is at right angles to the valve body it is closed.

The air release valve is mounted on a shut—off valve which can be closed for valve removal and cleaning. This may be required annually. With the valve removed, an assembly with a pressure gauge can be installed temporarily to check the pressure sewer for leakage. During testing of the new installation, the normal line pressure at the air release valve location was noted as 25 psi. The pressure may increase during a pump operating cycle but if a lower pressure is observed the line should be inspected throughout its length. A wet area at the ground surface or the sound of escaping water will indicate the location of a leak which must be repaired.

Dosing Tank and Siphons

Remove a cover to inspect siphon operation each month for several months after operation begins and every six months thereafter. A water level greater than 31 inches over the top of the siphon bell indicates that the siphon has lost prime and the tank is trickling through the overflow. This condition may also be detected by the sound of the trickling by listening at the vent. It is necessary to blow air under the skirt of the siphon bell to re-prime the automatic operation. An ell shaped assembly of small diameter plastic pipe and lung power or a source of compressed air will accomplish this.

Diverter Valves and Drainfields

These valves located on the downhill side of the access road from the dosing tank direct the flow to Drainfield “A” on the north or Drainfield “B” to the south. The open position is downhill for “A” and south for “B”. Place Drainfield “A” in service during the high use period such as April through October and use Drainfield “B” during the remainder of the year. In the event that effluent surfaces during the period of use for either field, the valves should be reset to rest the field for a six-week period. This should only occur due to a hydraulic overload which could be the result of a homeowner inadvertently leaving water running or some unforeseen flooding of a pump basin by surface runoff or groundwater.

Monitoring Wells

The perforated pipe observation wells installed down-slope of Drainfield “B” afford a check of the groundwater elevation at each location. A system of observing and recording the depth to water from

the ground surface or top of each casing will be a valuable management tool. Readings could be taken at regular monthly intervals with supplemental observations made more frequently during periods of significant change. After a two year period, a trend may be discerned and less frequent checking would be required.

An understanding of the affect of Drainfield "B" on the normal groundwater fluctuations is desired. If the depth to water from the ground surface is six feet or less in each of the wells, it is advised to use Drainfield "A". Water quality sampling from the Leaning Pine well is recommended by the Idaho Division of Environmental Quality. These should be checked for bacteriological contaminants and nitrates periodically. The recommended frequency is each six months or quarterly during periods of water delivery. A failing coliform test requires notification of the users and immediate re-testing until the condition is corrected.

General Overview

Operational review by licensed wastewater operators conclude that the Leaning Pine Sewer, LLC is operating under the guidelines set forth by D.E.Q. regulations and standards. If anyone reviewing the information provided by this Annual Report needs additional information to better understand or clarify the operations of LPS's wastewater operations, please contact the primary licensed operator: Jason Wereley at (208) 659-5471, or by email jasondwereley@gmail.com.

2023 Daily/Monthly Record of Operational Duties

- Flow Meter readings were recorded on the 1st of the month, starting June 1st, 2023 and continued through November 1st, 2023.*
- As confirmed in the Panhandle Health Letter (Appendix 4), a modified monitoring schedule of May through September was adopted as most of the service connections are seasonal.

Leaning Pine Community Drainfield - 2023 Annual Flows				
	Flow Meter Reading	Monthly Flow		Daily Flow
January	-	0		0.00
February	-	0		0.00
March	-	0		0.00
April	-	0		0.00
May	100	100		3.23
June	1,100	1,100		36.67
July	32,700	32,700		1054.84
August	21,200	21,200		683.87
September	10,900	10,900		363.33
October	9,800	9,800		316.13
November	-	0		0.00
December	-	0		0.00
Total and (Avg.)	75,800	75,800		

* On May 17th, 2023 a Flow Meter was installed on the main effluent line, recording of flows started after this date.

Primary Contact

Jason D. Wereley
E-3 Consulting, LLC
Leaning Pine Sewer, LLC Wastewater Operator (Primary Responsible in Charge)

Certifications:

- Water/Wastewater Consultant & Operations
- Idaho Wastewater III licensed operator
- Idaho Collection II licensed operator
- Idaho Wastewater Land Application Endorsement
- Idaho Water Treatment licensed operator

Emergency Contact List

Leaning Pine Sewer, LLC Officers

- Benjamon Crosby (President) (208) 704 – 1724
- Bill Benedetti (Secretary/Treasurer) (208) 770 – 0434
- Steve McConnel (Assistant Treasurer) (503) 720 – 1618
- John Barlow (Officer) (208) 661 – 0506
- Joe Morris (Officer) (208) 659 – 2138

Wastewater Operations

- E-3 Consulting / Operations:
  - Responsible Charge Operator
  - Jason Wereley (208) 659 – 5471
  - Wastewater 3 - license number- WWT3-13344
  - Wastewater Collections 2 - license number-WWC-11758

  - Secondary Responsible Charge Operator
  - Wesley Rice (208) 582 – 4096
  - Wastewater 1 - license number- WWT1-21037
  - Wastewater Collections license number-WWC1-21037

Service Contractors

- United Crown Pump & Drilling (208) 772 – 7867
- B&B Sani-Services (Septic Hauling/Excavation) (208) 660 – 9987
- HD Fowler (Part Supplies) (208) 772 – 9060

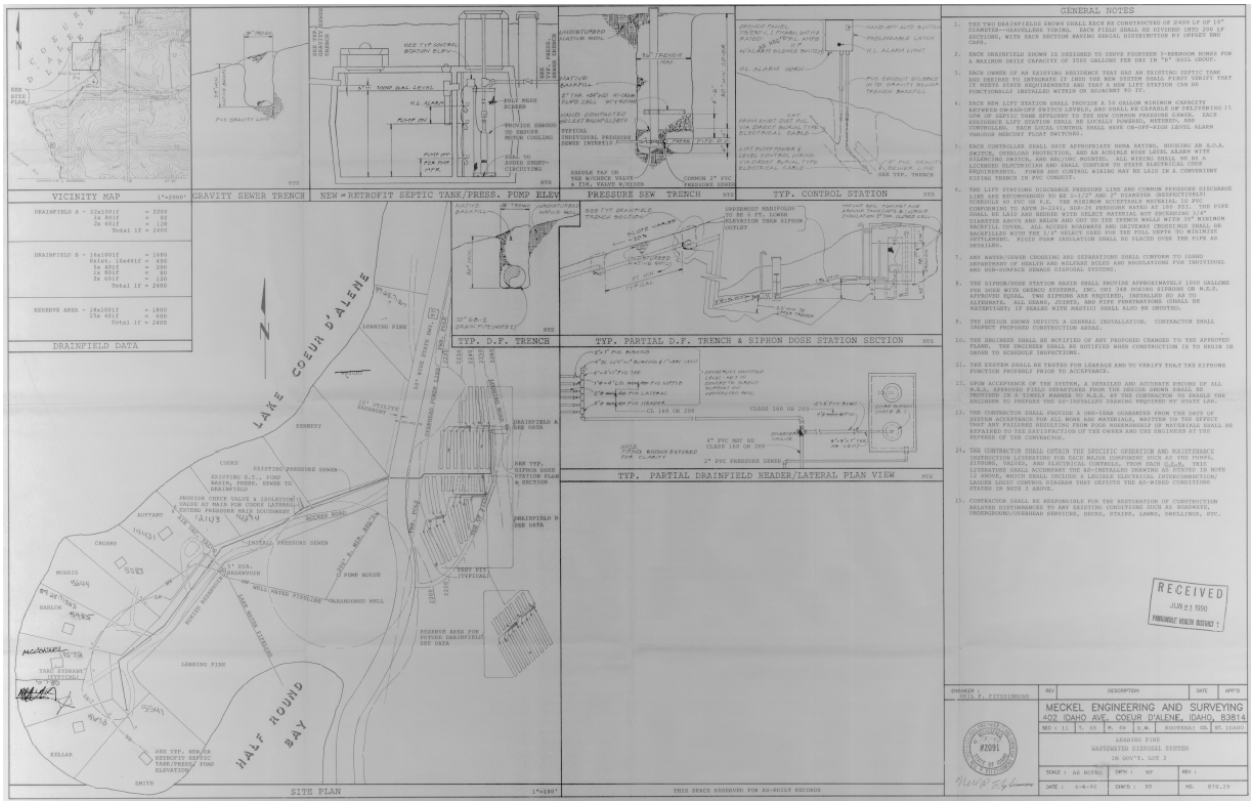
Governing Agencies (Reporting, Regulations & Violations)

- Coeur d'Alene Regional DEQ office (208) 769 – 1422
  2110 Ironwood Pky
  Coeur d'Alene, ID 83814

- Panhandle Health Services, Kootenai County (208) 415 – 5100
  Water / Wastewater Division

Appendix

1) Leaning Pine Community Drainfield (LPCD) as built schematic



2) Welch-Comer Engineers & Surveyors Letter – Dated 7/7/2022

WELCH-COMER
ENGINEERS | SURVEYORS
www.welchcomer.com
O: 208.664.9382
F: 208.664.5946
330 E. Lakeside Avenue, Suite 300
Coeur d'Alene, ID 83814

Memorandum

TO: JOHN BARLOW, LPS, INC
FROM: ASHLEY WILLIAMS, PE
PRJ. #: 41352.01
SUBJECT: LEANING PINE DRAINFIELD REVIEW
DATE: JULY 7, 2022

Introduction

The Leaning Pine Community Drainfield (ID#15-129152) is considered a Large Soil Absorption System (LSAS) and is regulated by Panhandle Health District (PHD). LPS, Inc was recently contacted by PHD requesting an annual report. The annual report consists of monitoring reporting and a summary of system maintenance. This has not been requested of LPS, Inc previously.

Field Review

We (myself and Steve Cordes, P.E.) completed a field drainfield site visit with you (John Barlow) on June 7, 2022. Rich Agueros of United Crown was also present. The conclusions of our site visit are as follows:

1. The existing dosing station does not appear to have a flow measurement device. We recommend installing a flow measurement device (i.e. cycle counter) to measure the incoming flow into the drainfields and to ensure the siphon is operating appropriately.
2. The drainfields are alternated each year by LPS, Inc.
3. There are monitoring wells and observation points along the west side of the drainfield sites. The monitoring wells will be confirmed to be suitable for continued groundwater elevation and quality monitoring.
4. There does not appear to be any indication on the ground surface of drainfield failure.

Annual Report Components

The following items are requested in the annual report; this is required to be submitted to PHD each year by January 31st. The monitoring activities are required by IDAPA 58.01.03, Section 013.06:

1. Permit Information
   a. Design capacity and remaining capacity in gallons per day. A flow meter or cycle counter will assist in providing this information.
2. Dates Disposal Fields were Alternated
   a. No timeframe is required, so continue to alternate each year.
3. Observation Pipe Monitoring (monthly)
4. Influent Flow Monitoring (monthly)
5. Groundwater Elevation Monitoring (monthly)
   a. This is required if high seasonal groundwater is within 15 feet of the ground surface. It appears the elevation was measured to be within 6 feet in 1990 near Highway 97.
6. Semi-Annual Groundwater Monitoring (twice per year)

There is presently one year-round resident and three vacant connections (not currently producing sewer flow). The remaining 10 connections are seasonally used (May through September). Given the current use of the system, LPS, Inc should request a reduced frequency for monitoring. The following is proposed:

- Observation Pipe Monitoring (monthly, May through September)
- Influent Flow Monitoring (monthly, May through September)
- Groundwater Elevation Monitoring (Monthly, May through September)
- Annual Groundwater Monitoring (once per year)

Once the system has more year-round usage, PHD may require the system to return to the regular monitoring schedule.

We would recommend the following:

1. Submit status update to PHD. Include request for reduced monitoring schedule (above) for approval by PHD.
2. Complete installation of flow measurement device.
3. Complete monitoring in accordance with schedule approved by PHD.
   a. This could be completed through a service or maintenance agreement with a certified operator.

Thank you,

Ashley Williams, PE

PROFESSIONAL ENGINEER LICENSED 16259 STATE OF IDAHO ASHLEY M. WILLIAMS 7/12/22

3) Letter to Panhandle Health District (PHD) – Dated 07/15/2022

July 15, 2022

Panhandle Health District
8500 N. Atlas Road
Hayden, ID 83835
www.PanhandleHealthDistrict.org

Attn: Jason Peppin

Re: L.P.S., Incorporated, Large Soil Absorption System

Dear Mr. Peppin:

Please recall our phone conversation of February 16, 2022, regarding our LSAS, ID# 15-129152, wherein I informed you that your letter of January 7, 2022 was sent to the wrong owner of the system. L.P.S, Incorporated, (LPS), is the owner of this system.

During our phone conversation, we went down through the provisions you outlined that were required for the LSAS, and you indicated that most of these provisions did not apply, as our system was grandfathered having been legally constructed and permitted in 1990. You did outline the requirement to do an annual report for the system.

I indicated to you that all of the 14 connections were either not being used due to seasonal use, or were on lots that have not been improved, and I requested an extension until the summer of 2022 to respond to PHD. You approved this request.

On June 7, 2022, LPS engaged the services of Welch Comer Engineers, and Ashley Williams, PE, Steve Cordes, PE, myself and contractor United Crown Pumping walked the entire system. Ashley Williams prepared a report, attached, which outlines their findings and their recommendations.

As there is only one year-round residence on the system, 3 vacant lot connections, and the remaining 10 connections are all seasonal, (May through September), some modified monitoring are being requested.

- Observation Pipe monitoring monthly, May through September.
- Influent Flow monitoring, monthly, May through September.
- Groundwater Elevation monitoring, monthly May through September.
- Annual Groundwater monitoring, once per year.

During our on-site review we confirmed that we have no present way to monitor flows. Attached is a proposal from United Crown to install an Orenco Siphon Sitter that will count the dosing siphon counts, with each cycle being the same gallons of effluent discharged into the LSAS.

We are requesting your concurrence with the recommendations of Welch Comer Engineers. We are also sourcing a licensed entity to oversee the monitoring requirements, for our annual reporting to PHD.

Thank you for your consideration.

John Barlow, President
L.P.S., Incorporated

CC Ashley Williams, Welch Comer Engineers

4) Letter from Panhandle Health District (PHD) – Dated 07/29/2022

EXHIBIT "D"

Panhandle Health District

Healthy People in Healthy Communities

Public Health
Prevent. Promote. Protect.
Panhandle Health District

July 29, 2022

John Barlow, President
L.P.S. Incorporated
P.O. Box 1180
Coeur d' Alene, ID 8816

RE: L.P.S. Incorporated, Large Soil Absorption System

Dear Mr. Barlow:

Thank you for your cooperation in managing the Leaning Pine Community Drainfield (ID# 15-129152). Panhandle Health District has reviewed the recommendations outlined in the Welch Comer report dated July 7, 2022 for monitoring of the system, and we are in full support of the items listed. The Operation and Maintenance plan includes installation of a flow meter, regular alternation of the drainfields, and regular monitoring of groundwater levels. These measures will allow for more effective management of the system, and ensure long-term functionality for the users.

Feel free to contact me with any questions.

Sincerely,

Jason Peppin, REHS
Environmental Health Section Manager

Hayden -Kootenai County
8500 N. Atlas Rd.
Hayden, ID 83835
208.415.5100

www.PanhandleHealthDistrict.org

5) Supplemental graphs of monitoring data