July 23, 2019

Today we traveled to Fort Ebey State Park in Coupeville to see Chuck Juras who maintains the LOSS system there; the system was built in 2008. People in attendance from DBR were Marianne Nolte, Becky Stinson, Phyllis Rabun, Leslie Turner, and Paula Cassano.

Fort Ebey State Park is a 651-acre campground with 4 showers, 8 toilets and 2 urinals. It was designed to handle 6500 gallons of waste per day; they are presently experiencing a peak usage of 2800 gallons per day. (Reminder, a campground during high usage times may have its restrooms in nearly constant use; this may make it difficult for us to compare to DBR.) The campground is open April through the end of October.

Their system holds 15,000 gallons in 6 separate tanks. Chuck estimates that the system has a 30-year lifespan. The waste moves through the 6 tanks with a recirculating indexing system that then pumps the waste water up to a gravel field. (The gravel area is surrounded by a swale to protect it from rain runoff.) Next the waste moves out into the emitter evaporation areas which are in the tree and shrub area. There are 4 emitter fields that are governed by an indexing valve. The drip system was installed with a Ditch Witch which laid the piping 6-12 inches below ground. Some weeding is necessary in the emitter field.

Construction of the system took 2 months which was completed by Vasquez Construction. An engineer from ADC was on hand daily during the construction phase. They acquired a state permit to build, and an electric permit to put in the control panel. Their control panel is not housed in a building, but under a kiosk which had a security grid over the controls. Chuck mentioned that since they don't need generator backup in the event of a power failure, a building for the electrical panel was unnecessary. Since generator backup (propane?) will probably be desired, we'll need some sort of enclosed structure to protect the controls and prevent theft of the generator. One change from the design to the build was putting metal pipes for supports on the control station.

Over the last 11 years, they have replaced one recirculating pump and one emitter pump. The recirculating pump cost them approximately $100; to not be down, they store a replacement for each type of pump. They noticed the failed emitter pump by noticing pressure changes and ponding water in the evaporation fields.

Chuck stated that there is annual and monthly testing that is required by the state. They test twice per year and weekly to assure they have a good diary to show trends in their

system. This allows them to look for patterns, rainfall, and campground high occupancy periods. They test levels and pressures of the system. It takes approximately one person-day twice a year to accomplish all this testing.

They maintain the system by cleaning the filters in the tanks twice a year with a high-pressure water hose. They have a team of three people who service 20 systems in the area. They also pump the tanks annually. They learned that they needed to purchase the life-time warrantee lids for the tanks because mowers cracked the lids they used initially. The lids need to be air-tight to protect against unwanted odors.

Chuck suggested that we check the Department of Health website for restrictions on what should/should not go down the septic system.

We really appreciated the time Chuck spent with us. He offered his email address so we could ask the last set of questions that he didn't know off the top of his head. These questions are:

- What was the cost of the system?
- What are the foliage clearing requirements for the emitter fields?
- What are the sizes of the emitter fields?
- What is the name of the lifetime warranted lids?
- How much did you pay for the pumps you hold in reserve?