



City of Thorne Bay

Thorne Bay, AK 999109

PHONE: (907) 828-3380; FAX: (907) 828-3374

E-MAIL: cityclerk@thornebay-ak.gov

DEPARTMENT REPORT

Subject: Monthly Department Report

Department: Water & Sewer Utility

Supervisor: Sam Sawyer, Level II Water

Employees: Sam Sawyer, Supervisor
Dave Duffield, Employee

Date: March 3, 2020

A Departmental Overview

The Water/Sewer Department is administered by Sam Sawyer, Level II Water Operator. The Supervisor(s) and staff are responsible for the operation and maintenance of the City's four core sanitation services: Water Treatment, Water Distribution, Sewage Collection, and Sewer Treatment. Duties include maintenance, minor and major schedule and unscheduled repairs throughout all four systems, monthly reporting to the Alaska Department of Environmental Conservation as required, direct sampling as scheduled for water quality and wastewater effluent quality compliance, implementation of a preventative maintenance schedule, construction of new water distribution mains and residential /commercial service connections and wastewater collection mains and residential/commercial service connections.

Current Department Activities:

During the week of Feb 24th-Feb 28th we tried to get the Nanofiltration system going. During this process, we came across some issues that were unexpected. Before we sent water to the nanofiltration skid, I set all of the existing filters to 20 gallons a minute and started sending water to the nanofiltration system. After we had water to the new system, we found out quickly that we weren't getting enough pressure to the Nanofiltration skid unless the operator from Pure Aqua turned his pump up on the skid to a working speed of around 73%. At that point we still were only able to make 50gpm instead of the desired 60gpm. After looking closely as to what could be the cause, and Stephen doing some math, his conclusion along with the pure aqua representative was that we were losing around 10 psi as the water passed the Clay valves located after the out-take valve on the current preexisting filters.

CONTINUED

DEPARTMENT REPORT

Furthermore, I lost control of the amount of water I was sending through my existing filters. The gpm I had them set on were no longer showing what I manually set them at. In fact, they were all over the place and inconsistent. Instead, the Pure Aqua representative was controlling my flow on my existing filters with the speed of his pump on the nanofiltration skid. This brought up thoughts about why we didn't have enough pressure coming from the pump at the lake. The pump at the lake is capable of producing 75 gpm and according to Stephens math, we should have plenty of pressure unless we have air in our main line coming from the lake or a leak because the pressure just wasn't what it is supposed to be.

After I explained, like I have in the past with emails and conversations with my previous city administrator, we get large amounts of air in our system when I shut the plant down for maintenance and send water back into the plant. It has always been this way since I started working for the City of Thorne Bay. I believe it has been like this for years before my time. After discussing it amongst ourselves, it is our belief there is indeed a leak somewhere in the main pipe coming from the lake as we are getting so much air into the system, and when the pump at the lake is turned off for any amount of time, water is draining out of it so that leads us all to believe there is a leak somewhere also. Stephen and I went to the lake to look at possible backflow issues and found a check valve located at the lake near the well head that I am going to look further into and order a new one. I personally walk the water line many times out of the year to inspect for any type of damage or leaks and have never found anything, just the occasional small tree that has fell over. We walked to the highest point of this pipeline and opened up an air relief valve and had lots of air come out at that time. The reason we leave it closed is because we get so much silt and small pieces of moss and organic material that clog the air relief up and it ends up leaking water and flooding the room it is located in. Periodically I will go open it up and bleed air out. This was the standard operating procedure I was taught from day 1 so I have never veered from this. I have questioned why we get so much air though and have brought it up because I had suspicions there was a leak somewhere. I believe it is underground between deer creek and the water treatment facility because 90% of the pipeline is above ground and I have never found anything.

During this time and after our conclusion that there is something wrong, I walked the entire pipeline and saw no sign of leaks or damage again. However, I did find that after all the rain we have had during this fall and winter, large amounts of ground that once supported the main line, has been washed away and is cause for great concern. The electrical that supplies power to the pump at the lake is attached to the side of our main water line also.

CONTINUED

DEPARTMENT REPORT

I am very concerned that if any section of pipe gives way or breaks, we will no longer have power to the lake and that the main water line will break. After looking at what year the pipe was installed, it looks to have been installed back in 1988 and is due to be replaced in Stephens opinion and mine. In the meantime, I have contacted Sarah from ARWA and she will be here March 16th with listening devices to see if we can locate this leak. If this leak is not found and fixed, the nanofiltration skid will not work as designed per my conversation with Stephen. I have forwarded this to my current administration as well.

Sam Sawyer