



# THE SPIGOT

from the NORTH DAKOTA RURAL WATER SYSTEMS ASSOCIATION

Aeration device for a lagoon pond.



## Spring Wastewater Maintenance

By Les Sigette, ND Rural Water Systems Wastewater Technician

We are already into spring, but there is still snow and ice on the ground that needs to melt. If you are an operator of a sewer collection system, a wastewater treatment system or both, it's never too early to think about spring discharging or sewer system flushing.

I'm sure every operator of a sewer collection system has a few trouble areas that always need to be watched to prevent a minor or major backup in the system. If the streets in your community are clear, now might be a good time to open some manholes and see how the system is working. This spring has been a little out of the ordinary with numerous sewer mains and customer service lines freezing.

So as always, when you are checking the sewer collection system mains, keep a record of the day a certain area was inspected. I've found in the past that, when a resident has a sewer backup in their basement, they will say to the council that the operator hasn't checked that area or manhole in years. With a written record of the inspection, you have proof, and the council will be grateful you wrote the information down and so will the insurance company.

When you do start doing the spring flushing, always start closest to the major lift-station or, if you have a gravity system, start at the mainline going to the city lagoons. By doing this, you help eliminate any blockage cause by solids sitting at the bottom of the pipes and not floating through. If you have an area you are always having an issue with, the North Dakota Rural Water Systems Association has a sewer camera that can be used to determine blockage.

Now let's talk about the city wastewater treatment system or lagoon ponds. Hopefully, the discharge cell has been isolated all winter and met that 180-day holding period and can be tested for discharge. Once all the ice is off, take a dipping stick with a plastic pop bottle cut in half and nailed to the end and sample all four corners of the cell. Make sure to dip the bottle into the pond upside down, then once under the water turn it over to avoid collecting any floating solids on the pond's surface. Fill the container provided by the North Dakota Department of Health, fill out the paperwork and return back to the health department. If the sample passes the department, they allow the city about 7 to 10 days to discharge the cell.

*Lift station used to transport wastewater to the wastewater treatment ponds.*

Now that the discharge cell is empty or very low, start transferring water from the remaining cells into the discharge cell. This is also a good time of the year to lower the primary cell to see if a mound of solids is starting to form at the inlet. One of the biggest issues I have found in the wastewater treatment lagoons is sludge buildup at the inlet of the primary cell. If a mound is observed, one method to lower the solids would be using a fire truck to liquify the solids around the inlet.

Another method to control a solid buildup at the inlet is by adding enzymes to the system. Enzymes can be purchased from any chemical dealer. I have found that enzymes are more effective the warmer the water. Holding off on the addition of enzymes until the ice is completely off could give you better results. If you are unable to lower the cell, then North Dakota Rural Water can use a tool known as the sludge judge and measure the amount of sludge buildup. This procedure involves using a boat and measuring the amount of sludge in various locations in the primary cell. Sludge judging can be also done in the winter months by drilling various holes in the ice and measuring sludge levels.

Spring is also a good time to evaluate how good a job you are doing on controlling the weeds around your ponds. The major issue in most of the lagoons in North Dakota is cattails. Cattails and other weeds must be killed by using any aquatic herbicide approved by the Department of Health to control weeds. The best time of the year to kill cattails is when they are in full bloom. This is when cattails will take in the most amount of chemical. Follow the label directions on the chemical for control of other aquatic weeds.

Dead cattails from the previous year can be cleaned up by burning them. It's best to have your local fire department involved when doing this to avoid a runaway grass fire. As an operator, doing a walk-around evaluation of your city lagoons in the spring is helpful. You can observe the rip rap for any weak areas caused from spring runoff or damage from varmints, such as muskrats or beavers.

If you would like any more information on the sewer camera or sludge judging, contact the North Dakota Rural Water Systems Association at 701-258-9249.



*Les Sigette, NDRWSA wastewater technical, using the sludge judge to determine sludge depth.*