

Minutes of the Wastewater Facility Plan Public Hearing of the Common Council held on December 23, 2020 at 6:00 p.m. Hearing was held through Zoom.

Presenter: Jon Strand, PE with CBS Squared, Inc.

Attendance: Alex Roll, CBS Squared, Inc, Dan Knapp, Jeff Martin, Scott Bachowski, Terry Hight, Mark Edwards, Cassandra Larson, Carmen Newman, Donna Bachowski.

Absent: Earl Grover, council member

The land where the existing WWTP is located will not be a viable option for a new plant. The land is located in close proximity to residential property and commercial properties. The plant is also surrounded by wetlands. This is an aging rotating biological contactor system. The existing average daily base flow is 200,000 gallons per day. The maximum daily flow is 512,000 gallons. The projected future average daily flow is 323,000 gallons per day with a maximum daily flow of 818,000 gallons. If septage is taken into consideration there would be a projected future average daily flow of 333,000 gallons per day and 843,000 maximum daily flow.

The impact of taking in septage would be a slight increase in flow conditions, a significant increase in biological oxygen demand (41%), total suspended solids (41%), and ammonia (25%) and phosphorus loading (49%). There would also be an impact on the sizing of the equipment, operating and maintenance costs, power usage, and chemical usage. Dan Knapp stated that the City would need to get guaranteed contracts in place for accepting septage as the capitalization cost is approximately \$2,000,000 higher and since our community has a lower flow/usage than a larger community it would be difficult to compete with pricing.

Current inflow and/or infiltration has not been significant since the lining of sewers in 2018. The City needs to video a portion of the system every year. Issues affecting inflow/infiltration are the need to enforce sump pumps running into the WWTP system, slip-lining of failing sanitary sewer segments, and sealing manhole covers.

The key points in the development of the new facility are growth for new customers, addressing new treatment regulations, handling bio-solids, decision on whether or not to accept septage, and the relocation. It is not feasible to pursue upgrading the current WWTP system due to the age of the system and the current location. New alternatives include an oxidization ditch WWTP with Reactive Sand Filtration at new location; Sequencing Batch Reactor WWTP with Advanced Biological Nutrient Recovery at new location; Oxidation Ditch WWTP with Advanced Biological Nutrient Recovery; Sequencing Batch Reactor WWTP with Cloth Filtration at new location; Sequencing Batch Reactor WWTP with Reactive Sand Filtration.

Alternatives above include fine screen & grit removal (headworks); controls linked to SCADA; energy saving initiatives- solar power, variable frequency drives, LED lighting; UV disinfection; new biosolids handling process; tertiary treatment for phosphorus removal; new outfall location.

Some considerations discussed for each process include a large footprint needed for the oxidization ditch process although the operation would be easier; the SBR process would require a smaller footprint, clarifiers would not be required due to treatment process taking place in a single/dual reactor tank - but would be more complex to operate; ABNR tertiary treatment process would have a sustainable approach to nutrient recovery, major reduction in total phosphorus, reduces the use of chemicals and reduces additional sludge handling, potential revenue from bi-product; the cloth/reactive sand tertiary treatment process has proven technology for phosphorus removal, chemical reduction as chemicals are added after secondary treatment, low operation cost.

One option that is not being considered is the Gross-Wen Technology system where the algae is grown on the belts and then filtered out. The study showed that the system does not effectively treat the BOD or suspended solids. The preliminary layout for the new WWTP includes keeping the UV disinfection system and fine screen system at the current location with some new piping and modifications. The clarifier, drawing beds would be dismantled and there would be some salvage value. Approximate demo cost is \$354,000.

The customer rate increase without any grant funding would be approximately 55.15%. This would equate to an approximate average residential increase of \$18.00 per month.

The two most favorable options council members discussed were the SBR with Cloth Filtration system and the SBR with ABNR. The SBR process has a lower footprint making that a favorable option. The SBR with cloth filtration was one of the lowest cost options with proven technology for phosphorus removal. The SBR with ABNR process would be a better fit for our community with the lower footprint with our lower flow - this process would also produce approximately 25% less sludge. Council members asked Dan Knapp which option he preferred. He said either process would be feasible. Mark Edwards noted that he was not in favor of the cloth filtration system.

The City of Chetek will submit a facility plan to the DNR and continue with the preliminary design of the WWTP.

Hearing was adjourned at 7:51 p.m.

Carmen Newman, clerk/treasurer