RFP-16-22

Water Treatment Project for Montgomery County Public Safety Facility

1 Clark Drive, Fultonville, NY 12072

Project Scope

The Montgomery County Department of Public Works, located at 6 Park Street in Fonda, New York is seeking a Request for Proposal (RFP) to supply and install the water treatment related equipment at the County Jail in Fonda, New York as detailed within this RFP and to warrant such equipment and workmanship for one calendar year after start-up and to train facility personnel on its proper use.

Overview

The jail is supplied with potable water from the Village of Fonda, New York. A six inch diameter water line enters the building in the mechanical room. This line is "necked down" to a four inch line prior to entering the building back flow preventers and then is subsequently piped back up to six inches whereupon various takeoffs supply water to different areas of the building. Currently the building uses around 4,500 gallons of potable water per day. This number will fluctuate with the prisoner population and the current bed occupancy here is around 30% of its capacity at this time. Therefore, any equipment quoted in this RFQ must be able to handle and treat the additional flows that may materialize in the future (upwards of 9,000 gallons per day is possible).

It should be noted that this facility has unusually high water pressure that typically runs in the neighborhood of 100 psi but the maintenance staff report that they have seen it spike as high as 145 psi from time to time.

The primary water related issues here include the accumulation of sediment and ongoing high turbidity values in the building water along with heavy scale deposits forming on the heat exchangers used to manufacture their domestic hot water. The scale deposits have caused several expensive unscheduled repairs and down time over the years. The turbidity and sediment have led to fouled valves and faucets in areas of low or intermittent flow causing maintenance related problems.

Therefore the client wishes to filter the whole building water and to soften that water dedicated to domestic hot water makeup only. The raw water parameters for this facility are:

1. Iron, total = 0.084 mg/l
2. Manganese, total= 0.043 mg/l
3. Sodium = 89 mg/l

4. Hardness, total= 330 mg/l (equivalent to 19.3 grains per gallon)
5. Alkalinity, total (to pH 4.5) = 290 mg/1
6. Chloride = 180 mg/l
7. Nitrate as N = 0.24 mg/l
8. pH= 6.71
9. Turbidity= 60 ntu's
10. Apparent Color-75 cpu's
11. Specific Conductance = 1,200 umhos/cm
12. Total Dissolved Solids= 720 mg/l

The testing was done by a New York Stated certified Environmental Laboratory on samples acquired on June 9, 2022.

Equipment

- The facility wishes to filter all of the water supplied to the building. Again, the daily water usage is around 4,500 gallons per day (currently) but, due to population variability, can climb to as much as 9,000 gallons per day. To achieve this outcome we are requesting that the successful bidder supply quantity-three #2 stainless steel bag filter housings with four inch inlets and outlets piped in parallel with isolation valves in and out of each of the filters to be installed along with a single incoming pressure gauge on the water line ahead of the filter bank (with shutoff valve) as well as pressure gauges on each of the three filter discharge outlets (also with shutoff valves). Drain lines for each of the filters shall be piped to the floor with ball valves installed in the drain lines and the lines will terminate with air-gaps at the closest floor drain. Additionally a 4-inch bypass line piped around the filter bank along with a shutoff valve shall be included in the event that the filter housings fail and to continue to supply water to the facility. A box of 50 (minimum) nominal 5-micron disposable filter bags is to be included.
- It is estimated that the daily flow to the softener will average around 2,250 gallons per day with spikes up to 4,500 gallons daily if population increases raise the demand for more hot water on a daily basis in the future. With the high water pressure and occasional higher spikes a pressure reducing valve installed ahead of the softener system will be required. Or, if the vendor can demonstrate that his water softening system can handle the high pressure and pressure spikes, a pressure valve may be omitted. A single 300,000 grain capacity sodium zeolite water softener (containing 10 cubic feet of zeolite resin) with a programmable water meter actuated regeneration cycle, appropriate brine tank and with a 2 inch freshwater supply line is required. Based upon a 300,000 grains per cycle capacity (using a salting rate of 15 pounds of salt per cubic foot of resin) the unit will use approximately 150 pounds of salt to regenerate. With 19.3

GPG hard water and a usage of 2,500 gallons per day the softener service yield will be approximately 6.2 days between regenerations. At 4,500 gallons of freshwater makeup the gallons of soft water between cycles should approach 3.4 days. Electrical power (a 110 VAC supply) and an appropriate floor drain for regeneration cycles) will be provided for the successful vendor.

Along with your response, please provide us with 3 references of projects completed or projects maintained.