

Project Profile

Village of Corona, NM

Iron and Manganese Reduction



Background

In the fall of 2008, AdEdge was selected by Village of Corona, NM to design, manufacture, and startup a water treatment system for the removal of iron and manganese. The water system that serves approximately 100 connections at Corona was plagued by high iron and manganese in the main water supply with iron from 0.26 – 2.8 mg/L and manganese levels from 0.094 - 0.17 mg/L, each well above the EPA secondary maximum contaminant levels. Usage is approximately 40,000 gallons per day with seasonal fluctuations. The water system was injecting sequestering agents as a means to help reduce the down gradient effects of this high iron and manganese, but needed a better, more permanent solution to address the problem.



AdEdge worked closely with the Village to provide engineering design drawings and submittals to obtain necessary approvals with the New Mexico Environment Department (ED). A key factor in selecting AdEdge's AD26 packaged oxidation / filtration technology was the small footprint that allowed the system to fit within the existing well building with no major modifications, saving the community thousands of dollars.



Treatment System

The system, model AD26-4260CS-S-3-AVH, is a pre-engineered, skid mounted system using our AD26 oxidation/filtration technology for iron/manganese removal. The AD26 is a highly catalytic manganese dioxide based media for efficient co-precipitation or adsorption of the iron/manganese oxides. The system is fed with sodium hypochlorite to facilitate the process and aid in the oxidation of iron primarily and to maintain a desired oxidative state. Backwashing is performed at frequencies determined by the iron/manganese loading of the filters. The media is NSF 61 certified and used commonly by AdEdge for these types of applications. The system is fully automated with electric actuated butterfly control valves, PLC-based control panel for system functions. The system also includes a backwash supply pump skid from AdEdge that is integrated with the system and controls.

Priority Parameters	
pH **	7.3-7.7
Total As **	n/a mg/L As
As(III)	n/a mg/L (if known)
Sulfides**	non-detect mg/L
Hardness **	510-890 mg/L @ CaCO3
Alkalinity **	150-210 mg/L @ CaCO3
Silica **	no data mg/L SiO2
Phosphate **	non-detect mg/L P04
Sulfate **	390-1400 mg/L SO4
Iron **	.26-2.8 mg/L Fe up to 43mg/l
Manganese **	.094-.17 mg/L Mn up to 9mg/l

Performance

Since start up and commissioning in March of 2009, the system has consistently removed iron to non-detect levels treating an average of 40,300 gallons per day. "Once the final adjustments were made to the chlorine feed pump and to the backwash times, this unit has been operating flawlessly", said Turner Wilson, Public Works Director, Village of Corona. "Maintenance has been minimal." The Village has not experienced any "red water" since the plant has been on line." The system along with photographs is also prominently displayed on the Village of Corona's website as a testimony to the success of the project.

For More Information Contact

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