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NEWS

CLIENT: **Hungerford & Terry, Inc.**

FOR IMMEDIATE RELEASE

GreensandPlus Filter Media, Distributed by Hungerford & Terry, Outperforms Competitive Proprietary Media At Major Southern New Jersey Water Facility

*Improves Operating Efficiencies and Reduces Costs;
Longer Media Life and Longer Run Times Between Backwashes*

Clayton, NJ -- GreensandPlus, a high-performance water filtration media distributed by Hungerford & Terry, has significantly outperformed the previously used proprietary media, and in the process has increased the efficiency and lowered the operational costs of removing iron and manganese from the water supply of a large New Jersey municipality.

The Situation

A major municipal utility in Southern New Jersey has three filter plants designed to remove iron and manganese from the municipality's ground water. Two of the filter plants were installed in 2001, and the third was added in 2003.

The first two installations used a proprietary filter media that required reaction vessels after the addition of chlorine and sodium bisulfite. Prior to the filters, the pH of the water in these two plants was taken up to 10 to precipitate the manganese; then, after the filters, it was reduced using carbonic acid to achieve a neutral LSI. These installations required frequent backwashing, and the life of the proprietary media was relatively short, requiring expensive replacement.

The third filter plant used GreensandPlus as the filter media, with chlorine and lime as the only chemicals. This process required no reaction vessels, thus reducing the plant's footprint. Prior to the filters, lime was used to raise the pH to 6.5, and a post-feed brought it up to the desired level for a neutral LSI. Sufficient chlorine was fed prior to the filters to oxidize the iron and manganese, and to establish the desired residual in the filter effluent. Run times between backwashes – and the media life of the GreensandPlus – were much longer than at the other two plants.

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Pilot Testing with GreensandPlus

When the proprietary media at the first two plants failed again – and needed replacement – the water commission decided to investigate replacing the proprietary media with GreensandPlus. Changing the media in these two plants required modification of the state permits for the plant, and that change first required a pilot test to demonstrate to the state the advantages of changing the media to GreensandPlus. A pilot plant was run at each of the two plants.

Plant #1 Results. At plant #1, the pilot plant consistently reduced the iron concentration to less than 0.02 mg/L and the manganese from a range of 0.20 – 0.26 mg/L down to less than 0.03 mg/L.

The proprietary media that the plant previously used needed to be backwashed every 10 hours, as well as whenever the well pump started or stopped. By contrast, the pilot test runs using GreensandPlus resulted in run times of 26 to 70 hours with 51 hours providing the best results. Pressure drop after 51 hours of operation was 12 psi, and the effluent iron and manganese were still well below the MCLs.

Plant #2 Results. The results of pilot plant #2 were not as dramatic as at plant #1, but still were much better than the performance of the existing media. Again, iron was reduced to less than 0.02 mg/L and manganese was reduced from the 0.23 mg/L – 0.26 mg/L range down to less than 0.03 mg/L. Run time between backwashes was 24 hours, which was about half of what was achieved at plant #1. However, it was still twice as long as the run time of the proprietary media and did not require backwashing when the well started and stopped. The run was terminated when the manganese in the effluent approached the MCL.

The pilot test at the #2 plant used an 18" deep bed of GreensandPlus and an 18" anthracite cap. Using a deeper bed of GreensandPlus and a shallower anthracite cap would provide longer filter runs, as the larger volume of GreensandPlus would have more capacity to remove manganese, thereby extending the time before manganese broke through. By modifying the makeup of the filter bed, it is projected that the run time could be extended to about 36 hours.

The Demonstrated Benefits of GreensandPlus

In addition to the advantages of longer filter runs resulting in reduced backwash waste, greater efficiency and longer media life, by using GreensandPlus there was a considerable savings in chemicals required to run both plants.

Prior to the test with Greensand Plus, plant #1 was using 12.1 gallons of chlorine, 100 pounds of lime, 2.5 gallons of bisulfite and 53.3 liters of CO₂ per million gallons. At the same time, plant #2 was using 13 gallons of chlorine, 100 pounds of lime, 2.5 gallons of bisulfite, and 40 liters of CO₂ per million gallons. With the change to GreensandPlus, the bisulfite and CO₂ were eliminated completely; the lime was reduced at each plant to 70 pounds per million gallons; and the chlorine feed remained unchanged. Based on each plant operating at 1 MGD, there would be a 66% reduction in chemical costs, saving over \$40,500 a year at current prices.

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The Bottom Line

The pilot plant tests demonstrated that when operated at 11 gpm/ft², GreensandPlus can do the following:

1. Remove iron and manganese to concentrations much lower than required.
2. More than double, and in one case, more than quadruple the run times between backwashes.
3. Reduce the amount of chemicals needed to achieve water with levels of iron and manganese that meet required guidelines with a neutral LSI.
4. In addition to the much-improved efficiency in reducing waste and chemical consumption, a much longer media life can be expected.

In seven years of operation, the expensive proprietary media has required replacement once and is due for a second replacement. By contrast, in five years of operation, the original bed of GreensandPlus in the third filter plant has shown no signs of attrition and is expected to be good for many more years of operation.

To learn more about the benefits of using GreensandPlus performance media for water filtration, please contact Ken Sayell, Hungerford & Terry, Inc., 226 Atlantic Avenue, Clayton, NJ, USA 08312-0650; Tel: 856-881-3200 ext. 114; Fax: 856-881-6859; email: sales@hungerfordterry.com; or web site: www.hungerfordterry.com.

About Hungerford & Terry

Since 1909, Hungerford & Terry has designed and manufactured thousands of systems incorporating standard and unique water treatment technologies. H&T is a leading distributor of high-performance water filtration media, including GreensandPlus. Based in Clayton, NJ USA, Hungerford & Terry has 30 sales representative organizations throughout the United States, as well as representatives in Canada, Europe and throughout Asia.

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Electronic File Available Upon Request:

FOR PRESS INFORMATION ONLY, PLEASE CONTACT:

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