

Case Study

USDEWW-3311.000

IXOM
WATERCARE

GridBee® AP500 Wet Well Mixing Success

Fighting FOG in New Castle County's toughest pump stations.

Topics: pump \ lift station, fats, oils, grease, FOG, wet well mixing

The following article was written by the Director of Facilities and Maintenance for New Castle County, Delaware on their experience with the GridBee® AP500 Wet Well Mixer.

New Castle County, Delaware has long battled the build-up of grease in the wet wells of its wastewater pump stations.

New Castle is the largest and most populated county in Delaware with many suburban developments spread across the county. Over the past four years New Castle County Public Works Department set out to address the problem and reduce the maintenance costs resulting from the need to manually clean the grease from the pump station wetwells.

Although the County has well established enforcement and education programs for restricting fats, oil and Grease (FOG) from entering the sewer system, the accumulation of grease at the County's 180 wastewater pump stations remained an expensive nuisance. "The residential density and the number of commercial eateries in New Castle County make it difficult to completely control FOG through enforcement and education alone. The amount of grease entering our stations has decreased over the years but we were still having a lot of grease build up at our pump stations." stated the lead supervisor for the pump station maintenance staff.

The FOG in the wetwells is problem which cannot be ignored. It is a source of odor, it often disrupts the pump level control systems and it contributes to pump blockages. In some cases wetwells needed to be cleaned twice a week. This cleaning effort proved time consuming and expensive especially for a very lean Public Works Staff.

Initially motorized submersible mixers were tried, and they worked, but the cost of the units plus installation which requires wetwell isolation, confined space entry and electrical modifications proved to be too burdensome for widespread use across the County's many pump stations. The motorized



submersible mixers were also subject to damage from the rags and debris which occur regularly in all the County's wetwells.

In an effort to find a less costly and easier way to reduce wetwell grease problem, an aeration mixer was tested in January 2016. One AP500 mixer was purchased and installed at one of the County's worst stations for grease.

The results were immediate.

Grease removal from that station went from a weekly occurrence to virtually eliminating the grease problem completely. Additionally the installation of the aeration mixer takes only one mechanical a couple of hours with no wetwell entry versus the days and personnel it took to install a mechanical mixer into an operating wetwell.

Since that initial trial, **the County has installed 75 of these aeration mixers** throughout its system and has found success using these units. One aeration mixer provides sufficient turbulence in our 5-foot to 8-foot diameter wetwells to eliminate the floating grease which used to accumulate. The units have been installed in stations with submersible pumps and with suction lift pumps. It has always been possible to locate the aeration unit without disturbing the operation.

Location & Contact Information:

Further information may be available upon request. Please contact Ixom Watercare by phone at 866-437-8076 or by e-mail, watercare@ixom.com.