PROBLEM: Rags and other inorganic build-up clogging pumps in septage receiving area

SOLUTION: Honey Monster Septage Receiving System

CONSULTANT: MISCO - Southwest

Monster Solutions

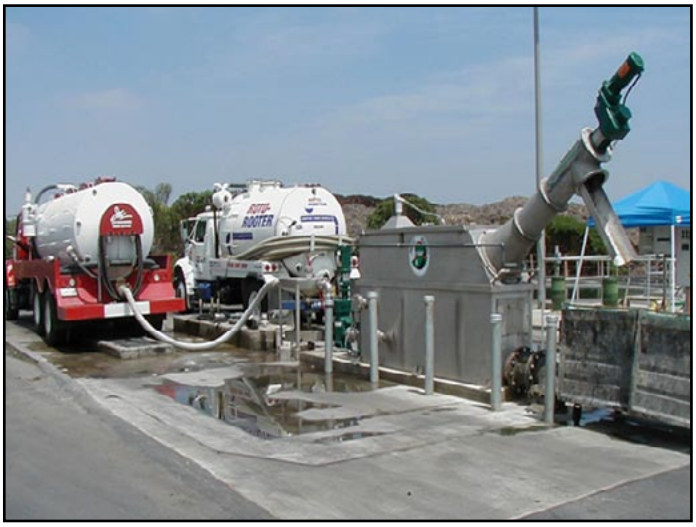
'Mopheads' Are No Match for This Monster

Ventura, CA – Management at the Ventura Regional Sanitation District's Liquid Waste Treatment Facility (LWTF) reports it has ended rag-generated clogging of pumps, pipes, and burdensome deposits in tank bottoms, through installation of a new processing system. They also note dramatically improved working conditions at that station, and improved billing efficiency.

The Honey Monster™ Septage Receiving System, designed and manufactured by JWC Environmental in Costa Mesa, CA, has also been successfully installed at numerous municipal sewage treatment facilities in the U.S. and Canada, as well as in sewage processing plants operated by privately-held septic pumpers.

"Rags tended to find each other and form rope-like, knotted masses we called 'mopheads', which added significantly to our maintenance schedule by clogging pumps and pipes, and building up in tank bottoms," recalled Ken Rock, Director of Water and Wastewater for the District.

"Meanwhile, septage delivery tank drivers had the unpleasant task of emptying their loads onto a parallel bar grate over the receiving pit, which they then had to scrape clean with a bow rake. With the new system receiving the septage directly through a pipe connection, the drivers no longer have the raking task, and now we can screen out rocks, rags, plastics, and other trash more effectively. In addition, we can more accurately measure the volumes received from each truck, while gaining the further advantage of a more streamlined billing system."



Emptying septage delivery truck tanks is cleaner, faster, and easier through pipes that connect directly to the SRS.

The design 90,000 gpd (14 m^3/h) regional waste handling facility, employing a modified activated sludge treatment process, typically received 45,000 gpd (7 m^3/h) in the form of tanker trucked waste from residential septic tanks (50%), public chemical toilets (20%), industrial (20%), and small waste activated sludge (WAS) plants (10%). Another 25,000 gpd (4 m^3/h) came from industrial brines and restaurant grease, which were processed separately from the subject receiving scheme.

Previously, truck drivers based volumes delivered on their own estimates, with charges based on waste type and quantity. The medium-to-large trucks straddled a receiving pit, covered by a bar grate with 1" (25mm) spacing. Billing information was hand-entered.

The new septage receiving system, with the specifications needed, was installed in March, 2001 by plant personnel. JWC provided technical advisory assistance.

Now, after codes for the hauler and waste type are entered via digital keypad into the MonsterTrack digital billing system, the pressurized tanker contents are blown directly into the SRS pipe connection for gravity discharge. Waste codes cover 16 types, such as car wash, raw sewage, and industrial wastes with varying organic and solids loads. A printed invoice eliminates the need for hand-entering billing information into a computer or transferring it to LWTF records.

Large rocks entering the SRS are caught in a special trap, with the remaining flow ground up, metered, spray-washed, compacted, and dewatered. Screenings collect in a dumpster at the rate of about ½ yd^3 (43 m^3) per day, and hauled to a regular domestic landfill with no further treatment necessary.

"We operated the new system for about a year and a half without it ever jamming up, even though we certainly gave it plenty of opportunities," said Rock. "The components were well integrated and complete; it was obviously designed by someone who had actually been in this business. We stopped operating it last July because we had to suspend operation for the entire LWTF due to a problem outside the plant–an odor problem related to capacity limitations of the sewer line we discharged to."

"While the city has authorized funds to increase the sewer capacity, the future operation of this LWTF is uncertain. If we have the opportunity, we will certainly use more of these receiving systems, and I certainly recommend it to others who have challenges similar to ours."

The company says the Honey Monster Septage Receiving System's unique combination of grinding, washing, and dewatering septage waste can be accomplished in 15 minutes or less for a typical septage truck. A dual-shafted Muffin Monster® grinder maximizes surface area on solids, facilitating cleaning, while two dual-manifold wash water systems help break up soft organics, and provide for enhanced dewatering with cleaner solids.

A high-level ultrasonic sensor and modulating plug valve regulates flow into the system, preventing overflow conditions. The MonsterTrack billing option allows flow into the system to be measured by a magnetic flow meter. The data is sent to the controller to create a billing record.

Equipment dimensions can be varied to suit particular installation requirements. Typical maximum flow is rated at 1000 gpm (for clean water), and typical screenings capacity is 90 ft^3/hr (2.55 m^3/h).

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The MonsterTrack billing option allows flow into the system to be measured by a magnetic flow meter.

Automated MonsterTrack PLC Controller allows easy sign-in and operation of the Honey Monster, saving time and paperwork for truck drivers and the billing office.

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