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From Land Filling to Class 'A' Reuse, Hollywood Story has Happy Ending



Class 'A' Biosolids Report



Utilizing an innovative technology, the city of Hollywood, Florida converted from a sludge land filling operation to processing in-house with Class 'A' biosolids. Considering the conversion was done in approximately eight months, this was no small feat for a 48 million gallon per day operation.

Precipitating the dramatic changeover was the system that Hollywood had in place prior to February of 2005. After the raw sewage was dewatered it was hauled off-site and held in open trucks for 24 hours, then tested to Class B status. "Then the EPA mandated that we could not haul the sludge off-site prior to testing, so the loaded trucks were required to sit in our yard in 93-degree heat so that was a problem," according to Whit VanCott, retired (July 2005) Director of Operations, "Plus the EPA really wanted us to produce a Class A product."

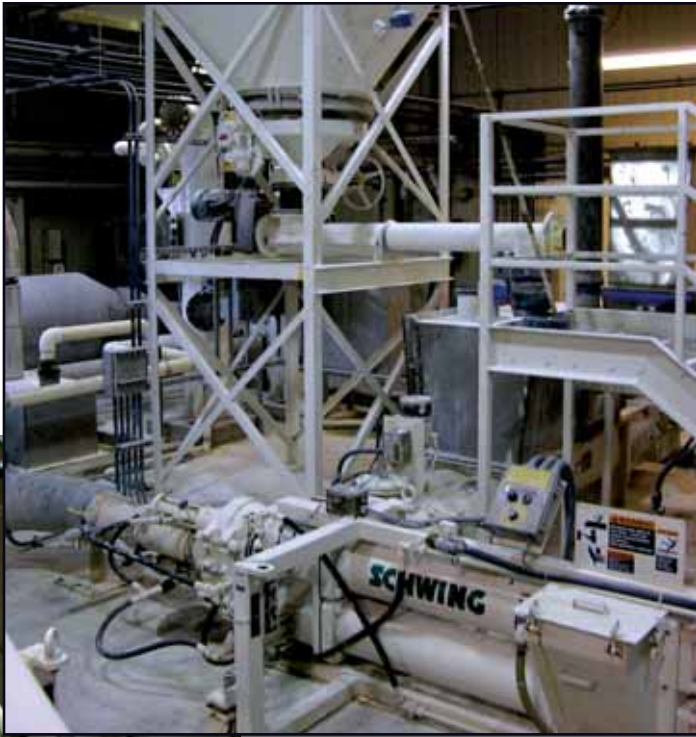
The next band-aid that the city put on its problem was to have the sludge hauled off-site and treated to Class 'A' by an outside contractor. This was a cheaper alternative to in-house treatment so the city signed a five-year contract. The facility where the sludge was treated changed owners twice and was eventually shut-down. The final method, albeit an expensive one, was to haul the sludge to a landfill.

"Landfill costs were projected to rise 100% from less than \$30.00 per ton to \$58.00 per ton," Don Bayler, deputy director of operations stated, "Obviously the future was dim if we continued to landfill."

As the landfill contract was coming to an end, the city began looking for alternatives. Five main considerations were at the top of the City's wish list: economics, truck traffic, physical plant size, odor and safety. Producing a Class 'A' product was a given. Three methods of treatment were considered.



A system that added dust from cement or lime kilns was rejected because the 2-1 ratio of additives to sludge would create excessive amounts of material. The Hollywood plant is located in a residential area where truck traffic is not only a nuisance but a potential safety hazard. This method would also require a new, large building which would add capital costs.



Schwing Bioset reactor (left) is fed by two Schwing sludge pumps (above).

An indirect dryer proposal was eliminated because of the cost of energy to fuel the dryer and safety concerns.

The system chosen by the City treats the sludge with lime. "We were intrigued by the closed reactor vessel which would control odor. Also large amounts of outside energy were not required for this method. We really made the decision based on economics, the amount of truck traffic required and safety," VanCott explains. Before the final decision was made, the city contacted the EPA and described the method of treatment they were considering. "The EPA said it would pass Class 'A' standards." An added plus is that the compact reactor (35' long X 4' dia.) and related equipment fit into the existing truck-loading building.

The star of Hollywood's treatment facility is manufactured by Schwing Bioset, Inc. of Somerset WI. The patented Bioset process produces Class A/EQ biosolids in full compliance with 40 CFR Part 503 Rule. In actual practice, the process mixes dewatered biosolids with calcium oxide (quicklime) and sulfamic acid in solid granular form. The treated sludge is continuously fed into the plug flow reactor using a twin-cylinder piston pump. Temperatures of 158 degrees Fahrenheit are maintained due to the reaction of the chemicals and sludge.

The Director of Operations received approval of the system in March 2004, but the actual contracts were not delivered until July with planned start-up in February 2005. The hauling contract in place was due to expire on January 1, 2005, so the city was under tremendous pressure to get the new system up and running.

The arrangement with Schwing Bioset was a design-build contract, but some demolition was required and permits were needed. "We used an electrical contractor who had been on our site numerous times. Their familiarity helped us to meet the deadline," deputy director of operations, Don Bayler noted. Close cooperation between contractors, manufacturer and city resulted in a February 17, 2005 start-up.

After nearly a year of operation, the Bioset process has received good reviews. "Overall we are very pleased," Bayler states, "Any odor is confined to the facility and we are producing a Class 'A' product that is hauled to beneficial reuse by a third party contractor, Biosolids Distribution Services. There is minimal noise, truck traffic is less than with other methods we considered and we have not added to our energy costs," he adds. And this cradle to grave solution has provided economic peace-of-mind. "I'm confident other cities are paying more than Hollywood to handle their solid waste," Bayler stated.

In fact, the City has submitted data to the EPA showing that the new system can produce Class 'A' biosolids at lower operating temperatures. This would result in reduced lime consumption and \$300,000 of savings per year. Regardless of future savings, Hollywood's choice has delivered a happy ending to their solid waste saga.



Biosolids Distribution Services, LLC is contracted to haul the Class 'A' treated biosolids for beneficial reuse on local land.