

Camp Installs Modular FAST® System To Handle Variable Waste Flows



Application: Campground
Product: Modular FAST®



(Top) Smith & Loveless provided the Modular FAST® wastewater treatment system to a children's camp to help the facility meet the growing wastewater treatment demands from its increased activity. (Bottom) The Modular FAST® begins to tackle wastewater during the start-up phase. The system was selected because of its ability to handle variable flows, which are typical for camp applications.

When a children's camp in Iowa first installed its lagoon and natural sand bed filter for wastewater treatment more than 20 years ago, it suited its 211 annual visitors just fine. But when the number of visitors continued to grow, so did the campsite's wastewater treatment problems. Housed on 40 acres of land, the camp expanded its operation year-round and now receives about 4,000 campers annually. Therefore, an advanced on-site system was required to accommodate the increased wastewater generated from additional laundry, showers, toilets, sinks and kitchen facilities.

The campsite was originally donated for the sole purpose of establishing a facility for individuals with special needs. While the total number of visitors varies at different times of the year, the summer months are the busiest. The camp turned to Smith & Loveless and its Modular FAST® process because it was looking for a wastewater treatment system that would not take up much space and would process wastewater naturally. The Modular FAST® was attractive because it can be placed underground and incorporate with the camp's five existing 1,500 gallon septic tanks. The only other addition was a 1,500 gallon dosing tank.

In addition, the Modular FAST® was a suitable option because it is specially designed to accommodate the constant fluctuations encountered by small-flow, on-site applications.

How it Works FAST

Influent enters the system and is circulated through the submerged media in the aeration tank. Bacteria are then "fixed" or attached to the media. This prevents hydraulic peaks from washing the bacteria out while providing a higher surface area-to-volume ratio. A zone underneath the media exists for the sludge to settle and collect for further digestion in an anaerobic environment.

A major key of Modular FAST® for the campsite — and others like it — is its self-regulating operation. It provides a high quality effluent with little or no operator attention. This

important because most camps and like it cannot dedicate full-time professional staff to maintain and operate treatment plants. That means camp resources can be directed toward serving the special needs of its visitors rather than having to time or money caring for its wastewater treatment system.

For more information on Modular FAST®, contact Smith & Loveless or visit Smith & Loveless online at smithandloveless.com.



Modular FAST® Keeps Hotel Running Smoothly During Busy Season



Application: Hotel
Product: Modular FAST® Process

When a historic hotel located in a popular tourist location system, it turned to Smith & Loveless and its unique Modular FAST® wastewater treatment system to solve the problem.

The hotel, located in Cape Cod, goes through peak seasons and regularly caters to wedding parties and banquets on weekends. As a result, the wastewater it generates throughout the year varies in flow and loading. Its original wastewater system, a conventional underground septic system, eventually could not handle the wide variations. However, the hotel faced a dilemma. An underground system, was critical because of the hotel's location and history—it was built before the Revolutionary War. Thus, it needed a system that could effectively treat the variable flows without disturbing the aesthetics of this historical and premium resort.

After reviewing the hotel's situation, Smith & Loveless recommended its Modular FAST® wastewater treatment system. Modular FAST® is a complete biological treatment system which can be placed underground—thus making it an attractive augmentation to a septic tank arrangement. More importantly, the system's patented, fixed-film FAST® process is designed to effectively handle the wide variations of flow and loading like those experienced at the hotel. Following a primary septic tank, wastewater enters the Modular FAST® system and encounters completely submerged FAST® media. Because bacteria attaches and grows on the media, Modular FAST® offers a high surface area to volume ratio (offering increased biological treatment) and prevents solids washout.

In addition, the media provides a stable environment for the bacteria to grow, eliminating the need for return activated sludge. This is important because it means no daily operator attention is required. There are no filters to clean/replace, and the system has only one moving part, the remote air blower. The air blower supplies air which provides oxygen for the bacteria to grow and multiply.

After the Modular FAST® installation, the hotel successfully handles the busy seasons while looking virtually the same—above ground.



Smith & Loveless provided the Modular FAST® wastewater treatment system (top) to a historic hotel to help the facility maintain its seasonal variations of flow based on tourism. Placing the system underneath the parking lot (below), keeps the establishment aesthetically pleasing.

Modular FAST® Avg. Influent/Effluent Data

Avg. Flow 14,500 GPD						
	BOD	TSS	NH ₄	TKN	NO ₃	TN
Influent	660	191		25	<0.10	<0.30
Effluent	13.18	15.05	0.26	3.50	1.33	3.76

The chart also shows the system's ability to nitrify. These test results were submitted to the County Department of Health and Environment.