



Composting Solutions

We've Got You Covered

Waste Options, Inc.

Bio-Mass Facility
Nantucket, MA



Outside View - 1999

Background

Nantucket's waste problems were not entirely its own making. The challenges of managing refuse on an island are substantial, and have been compounded by the island's dramatic growth. Islands have a finite amount of space for anything, and for trash and sludge in particular. As early as 15 years ago, it was apparent that the day when the Nantucket Landfill could hold no more was fast approaching; expansion was not realistic: the landfill is bounded by protected wetlands area and a fragile ecosystem that does not mix well with municipal waste. Another solution was needed: if you had no more room, you had to have less waste.

By the late 1980s, problems at the Madaket site had worsened. The hill of garbage was larger and more unsightly. Waste material had leached from the landfill into the surrounding wetlands, threatening both wildlife and the island's drinking water aquifer. The Town chose to privatize the entire operation.

It was in 1997 that Waste Options signed a 25-year contract with the Town of Nantucket. As part of the contract, Waste Options would operate the Town's landfill, operate its constructed Materials Recycling Facility (MRF), and build a state-of-the-art co-composting facility at their Madaket site. In the two years that followed, Waste Options has cleaned up the landfill, restored eight acres of wetlands, shipped eight barge loads of tires off island, reduced the population of seagulls at the landfill from 25,000 to several hundred, and increased Nantucket's recycling rate from 17 percent to 42 percent, ranking it as the community in Massachusetts with the highest rate of recycling. Since the composter began operation in December 1999, that rate has jumped to close to 90%.

Scope of Work

Aeration and Biofilter buildings were an essential part of the composting process on Nantucket Island. The buildings needed to be resistant to corrosion and be able to obtain negative pressure for odor control. Universal Fabric Structures, Inc., a Quakertown, Pennsylvania manufacturer of tensioned fabric buildings, offered a solution that fit their needs.

Solution

Two TFS Structures were used that were made of an aluminum frame and PVC building components. The Aeration building was 110' wide x 289' long with a blower gallery, humidification and aeration areas inside. The Biofilter building was 92' wide x 286' long with 4 quadrant access points. Both buildings, which combine for over 55,000 square feet of total work space, were installed within 6 months.

Benefits of the Universal Fabric Structures, Inc. buildings include:

- A Permanent or temporary structure
- Designed with virtually corrosion-free components
- Continuous beam design to eliminate eaves and gaps
- Offers a more contained interior environment by being able to obtain negative pressure
- PVC membrane can allow for natural light and in the process decrease energy costs



Biofilter Building Inside View (Top - 1999 / Bottom - 2010)



The benefits of the composting facility are obvious. By removing the need to bury organic waste, a town gets a cleaner, longer-lasting and smaller landfill. And in Nantucket's case, a composter, when added to the existing program of recycling glass, metal, paper, construction and demolition waste, and tires, will result in a community-wide recycling rate that is projected to approach 90 percent.

The Nantucket facility handles the entire waste stream, including, but not limited to, municipal waste, all recyclables, construction & demolition waste, metals, wood waste, yard waste, furniture, tires, batteries, appliances, textiles, sewage sludge, and animal manure. In the calendar year 1999, the facility processed approximately 65,000 tons of material, including recyclables.



Aeration Building - Humidification Area (Top - 1999 / Bottom - 2010)



The completed Nantucket project encompasses the following: a capped and closed landfill that will be mined, recycled, and reused; a materials recovery facility; a co-composting facility; a Take-It-Or-Leave-It swap shop; a construction & demolition processing building; leaf and yard waste composting area; a building to handle Hard To Manage Wastes, including CRTs, textiles and furniture, etc.; and finally a new state-of-the-art lined landfill cell. This completed facility has taken the Town of Nantucket from a 17% recycling rate to close to 80% diversion of all waste generated on the Island. The Town now has a 50 year answer to their waste disposal needs. What Waste Options has built on Nantucket is a system that will meet the specific needs of the island, a system equal to the task of protecting a place and a natural environment that countless people cherish.

“This would have been impossible with any other type of structure based on the highly corrosive environment inside as well as the extreme weather conditions in this area. We have been amazed at how well your buildings held up throughout the past 11 years.”



Outside View - 2010

About Waste Options, Inc.

Waste Options is an environmental development company that provides practical and natural solutions to solid waste and sewage sludge disposal problems, for both government and private industry. The Company designs and implements waste management solutions tailored to the needs of individual municipalities. **Waste Options'** work in Nantucket, Massachusetts serves as an example of channeling all streams of municipal waste (household garbage, sewage, recyclables, construction byproducts, and landscaping debris) into an integrated and cost-effective system.

Visit www.wasteoptions.com

About Universal Fabric Structures

Universal Fabric Structures (USA) is committed to providing high quality, cost effective, engineered fabric structure systems based on customer-driven needs. Established in 1983, the company has delivered on this commitment providing solutions for military, sport, industrial, and commercial and event applications. Projects include industrial enclosures (including rentals) for warehousing, aviation and environmental remediation.

Visit www.ufsinc.com