

LEE COUNTY

ASH MONOFILL & COMPOST FACILITY

CASE STUDY



THE LEE COUNTY SOLID WASTE DIVISION compost facility partners with local wastewater treatment plants to transform biosolids to compost. The compost mix keeps 20,000 tons of biosolids and 20,000 tons of yard waste out of landfills, while providing an affordable source of compost to agricultural and residential customers.

As part of a 2014 expansion, the county added three pavilion-style fabric structures to the existing facility. “Adding the three buildings almost doubles our production space, including capacity for blending feedstocks and building rows,” said Keith Howard, Deputy Director of the Lee County Division of Solid Waste. “We will be able to increase throughput of biosolids to close to 50,000 wet tons/year, or almost 100 percent of the biosolids that we are under contract to manage.” Howard added that with the increased tipping fees and compost sales, the Lee County Solid Waste division is running in the black.

BUILDING NAME

Lee County Ash Monofill & Compost Facility

OWNER

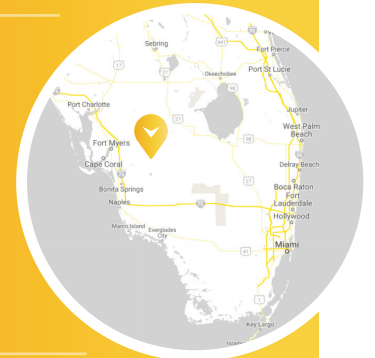
Lee County Solid Waste Division

LOCATION

Felda, FL

MARKET SECTOR

Waste Processing



APPLICATION

Compost Production

SIZE

**3 Buildings
162' x 120'**

SPECIAL FEATURES

**Multiple buildings on site,
pavilion-style buildings**

INSTALLATION

Legacy in-house crews





Clearspan area and eave clearance were vital considerations before construction began in order to fulfill the needs of Lee County's expansion plan. Each new building stores six windrows of compost, each about 9 feet high by 16 feet long. The windrows are created with a front end loader and turned regularly by a specialty grinder, making the tall clearance essential for business. "You can drive a loader pretty much right up against the walls and still have room to maneuver," said Jerry Pinder of Thalle Construction, the entity that specified the Legacy buildings. "The other structures aren't built that way. There's probably about six to eight feet of space on the sides that are not accessible with a loader because the trusses are in the way."

Odor control is another critical factor when dealing with yard waste. The pavilion-style buildings have enclosed gables to control the amount of precipitation coming into the building but are left open on all four sides to allow maximum airflow. The buildings' steel frame system also supports two large ceiling fans for a total weight of 380 pounds, as well as ridge vents to exhaust stale air and odors out the top of the structure.

The initial specification from Lee County required a 15-year warranty, even in a harsh and corrosive environment. Using heavy-duty materials allowed Legacy Building Solutions to offer the required warranty. All three fabric structures use a hot dip galvanized steel

frame, which offers lifelong protection from corrosion. With the natural light provided by the fabric roof, there was no need to install and maintain electric lighting. The fabric is 28 oz. PVC with a PVDF coating, which is flame-retardant and specially designed to withstand exposure to harsh ultraviolet rays.

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A cast-in-place concrete curing pad served as the foundation for the new buildings. "Previously, the piles were built from east to west, which made sense from an efficiency standpoint, but during the rainy season from August to October, there was a lot of ponding and puddles," said Howard. "The new buildings are oriented from north to south, so water flows through the proper way."

The expanded compost storage capacity and longevity of the new fabric structures will help Lee County divert 40,000 tons of biosolids and yard trimmings out of landfills, provide residents with a rich source of compost, and create revenue for the county.