



Project Spotlight

McLeod Road Transfer Station Replacement - Orlando, FL



Owner: Orange County Utilities Engineer: Neel-Schaffer & Jacobs
Geotechnical Engineer: Antillian Engineering Installer: LRE, SiteMix & CellFill
General Contractor: Kokolakis Contracting

Background Information

The Orange County Transfer Station on McLeod Road is one of only two waste facilities that serves Orange County in Florida. Originally built in 1960, by 2019 this facility was no longer able to efficiently process the nearly 170,000 tons of trash it received annually. Given the state of this facility, in February 2019 Kokolakis Contracting was awarded \$26 million to build a new, cutting-edge facility.

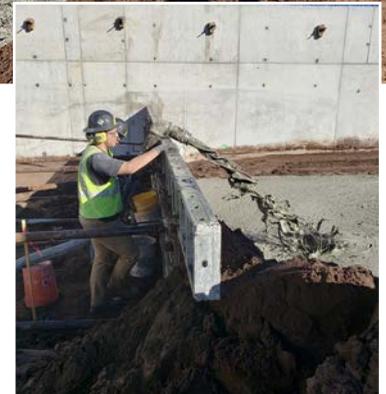


Project Details

This new facility would not only be significantly larger than the existing facility but the tipping floor would have to be constructed at an increased elevation of 5' to 9' higher, which meant that a significant amount of groundwork had to be done to ensure the building's stability. In order to address differential settlement as well as the overall settlement between the old fill verses the new fill, and at the same time speed up the construction schedule. Antillian Engineering chose to utilize a lightweight, low-density cellular concrete (LDCC) as a fill material. LDCC is extremely lightweight when compared to traditional fill materials yet also features a high compressive strength, which means that it could bear the weight of this facility's structure while reducing the potential for settlement of the foundation soils.

Three low-density cellular concrete installers- LRE Ground Services, CellFill, and SiteMix -collaborated on this project to ensure optimal and efficient product delivery and project completion.

The six-person crew installed 6,600 cubic yards of Aerix Industries™ non-permeable, 30-pcf Aerlite-iX™ LDCC at an average rate of 175 cubic yards per hour. The LDCC was placed using four-foot lifts at a maximum height of eight feet.



Aerix Added Value

The use of Aerix Industries Aerlite-iX, with its unique properties, provided an essential element of stability for this facility, which Orange County anticipates will significantly increase the region's waste management efficiency. But that was not the only benefit LDCC provided. While the budget for this project was generous, Antillian Engineering knew that low density and the speed of installation were a couple of the reasons why LDCC was chosen over traditional fill materials. In these types of applications, LDCC not only provides greater stability and compressive strength, it also provides a significant reduction in labor and shortens the construction timetable when compared to more traditional materials. With Aerix Industries Aerlite-iX, Orange County was able to build a durable facility while saving essential funds.