

Coast Restabilization Tech In Port

Coastal Technologies Corp installs new cliff erosion system at The Sands Point Preserve Conservancy

Coastal Technologies Corp, a local family company, has collaborated with The Sands Point Preserve Conservancy (SPPC) to demonstrate its new cliff stabilization and revitalization technology.

Manhasset father-son duo started Coastal Technologies Corp about a year ago with a mission to help erosion challenges facing coastal communities and habitats. After George Thatos graduated from Tulane University, where he studied Environmental Studies and Sciences, he and his father, Nicholas Thatos, began brainstorming ideas and putting them in motion.

"We have a lifelong family commitment to environmental causes," said Nicholas Thatos, CEO and Co-Founder of Coastal Technologies Corp. "Even as children, we were volunteering for environmental restoration projects, which made George interested in the environment."

Coastal Technologies Corp has created innovative products to combat coastal erosion and add coastal resilience. The Cliff Stabilization System products include devices that naturally build dunes and products that prevent beaches from being washed away in hurricanes and noreasters.

According to a press release from Coastal Technologies Corp, the devices used on the Sands Point Preserve Conservancy bluffs were "secured to the bluff face in a morning's work, forming a lattice of cubbies, which are hydro seeded or planted with plugs. These plants, now held securely against the eroding cliff face, send their root systems into the sandy sediment, binding and firmly holding it in place, preventing further erosion. This method harnesses the natural power plants have evolved to shape their own environments."

The company has consulted with botanists to organize an assortment of plants that stabilize the cliffs and provide essential habitats for the species in the area. Some plants used are listed below:

- American Beach Grass-*Ammophila Breviligulata*: evolved specifically to colonize sandy, loose habitats by sending thin, long root systems into the sand to bind it in place. American beach grass is the primary vegetation creating dunes along the entire Atlantic coast.
- Beach Plum-*Prunus Maritima*: Provides abundant pollen and fruit for bees, butterflies and many native species.
- Northern Bayberry-*Morella Pensylvanica*: Provides berries throughout the year and is especially attractive to migratory birds, which land and feed as they pass overhead.
- Beach Rose-*Rosa Rugosa*: Especially valuable to pollinators. Beach Rose is employed all along the Atlantic coast for erosion control and habitat creation.



Plantings installed along the bluff at the preserve. (Photos provided by Coastal Technologies Corp)



Buddy Vetrone (Production Manager at Coastal Technologies Corp), Jeremiah Bosgang (Executive Director, Sands Point Preserve Conservancy), George Thatos (Co-Founder of Coastal Technologies Corp). (Photos provided by Coastal Technologies Corp)

According to Coastal Technologies Corp's press release, Nicholas Thatos said, "Traditional methods of blocking waves to control coastal erosion and habitat simply do not work. Developing economically and environmentally responsible systems for these critical issues is vital."

A few months ago, Coastal Technologies Corp approached SPPC with the idea of working together at the preserve to help the bluffs on the property.

As a local family, the Thatos' would spend time at the Sands Point Preserve Conservancy, where George Thatos would play among the bluffs.

"Our family has long enjoyed what Sands Point Preserve offers, and we can't think of a better place to unveil this technology and

because there are ideal times of the year to do the planting and then times that are really bad," said Bosgang. "So we were able to just make it in at the end of this good season."

The plantings occurred just before Long Island got hit with the remnants of Hurricane Ian. Three days of rain followed and put the technology and plants to the test.

"Those rains were intermittent, but they were still very hard at times," said Nicholas Thatos. "These roots had no chance to stabilize because we just planted them, so the question was would the product hold the plants to the cliff?"

Some test plants planted outside of the devices were washed away in the rains, leaving only the plants situated inside the tech.

"We knew three days after we had planted them that the device was working. All the plugs and plantings are still against the bluff face," said Nicholas Thatos. "By planting these anchors there first, we are giving the plants the chance to attach. Any cliff face that has vegetation on it is significantly more stable than any cliff face that doesn't."

"There's a big problem here on long island, all through the Northeast, in California and all around the world," said Nicholas Thatos. "It's just getting worse and worse because climate change is making greater storms which are cutting these coastal bluffs and cliffs. The soil here is very loose, and there's no real bed rock; it's the same in Cape Cod and Nantucket and all those islands in the Northeast; it's really anywhere that glaciation happens."

Now that the devices are installed at SPPC, the preserve and Coastal Technologies Corp will monitor the plantings' progress along the bluff.

"We go at least once a week just to kind of take a look," said Nicholas Thatos. "In the spring, we will remove the devices, and at that point, the grasses and different bushes that we planted there should be very well rooted, and then the devices could be moved to another area to stabilize."

While Coastal Technologies Corp is a local company, they are working across the country to aid in re-establishing the coast. They are working on a dune building test project slated for early 2023 in Louisiana.

The preserve and Coastal Technologies Corp are excited to keep tracking the plantings and devices on the coastal bluffs. Coastal Technologies Corp even put together a map of where the devices are planted at SPPC for visitors to follow and check out the progress.

To learn more about Coastal Technologies Corp, visit www.linkedin.com/company/coastal-technologies-corp/ and visit sandspointpreserveconservancy.org to plan a trip to the beautiful grounds and see the new tech.

launch our mission to save coastal communities and shorelines wherever needed," said Nicholas Thatos.

"The whole idea of cliff stabilization definitely affects the preserve because we have a coastline right on the Long Island sound, and coastal erosion can have a devastating impact on our coasts," said Jeremiah Bosgang, Executive Director of the Sands Point Preserve Conservancy. "The idea that there could be a cost-effective, environmentally friendly technology as a potential solution to this problem is great for the preserve."

"On a larger scale, if we could help be an incubator or help lead to the success of this technology, that in turn could have applications in other cities in America or all around the world, that's very exciting," added Bosgang.

Aside from the necessity to help stabilize the cliffs of the preserve, Bosgang was excited to work with Coastal Technologies Corp on this project because of the company's confidence.

"They really know what they're doing," said Bosgang. "The company has a clear vision, a substantive scientific background, and a practical construction background. They aren't just some well-meaning amateurs; they are a professional company."

After vetting the Coastal Technologies Corp tech and talking to consultants at the preserve, the planning stage began. Coastal Technologies Corp brought in sample devices to show the preserve what the lattice cubbies looked like and how they would work. The installation of the devices took place toward the end of this October.

"We were kind of up against a bit of a clock