ENVIROTUBES® by Industrial Fabrics, Inc.

Industrial Fabrics, Inc.
510 O' Neal Lane Extension
Baton Rouge, LA 70819
P: 225-273-9600 • F: 225-273-0440
800-848-4500 • www.envirotubes.com

Willow Brook

Three very nicely landscaped storm water retention ponds located behind houses in a Kansas City suburb. The location would not allow access to the ponds with excavating equipment or trucks.

Pond 1 was at the outfall of a large box culvert under a four lane street. The sediment was very heavy and contained a lot of large flat stones (about the size of a dinner plate). These could not be pumped so a limited amount of material was removed with the dredge.



Pond 2 had silted in with three to four feet of organic, clay and gritty sediment. There were also some stones and trash.

This sediment was much more solid than pond 3, so the jetting attachment was used to help excavate the sediment.



The sediment was pumped from pond 2 into a geotextile 4x6 45 ft. circumference x 25 ft. long Envirotube placed in a cul de sac 300 feet from the pond. Pallets and firewood was used to stabilize the tube to prevent rolling.

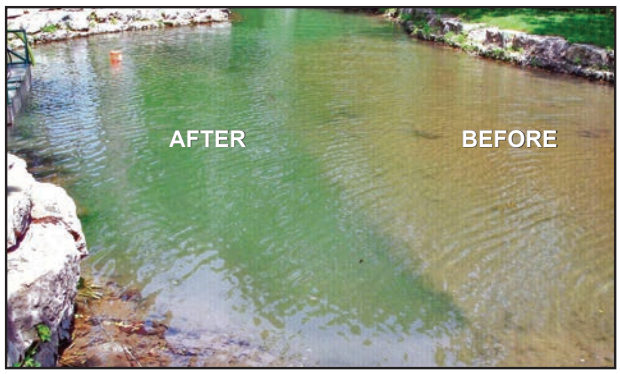


Two tubes were used in the second cul de sac. The material in pond 2 was more solid than pond three with a shrink rate of about 4-1. The decant water from these tubes was also returned to the pond by gravity.

Pond 3 was filled five feet deep with a very organic mud sediment. This material was removed with a 4 inch dredge and pumped into an Envirotube placed in the cul de sac in front of the houses 250 ft. from the pond. The mud remained in the tube and the clean water was returned to the pond by gravity through a storm drain.

A single coagulant polymer was used to speed up the dewatering process and clean up the decant water. The removed sediment shrunk 6 - 1 from insitu. This means the 100 CY capacity tube actually received 600 CY of insitu material.

Three 40 ft. circumference x 25 ft. long tubes and one 30 ft. circumference x 50 ft. tube were used to dewater 5000 CY of insitu sediment. Many aluminum cans and plastic water bottles were pumped with the sediment.



CASESTUDY

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CONNOR CREEK

Connor Creek is a small inlet to Lake St. Clair in Michigan. It had accumulated several feet of very polluted sediment from many years of discharge from the automotive industry and a large waste water treatment facility. The sediment was to be removed from the creek, treated and land filled. The water was also to be treated.

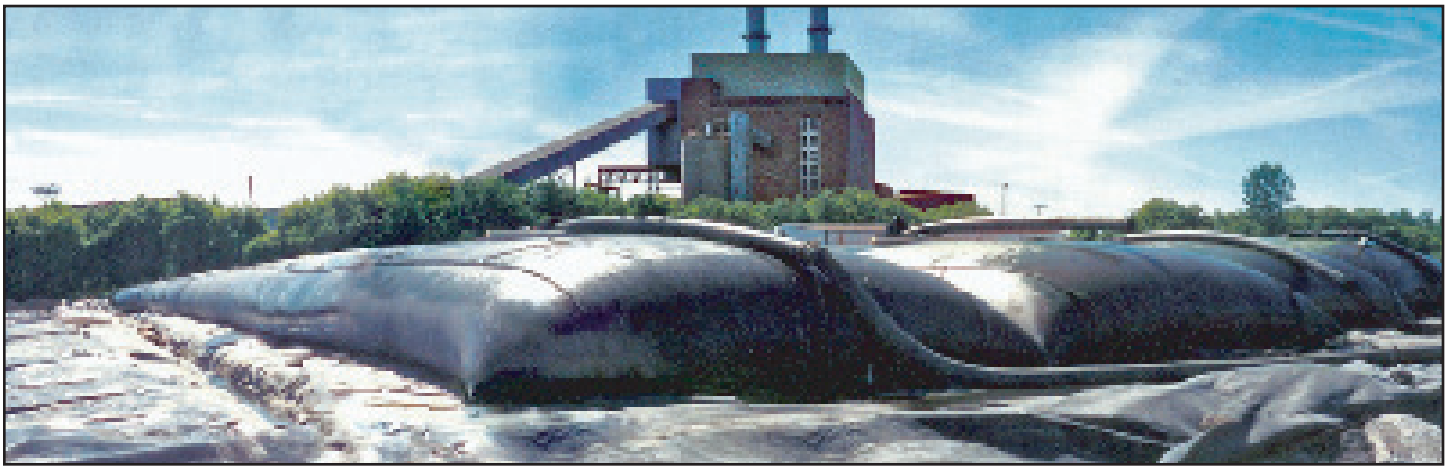


Chuck Gardner with Eco Marine got the sub contract to dredge the sediment into Envirotubes. A small amount of polymer was direct injected into the dredge pipeline to speed up the dewatering and clear up the decant water. There was some resistance to using polymer from regulators, but a 30 ppm limit in the decant water was established. The injection rate never hit the 30 ppm, no polymer was ever found in the run-off water.



The 45 ft. circumference x 200 ft. long, 4x6 geotextile Envirotubes were laid out side by side on a large sheet of 60 mil polyethylene plastic, and connected with a manifold system with a valve for each tube.

A ditch system was dug around the lay down area inside the edge of the plastic sheet so the sheet became the ditch liner. All the decant water was collected in the ditch and returned to the creek through two 8 inch return pipes. No water was lost from the area and could be easily monitored. The water came out of the tubes so clean it did not have to be treated even though it was constantly monitored.



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MISSOURI RIVER JOB

Pierre, South Dakota

Geotextile Envirotubes® were used to connect an island to shore to create a spoil area and re-direct the channel flow to maintain a deep channel access to the city marina.

The tubes were filled with two 10 inch portable dredges. The dredged material was sediment taken from the channel that needed deepening.



1998
Envirotubes Installed

Because there is a large power dam close up stream, there is a violent flow and back-flow at this point determined by the turbine water release from the dam. This violent flow exposes the tubes to a lot of debris and ice impacts. The tubes have stood up well to this environment and the area has since nearly vegetated over with grass and cottonwood trees.

Both polyester and polypropylene 30 ft. circumference tubes with scour aprons were used on this project. The scour aprons were anchored with sand bags.



Present 2015
18 years later

CASESTUDY

STRUCTURAL

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DRAKES CREEK

Hendersonville, Tennessee



Envirotubes® were used to connect an island to shore, re-directing a tributary to flush a backwater behind the island. This was needed to wash smelly sediment out into the river.

The Envirotubes® also created a spoil area for dredged material from deepening the river.

Envirotubes® were filled with course and find grain material from the river. The Envirotubes® were filled by a hydraulic dredge and a mixer box fed by an excavator and pumped into the tube.

Both polyester and polypropylene 45 ft. circumference (with scour aprons) Envirotubes® were used on this project.

The scour aprons were anchored with pumped anchor tubes.



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STARVATION COVE

Galveston Island, Texas

Installed Envirotubes® and scour aprons to recreate saltwater marsh and bird/wildliife sanctuary destroyed by tugboat wake and storm event damage. Envirotubes® were used to prevent additional loss and to restore lost saltwater marsh.

The Envirotubes® and the scour aprons were filled with in situ material to create a barrier protecting the area to be restored. Material was dredged from Galveston Bay and placed behind Envirotube® barrier restoring lost marsh & coastline.



Envirotubes® Installation
2006





CASESTUDY