GLOBAL CORAL REEF ALLIANCE

A non-profit organization for protection and sustainable management of coral reefs

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Hon. Basil Seggos
Commissioner, New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233

State Senator Tony Avella, 11th District
38-50 Bell Boulevard, Suite C, Bayside, NY 11361

PLEASE STOP COLLEGE POINT STORM DRAIN KILLING WORLD'S MOST IMPORTANT SALT MARSH AND OYSTER RESTORATION PROJECTS

New York City has submitted plans to install a new storm drain at the east end of McNeill Park, College Point (College Point North Drainage Improvement Project CEQR No. 14DEPO16Q). This would destroy pioneering projects that have restored oyster and salt marsh growth at a severely impacted Superfund toxic waste site over the last decade, and which are the best hope to save the Jamaica Bay marshes from washing away due to global sea level rise.

This plan seems to have been proposed without any environmental impact of the site. An archaeological impact assessment was done for DDC and DEP (**Phase 1A Archaeological Documentary Study Capital Project SEQ200463: College Point North Outfall and Infrastructure Improvements Queens County, New York**) but this included no environmental assessment, even though it clearly showed photographs of the salt marsh and oyster restoration projects and the solar panels used to power them (below), yet incorrectly described the site as barren construction debris of no significant value, and suitable for dumping on!

These projects at McNeill Park have shown greatly increased oyster growth and survival, especially during acidic and polluted conditions, and not only increased salt marsh growth and survival, but developed methods to propagate salt marshes seaward of their lower limit into deeper water than they can normally grow (see attached). All salt marshes are severely eroding, with Jamaica Bay being among the worst on the East Coast, yet the new methods developed at College Point, which are threatened with destruction by this ill-advised drain

project, could allow their restoration.

These cutting-edge restoration projects at a severely impacted former Superfund toxic waste dump are not just of importance to College Point and New York City, but to the entire world. I'm just back from showing the College Point results to the groups planning the restoration of San Francisco Bay, and they were astonished at our results and eager to copy them. I am right now setting up the first such oyster, salt marsh, and sea grass restoration projects on the West Coast, which were directly inspired by the College Point projects.

Please do not allow these critically important projects to be destroyed unnecessarily. Instead of dumping storm drainage, and the damaging pollutants it contains, straight on top of New York City's most successful and least funded restoration project (we have worked there for nearly a decade with no funding, out of pocket), at a place where no natural drainage ever existed, which is also a designated New York City recreational area for kayaks to enter the water, the storm drains should simply be connected to release the flow into the already existing storm drain that empties at the other end of the road, at the west end of McNeill Park. This would make construction of a new storm flow outfall unnecessary, and would save a bright ray of hope in restoring our damaged environments, which the whole world is watching.

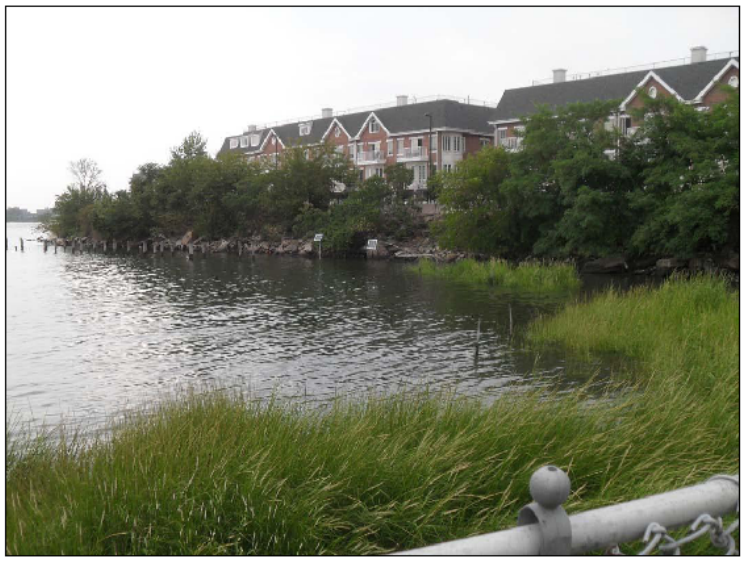
Sincerely yours,

Thomas J. F. Goreau, PhD
President, Global Coral Reef Alliance

The photographs below, taken from the impact assessment report to DEC and DDC, states: "The location of the proposed outfall has experienced disturbance as a result of the construction of the infrastructure and bulkhead. The modern shoreline appears to have been created through the addition of landfill deposits."

Their photograph instead shows the very saltmarsh restoration and oyster restoration projects that Dr. James Cervino and I have grown back at this site for nearly 10 years, and the solar panels that we installed to power the projects, under permits from NYSDEC (Permit #1282) and the NY Parks Department.

View of shoreline with rip rap and saltmarsh cordgrass outfall, facing east **9**



View of shoreline near proposed outfall with rip rap and saltmarsh cordgrass, facing north **10**

International Conference on Shellfish Restoration
December 12-15, 2012
Mystic, Connecticut

ABSTRACT

ELECTRICAL RESTORATION OF OYSTERS AND SALTMARSH AT A NEW YORK CITY ESTUARINE WETLAND

James Cervino, Rand Weeks, Jason Shorr, Carmen Lin, Dajana Gjoza,
& Thomas J. Goreau

Catastrophic loss of oyster reefs and saltmarshes has removed the major mechanisms of sediment and organic material filtration of estuarine waters, and of shore protection against erosion in the eastern United States and temperate coastal ecosystems worldwide. The Biorock low voltage solar-powered direct current electrical stimulation method has been used to restore oysters and saltmarsh in a severely polluted New York City estuarine wetland, next to a former navy shipyard and toxic waste dump. Oysters (Crassostrea virginica) receiving low amounts of electrical current increased in length 5.82 times faster than controls, and oysters receiving higher amounts of current grew 9.30 times faster than controls over the 2011 summer growing season. Control oysters decreased in size from by 4 mm over Winter 2010-2011 and had chalky dissolved shells, while low electrical current oysters had no change in size, and medium and high current oysters grew by 6 mm and 8 mm respectively, and had shiny shells. Control oysters had more than 91% over-winter mortality in this severely polluted habitat, while mortality of oysters under low, medium, and high electrical currents were 34%, 31% and 0% respectively. Saltmarsh grass (Spartina alterniflora) controls grew by 5 cm/week, while those receiving low electrical current grew by 9 cm/week and those receiving higher current grew by 11 cm/week. Spartina planted in a seep draining the toxic waste dump, at a site lower in the intertidal than the lowest tolerance limit of Spartina, had 100% mortality in two successive winters, while Spartina under electrical stimulation had two thirds survival over three winters and sent up new shoots each following spring. Electrified Spartina showed much higher growth rates in the summer, greener leaves, more stems per clump, more abundant, thicker, and darker roots. Our results demonstrate that the Biorock method is able to keep oysters and saltmarsh alive and growing under conditions that would otherwise be toxic. The much greater growth and survival even under the most severe water quality conditions therefore make the Biorock method ideally suited to restoring oyster reefs and saltmarshes where all other methods fail, and of greatly increasing oyster mariculture productivity. Biorock methods are even able to extend seaward saltmarshes that are now eroding from global sea level rise and pollution.