

Opinion: Movable barriers can protect Long Island's South Shore

September 15, 2013 by JOHN D. CAMERON JR.. AND DAVID BERG



More than 100 municipal officials, planners, engineers, architects and community leaders gathered in Long Beach last Thursday to discuss how Long Island should rebuild for future storms.

Superstorm Sandy, which struck nearly a year ago, created damage primarily from storm-surge inundation, which reached 5 to 7 feet above street grade in parts of Long Beach. The surge pushed water into South Shore bays via ocean inlets, and from there into homes and businesses.

Making these South Shore communities more resilient is necessary, but it will be difficult given social, political and economic realities. Elevation runs \$80,000 to \$125,000, or more, for larger homes. The costs of elevating tens of thousands of vulnerable homes in the flood zone would be in the billions of dollars, and that doesn't include apartment buildings, businesses, institutions and infrastructure.

Owners' equity in flood-zone properties has declined. As a result of congressional action in 2012, National Flood Insurance is no longer nationally subsidized. Many businesses have been hurt because customers have less disposable income.

So we must consider all possible solutions, and quickly. Inlet barriers, with a robust dune system, could provide the needed protection.

Movable steel barriers could be constructed across East Rockaway, Jones, Fire Island, Moriches, and Shinnecock inlets. Under normal conditions, the barriers would be open for tidal circulation, to maintain bay water quality, to permit recreational and commercial boat traffic, and to allow outflow from the bays during a nor'easter. The barriers would be closed only in advance of major storms. Backup power would allow barriers to open immediately afterward to reinstitute tidal flushing and relieve accumulated bay water.

These kinds of barriers are not new. Providence, R.I., has had a 3,000-foot-long barrier since 1966. The 17-foot-high barrier in Stamford, Conn., stopped Sandy's 11-foot surge from causing many millions of dollars in damage. The city of New Bedford, Mass., has a storm surge barrier. The Army Corps of Engineers is constructing a storm surge barrier to protect New Orleans. Large movable barriers and dunes protect the Netherlands coastline. Other barriers -- many of which are larger than what would be needed here -- protect Rotterdam, London, St. Petersburg and other cities.

Upland areas between the inlet barriers must also be protected by a strong dune system -- otherwise, storm surge would simply pass over a flooded barrier island. An 83-mile-long line of dunes between Fire Island inlet and Montauk has been proposed by the Army Corps and supported by Gov. Andrew M. Cuomo.

Dune construction and repair have also been proposed west of Fire Island Inlet through the Rockaways. Tidal flow through Long Island inlets could provide the energy necessary to drive turbines to generate power and offset costs for movable barriers. A Long Island system of barriers could connect to a New York City version, to protect the entire Island into Brooklyn and Queens.

The Army Corps and area scientists have studied Long Island's coastal hydrodynamics, and there are prediction models to address critical questions. Among them: Could closed inlet barriers adversely affect ocean circulation and surge distribution? How much would overland runoff from large storms raise bay elevations during inlet barrier closures? Could pumping the bay water over the barriers relieve those conditions? These answers are obtainable, but detailed study is necessary.

While these barriers could require a multi-billion-dollar investment that would take years to implement, they could provide long-term flood protection of our South Shore. Long Island's researchers, engineers, planners and economists have the tools to answer these questions. We need to engage them.

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