# LONG ISLAND INFRASTRUCTURE

# PRIORITIES TO RECOVER FROM

## **HURRICANE SANDY**

### **Submitted by:**



















Long Island Regional Economic Development Council; Infrastructure Working Group

December 2012

\*With assistance from **AECOM**\*

#### **LONG ISLAND INFRASTRUCTURE PRIORITIES**

In the aftermath of Hurricane Sandy, Long Island should rebuild its infrastructure stronger and smarter. We witnessed epic destruction and disruption to wastewater treatment facilities; water supply; solid waste; utilities (electric, gas and telecommunications); transportation and transit; and housing. We must harden our systems and enhance our capacity to respond and better withstand severe weather. This list represents the work of several leading organizations on Long Island that are committed to prioritizing our needs and sharing our experience and knowledge with those elected and appointed officials who can help address them. <sup>1</sup> It was unanimously agreed that because of the public health as well as economic development impacts of wastewater treatment facilities, water supply and solid waste, these listed infrastructure responses must have the highest priority. These priorities are also responsive to the charge given to the Infrastructure Working Group of Governor Cuomo's Long Island Economic Development Council.

# 1. <u>Public Health - Wastewater Treatment Facilities, Water Supply and Solid Waste</u> (Wastewater treatment and clean water are critical to public health as well as economic development priorities)

- a. Provide an ocean outfall for Bay Park Sewage Treatment Plant to prevent contamination of Reynolds Channel and Hempstead Bay and interior waterways with termination to be approximately three miles south of Long Beach in Atlantic Ocean.
- b. Convert Long Beach Sewage Treatment Plant to a pump station transporting flow to Bay Park, also reducing environmental stress on Reynolds Channel and surrounding bay area.
- c. Identify the level of inundation for each impacted sewer district and water supply building.
- d. Identify points of entry of the storm surge into above and below grade structures (doorways, stairwells, ventilation ducts, shafts, pull boxes, etc.).
- e. Determine if facility sites can accommodate berms, retaining walls, etc. for flood surge mitigation.
- f. Determine if buildings can be retrofitted to prevent flood surge entry into doors, stairwells, ducts, etc.
- g. Provide emergency power generator with a minimum seven day fuel supply (with a replenishment plan) not subject to flooding or located within a protected waterproof enclosure/structure.
- h. Where technically feasible, utilize submersible pump stations to eliminate the need for separate electrical systems and equipment (HVAC, lighting, sump pumps, etc.) associated with wet well/dry well stations.
- i. Relocate all electrical equipment, fixtures and controls a minimum of two feet above the highest known or anticipated flood surge elevation or in a protective waterproof enclosure.

Long Island Regional Planning Council
Long Island Contractors Association
NY League of Conservation Voters
Long Island Regional Economic Development Council
Infrastructure Work Group

Long Island Association
Long Island Builders Institute
Regional Plan Association
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- j. Consider construction of bypass vaults to allow for ease of connecting portable pumping equipment and eliminate need to route discharge hoses into residential streets.
- k. Install manhole inserts in low lying/flood prone areas to prevent flood water from entering sewer collection system.
- 1. Require check valves on home/commercial waste lines that are at an elevation lower than the sewer lateral to prevent backflow into business/residence.
- m. Advance interconnectivity of sewer systems across both counties.
- n. Prepare an asset inventory of water supply facilities and equipment.
- o. Explore the viability of interconnectivity of sewer systems across both counties in case of emergency interruptions of services.
- p. Extend water supply well casings to three feet above the highest known or anticipated flood surge elevation.
- q. Ensure floors are three feet above the highest known or anticipated flood surge elevation and/or are constructed of resilient materials and in accordance with proper flood protection construction methods.
- r. Provide for emergency access during a flood event.
- s. Conform to flood protection requirements of the latest edition of the "Recommended Standards for Water Works" for water supply facilities.
- t. Increase on-Island processing/disposal capacity for municipal and commercial solid waste.
- u. Develop contingency plan for emergency removal of solid waste off Long Island via rail/barge/truck.

The following infrastructure priorities of "Utilities – Electric, Gas and Telecommunications," "Transportation, Transit and Shoreline," and "Housing" are considered of equal priority.

#### 2. Utilities – Electric, Gas and Telecommunications

- a. Aggressively pursue storm hardening improvements at all substations.
- b. Begin implementing a smart grid to enhance communications and improve response time.
- c. Require buried power lines for new construction sites and along key corridors.
- d. Identify gas stations as priority locations for power restoration and ensure elevated or otherwise hardened generators for gas stations.
- e. Standby generation capability (sited at appropriated elevations and protected from flooding and other elements) to be located at all cell tower, major communications centers and gas distribution stations and terminals (including solar power stand-by generators).
- f. Increase strength of electrical distribution pole lines to withstand higher wind speeds and storm-related flooding including, but not limited to, using composite poles, and expedite replacement of deteriorated utility poles.
- g. Require utility customers and municipalities to identify weak and diseased trees and treat or remove them.

- h. Expedite upgrade of the outage management systems.
- i. Expand mobile substation capabilities.
- j. Expand mobile generator capabilities.

#### 3. Transportation, Transit and Shoreline

- a. Utilize a subgrade not subject to washout for major roadways essential to emergency access and critical facilities that are subject to flooding.
- b. Consider the use of porous pavements for streets in flood prone areas.
- c. Evaluate regional and sub-regional drainage systems in light of new storm surge elevations and the ability of such systems to effectively contain and safely transport runoff to designed termini.
- d. Install steel sheeting along vulnerable sections of strategic roadways and road endings at bay fronts.
- e. Seal and close transit and roadway tunnels during flood surges.
- f. Develop alternative (pre-planned) bus routing.
- g. Harden LIRR substations and yards from flooding.
- h. Harden bulkheads, dunes and other infrastructure along the coastline.
- Implement the U.S. Army Corps of Engineers' Fire Island to Montauk Point
  Reformulation Plan as well as the Long Beach Storm Damage Reduction Plan as Fire
  Island and Long Beach are critical to protecting the Long Island mainland and are also an
  important part of the Long Island economy.

#### 4. HOUSING

- a. Support the creation of additional equitable rental housing on Long Island to satisfy an overwhelming demand, principally in areas proximate to transit. This well-documented need was highlighted during and post-Sandy for the Island's many displaced residents; only 122 units were available for temporary housing.<sup>2</sup>
- b. Support a state incentive to help municipalities pay for additional infrastructure costs caused by rental homes that the municipality allows under increased densities.
- c. Rebuild dwelling units to higher codes with respect to flood damage.
- d. Suspend or expedite the environmental and building regulatory review process for housing and all other Sandy-related projects.
- e. Allow for self-certification approvals for architects and engineers on replacement structures.

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<sup>&</sup>lt;sup>2</sup> Source: Long Island Builders Institute.