

**New York Climate Smart Communities**

*Village of Great Neck Plaza  
Draft Climate Action Plan*

**February 2016**

## **ACKNOWLEDGEMENT**

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## EXECUTIVE SUMMARY

This Climate Action Plan (CAP) was produced as part of the New York State Climate Smart Communities program. The draft CAP was developed by the Village of Great Neck Plaza Climate Smart Community Committee, which includes members from various government departments. The Village Board of Trustees held a Public Hearing to consider the Draft CAP on February 3, 2016. As a result of public input and Board discussion, the following action was taken [REDACTED].

This CAP is organized into four sections: *Introduction*; *Municipal Facilities and Operations*; *Community-Wide Policies and Initiatives*; and *Climate Change, Planning and Adaptation*. Section One, *Introduction*, and Section Two, *Municipal Facilities and Operations*, provide information on facilities and operations over which the Village has direct control and describes *Past Actions and Achievements*; *Projects and Policies Currently Under Consideration, Development or Implementation*; and *Potential Future Actions and Initiatives*. Section Three, *Community-Wide Policies and Initiatives*, looks at a number of items that the Village can affect by policy and describes *Laws, Codes and Regulations in Effect*; *Current Programs and Policies*; and *Programs and Policies under Consideration for Planning for Potential Future Action*. Section Four, *Climate Change, Planning and Adaptation*, provides an overview of the Village's plans to adapt to the effects of climate change including rising sea level, more intense rainfall, higher temperatures, and more frequent droughts.

## SUMMARY OF INITIATIVES

The following is a summary of the major initiatives outlined in this CAP:

- 1) Reduce overall GHG emissions by 20% by 2020 below the 205 baseline community-wide emissions.
- 2) Reach CSC Certification of a minimum of 150 pts by 2017.
- 3) Upgrade old florescent lighting in Village Hall offices by 2017 to energy-efficient LED lighting.
- 4) Install upgraded timing switches for managing usage and temperature on heating and cooling systems in Village Hall by 2017.
- 5) Install motion sensors where feasible to turn off electricity when offices are not occupied.
- 6) Complete GIGP project for the Sustainable Maple Drive Parking Lot Reconstruction by the end of 2016.
- 7) Develop multi-year strategy and costs by 2017 for converting existing Village streetlights to LED fixtures.
- 8) Through the Long Island Green Homes Program, encourage a minimum of 20 percent of the Village's single-family homes by 2017 to get a free energy audit and do the upgrade work to improve the energy efficiency of homes in the Village.
- 9) Explore other potential future actions in the CAP and determine by the end of 2017 a time lime for their implementation, as may be feasible.

## 1 INTRODUCTION

### 1.1 Climate Action Plan Summary

The Village of Great Neck Plaza (“the Village”) encompasses a busy commercial district, three parks, as well as residential sections comprised of many multiple dwellings and single-family homes. Although geographically the Village measures only a third of a square mile, it boasts a vibrant downtown with a railroad station (Great Neck Station on the Port Washington Branch of the Long Island Rail Road), over 260 retail stores and service establishments, 91 multiple-family apartment buildings, 148 single family homes, approximately 40 office buildings, 2 four-star boutique hotels, a nursing home, a senior independent living facility and one senior assisted-care living facility.

This Climate Action Plan (CAP) is prepared in accordance with the commitment made by the Village of Great Neck Plaza when it adopted the Climate Smart Communities (CSCs) pledge in October 2012.

#### Existing Plans, Studies and Reports

- Long Island Power Authority Energy Audit Report (March 2001)
- Electric Usage Data (2008-2009 and 2013-2014)
- U.S. EPA Energy Star Website, Village Profile

#### Pledges/Memberships/Associations

- Climate Smart Communities (CSCs)
- AARP Livable Communities
- Complete Streets Community

#### Greenhouse Gas Inventory

The Rauch Foundation funded an effort by the New York Institute of Technology (NYIT) to draft a comprehensive regional greenhouse gas (GHG) emissions inventory for Long Island’s (LI) Nassau and Suffolk counties. NYIT released the results of the inventory as a report and [interactive website](#) in 2013. The *Long Island Carbon Footprint Project* provides an inventory and analysis for 2010 and comparisons to 2005 emissions. The website also hosts an interactive map that provides emissions data by sector, source, region, and municipality. The inventory methodology was based in large part on the protocols developed by the New York State (NYS) GHG Protocol Working Group that was administered by the New York State Energy Research and Development Authority (NYSERDA). The LI GHG inventory includes the following sources:

- Fuel use (oil and natural gas) and electricity
- Transportation
- Industrial processes
- Agriculture
- Waste (wastewater and solid waste)
- Land use, land-use change, and forestry

The inventory utilizes data from the following sectors:

- Residential - building energy consumption
- Commercial and Industrial - building energy consumption
- Municipal - building energy consumption (included in commercial sector)
- Land Transportation - vehicle and fuel types, vehicle miles traveled (VMT)
- Marine Transportation - recreational only
- Solid Waste - generation rates and disposal types
- Waste Hauling - types and destinations
- Wastewater Treatment- wastewater treatment plants, and on-site wastewater systems
- Land Use - agriculture, forested areas, open space
- Streetlights - type

Most data collected in the inventory are parsed by taxing jurisdiction (town, county, and city) and in some cases by zip code. Other data were from the following sources:

- LIPA electric data by municipality (including villages and some unincorporated areas)
- National Grid gas data by zip code – request made to sort by municipality
- Fuel Oil – from the Oil Institute of Long Island
- Transportation data – by municipality, but includes vehicles traveling through

The emissions inventory was provided to participating CSCs using the template developed by the NYS GHG Protocol Working Group. The spreadsheets developed by NYIT for each sector were distributed to participating CSCs to allow for future emissions tracking. The NYIT spreadsheets contain the raw data, calculations, emissions factors, and methodology involved with the development of the LI GHG inventory. Based on the NYIT project, there was a significant reduction in emissions on Long Island from 2005-2010. As a region, Long Island reduced its overall emissions by 9.75% from 2005 to 2010. Quantitative metrics, like emissions reductions and cost savings, are often missing from community-level environmental initiatives.

For the Village of Great Neck Plaza, detailed data were limited to the electricity sector. Within the Village, overall electricity emissions have declined, while the population has generally remained stable, suggesting an increase in efficiency. The most notable percent change in electricity emissions came from the streetlighting sector, where emissions fell more than 10% from 2005 to 2010. In terms of overall electricity use and quantity of emissions, the commercial sector was able to reduce emissions by more than 4%, which indicates that the commercial sector consumed nearly 2.4 million fewer kWh of electricity in 2010 compared to 2005.

**Village of Great Neck Plaza 2010 GHG Emissions: Electricity**

kWh				Total Metric Tons CO2e			
Residential	Commercial/Industrial	Street lighting	Other	Residential	Commercial/Industrial	Street lighting	Other
19,345,512	55,988,962	530,286	4,686,856	11,880.28	34,383.40	325.65	2,878.25

**Village of Great Neck Plaza 2005 GHG Emissions: Electricity**

kWh				Total Metric Tons CO <sub>2</sub> e			
Residential	Commercial/ Industrial	Street lighting	Other	Residential	Commercial/ Industrial	Street lighting	Other
19,752,907	58,328,590	589,270	N/A	12,130.46	35,820.19	361.88	N/A

### Greenhouse Gas (GHG) Emissions Reductions Targets

This CAP seeks to establish policies and identify strategies that will reduce GHG emissions to levels consistent with mitigating the worst effects of climate change. Scientific consensus suggests that an 80 percent reduction in GHG emissions under 1990 levels by 2050 is necessary to achieve that result, and New York State policy has set that as long-term target for Statewide GHG emissions.

#### Government Operations Goals

The Village of Great Neck Plaza has direct control over one building (Village Hall), two parking structures, and a small fleet of vehicles. The Village's investment in, and management of, these public assets can make significant changes in reducing energy usage and GHG emissions. A target of 20% reduction in emissions by 2020 from the 2005 community-wide baseline provided in the NYIT report represents a meaningful, but achievable, goal for the Village. This target is substantially consistent with New York State Executive Order 88, which calls for a 20% reduction in energy use intensity in State owned and operated buildings by 2020.

#### Community-wide Goals

As a Village, the Great Neck Plaza government has direct control of the policies that impact community emissions, including zoning authority/control over land use. This level of authority allows the Village to pursue emissions reductions for the built environment and transportation sector. These programs and policies are highlighted in Section 3 of this CAP.

There is reason to be somewhat optimistic concerning community-wide reductions in GHG emissions. The Long Island Carbon Footprint Project found that overall emissions in the Village of Great Neck Plaza dropped from 48,312.53 metric tons CO<sub>2</sub>e in 2005 to 46,589.33 metric tons CO<sub>2</sub>e in 2010, a reduction of about 3.6%. Analysis by the Sustainability Institute at Molloy College indicates that already planned changes to the LIPA electric generation fleet on Long Island, along with projected reductions from energy efficiency programs and investments in renewable energy would reduce the carbon emitted by electric generation by an amount approximately equal to 10% of Long Island's overall GHG emissions in 2010.

Vehicle-related emissions make up about 31% of Long Island's total GHG emissions. Emissions from on-road vehicles dropped from 12,960,118 MT CO<sub>2</sub>e in 2005 to 10,854,420 in 2010, a reduction of 16.25%, even though vehicle miles traveled increased slightly during that period. This is primarily believed to be due to consumers choosing more fuel-efficient vehicles. It is anticipated that increases in federal fuel efficiency standards for new vehicles (new CAFE standard of 54.5 mpg by 2025) will have a significant

effect on reducing GHG emissions in the Village of Great Neck Plaza, as these more efficient vehicles displace the existing fleet.

With this in mind, this CAP sets a target of 20% reduction in community-wide emissions below the 2005 baseline by 2020.

### **Climate Smart Community Certification**

The Village of Great Neck Plaza will be participating in the recently-launched CSC certification process to document the efforts being made by the Village. The CSC certification program provides municipalities a unique platform to share and promote their climate action achievements. It is designed to align with the ten CSC pledge elements, which were adopted by the Village of Great Neck Plaza on October 3, 2012. The certification program awards communities using a point-based rating system based on four levels: Certified (150 pts), Bronze (250 pts), Silver (350 pts), and Gold (450 pts). There are over 120 climate actions that generate points towards a community's CSC certification. Out of these 120 actions, 13 have been designated as "priority" actions, which are critical activities that are required across all levels of certification. The number of points that will ultimately be approved for the Village will depend on how well the Village's actions correspond to the certification program's detailed requirements. It appears that the Village could at a minimum qualify for 150 pts, but certainly the Village wants to strive for the highest amount of points that it can achieve based upon the CSC Certification Program and this CAP. The full list of possible and anticipated certification points can be found in Appendix A.

## 2 MUNICIPAL FACILITIES AND OPERATIONS

### 2.1 Buildings

Reducing energy consumption through energy efficiency improvements and conservation measures in existing buildings is one of the most cost effective ways to reduce GHG emissions. At the same time, this work will increase economic activity by creating local jobs and reducing municipal energy costs for taxpayers.

The Village of Great Neck Plaza owns and manages three buildings – Village Hall and two multi-level structured parking garages. The Village completed, with the assistance of LIPA, an energy audit in 2001 of the following buildings:

- Village Hall – 2 Gussack Plaza contain approx. 20,000 square feet
- Plaza Centre Parking Garage (attached to Village Hall) contains approx. 40,000 square feet
- Maple Drive Parking Garage – Maple Drive contains approx. 20,250 square feet

The Village also utilized the EPA's Energy Star Portfolio Manager to measure and to track energy and water consumption. This information will serve as a benchmark to compare to the future performance of Village facilities as continued climate smart actions are incorporated into the operations of Village facilities.

#### 2.1.1 Past Actions and Achievements

- Installed several lighting controls and automatic sensors in Village Hall.
- Installed digital temperature controls and timers for HVAC equipment.
- Installed lock boxes over the thermostat control.  
Modified lighting schedule in garages (alternating 50% of the lights to operate “on” during daytime hours) to reduce consumption and cut electric usage and costs during peak hours.

#### 2.1.2 Projects and Policies Currently Under Consideration, Development or Implementation

- Ongoing upgrades of old fluorescent lighting in offices at Village Hall.
- Installation of upgraded timing switches on heating and cooling systems to manage usage.
- Implemented policy to turn off lights when rooms and offices are unoccupied or are not being utilized.
- Implemented policy to power down computers, copy machines, and other electronic equipment when not in use or after normal business hours.
- Green infrastructure improvement project for the Maple Drive Sustainable Parking Lot. Reconstruction that will include porous pavement and other green features to lower GHG emissions, heat island index, and improve stormwater management.

### 2.1.3 Potential Future Actions and Initiatives

- Consider ways to modify the Village Code to encourage building projects with improved insulation, infiltration sealing, window shading, and new windows.
- Consider a policy requiring that any municipal facility replacements, renovations, or new construction must have energy or resource efficient electrical and plumbing furnishings and that such new equipment be evaluated before it is installed. Examples: variable frequency devices (pumps/motors), appliances, vending machines, copiers, computers, toilets, faucets, and showers.
- Consider a policy to require the incorporation of renewable energy systems when designing or renovating any new Village facility or parking lot.
- Consider a policy to require a cost-benefit analysis based on life-cycle costs for replacements of construction items.
- Consider a policy to use independently certified water or energy saving products in new and existing Village facilities.
- Consider a policy to reduce Village waste that is not currently recycled in conjunction with the Town of North Hempstead's recycling procedures.

## ANCHOR PROJECT

### SUSTAINABLE MAPLE DRIVE PARKING LOT RECONSTRUCTION

*Plaza Voice Newsletter* (March 2015) – The Village of Great Neck Plaza is pleased to have been awarded a \$675,000 grant from the New York State Environmental Facilities Corporation (EFC) in their Green Innovation Grant Program (GIGP) for the reconstruction of the municipal parking lot on Maple Drive using a porous pavement element. This open surface parking lot currently contains 121 parking spaces. The Village is looking to retain as many of the existing parking spaces as possible in the redesign of this lot. A Feasibility Study that accompanied the grant application included three alternate concepts plans, two with 121 spaces and one with 119 spaces. The preferred plan, which will be refined as the Village moves forward in preliminary design phase under the grant, calls for maintaining all 121 spaces.

The Maple Drive parking lot is in need of repair and the Village wants to utilize this great opportunity afforded by an EFC grant to enable the Village to reconstruct it using green infrastructure techniques, such as an innovative porous pavement element. Porous pavement will collect/recharge rainwater on-site to the aquifers, thus reducing stormwater runoff and improving water quality, as well as minimizing the potential for flooding. Stormwater experts and developers are considering porous pavement as a sustainable way to reduce stormwater runoff.

The Project promotes sustainability by improving existing infrastructure with green technologies. The U.S. Environmental Protection Agency has identified “green” as the new color for stormwater programs. Adopting this initiative by the EPA, the Village is shifting to green to redevelop this lot with a porous pavement element, other green features, such as possibly a rain garden, LED streetlighting, solar metering stations, benches, and low-maintenance landscaping that will include the planting of native species and grasses. The landscaping will serve the purposes of providing more greenery, shade, beautification, reducing urban heat island effects, and complementing the hard surfaces. This lot serves shared parking needs in the downtown and, thus, the project will revitalize the downtown community and spur economic development. This project will contribute to the “greening” of Great Neck Plaza, a participating New York State Climate Smart Community, and will be a model for other communities across the state.

The Village has completed the requisite contract agreement with the EFC. The Village anticipates a (approximate) project schedule of completing design by the fall 2015, bid letting in winter 2016 and construction in late summer/fall 2016.

The Village is also partnering with the William A. Shine Great Neck South High School and John Motchkavitz, Department Head of Business/Technology, to provide a community-based applied learning experience for its engineering and architecture students about sustainable parking lot rehabilitation. In conjunction with the educational and community outreach components, the Village will be developing and installing interpretative signage in the lot to identify the green, sustainable features and interpretive themes on the historic North Shore Gold Coast area.

Stated Mayor Celender, “We would like to thank Governor Cuomo, the EFC, our state representatives, Senator Jack Martins and Assemblywoman Michelle Schimel, the Plaza’s Business Improvement District (BID), Great Neck Chamber of Commerce, and other stakeholders in the community who have supported this application and our investment in infrastructure to maintain a strong, vibrant business environment, job growth, education and enhanced quality of life. This project will not only benefit Great Neck, but will serve as a model “green” sustainable design for all Long Island communities.”

## 2.2 Renewables

Renewable energy technologies are clean sources of energy that have a lower environmental impact than conventional energy technologies. Most renewable energy investments are spent on materials and workmanship to build and maintain facilities, rather than on energy imports. This helps to create local jobs, lower GHG emissions, and reduce reliance on foreign sources of energy. As an example, the solar photovoltaic (PV) industry creates 22.4 jobs per megawatt while natural gas in comparison creates 1.1<sup>1</sup>

There are few opportunities to use renewable energy at Village facilities due to space limitations. It may be possible to install pedestal-mounted solar (PV) panels on the roof level of the parking garages. These are expensive and may not be cost effective. Geothermal heating and cooling may be possible if adequate space were available for the wells.

### 2.2.1 Past Actions and Achievements

- The Village installed solar-powered muni-meter pay stations as part of several Village parking lot upgrades.

### 2.2.2 Projects and Policies Currently Under Consideration, Development or Implementation

- When parking lots are upgraded, the Village installs energy-efficient muni-meter pay stations that are powered by solar energy.

### 2.2.3 Potential Future Actions and Initiatives

- Explore feasibility of rooftop pedestal-mounted solar PVs at Village Hall.
- Seek renewable incentives from PSEG Long Island, explore feasibility of participating in EPA Green Power Purchase program.
- Consider geothermal heating and cooling system as replacement for existing HVAC system.

## 2.3 Exterior Lighting

Improving the efficiency of exterior lighting is one of the simplest, yet most effective changes to be made at the municipal level. The typical light emitting diode (LED) streetlight uses 50 percent less energy per lumen than high-pressure sodium (HPS) lighting, has an average lifespan 10 years longer than conventional lighting, and lower maintenance costs.

The Village has 250 streetlights that consume 772,835 kw per year. The Village is in year one of a three-year lighting maintenance contract with Anker Electric Service to maintain its exterior lighting.

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<sup>1</sup> EPA Clean Energy Strategies for Local Governments On-site Renewable Energy Generation (2008). Figure 7.2.1. Job Creation From Renewable Energy Projects per MW Capacity.  
<[www.epa.gov/statelocalclimate/documents/pdf/on-site\\_generation.pdf](http://www.epa.gov/statelocalclimate/documents/pdf/on-site_generation.pdf)>

### 2.3.1 Past Actions and Achievements

- Performed a Village-wide engineering study in 2011 to study the existing foot-candle of the present street lighting system and to evaluate “quality of lighting” factors including focusing of light dispersion to needed areas; limiting wasted, stray light, and over-lighting; and improving light uniformity through the use of application-specific fixtures, reflectors, and improved reflector material. The goal is to ensure commercial and residential areas have the appropriate recommended lighting levels and maintain quality of life and safety for our residents and visitors.

### 2.3.2 Projects and Policies Currently Under Consideration, Development or Implementation

- Upgrade streetlights from the current HPS fixtures to LED fixtures using grant funding and rebates, if possible, to lower electric consumption and costs, and lighting maintenance costs. If grant and rebate funding is not available, the Village will develop a multi-year phased strategy to implement this project with its available capital funds.

### 2.3.3 Potential Future Actions and Initiatives

- Explore the feasibility of renewable sources of power for streetlights.
- Consider using presence sensors for exterior lights on public buildings and structures.

## 2.4 Fleet

There are numerous benefits to developing a more fuel efficient fleet. By purchasing and driving vehicles that have a higher fuel efficiency rating, the Village can decrease GHG emissions while cutting fuel costs. The initial additional cost associated with more fuel efficient vehicles can typically be recouped in a relatively short time.

The Village of Great Neck Plaza has a fleet that includes: two heavy trucks, six light trucks, and one passenger vehicle. A breakdown is shown below.

**Table 1 - Village of Great Neck Plaza Fleet**

Type	Number	Fuel Type	Department
Case Pay Loader	1	Diesel	DPW
Elgin Street Sweeper	1	Diesel	DPW
Ford F550	1	Unleaded	DPW
Ford F250	1	Unleaded	DPW
Ford F350	2	Unleaded	DPW
Dump Truck F350	1	Unleaded	DPW
Dump Truck F550	1	Unleaded	DPW
CEO Vehicle	1	Unleaded	Code Enforcement

### 2.4.1 Past Actions and Achievements

- When purchasing vehicles, the Village reviews the energy efficiency ratings of prospective vehicles and attempts to purchase vehicles with a high fuel efficiency rating after performing a cost-benefit analysis.

### 2.4.2 Projects and Policies Currently Under Consideration, Development or Implementation

- Consider applying for a NYS grant to install electric vehicle supply equipment (EVSE) in permitted residences.
- The Village would like to install several public plug-in electric vehicle (EV) charging stations at prominent parking locations (parking garages and lots) to encourage EV use.

### 2.4.3 Potential Future Actions and Initiatives

- Collaborate with other Nassau and Suffolk towns to obtain operating experience and cost-benefit information on the operation of fleet vehicles operating with alternative fuels and compare the results with the operating experience and cost data for Village-owned vehicles.
- Encourage residents to use mass transit. Consider creating innovative promotions in collaboration with the MTA LIRR and NICE Bus to increase transit ridership.
- Replace or convert traditional vehicles with hybrids and EVs to improve gas mileage, reduce emissions, and cut life-cycle and operational costs of the Village's fleet.
- Explore the feasibility of reducing fleet size.

## 2.5 Solid Waste and Wastewater

Sewage collection and treatment in the Village of Great Neck Plaza is provided by two sewer entities: the Belgrave Water Pollution Control District and the Great Neck Water Pollution Control District. Residents are billed by the Town of North Hempstead based on the assessed value of their properties. Efforts to reduce water consumption can reduce the flow to the treatment plants, and, thus reduce the energy consumed for treatment.

Efficient management of solid waste is also vital to the health of the Village, as every step in the life cycle of municipal solid waste (MSW) management contributes to GHG emissions— from the production of the products that eventually become municipal solid waste to its collection and eventual decomposition.

### 2.5.1 Past Actions and Achievements

- Installed paper recycling bins in Village Hall.
- Installed eight recycling bins throughout the Village to recycle disposable plastic water bottles and aluminum soda cans discarded by the public.
- The Village discourages the use of disposable Styrofoam products through conditional use permits for food establishments.

- The Village utilizes Town of North Hempstead’s solid waste recycling facility that accepts glass, paper, metal, and electronics, and publicizes the Town’s S.T.O.P. dates for drop offs of hazardous waste (paints, batteries, petroleum solvents, etc.) and electronic equipment recycling.
- Implemented paperless office preferences in Village offices.

## **2.5.2 Projects and Policies Currently Under Consideration, Development or Implementation**

- The Village is considering creating an e-waste recycling program to supplement the Town’s program, where residents can drop off used cellphones, tablets, etc. for recycling.
- The Village is encouraging the Town to increase the materials it recycles for residential waste, such as aluminum products, plastics, etc.
- Encourage more recycling in the existing recyclable bins and utilize proceeds from recycling the discarded bottles and cans to create a recyclable shopping bag that can be distributed by Plaza merchants. This measure will reduce the use of plastic bags and encourage promotion of environmentally-friendly recyclable bags for purchases.

## **2.5.3 Potential Future Actions and Initiatives**

### **2.5.3.1 Wastewater**

- Consider gray water reuse systems for appropriate Village facilities.

### **2.5.3.2 Solid Waste**

- “Single Stream Recycling” – residents can place all acceptable recyclables in a single container. Residents would not need to sort their recyclables.
- Explore feasibility of a regional composting initiative.

## 2.6 Operations

Environmentally preferable products, services and operations have a beneficial effect on human health and the environment when compared with competing products or operations. Often, small changes to purchasing and operating protocols contribute significantly to meeting the Village's environmental goals, improving worker safety and health, and reducing health and disposal costs. These small shifts in the selection of products and office operational practices can have a major impact on energy use and expenses.

### 2.6.1 Past Actions and Achievements

- The Village attempts to purchase equipment and vehicles off of New York State and other public entity contracts, wherever possible, to minimize expenditures and obtain environmentally preferable products.
- Obtained a \$2,500 grant to streamline the solar permit process for residences and businesses.
- Updated the Village website to allow people to obtain information 24/7 and download forms such as building permit applications, conditional use permits, parking permit forms, etc., thus avoiding the need to drive to Village Hall or wait for mail through the U.S. Postal Service.

### 2.6.2 Projects and Policies Currently Under Consideration, Development or Implementation

- Implemented policy to turn off lights when rooms and offices are unoccupied or are not being utilized.
- Implemented policy to power down computers, copy machines, and other electronic equipment when not in use or after normal business hours.
- Consider development of plug-in EV charging stations to encourage public use in municipal parking lots and garages of electric/hybrid vehicles. The integration of plug-in EVs in New York's transportation sector will bring significant energy related benefits to the state and enable effective efficiency measures to be applied to this sector. EVs are expected to increase their presence in the next two decades.
- Encourage the Plaza's 91 multiple-family apartment buildings with garages to give parking preference to electric/hybrid vehicles, and permit residents to utilize plug-in EV charging stations in the building garages. Currently, the Co-op Board at 1 Overlook Avenue allows such use and is the first Co-op or Condo Board that the Village is aware of to adopt this forward-thinking policy to encourage electric/hybrid vehicles.

### 2.6.3 Potential Future Actions and Initiatives

- Expand "Green Purchasing" policy to implement internally and through Long Island Progressive Coalition. "Green Purchasing" includes buying recycled products, bulk or multi-pack items, used equipment and accessories and trades with other agencies, governments, and organizations.
- Implement additional energy-saving office practices including occupancy-driven heating/cooling.
- Encourage additional recycling of paper. A typical office generates about one pound of paper per employee and that from that paper, 77 percent of what is wasted in offices across the U.S. is

recyclable. Cutting down on paper waste will reduce solid waste costs and pollution caused by the making of new paper.

- Exposure to carbon monoxide presents both safety and health concerns, and may be a symptom of inefficient and poorly maintained combustion systems. Establish best practices for maintenance of mechanical systems in municipal owned and operated building including:
  - Energy audits and retro commissioning of all buildings, to be repeated on a 10-year schedule.
  - Annual recommissioning of all major, central building systems.
  - Annual tune-up, cleaning, and combustion safety test of all combustion systems, to ensure efficient and safe operation.
  - Test for carbon monoxide leaks after repairs and maintenance of combustion systems.

## 3 COMMUNITY-WIDE POLICIES AND INITIATIVES

### 3.1 Residential Buildings

According to the U.S. Energy Information Administration most recent Residential Energy Consumption Survey, homes in the United States, built in 2000 and later, consume only 2 percent more energy on average than homes built prior to 2000, despite being on average 30 percent larger. The same agency also found a decline in the proportion of energy consumption used for heating and cooling (48 percent in 2009 vs. 58 percent in 1993). The study attributed the decline to increased adoption of equipment that is more efficient, better insulation, more efficient windows, and population shifts to warmer climates. Some of the decline is also offset by increased energy consumption for appliances and electronics. Although larger appliances, such as refrigerators and clothes washers are more efficient, the increasing number of energy-consuming devices has offset these efficiency gains.

#### 3.1.1 Laws, Codes and Regulations in Effect

- The Village has developed emergency preparedness and planning materials for distribution to residents. Information includes emergency preparedness procedures, “What to pack in a Go Bag”, a directory of local resources and services, as well as information about temporary shelters and services for vulnerable populations. The Village maintains a database of seniors that are frail, critically ill, and require electricity 24/7 for sustaining life-supporting equipment, thus protecting our “special needs residents” during these events.

#### 3.1.2 Potential Future Actions and Initiatives

- Consider adopting the Energy Star Certified Homes Program as a requirement for all new single-family home construction.
- Participate in Long Island Green Home Coalition to promote energy audits and home efficiency improvements through NYSEDA and PSEG Long Island to residents
- Establish an energy consumption calculation (similar to miles-per-gallon on a car) in order to benchmark the Village’s new and existing homes. This calculation would be conducted every five years to help more precisely calculate its carbon footprint. This audit should comply with the Building Performance Institute (BPI) standards for residential energy audits (BPI-1100-T-2012). This audit complies with NYS and PSEG Long Island programs that promote improvements to residential energy efficiency. Currently, these audits are subsidized by NYS and PSEG Long Island.
- Offer refunds of LEED certification fees for eligible projects, if Cleaner Greener Communities Regional Sustainability Plan is able to provide funding for incentives.
- Require new residential construction to incorporate stormwater management features, where possible, to include permeable surfaces/pavement, green or white roofs, catch basins, and water recycling for irrigation/landscaping, etc. Coordinate with Cleaner Greener Communities Regional Sustainability Plan to provide funding for incentives.

- Consider instituting Village Building Department policies to promote energy-efficient projects by fast-tracking extreme energy efficient projects such as LEED Platinum, Passive House Certified, or Zero-Net Energy, which would adjust and reduce the building permit fees accordingly.
- Encourage multiple dwellings to implement white rooftops that could help reduce the heat bubble microclimates that surrounds the Village simply by reflecting solar radiation directly back into space. Research from Columbia University and NASA suggests that painting rooftops can result in a temperature drop of over 40 degrees Fahrenheit during summer months.
- Encourage backyard composting through the Town of North Hempstead Composting Cooperative, which is educating the community and creating awareness on the importance and the ease of composting. The Town of North Hempstead has purchased the composters and charges a residential household the nominal fee of \$50.00 for the composter (one per home) that requires the fee to take a mandatory composting class at the Clark Botanic Gardens Facility.

## 3.2 Commercial and Industrial Buildings

Reducing energy and operating costs for local businesses helps both the environment and the local economy.

### 3.2.1 Laws, Codes and Regulations in Effect

- Adopted and received a \$2,500 State grant for streamlining the Village's solar permitting procedures to encourage residential and commercial solar PV systems.

### 3.2.2 Potential Future Actions and Initiatives

- Encourage and coordinate with the Town of North Hempstead to establish a revolving fund through which commercial entities could borrow money from the municipality to finance conservation measures. The commercial entities could then repay the Town/sponsoring public agency monthly with financing that is structured so that money saved through energy savings would be greater than the monthly loan repayment, creating a new positive cash flow for the commercial entity.
- Consider participating in the PACE (Property Assessed Clean Energy) loan program if Nassau County becomes a member in the program (Nassau County, as the taxing agent, is the municipality that needs to join the program, though municipalities within the County can take advantage of the program once the County is a member). The Benefit Financing Program offers financing for energy upgrades on real property using PACE financing that is then repaid on a property owner's tax bill.
- Recommend energy-efficient benchmarking (using EPA Portfolio Manager) for commercial buildings.
- Consider instituting Village Building Department policies to promote energy-efficient projects by fast-tracking extreme energy efficient projects such as LEED Platinum, Passive House Certified, or Zero-Net Energy, which would adjust and reduce the building permit fees accordingly.
- Consider adopting streamlined EVSE permitting process which is eligible for a \$2,500 grant for an applicant representing a population of up to 30,000 residents by NYSERDA. NYSERDA is offering these incentives to encourage creation of EV-ready towns and cities in New York State.

Encourage EV charging stations in the Village's two hotels and any future hotel or transient residential facility. Hilton Hotels recently announced a major electric vehicle (EV) charging program, which will be available at 50 U.S. hotels in 2015 to rapidly expand to 100 U.S. hotels by the end of 2016. The program will cover all types of electric vehicles, including Tesla vehicles.

### **3.3 Community-Wide Policies and Initiatives to Promote Renewable Energy**

With direct control over local zoning and land use, the Village of Great Neck Plaza can establish codes, policies, and guidelines to encourage the installation and use of renewable sources of energy.

#### **3.3.1 Laws, Codes and Regulations in Effect**

- With the help of LIPA and the Nassau County Planning Commission, the Long Island Uniform Solar Permitting Initiative (LIUSPI) was adopted in 2012 by many Long Island municipalities. The new permitting process reduced paperwork and other requirements that in the past had added time and expense. At the same time, the new requirements provided better information for municipalities and first responders. In particular, the new procedure: required a minimal fee for solar panel permit applications; created a new targeted 'fast track' permit application that allows professional certification of plans while not requiring a property survey; required municipal permit determinations in 14 days; created a central registry of solar installation; and required warning labels on the utility meter and AC disconnect switch. In 2013, NYSERDA and Governor Cuomo used the LIUSPI effort as a basis for a standardized solar permitting program throughout NYS. The Village of Great Neck Plaza has adopted the LIUSPI.

#### **3.3.2 Potential Future Actions and Initiatives**

- Review solar permitting codes.
- Facilitate discussion of solar PV installations for multi-family property owners.
- Develop a goal and implementation steps to purchase 25 percent of the energy we use from renewable sources.
- Require published newsletters and other publications to be printed on paper that is a minimum of 30 percent post-consumer waste (PCW), with a goal towards moving to 100 PCW.
- Developing more web-only publications to save paper and to print them only on request (make them still available in print).
- Scanning through our new copier more and more documents for easier filing and retrieval to reduce our paper files, storage facilities and energy expended to maintain and keep these records.

### **3.4 Transportation**

The Village of Great Neck Plaza is seeking to enhance local and regional connections by increasing the level of bicycling, pedestrian activity, and transit ridership in a community geared more to these

transportation modes than a typical suburban area. According to the US Census<sup>2</sup>, among workers age 16 and older, Village of Great Neck Plaza residents are more than five times as likely to use public transit to commute to work (27.5% vs. 5.0%), nearly three times as likely to walk (8.1% vs. 2.8%), and less likely to ride a bicycle (0% vs. 0.5%) as the national average.

### 3.4.1 Laws, Codes and Regulations in Effect

- The Village Board adopted a Complete Streets Policy on February 1, 2012.

### 3.4.2 Recognition for Programs and Policies

- The Village was awarded an AAA Gold Award in Community Traffic Safety in 2002.
- The Village was awarded an AAA Silver Award in Community Traffic Safety in 2000, 2001, 2003, and 2004.
- The Village was awarded an AAA Bronze Award in Community Traffic Safety in 2005.
- The Village was awarded an AAA Three-Year Achievement in Pedestrian Safety in 2003.
- The Village was awarded an AAA Four-Year Achievement in Pedestrian Safety in 2004.

### 3.4.3 Current Programs and Policies

- The Village is currently designing vehicular and pedestrian safety improvements for Shoreward Drive and Welwyn Road in the vicinity of the U.S. Main Post Office under a Transportation Enhancement Program (TEP) grant of \$838,000. The grant calls for improving vehicle and pedestrian access to shopping areas, encouraging greater bicycle use for commuting, aiding safer pedestrian crossings, calming traffic congestion and promoting beautification and economic development in this area of the Village.
- The Village has obtained and implemented five significant traffic calming and pedestrian safety improvements, as follows:
  - Barstow Road Roundabout and overhead electronic safety devices
  - Great Neck Road “Road Diet” (i.e. lane reduction)
  - Bond Street pedestrian bulb-outs to reduce pedestrian crossing distance
  - Barstow Road/North Station Plaza and Linden Place traffic calming features
  - Middle Neck Road Pedestrian and Bicyclist Transportation Enhancement Program (TEP)
- The Village completed the Middle Neck Road Pedestrian and Bicyclist Transportation Enhancement Program (TEP) grant of \$625,000 for traffic calming, parking, sidewalk, and ingress/egress improvements at the Great Neck train station, which included organizing and expanding bicycle racks in a covered facility to encourage additional bicycling as a commuting mode to the station.
- The Village is a participating member of the Nassau County Traffic Safety Board.
- The Village is currently working on an AARP Livable Communities Action Plan.

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<sup>2</sup> US Census: 2012 American Community Survey 5-Year Estimates

- The Village’s Resident Parking and Pedestrian Safety Committee works on initiatives and measures to recommend to the Board of Trustees and Mayor regarding traffic, parking, and pedestrian safety concerns.

#### **3.4.4 Programs and Policies under Consideration for Potential Future Action**

- Identify roads suitable for bicycle lanes, sharrows (shared lane bicycle markings), and adding bicycle paths and lanes.
- Encourage bicycling by establishing a Bike Day with bike shops presenting in Firefighter’s Park on Grace Avenue.
- Encourage a Walking Day and Walking Passport as an initiative for “Passport to Health.” It could involve Plaza residents and merchants and would be designed to reduce traffic in the Village and improve the health and fitness of Great Neck Plaza children and adults. As part of the initiative, participants would be given a “passport” that is stamped each time they walk to and from a store. The number of stamps received depends on the distance walked. The Village would produce a map of the local area on which every road was color-coded into zones and children and senior citizens could be dropped off within a specific zone and still earn stamps for their passports. Participants would exchange the earned passport stamps for small prizes or discounts at the participating merchant stores. The Village believes, based on similar initiatives adopted in other cities, that there would be a measurable percent reduction in motor vehicle use, as well as a percentage increase in walking and bicycling rates.
- Promote more walkable activities (perhaps through developing a map with walking routes of various lengths) to encourage healthy activities and reduce dependence on the automobile. By replacing 1.5 miles of driving with walking will reduce the amount of GHG produced by about 75 percent. About 2,000 steps on a pedometer equals one mile.

### **3.5 Educational Initiatives**

The Village undertakes numerous methods to encourage greater public awareness and education regarding its programs and policies, as well as to solicit public input on these programs and policies.

#### **3.5.1 Current Programs and Policies**

- The Village of Great Neck Plaza publishes regular articles in the local weekly newspapers and Village’s newsletters, makes appearances on Public Access Television Corporation (PATV) (serving residents of Long Island’s Great Neck and North Shore villages) to discuss transportation and land use topics, hosts public information workshops at Village Hall, and posts clips on the Village’s website. Social media is utilized as well to communicate and promote greater public awareness on Facebook and Twitter. Board of Trustees agendas and newsletters are posted on line on the Village’s website and maintained there for easy referencing.
- The Village displays public flyers, pamphlets, and other educational materials furnished by government agencies and non-profit organizations regarding solid waste, recycling, energy efficiency, and green living.

- The Mayor coordinates with area public and private schools regarding Village programs and events such as Earth Day, downtown cleanups, and other such programs to educate school-aged children, and takes an active role in outreach to the community.
- Continued participation in the Town of North Hempstead's yearly Green Day forum at the Yes We Can Center in Westbury that includes speakers on various topics such as low-maintenance landscaping, green infrastructure, programs for promoting renewables, EV charging station installations throughout the Town, etc.

### **3.5.2 Potential Future Actions and Initiatives**

- Host and promote the first Renewable Energy Science Fair and seek participation of school-aged children in Great Neck and attract corporate sponsors. Develop categories for judging and make the fair open for public viewing. Contact press for coverage. Possibly include a scholarship incentive or prize to encourage team participation.
- Build greater public awareness of water conservation and utilization and its impact on our aquifers and its impact for future development, through the Village's quarterly printed newsletter and monthly electronic e-newsletter.
- Promote additional residential recycling and home composting.

## **3.6 Land Management**

Land management within the Village is of primary importance since land resources are vital to support continuing human activities in a sustainable way. Then, other functions of the land need to be kept in balance, as well. Land is highly sought for various human activities. Land resources management has many components, including land use planning and regulatory policies, such as zoning and property maintenance codes, etc. that form the basis of sustainable land use practices to properly manage all the land's attributes and components.

### **3.6.1 Laws, Codes and Regulations in Effect**

- Mixed use zoning is in place in the B Business District under the Transit-Oriented Development (TOD) zoning adopted by the Village Board in 2011 and amended in 2012 pursuant to §225-63 (16) of the Village Code.

### **3.6.2 Programs and Policies under Consideration for Potential Future Action**

- The Village looks to continue its efforts to implement Smart Growth, and initiate projects to encourage walkability, such as our many implemented traffic calming measures, pedestrian refuges and bulb-outs, bicycle lanes and sharrows, etc. by encouraging mixed-use development and shared parking arrangements, which utilize land more efficiently, reduce sprawl, encourage residential life in the downtown—all options that are helping to ensure the Village remains a quality community, and the economic vitality of the downtown.
- Suggested actions to consider include the following:
  - Consider creative parking solutions to maximize the parking resources and enliven the downtown.

- Encourage additional mixed-use development.
- Attract green business and providers of green products, such as companies that offer solar, wind or geothermal products or services.
- Consider a “Green Business Incubator,” perhaps located within the Village’s LaunchPad Great Neck at 3 Grace Avenue, to help establish new green companies and to assist existing companies to go green by adding new green products and services.

## 4 CLIMATE CHANGE, PLANNING AND ADAPTATION

### 4.1 Climate Change in New York

The following summary of climate change effects is taken from the *Climate Smart Resiliency Planning Evaluation Tool for New York State Communities*, developed by the New York State Climate Smart Communities program.

#### 4.1.1 Observed Effects of Climate Change

NYSERDA released a report in 2011 that evaluated scientific work to date and discussed the projected effects of climate change in New York over the next 100 years. The report, *ClimAID: the Integrated Assessment for Effective Climate Change Adaptation Strategies in New York State* was the work of more than 50 scientists. The report examines the effect of climate change on a number of sectors in seven geographic areas of NYS. Those sectors include water resources, coastal zone, ecosystems, agriculture, energy, transportation, telecommunications, and public health. *ClimAID* noted the following critically important observations:

- *Annual average temperatures have risen about 2.4 °F since 1970, with winter warming exceeding 4.4 °F. [2014: “5 °F since 1900”,]*
- *Sea level along New York’s coastline has risen about a foot since 1900.*
- *Intense precipitation and heavy downpours have increased in recent decades.*

#### 4.1.2 Projected Climate Changes

The *ClimAID* report made the following predictions for the next 100 years in New York State:

- *Annual average temperatures in New York State will rise by 4 to 9 °F by about 2080. [2014: “5.3 to 10.1 °F by the 2080’s.”]*
- *Average precipitation will increase 5 to 15 percent by about 2080, with most of the increase in winter. [2014: “4 to 15 percent by the 2080’s, with most of the increase in winter.”]*
- *Intense downpours will become more frequent.*
- *Short-term droughts will become more frequent.*
- *The number and duration of extreme heat events will increase.*
- *Along the seacoast and tidal portion of the Hudson River (to the Federal Dam at Troy), sea level could rise more than 4 feet by 2090. [2014: “6 feet by 2100.”]*

#### 4.1.3 Projected Effects of Climate Change

The report utilized the predicted climate changes to describe the potential effects on NYS’ natural resources, built environment, and public health. The following potential effects of climate change from the *ClimAID* report will affect the residents of the Village of Great Neck Plaza:

- *Infrastructure (energy, transportation, telecommunications)*
  - *Disruption of water, transportation, communication, and energy systems due to extreme weather.*

- *More frequent and more intense rainstorms increase localized flash floods.*
- *Power outages affect apartment dwellers and vulnerable populations in particular.*
- **Public health**
  - *Expansion of vector-borne diseases.*
  - *Heat waves leading to increased illness and deaths from heat stress.*
  - *Increased levels of air pollution, causing asthma and other respiratory illness.*

#### 4.1.4 Hazard Mitigation Grant Program

The Hazard Mitigation Grant Program (HMGP) provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.<sup>3</sup>

As disasters occur, the Federal Emergency Management Agency (FEMA) also makes an additional percentage of the total damage amounts incurred available to local governments having an approved Hazard Mitigation Plan for implementing rebuilding projects.

The Nassau County Office of Emergency Management is finalizing the 2014 Nassau County Hazard Mitigation Plan Update as required by FEMA in collaboration with the stakeholder community. The County is incorporating data updates from all participants to be included in the Nassau County Hazard Mitigation Plan Update. The County indicated that its priority and mandate is to ensure that the Plan Update includes all municipalities that are willing to participate. They emphasize that the consequence of non-participation is the potential loss of federal funding for future hazard mitigation projects.

#### 4.1.5 New York Rising Community Reconstruction Program

Through the New York Rising Community Reconstruction Program (NYRCR), New York State is assisting communities to rebuild better and safer through community-driven plans that consider current damage, future threats to community assets, and the community's economic future. In keeping with the National Disaster Recovery Framework, NYRCR Plans consider the needs, risks, and opportunities related to assets in the following recovery support functions: Community Planning and Capacity Building, Economic Development, Health and Social Services, Housing, Infrastructure, and Natural and Cultural Resources. To better align the Village's climate strategies with future funding opportunities, the Village of Great Neck Plaza CAP addresses adaptation and mitigation within a similar structure and framework, although it was not specifically part of the NY Rising process.<sup>4</sup> The final plans for the NYRCR communities are available on the Office of Storm Recovery's website: <http://stormrecovery.ny.gov>. Implementation of those plans will begin in the later part of 2014.

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<sup>3</sup> <http://www.fema.gov/hazard-mitigation-grant-program>

<sup>4</sup> <http://stormrecovery.ny.gov/community-reconstruction-program>

## 4.2 Community Self-Assessment and Planning

Performing a risk and vulnerability assessment is a critical first step in developing comprehensive adaptation and mitigation strategies for addressing climate change impacts. In general, a comprehensive assessment for non-coastal municipalities would likely focus more on the effects of high summer temperatures, severe rain and wind storms, and the associated power outages. Power outages can be dangerous to certain vulnerable populations as they result in indoor temperature extremes, and non-functioning elevators and medical equipment.

Assets are places or things where economic, environmental, and social functions of the Village take place, or are the critical infrastructure required to support those functions. The *Climate Smart Resiliency Planning Evaluation Tool for New York State Communities* recommends a number of measures to increase the resiliency of New York State communities. Most measures begin with an identification of vulnerable assets and populations. A vulnerability assessment is then performed of Village-owned or controlled sites and facilities, infrastructure, contaminated sites, utilities, transportation systems, building stock (commercial and residential), emergency facilities, parks/recreation/public access areas, vulnerable populations (should be updated on a regular schedule and/or as new data becomes available). Finally, an implementation plan is developed and responsibilities assigned for specific actions to individuals or organizations, and timelines are established for each action.

## 4.3 Adaptation Strategies

The terms ‘resilience’ and ‘adaptation’ are related but often used interchangeably. A recent article defines ‘resilience’ this way: *Community resilience is the capability to anticipate risk, limit impact, and bounce back rapidly through survival, adaptability, evolution, and growth in the face of turbulent change*<sup>5</sup>. Adaptation is the set of strategies that communities use to become more resilient. Adaptation strategies to increase the resilience of housing, infrastructure, natural and cultural resources, and health and social service facilities typically fall into three categories -- protection, accommodation, and retreat.

**Protection** strategies include natural (green or soft) solutions and constructed (gray or hard) solutions. Generally, natural protection strategies, including maintenance of local and regional ecosystems, habitat restoration, coastal buffers, wetland mitigation, urban reforestation, and expanded green infrastructure, are preferred to ‘hard’ structures. These ‘green’ solutions offer ecological benefits in addition to their value for adaptation. Certain community assets are location-dependent and therefore ‘hard’ protection systems may be the only feasible option.

**Accommodation** strategies do not prevent flooding or inundation, but allow structures to survive (*i.e.*, it makes them more resilient). Examples include elevation of structures and stormwater system improvements.

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<sup>5</sup> *Definitions of Community Resilience: An Analysis*, 2013. Community & Regionals Resilience Institute. 14pp.

**Retreat** strategies do not prevent flooding or inundation but offer options for the loss of use or property value. Examples include buyouts, acquisitions, transfer of development rights, purchase of development rights, rolling easements, and conservation easements.

Still other strategies involve new programs, policies, plans, actions, and data collection. These adaptation strategies are categorized in the NYRCR program as Community Planning and Capacity Building.

Following are the strategies included in Suffolk County's Hazard Mitigation Plan as well as other strategies under consideration. All of these strategies are arranged into the Recovery Support Function categories of the NYRCR program as follows:

#### **4.3.1 Community Planning and Capacity Building**

- Integrate climate change planning into other plans and documents. To be effective, local comprehensive plans, hazard mitigation plans, emergency management plans, and post-disaster recovery plans should all address the potential impacts of climate change.
- Insure availability of power for Village Hall during outages.

#### **4.3.2 Health and Social Services**

- Partnerships with local hotels and other "safe" structures, or storm-proofing of Village facilities to increase shelter space.
- Partnerships with local non-profits and/or elderly care specialists to assist individuals during emergencies.
- In preparing for a storm or emergency event, restrict access to highly vulnerable and/or dangerous areas to decrease evacuation times and reduce unnecessary risks.

#### **4.3.3 Housing**

- Improve communications and emergency preparedness plans with local fire departments and first responders, including establishing fire safety monitors in multiple-family apartment buildings and a network of social workers to assist senior citizens in relocating to family member's homes or shelters and other non-storm areas in the event of a major storm.

#### **4.3.4 Infrastructure**

- The Village has participated in the Nassau County Hazard Mitigation Plan and developed and prioritized programs to increase storm resiliency and reduce the impact of storms on the Village's infrastructure. The Village will continue to review these projects and implement identified projects, as hazard mitigation implementation funds may be available to move forward.
- Continue to reduce reliance on the municipal stormwater system through the planting of low maintenance drought-resistant vegetation, reduction of impervious surfaces, and implementation of green infrastructure techniques when rehabilitating public facilities.

#### 4.3.5 Natural and Cultural Resources

- In 2014, under a NYS Department of Environmental Conservation Grant, the Village completed a Tree Management and Implementation Plan which surveyed over 700 Village street trees and developed an action plan for their future maintenance and the planting of new trees in our urban forest. The Village will continue to maintain a healthy tree stock and allow for implementing recommendations of the Tree Management and Implementation Plan, including achieving greater tree species diversity, reducing vulnerability of trees during storms, and continuing our policy of a proactive tree pruning program with our consulting arborist.

# Appendix A

## Appendix A: Climate Smart Communities Certification Matrix

## **Appendix B**

### **Appendix B: Village of Great Neck Plaza Case Studies**