



## 9.39 Village of Quogue

This section presents the jurisdictional annex for the Village of Quogue.

### 9.39.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan’s primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Name: William Nowak, Building Inspector Address: PO Box 926 Quogue, New York 11959 Phone Number: 631-653-4498 x 12 Fax Number: 631-653-4776 Email address: <a href="mailto:wnowak@villageofquogueny.gov">wnowak@villageofquogueny.gov</a>	Name: Chris Osborne, Code Enforcement Address: PO Box 926 Quogue, New York 11959 Phone Number: 631-653-4498 x 17 Fax Number: 631-653-4776 Email address: <a href="mailto:cosborne@villageofquogueny.gov">cosborne@villageofquogueny.gov</a>

### 9.39.2 Municipal Profile

This section provides a summary of the community.

#### Population

According to the U.S. Census, the 2010 population for the Village of Quogue was 967. The estimated summer population is approximately 5,000.

#### Location

South shore of Long Island, approximately 90 miles from New York City. Boundary on the south is the Atlantic Ocean. There is a barrier island connected to the mainland by a bridge. Waters include Quantuck and Shinnecock Bays, various creeks and the Quogue canal.

#### Brief History

Settled in 1659, became incorporated as an independent Village within the Town of Southampton in 1928.

#### Governing Body Format

An elected mayor and four elected trustees comprise the Board of Trustees, which is the governing body of the Village.

#### Growth/Development Trends

The Village of Quogue did not note any major residential or commercial development, or major infrastructure development planned for the next 5 years in the municipality.



### 9.39.3 Natural Hazard Event History Specific to the Municipality

Suffolk County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. The table below presents a summary of natural events that have occurred to indicate the range and impact of natural hazard events in the community. Information regarding specific damages is included if available based on reference material or local sources. For details of events prior to 2008, refer to Volume I, Section 5.0 of this plan.

**Table 9.39-1. Hazard Event History**

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
October 27- November 8, 2012	Hurricane Sandy	DR-4085	Yes – IA and PA	Hurricane Sandy caused widespread debris, beach erosion, damage to beachfront houses, and localized flooding. High winds and rain conditions required emergency protective measures, including the evacuation of Dune Road, by fire and police personnel. There was extensive vegetative debris removal by the Village. Power was out for an extended period in many parts of the Village. Flooding of residences also required numerous inspections by Village personnel. The response to the event cost the Village over \$140,000.
August 26 – September 5, 2011	Hurricane Irene	EM 3328 DR 4020	Yes – IA and PA	This hurricane created hazardous conditions of high wind and flooding requiring emergency protective measures, including evacuation of Dune Road. There was extensive vegetative debris removal by the Village. Power was out for an extended period in many parts of the Village. The Village also sustained damage including a washout at Old Point Road, a light pole at Post Fields, and generator failure at the fire house. The response and recovery of the event cost the Village over \$150,000.
March 13-31, 2010	Severe Storms and Flooding	DR 1899	Yes - PA	Flooding across the area created a need for emergency protective measures by police and fire personnel. Minor flood damage was sustained at Village Hall and Police Station such as drywall, paint, floor covering, and electrical equipment.
November 12-14, 2009	Severe Storms and Flooding associated with Tropical Depression Ida and Nor'Easter	DR 1869	Yes - PA	The combination of storms damaged the engineered dune system, fencing, decks and parking lot at the Village Beach facility, costing the Village over \$450,000 to repair and install Geo-Cube protective measures.
April 14-18, 2007	April Nor'easter	DR 1692	Yes - PA	This Nor'easter caused coastal erosion, damaged the beach access stairs, and created a need to cleanup vegetative debris. The cost to the village was over \$100,000.



### 9.39.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Village of Quogue. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

#### Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Village of Quogue.

**Table 9.39-2. Hazard Risk/Vulnerability Risk Ranking**

Hazard Ranking	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c, e</sup>	Probability of Occurrence <sup>b</sup>	Risk Ranking Score (Probability x Impact)
6	Coastal Erosion	RCV in CEHA: \$180,736,488	Occasional	12
4	Drought	Damage estimate not available	Occasional	24
4	Earthquake	500-Year MRP: \$23,645,311 2,500-Year MRP: \$312,044,365	Rare	24
7	Expansive Soils	Damage estimate not available	Rare	6
4	Flood	1% Annual Chance: \$62,930,814 0.2% Annual Chance: \$124,693,602	Frequent	24
5	Groundwater Contamination (natural)	Damage estimate not available	Frequent	18
2	Hurricane	Category 1 SLOSH: \$233,173,892 Category 2 SLOSH: \$787,110,631 Category 3 SLOSH: \$1,179,513,907 Category 4 SLOSH: \$1,496,412,728	Occasional	36
7	Infestation	No measurable impact to property	Rare	6
1	Nor'Easter	100-Year RCV: \$1,716,566,622 500-Year RCV: \$62,864,372	Frequent	48
3	Severe Storm	100-Year RCV: \$1,716,566,622 500-Year RCV: \$62,864,372	Occasional	32
1	Severe Winter Storm	1% of GBS: \$16,486,544 5% of GBS: \$82,432,719	Frequent	48
7	Shallow Groundwater Flooding	Damage estimate not available	Rare	6
2	Wildfire	Estimated RCV in Interface/Intermix: \$1,255,201,708	Occasional	36

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. The valuation of general building stock and loss estimates was based on the custom inventory developed for Suffolk County and probabilistic modeling results and exposure analysis as discussed in Section 5.
- c. The earthquake and hurricane wind hazards were evaluated by Census tract. The Census tracts do not exactly align with municipal boundaries; therefore, a total is reported for each Town inclusive of the Villages and the Tribes within the Town boundary.





- d. Frequent = Hazard event that occurs more frequently than once in 10 years; Occasional = Hazard event that occurs from once in 10 years to once in 100 years, Rare = Hazard event that occurs from once in 100 years to once in 1,000 years; None = Hazard event that occurs less frequently than once in 1,000 years
- e. The estimated potential losses for Nor'Easter and Severe Storm are from the HAZUS-MH probabilistic hurricane wind model results. See footnote c.

### National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Village of Quogue.

**Table 9.39-3. NFIP Summary**

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)	# Policies in 500-year Boundary (3)	# Policies Outside the 500-year Flood Hazard (3)
Village of Quogue	556	354	\$8,212,037	32	3	65	10	481

Source: FEMA Region 2, 2014

Note (1): Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of January 31, 2014. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents the number of claims closed by January 31, 2014.

Note (2): Information regarding total building and content losses was gathered from the claims file provided by FEMA Region 2.

Note (3): The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file. FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

### Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.

**Table 9.39-4. Potential Flood Losses to Critical Facilities**

Name	Type	Exposure		Potential Loss from 1% Flood Event			Potential Loss from 0.2% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent <sup>(2)</sup>	Percent Structure Damage	Percent Content Damage	Days to 100-Percent <sup>(2)</sup>
Quogue (post Lane) Bridge Machine Tower	SC Gov't Facility	A	X				14.0	84.1	
Quogue (post Lane) Bridge Operator	SC Gov't Facility	A	X				7.1	50.4	

Source: HAZUS-MH 2.1

Note: T = Town; V = Village.

x = Facility located within the 0.2-percent annual chance flood boundary.

Please note it is assumed that wells have electrical equipment and openings are three-feet above grade.

(1) HAZUS-MH 2.1 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

(2) In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type.



### **Other Vulnerabilities Identified by the Village**

The Village identifies the following as vulnerable hazard areas:

#### Coastal erosion (ocean)

- Village's public beach facility
- Two private beach clubs
- Multiple single family residences
- The eastern end of the Village experiences a greater level of erosion, believed to be associated with the Shinnecock Inlet.

#### Rising bay water levels damage

- Single family homes
- Docks
- Closure of Dune Road and damage to the road bed

#### High water table

- Basement flooding

#### Tree trimming

- Many trees within the area have limbs above the power lines and need trimming



### 9.39.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

#### Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Quogue.

**Table 9.39-5. Planning and Regulatory Tools**

Regulatory Tools (Codes, Ordinances., Plans)	Do you have this? (Y or N)	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation (Section, Paragraph, Page Number, Date of adoption)
Building Code	Y		Building Dep't.	Village Code Ch. 73, 2011
Zoning Ordinance	Y		Building Dep't.; Zoning Board	Village Code Ch. 196, 2012
Subdivision Ordinance	Y		Planning Board	Village Code Ch. 162, 2003
NFIP Flood Damage Prevention Ordinance	Y		Building Department	Village Code Ch. 95, 2009
NFIP - Cumulative Substantial Damages	N			
NFIP - Freeboard	Y	State Mandated	Building Department	State mandated BFE+@ for single and two-family residential construction, BFE+1 for all other
Growth Management	N			
Floodplain Management / Basin Plan	Y		Building Department; Zoning Board	Village Code Ch. 95, 2009
Stormwater Management Plan/Ordinance	Y		Building Department	Village Code Ch. 155, 2010
Comprehensive Plan / Master Plan/ General Plan	N			
Capital Improvements Plan	N			
Site Plan Review Requirements	Y			Village Code Ch. 162, 196
Open Space Plan	N			
Coastal Erosion Ordinance	Y		Building Department	Village Code Ch. 80 (1988, 2010) – Coastal Erosion Hazard Areas
Wetlands	Y		Ordinance Inspector	Village Code Ch. 184 (1985) – Wetlands Preserve Area
Economic Development Plan	N			
Comprehensive Emergency Management Plan	Y		Village in cooperation with Town and County	
Emergency Response Plan	Y			
Post Disaster Recovery Plan	Y			
Post Disaster Recovery Ordinance	N			
Real Estate Disclosure Requirement	Y	State		State Requirement



### Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Village of Quogue.

**Table 9.39-6. Administrative and Technical Capabilities**

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Village Engineer (Contracted)
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Building Inspector, William Nowak
Staff with training and/or experience in conducting post-disaster damage assessment, including Substantial Damage Estimating	Y	Building Inspector, William Nowak
Planners or engineers with an understanding of natural hazards	Y	Building Inspector, William Nowak
NFIP Floodplain Administrator	N	
Surveyor(s)	N	
Personnel skilled or trained in “GIS” applications	N	
Scientist familiar with natural hazards	Y	Ordinance Inspector, Chris Osborne
Emergency Manager	N	
Grant Writer(s)	N	
Staff with expertise or training in benefit/cost analysis	Y	Village Engineer (Contracted)

### Fiscal Capability

The table below summarizes financial resources available to the Village of Quogue.

**Table 9.39-7. Fiscal Capabilities**

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community development Block Grants (CDBG)	N
Capital Improvements Project Funding	N
Authority to Levy Taxes for specific purposes	Y
User fees for water, sewer, gas or electric service	N
Impact Fees for homebuyers or developers of new development/homes	N
Incur debt through general obligation bonds	Y
Incur debt through special tax bonds	Y
Incur debt through private activity bonds	N
Withhold public expenditures in hazard-prone areas	N
Mitigation grant programs (Federal, State)	N
Other	N



### Community Classifications

The table below summarizes classifications for community program available to the Village of Quogue.

**Table 9.39-8. Classifications**

Program	Classification	Date Classified
Community Rating System (CRS)	NP	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	TBD	TBD
Public Protection	TBD	TBD
Storm Ready	NP	N/A
Firewise	NP	N/A

*N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.*

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO’s Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

### National Flood Insurance Program

**NFIP Floodplain Administrator:** William Nowak, Building Inspector

### Program and Compliance History

The Village of Quogue joined the NFIP on May 16, 1977, and is currently an active member of the NFIP. The current effective Flood Insurance Rate Maps are dated September 25, 2009. The community’s Flood Damage Prevention Ordinance (FDPO), found at Chapter 95 of the local code, was last updated in 2009.

As of January 31, 2014 there are 556 policies in force, insuring \$180,002,900 of property with total annual insurance premiums of \$1,071,255. Since January 31, 2014, 354 claims have been paid totaling \$8,212,037. As of January 31, 2014 there are 32 Repetitive Loss and 3 Severe Repetitive Loss properties in the community.





The community is currently in good standing in the NFIP and has no outstanding compliance issues. Village of Quogue has completed Community Assistance Visits (CAV), with the most recent visit completed in 2013.

### **Loss History and Mitigation**

Since January 31, 2014, 354 claims have been paid totaling \$8,212,037. As of January 31, 2014 there are 32 Repetitive Loss and 3 Severe Repetitive Loss properties in the community.

Following Hurricane Sandy, 350 homes were surveyed for damage based on those homes below the six (6) foot contour from a map of the Village. Ninety-seven (97) of the homes inspected were damaged and one (1) received a Substantial Damage determination. Primary importance in these inspections was life safety issues regarding electrical system inundation. Many homes had minor flooding in crawlspace areas and flooded first floors. First floor flooded was not in excess of one (1) foot above the first floor. Homes have had their electrical meters lifted to or above Base Flood Elevation (BFE). A repetitive loss list was received from FEMA.

Two homes fit the criteria for receiving Substantial Damage determinations. However, only one home was declared Substantially Damaged. This home has been elevated already. The home receiving the Substantial Damage determination had ocean waters enter through the front of the house and leave through the back.

There have been few inquiries regarding home elevation and none on acquisition. Based on this interest, there could be upwards of half a dozen home elevations. Noncompliant homes have been demolished and are being built in compliance with current codes and standards. This was as a result of home sales and new ownership.

Funding for the mitigation projects is unknown. At this time it is assumed property owners are taking care of the funding privately.

### **Planning and Regulatory Capabilities**

The community's Flood Damage Prevention Ordinance (FDPO) was last updated in 2009 and is found at Chapter 95 of the local code.

Floodplain management regulations and ordinances comply with standards set forth by FEMA and New York State. Currently, the floodplain is only zoned for residential development and is almost entirely developed. The Planning and Zoning Board have input on all variances and ensure permits are compliant with current code.

### **Administrative and Technical Capabilities**

The community FDPO identifies the Building Inspector as the local NFIP Floodplain Administrator, currently William Nowak, for which floodplain administration is an auxiliary duty.

In addition to the NFIP FPA, the community has supplementary staff for which NFIP is an auxiliary duty; personnel include the Code Enforcement Official. Additional New York State certified inspectors were brought in following Hurricane Sandy to assist with inspections.



Duties and responsibilities of the Building Inspector/NFIP Administrator are permit review, inspections, damage assessments, and record-keeping. Education is provided on a regular basis upon request.

An inventory of flood-damaged homes was conducted following Hurricane Sandy, but no other list prior to Hurricane Sandy was maintained.

Substantial Damage estimates were completed for two (2) homes. Only one (1) home received a Substantial Damage determination.

William Nowak feels he is adequately supported and trained to fulfill his responsibilities as the municipal floodplain administrator. William Nowak is not certified in floodplain management, however attends regular continuing education programs for code enforcement.

### **Public Education and Outreach**

Education is provided on a regular basis upon request. An outreach program is not necessary in the Village of Quogue.

Duties and responsibilities of the Building Inspector/NFIP Administrator are permit review, inspections, damage assessments, and record-keeping.

### **Actions to Strengthen the Program**

There are currently no barriers to running an effective floodplain management program within the Village of Quogue. Further training and education on floodplain management and Community Rating System (CRS) would be welcomed. The extent of Quogue's interest in joining CRS is small. At this time it is unknown if the benefits of joining CRS are worth the amount of money and effort the Village would put out to join.

### **Integration of Hazard Mitigation into Existing and Future Planning Mechanisms**

It is the intention of this municipality to incorporate mitigation planning as an integral component of daily municipal operations. Below is a list of planning mechanisms that have been/will be incorporated into municipal procedures.

**Job Descriptions:** Mitigation and recovery roles have been defined in Village employee job descriptions.



### 9.39.6 Mitigation Strategy and Prioritization

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#### Completed Mitigation Actions:

The following are mitigation activities and programs, completed or ongoing, in the Village to mitigate natural hazard risk:

- The Village has an ongoing beach maintenance program, including installation and maintenance of sand fencing, planting of dune grasses, and periodic beach scraping under appropriate permits.
- The Village has submitted a beach nourishment permit for the next phase of beach nourishment.
- The Village has installed Geo-Cubes in front of Village beach area and 10-15 residents have done so in front of private beachfront residences.

#### Proposed Hazard Mitigation Initiatives for the Plan Update

The Village of Quogue identified mitigation initiatives they would like to pursue in the future. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as ‘High’, ‘Medium’, or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.39-10 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.39-9. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
VQU-1 (Sandy HMGP LOI #505)	Dune Road Elevation	See Action Worksheet (VQU-1 - LOI 505 – 032714)									
VQU-2	Continue efforts to replenish and maintain dunes with upland or stockpiled sand, snow fencing, grass planting, and beach scraping where conditions permit.	Existing	Hurricanes, Tropical Storms, Nor'Easters, Coastal Flooding	5, 7, 15	Village Engineering and Highway Dept. with private contractors; NYSDEC	High (protect against loss of dunes and damages to structures and infrastructure protected by these dunes)	\$40K annually	Village Funds	Ongoing	High	SIP
VQU-3	Continue efforts to institute a beach nourishment program that will pump about 1MM cubic yards of sand from a borrow area about a mile offshore onto the beach in Quogue. Permitting is currently underway, which has been privately funded.	Existing	Hurricanes, Tropical Storms, Nor'Easters, Coastal Flooding	5, 7, 15	NYSDEC and Village of Quogue; working with ACOE and private contractors	High (protection of structures and infrastructure from coastal storms; protect village lands against breach)	\$12-15MM	Federal and/or State grant funding	Long term	TBD	SIP
VQU-4	Work with the Town of Southampton to locate and maintain a large sand stockpile between the Village of Quogue and Shinnecock Inlet that could be accessed by municipalities and private parties to restore damage dunes at a reasonable cost. The present requirement to purchase upland sand at a cost of about \$25/cu.yd. is prohibitively expensive. Since a stockpile is itself vulnerable in a	Existing	Hurricanes, Tropical Storms, Nor'Easters, Coastal Flooding	5, 7, 15	Village and Town of Southampton roads and public works; working along with ACOE and its contractors	High (cost-effective and timely beach restoration will help mitigation coastal storm damage in the area.)	Low – if incremental to dredging projects	TBD	Short (immediate)	High	SIP





Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
	major storm, it would have to be used judiciously on a regular basis and replenished periodically by dredging.										
VQU-5	Work with vulnerable property owners to mitigate their properties, including elevations and acquisitions as appropriate and feasible. Of particular note are vulnerable properties located on the Quogue Canal or elsewhere in bayfront locations. While newer construction has resulted in structures being elevated to meet prevailing requirements, approximately 40 homes are particularly vulnerable and had electrical meters pulled because of unsafe conditions as a result of Sandy flooding.	Existing	Flood, Coastal Erosion, Hurricane, Nor'Easter, Severe Storm, Wildfire, Winter Storm	2, 7, 13	Village NFIP FPA, working with willing property owners; support by NYSOEM	High (reduced vulnerability to coastal flooding)	High (min. \$30K structure)	FEMA mitigation grant programs, NFIP ICC; property owner for local match, or other state source if available	Long term (dependent on private property volunteer participation and funding availability)	High	SIP, EAP
VQU-6	<p>Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically:</p> <ul style="list-style-type: none"> <li>Mitigation Education for Natural Disasters (natural hazard awareness and personal scale risk reduction/mitigation public education and outreach program)</li> <li>Build Local Floodplain Management and Disaster Recovery Capabilities (enhanced floodplain management, and post-disaster assessment and recovery capabilities)</li> <li>Jurisdictional Knowledge of Mitigation Needs of Property Owners (improved understanding of damages and mitigation interest/activity of private property owners)</li> <li>Create a Multi-Jurisdictional Seismic Safety Committee in Suffolk County (build regional, county and local capabilities to manage seismic risk, both pre- and post-disaster)</li> <li>Alignment of Mitigation Initiatives through all levels of Government (effort to build State and Federal level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).</li> </ul>										
	See above.	Both	All Hazards	All Objectives	Suffolk County, as supported by	High (comprehensive improvements)	Low-Medium (locally)	Local (staff resources)	Short	High	All types





Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
					relevant local department leads	mitigation and risk-reduction capabilities)					
VQU-7	Work with County and PSEG (formerly LIPA) to identify roads within the municipality that are considered “critical”, and to be the first priority for clearing after an event involving downed power lines.	Existing	Severe Storm; Severe Winter Storm; Hurricane; Nor’Easter	3, 7, 13, 14, 15, 16	PSEG, County	High	Low-Medium	Local	Short	High	LRP
VQU-8	Obtain a high axle, military-type vehicle suitable for transporting people in order to insert emergency personnel and transport civilians in the event of an evacuation. Since this vehicle would not be expected to get heavy use, a used truck in good condition should be adequate.	N/A	Coastal Flooding	12, 13	Village	High (life safety; also lessens damage to other Village vehicles)	\$50K	Village funds	Short	Medium	N/A

Notes:

\*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:

- DPW Department of Public Works
- FEMA Federal Emergency Management Agency
- FMA Flood Mitigation Assistance grant program
- HMA Hazard Mitigation Assistance grant program (including FMA, HMGP, PDM)
- HMGP Hazard Mitigation Grant Program
- N/A Not applicable
- NFIP National Flood Insurance Program
- NYSOEM New York State Office of Emergency Management
- PDM Pre-Disaster Mitigation grant program
- PSEG Public Service Electric and Gas (formerly LIPA)

Costs:

Where actual project costs have been reasonably estimated:

Low = < \$10,000





Medium = \$10,000 to \$100,000  
High = > \$100,000

Where actual project costs cannot reasonably be established at this time:

Low = Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.

Medium = Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.

High = Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low = < \$10,000

Medium = \$10,000 to \$100,000

High = > \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low = Long-term benefits of the project are difficult to quantify in the short term.

Medium = Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.

High = Project will have an immediate impact on the reduction of risk exposure to life and property.

Timeline:

Short = 1 to 5 years

Long Term = 5 years or greater

OG = On-going program

DOF = Depending on funding

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NRP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.



Table 9.39-10. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
VQU-1 (Sandy HMGP LOI #505)	Dune Road Elevation	1	0	1	1	1	1	1	1	0	0	0	1	0	1	9	High
VQU-2	Continue efforts to replenish and maintain dunes	1	1	1	1	1	0	0	0	1	1	1	0	1	1	10	High
VQU-3	Continue efforts to institute a beach nourishment program	0	1	1	1	1	0	0	0	1	1	1	0	1	1	9	Medium
VQU-4	Work with the Town of Southampton to locate and maintain a large sand stockpile	0	1	1	1	1	0	0	-1	1	1	1	0	1	1	8	Medium
VQU-5	Support the mitigation of vulnerable structures	0	1	1	1	1	1	0	1	1	0	1	0	1	0	9	Medium
VQU-6	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
VQU-7	Work with County and PSEG (formerly LIPA) to identify roads within the	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High



	municipality that are considered “critical”, and to be the first priority for clearing after an event involving downed power lines.																
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Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.



### **9.39.7 Future Needs To Better Understand Risk/Vulnerability**

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None at this time.

### **9.39.8 Hazard Area Extent and Location**

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Hazard area extent and location maps have been generated for the Village of Quogue that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Village of Quogue has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

### **9.39.9 Additional Comments**

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None at this time.



Figure 9.39-1. Village of Quogue Hazard Area Extent and Location Map 1

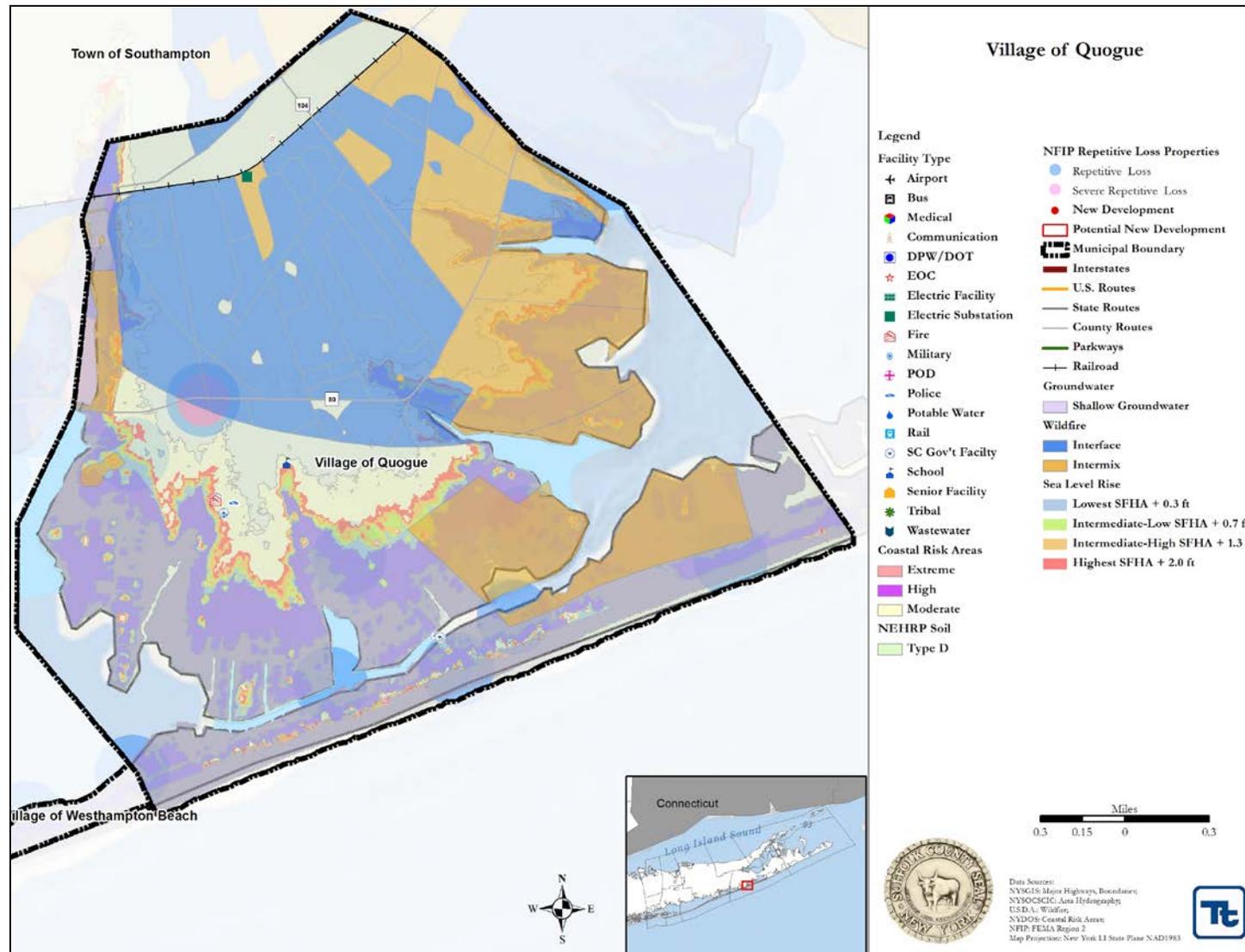
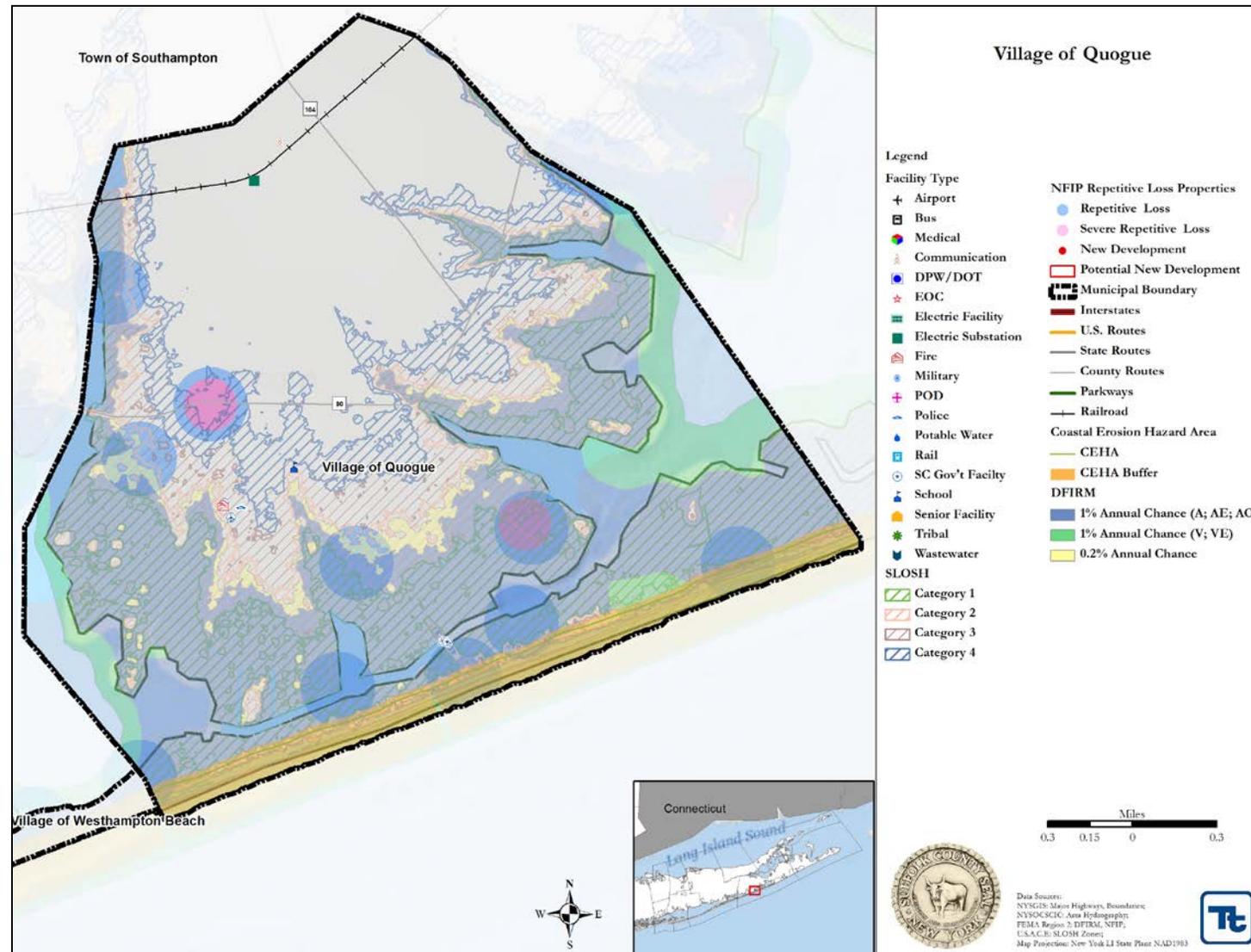




Figure 9.39-2. Village of Quogue Hazard Area Extent and Location Map 2





# Mitigation Action Worksheet

Please complete one sheet per action/project with as much detail as possible, using the guidance beginning on page 3 and examples provided by FEMA.

**Name of Jurisdiction:** Village of Quogue

**Number:** Sandy HMGP LOI #: 505

**Mitigation Action/Initiative:** Quogue Dune Road Emergency Evacuation Route

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Hurricanes, Tropical Storms, Nor'Easters, Coastal Flooding
<b>Specific problem being mitigated:</b>	<p>The Problem: The portion of Dune Road that is between the Quogue Bridge (Post Lane) and the boundary with the Town of Southampton (Hamlet of East Quogue) to the east (approximately 1.7 miles) floods regularly and during storms becomes impassable. The problem is caused by insufficient ground elevation and poor drainage. Most recently during and after Sandy this section of Dune Road was impassable for days. This condition restricts emergency access to more than a hundred homes in the Village of Quogue and the Town of Southampton and prevents homeowners and contractors from undertaking emergency repairs to homes, buildings and infrastructure. Access to facilities at the Quogue Village Beach and ability of the Village to respond to emergencies and provide mutual aid to neighboring communities is also restricted. Dune Road, which is also the sole Emergency Evacuation Route from Dune Road and located within the 100 year flood plain and the Category 1 Hurricane Evacuation zone, cannot function because the chronic flooding impedes access.</p> <p>Duration of Condition: In recent years, the frequency, duration and intensity of flooding on Dune Road have increased. Of the reported incidents of severe flooding in the years 2000-2013,, nearly 70% have occurred within the last five years. Repairs are not sufficient to maintain road integrity and emergency access.</p> <p>Studies Completed: The Village has undertaken a complete analysis of the road with an outside engineer. A design for the road elevation was prepared and submitted to the NYS DEC. Following comments and meetings, modifications were made and a final submission will be made shortly. An estimate by the engineer is that the project will cost approximately \$2,172,000 The actual cost will be determined by public bidding.</p>
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<p>1. Take no action. Road will continue to flood frequently with resulting continued loss of a means of ingress and egress to and from the residences on Dune Road in the Village of Quogue and to residences, businesses and docks further east in the Town of Southampton on Dune Road.</p> <p>2. Acquisition of the 67 residential properties in the project area--retreat from the beach in effect. Doing so would obviate the necessity of providing access to and a means of egress from these properties. While technically feasible, the cost of acquisition would be very substantial. Estimating a cost of \$2,500,000</p>





	<p>per residence for the 67 residences in Quogue, which is conservative, results in a total cost of over \$160 million. Acquisition of residences and businesses to the east on Dune Road in the Town of Southampton that depend on Dune Road in Quogue for access would add significantly to the cost.</p>
	<p>3. Establishment of a public transportation system using high axle vehicles that could be utilized in time of floods to transport residents and, if necessary, emergency personnel to and from their homes. This alternative would require capital investment in the vehicles, incur ongoing operating and maintenance costs and entail establishment of parking facilities on the mainland for residents to keep vehicles to be used for transportation to their destinations.</p>
<b>Action/Project Intended for Implementation</b>	
<p><b>Description of Selected Action/Project</b></p>	<p>The solution proposed is to elevate the height of the road by approximately 1-1/2 to 2 feet. Existing road elevations in the project area range from slightly below elevation 2.00 to approximately elevation 3.50, with most areas in the range of elevation 2.50 to elevation 3.00. The design of the new road will have it pitched longitudinally in sections of 200 feet each from elevation 4.10 to elevation 4.70. Sluices at the low points will direct the water into newly designed adjacent swales. This new elevation is not to the 100 year flood elevation. (The FEMA flood zones in the vicinity are both AE (elevations 8 to 13) and VE (elevations 13 to 16).) However, it will substantially relieve the flooding conditions on the roadway in all but the most severe storms. Achieving a greater elevation is not feasible because of the existing conditions and the need to tie to adjacent properties. Additionally, greater height would accelerate storm runoff and could adversely affect immediately adjacent wetlands. This action will directly address the chronic flooding. Remedying this condition will provide critical emergency access to over a hundred homes and allow homeowners and contractors to undertake emergency repairs to homes, buildings and infrastructure. This remedy will also allow Dune Road to function as the sole Emergency Evacuation Route from Dune Road, which is located within the 100 year flood plain and the Category 1 Hurricane Evacuation zone. Dune Road is also an access means to points east, including the Shinnecock Inlet. Elevation of the adjoining stretch of Dune Road in the Town of Southampton, which is also intended, will be of limited effectiveness unless the road in Quogue is also elevated.</p>
<p><b>Mitigation Action/Project Type</b></p>	<p>Structure and Infrastructure Project</p>
<p><b>Objectives Met</b></p>	<p>2</p>
<p><b>Applies to existing structures/infrastructure, future, or not applicable</b></p>	<p>Existing</p>
<p><b>Benefits (losses avoided)</b></p>	<p>Type of Damage: The consequence of the recent chronic flooding include 1) inaccessibility of homes and businesses, inability to exit and restricted emergency access to more than a hundred homes during coastal storm events, 2) accelerated deterioration of the road surface, sub surface and drainage structures, and 3) the accelerated damage of police and emergency vehicles.</p>





	<p>The Village of Quogue does not maintain separate maintenance records for Dune Road. There is unquestionably incremental damage to the road that occurs as a result of flooding. Photographs accompanying the application illustrate the damage. The Village also does do relatively minor drainage projects on Dune Road as needed to help counteract the constant flooding. In 2012, for example, using its own work force, the Village accomplished three drainage enhancement projects on this portion of Dune Road. The cost of this work was approximately \$30,000. Asphalt patching costs are estimated at an additional \$2,500 per year.</p> <p>The principal purpose of the project is to get the water off the road to assure that it is passable by automotive traffic. Additional benefits are that it will be a better road less susceptible to damage from water which sits on the road and can break down the asphalt, particularly when it freezes. The road will of course have to be plowed, salted and sanded, as it is now, but the necessary drainage projects and patching projects that we have undertaken in the recent past should be eliminated. Thus, the maintenance costs should be eliminated or negligible. The elevated road will mitigate flooding on the road, and swales alongside the road will be constructed to handle road runoff and make drainage projects of the type previously undertaken unnecessary. Coupled with lessened pavement damage, the annual maintenance savings should be at least \$20,000 per year.</p>
<b>Estimated Cost</b>	\$2,172,000
<b>Priority*</b>	High
<b>Plan for Implementation</b>	
<b>Responsible Organization</b>	Village of Quogue: Peter Sartorius, Mayor
<b>Local Planning Mechanism</b>	Capital Improvement Budgets
<b>Potential Funding Sources</b>	HMGP; bond issue for Local Match
<b>Timeline for Completion</b>	<p>Because of weather conditions and seasonal usage and traffic concerns, the Village believes that the only time to accomplish this project will be commencing construction work right after Labor Day. Doing so will enable the base course of asphalt to be laid before asphalt plants close for the winter. Because planting cannot occur in late November, the necessary planting work and installation of the wearing asphalt course would occur in the following spring. A timeline is as follows:</p> <ol style="list-style-type: none"> <li>1. Engineering plans—6 weeks</li> <li>2. Survey for construction 2 weeks</li> <li>3. Public bidding process—6 weeks</li> <li>4. Contractor mobilization—1 week</li> <li>5. Demo &amp; site clearance—1 week</li> <li>6. Excavation and grading—2 weeks</li> <li>7. Soil sub-base—2 weeks</li> <li>8. Stone blend course—2 weeks</li> <li>9. Wearing course—1 week</li> <li>10. Topsoil and plant—1 week</li> <li>11. Demobilization—1 week</li> </ol>





### Reporting on Progress

**Date of Status Report/  
Report of Progress**

Date:  
Progress on Action/Project:

**\* Refer to results of Prioritization (page 2)**





## Prioritization

**Number:** Sandy HMGP LOI #: 505

**Mitigation Action/Initiative:** Quogue Dune Road Emergency Evacuation Route

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Allow evacuation of Dune Road and access to it for first responders
Property Protection	0	
Cost-Effectiveness	1	Only feasible alternative
Technical	1	
Political	1	Public and government recognize the need
Legal	1	
Fiscal	1	Grant and bond issue necessary to fund
Environmental	1	NY DEC approval required and expected
Social	0	
Administrative	0	
Multi-Hazard	0	Different perils but all are flooding-related
Timeline	1	
Agency Champion	0	
Other Community Objectives	1	Enhances community development in Village and the Town of Southampton
<b>Total</b>	9	
<b>Priority (High/Med/Low)</b>	High	

