Glastonbury

The Town of Glastonbury encompasses 51.37 square miles with an estimated population of over 34,000 people. The elevation ranges from about 80 to 800 feet. The Town lies primarily in the Main Stem of the Connecticut River drainage basin while a small portion in the northeast corner of Glastonbury drains to the Hockanum Watershed. In addition to the Connecticut River which flows along the western boundary, main watercourses include Hubbard, Roaring, Salmon and Slab Gut Brooks. Major transportation routes through Glastonbury include Routes 2, 3, 17, 83 and 94. Glastonbury’s major industries include insurance and financial services, technology and banking, computer services, medical and adult care facilities, agriculture, as well as retail.

Challenges

Glastonbury has experienced disruptions and damages due to flooding and severe storms. Ten percent of Glastonbury’s land area is located in the 100-year floodplain, however, nearly 92% of this area is in the Flood Zone or otherwise zoned for resource protection/agriculture, recreation or public use. Five flood zone permits were approved between 2008 and 2014. All structures were flood-proofed and designed with flow-through standards and compensatory storage. The permitted structures included three accessory sheds or garages; a retail refrigeration addition in which the utilities were installed above the 500-year flood limit; and a municipal boathouse which was constructed with a 400 cubic yard increase in flood storage capacity. The Town also adopted enhanced Inland Wetlands and Watercourses Regulations in 2010 which could reduce its overall level of vulnerability.

Since 1978, the National Flood Insurance Program has paid 44 property damage claims in Glastonbury totaling $160,639. Glastonbury has not had any Repetitive Loss Property claims. Although development is generally restricted from the floodplain, a significant flood event could result in much damage. CRCOG used FEMA’s Hazus-MH model to analyze the risks that the Town of Glastonbury might face from flooding. The model estimates that economic losses to the town including residential and commercial damage and business interruptions due to a flood having a 1% chance of occurring any given year (the 100-year flood) would be nearly $36 million. The impacts of such a flood are summarized below:

<table>
<thead>
<tr>
<th>Estimated Damages from 100-Year Flood</th>
<th>Households Displaced</th>
<th>278</th>
</tr>
</thead>
<tbody>
<tr>
<td>People Needing Shelter</td>
<td></td>
<td>466</td>
</tr>
<tr>
<td>Buildings at Least Moderately Damaged</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Total Estimated Economic Losses</td>
<td></td>
<td>$35,720,000</td>
</tr>
<tr>
<td>Total Residential Building &amp; Content Losses</td>
<td></td>
<td>$13,590,000</td>
</tr>
<tr>
<td>Total Commercial, Industrial &amp; Other Building &amp; Content Losses</td>
<td></td>
<td>$22,010,000</td>
</tr>
<tr>
<td>Total Business Interruption Losses</td>
<td></td>
<td>$120,000</td>
</tr>
</tbody>
</table>

CRCOG also used FEMA’s Hazus-MH model to analyze the risks that the Town of Glastonbury might face from a hurricane as powerful as the 1938 hurricane. The model estimates that economic losses to the town including residential and commercial damage and business interruptions due to such a Category 3 hurricane would be over $210 million. The impacts of such a storm are summarized below:

<table>
<thead>
<tr>
<th>Estimated Damages</th>
<th>Households Displaced</th>
<th>191</th>
</tr>
</thead>
<tbody>
<tr>
<td>People Needing Shelter</td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>
from a 1938 Strength Hurricane

<table>
<thead>
<tr>
<th>Buildings at Least Moderately Damaged</th>
<th>1,342</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings Completely Damaged</td>
<td>78</td>
</tr>
<tr>
<td>Total Estimated Economic Losses</td>
<td>$210,906,000</td>
</tr>
<tr>
<td>Total Residential Building Losses</td>
<td>$144,360,000</td>
</tr>
<tr>
<td>Total Commercial, Industrial &amp; Other Building &amp; Content Losses</td>
<td>$42,373,000</td>
</tr>
<tr>
<td>Total Business Interruption Losses</td>
<td>$24,173,000</td>
</tr>
<tr>
<td>Total Debris Generated</td>
<td>90,099 tons</td>
</tr>
<tr>
<td>Truckloads (at 25 tons/truck) of building debris</td>
<td>724</td>
</tr>
</tbody>
</table>

The Town’s experience during Storm Alfred indicates that the Hazus-MH model may underestimate local sheltering requirements.

According to information from the Connecticut Department of Emergency Management and Homeland Security, the three federally declared natural disasters of 2011 resulted in total expenses to Glastonbury and other local agencies of over $3.2 million. These expenses include debris and snow removal, emergency protective measures and repairs to damaged infrastructure and buildings but do not include damages experienced by private citizens and businesses.

<table>
<thead>
<tr>
<th>2011 Disasters Damage Amounts Eligible for 75% Reimbursement Under FEMA Public Assistance Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant: Town &amp; Other Agencies (Fire Districts, Schools, and Private Non-Profit Agencies)</td>
</tr>
<tr>
<td>Town of Glastonbury</td>
</tr>
<tr>
<td>Glastonbury Other</td>
</tr>
<tr>
<td>Glastonbury Total</td>
</tr>
</tbody>
</table>

Goals, Objectives and Strategies

While the Town of Glastonbury’s 2008 Plan created two separate goals to reduce losses due to either winter storms and or hurricanes, the 2014-2019 Plan will address one single goal for any type of natural disaster. The plan will restate some previously identified objectives and strategies from the 2008 plan, as well as address new initiatives which will be undertaken during the 2014-2019 planning period. The overall reaching goal for the Town of Glastonbury will be to reduce loss of life, property and the economic consequences from a natural disaster.

**GOAL: REDUCE LOSS OF LIFE, PROPERTY AND ECONOMIC CONSEQUENCES FROM NATURAL DISASTERS SUCH AS WINTER STORMS, HURRICANES AND FLOODING.**

**Objective 1:**
Improve ability to clear roadways as a result of storm events, which may be impassable due to snow, flooding or debris in order to improve emergency access and to assist in expediting utility restoration as required.
Strategic Actions:

1.1 Secure contractual tree removal services and equipment prior to storm response and cleanup.
   Lead: Parks
   Priority: High
   Status: This is a new initiative supported by goals and priorities identified in the Town’s 2013/2014 budget.
   Potential Funding Source: General fund
   Timeframe: 2014-2019

1.2 Procure additional Town equipment to expedite cleanup operations as a result of storm events which include large scale snow blowing/removal and debris collection equipment.
   Lead: Physical Services
   Priority: Medium
   Status: This is a new initiative
   Potential Funding Source: General Fund

Objective 2:
Expand the Town’s tree maintenance program for tree trimming located within public right of ways to mitigate the delay in the restoration process of utilities, such as electricity, natural gas and public water service.

Strategic Actions:

2.1 Increase the Town budget for the trimming and removal of potentially hazardous trees.
   Lead: Parks, Administration
   Priority: Medium
   Status: This is a new initiative supported by goals and priorities identified in the Town’s 2013/2014 budget.
   Potential Funding Source: General fund
   Timeframe: 2014-2019: To be reevaluated annually during the budget process.

Objective 3:
Improve Town’s ability to provide emergency shelter for residents and small pets.

Strategic Actions:

3.1 Increase inventory of emergency response supplies and acquire storage for same (food, water, cots, oxygen cylinders, signs, electronic devices (charging stations) etc.)
   Lead: Emergency Management, Social Services, Administration
   Priority: High
   Status: This is a new initiative.
   Potential Funding Source: General fund
   Timeframe: 2015-2016: Annually during the budget process.
Objective 4:
Continue to enhance capabilities to track high risk population and provide emergency notification systems to reach isolated/special needs population.

Strategic Actions:

4.1 Continue voluntary registry and classifications of those individuals who may require special assistance in an emergency.
Lead: Health
Priority: High
Status: The registry has been established and is periodically updated. It is anticipated that an annual review will be conducted.
Potential Funding Source: General fund
Timeframe: 2014 – 2019

4.2 Develop and implement messaging system to provide early alert system to isolated and high risk population utilizing Everbridge (reverse 911), Board of Education notification system and social media.
Lead: Public Safety/Health
Priority: High
Status: This is a revised initiative for the Plan Update. In the 2008 Plan, the Town proposed to ensure operation of Reverse 911 as a means of establishing capability to develop and track high risk populations. The Public Safety Department currently utilizes a reverse 911 system.
Potential Funding Source: General fund
Timeframe: Expected to be completed by the end of FY 2013-2014

Objective 5:
Enhance public information efforts and promote public education for residents and businesses of Glastonbury as to how to prepare for a natural disaster and the necessary precautions that should be taken to protect their assets during an extended power outage.

Strategic Action:

5.1 Develop materials instructing residents on measures to take care of their own properties (bleeding water lines etc.), and services offered by the Town. Post information on town website, social media and produce for distribution in welcome packets, with tax mailings and through other periodic offerings. Create checklist for public to utilize during emergencies.
Lead: Emergency Management, Administration
Priority: Medium
Status: The town has developed and distributed promotional materials to residents through its website, mailings and at community events. Updates, website postings and distribution of materials will continue periodically.
Potential funding Source: General fund
Timeframe: 2014-2019
5.2 Identify and purchase generator/battery powered messaging signs to provide important safety emergency information to public during times of extended power outages.

   Lead: Emergency Management
   Priority: Medium
   Status: This is a new initiative.
   Potential Funding Source: General Fund
   Timeframe: 2014-2016

Objective 6:
Establish state of the art Emergency Operations Center (EOC) with secondary and backup EOC for redundancy.

Strategic Action:

6.1 Relocated EOC to Academy Building from Police Training Room to improve overall operational efficiencies. Police Training Room will be utilized as backup EOC. Identify and purchase supplemental equipment/enhancements to operate effectively (GIS software for accessing/monitoring damage reports, technology, phone/alert systems, storage). In addition to the primary and secondary EOC locations an additional contingency to utilize Fire Company #3 and #4 may be required based on specific extenuating needs.

   Lead: Administration
   Priority: High
   Status: Academy Building serves as EOC. Enhancements, equipment to be procured.
   Potential Funding Source: General Fund
   Timeframe: Expected to be completed by the end of FY 2014-2015

Objective 7:
Enhance overall functionality of Town operations and specified business community during extended power outages.

Strategic Actions:

7.1 Installation of a new emergency generator at the Community Center as this facility can be utilized as an emergency shelter. In addition to providing emergency power to the compressed natural gas filing station located at the Community Center which provides fuel for vehicles within the Town fleet.

   Lead: Facilities, Administration
   Priority: High
   Status: New initiative
   Potential Funding Source: General Fund
   Timeframe: 2013-2015

7.2 Purchase mobile generators to be utilized as primary and backup power sources for Town operations.

   Lead: Facilities, Administration
   Priority: High
7.3 Replace inoperable generator at Town Hall/Academy complex.
Lead: Facilities, Administration
Priority: High
Status: New initiative
Potential Funding Source: General Fund
Timeframe: 2013-2015

7.4 Replace inadequate generators at Police, Highway and Parks Maintenance Facility.
Lead: Facilities, Administration
Priority: High
Status: New initiative
Potential Funding Source: General Fund
Timeframe: 2013-2015

7.5 Review feasibility of micro-grid system(s) within the Town Center area to supplement Town Facilities as well as specific business community operations such as gas stations and grocery stores. This system could be utilized in the event of an extended power outage.
Lead: Facilities, Administration
Priority: High
Status: New initiative
Potential Funding Source: General Fund
Timeframe: 2013-2015

Objective 8:
Maintain strict control of development to and near flood prone areas.

Strategic Action:
8.1 Continue to implement and enforce regulations.
Lead: Planning, Engineering, Building
Priority: High
Status: This is an established practice and routine effort of the Town. The Community Development Department administers a development review process and enforces regulations which ensure that development conforms to floodplain, inland wetlands and erosion and sedimentation control as well as zoning regulations and building codes. Efforts will continue throughout the planning period.
Potential Funding Source: General Fund
Timeframe: 2014 – 2019
Objective 9:
Improve public safety's capabilities to reach isolated population.

Strategic Actions:
9.1 Consider drainage improvements to Shoddy Mill, Forest Lane and other areas of periodic flooding.
   Lead: Public Works, Engineering
   Priority: Low
   Status: This is a new initiative.
   Potential Funding: General Fund
   Timeframe: 2015-2019

9.2 Consider purchasing additional watercraft for emergency rescue operations during flooding.
   Lead: Fire
   Priority: Low
   Status: New initiative. Equipment would supplement existing water rescue equipment.
   Potential Funding: General Fund
   Timeframe: 2015-2019

The following Strategic Action was included in the 2008 Plan but because of work accomplished, it is not proposed for inclusion in the 2014-2019 Plan Update:

   Study the feasibility of elevating the Naubuc Avenue Bridge.
   Lead: Physical Services, Engineering
   Priority: Low
   Status: Rehabilitation to this historic bridge was completed in 2012 to address structural deficiencies. The work included storm drainage updates and the provision of flood-compensation area. No changes in elevations were made and are not planned.
Map 33: Glastonbury Flood Plains, Repetitive Loss Areas, Dams and Important Facilities