

## 9.0 Town of Plainville Annex

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### 9.1 Introduction

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The former Central Connecticut Region, which includes Plainville, is updating its Natural Hazard Mitigation Plan (the Plan). The goal of the Plan for the Town of Plainville is to reduce losses of life and property, and minimize economic consequences of natural hazards. The Town of Plainville has developed a series of objectives to meet this goal as discussed in Section 9.3, and specific strategies are identified under appropriate objectives with the goal of enacting these strategies by 2021.

The Plan contains two parts. The first four chapters comprise a regional section that considers risks from various natural hazards, and lays out a series of broad goals and objectives. The final seven chapters is a collection of municipal plans referred to as “annexes”. These municipal annexes serve three functions. The first is to gather, in one place, information from various municipal departments about how the Town currently prepares for, and responds to, natural hazards. The second is to gather the projects and priorities that the community will pursue to improve its natural hazard preparedness and strengthen its disaster response efforts. The final purpose is to make the community eligible for funding from the Federal Emergency Management Agency (FEMA). To be eligible for many of FEMA’s grant and assistance programs, a municipality must have a current FEMA-approved Natural Hazard Mitigation Plan that is adopted by the local governing body by resolution.

Chapter 9 presents the updated municipal annex of the Plan for the Town of Plainville. It presents a brief overview of the town, its challenges, its vulnerabilities, and its goals, objectives, and strategies for the next five years.

#### 9.1.1 Background

The Town of Plainville is located in the geographic center of the former CCRPA region. The City of Bristol borders Plainville to the west, the City of New Britain borders to the east, and Southington borders Plainville to the south. The remaining neighboring community is Farmington to the north.

Plainville encompasses 9.7 square miles of land area and is home to 17,716 residents as of the 2010 census. Plainville has a population density of 1,826 people per square mile which is above the state average (644 persons per square mile), and the Hartford County average (1,190 persons per square mile). As of 2012, Plainville’s median age was 42.6 years of age, slightly above the county and state medians at that time. However, Plainville’s median age is projected to increase as the percentage of children under 19 will remain steady at 22%, and the percentage of individuals in the 65-plus population cohort increases from 15% to 23% by 2030.

Elevation in Plainville ranges from approximately 170 to 660 feet. Most of the land area in Plainville drains to either the Quinnipiac River or the Pequabuck River. Small portions of the northeast corner and southeast corners of town drain to Bass Brook and Willow Brook, respectively. Another notable stream in Plainville is Trout Brook.

Nestled between urban areas in New Britain and Bristol, Plainville has elements of both a suburban community with rural areas as well as urban elements such as a relatively high population density. Development is concentrated in the west-central region of town. The town is located at the interchange between Route 72 and Interstate 84, and other major transportation routes through town include

Route 10, Route 177, and Route 372. The town lies at the intersection of two freight rail lines, one running north from New Haven and the other running east-west between Waterbury and New Britain. Plainville is also home to Robertson Airport which is owned by the Town.

Plainville's major businesses and industries include manufacturing, construction, retail trade, and health care and social assistance. Top employers include General Electric, Tilcon Connecticut, Gems Sensors, Inc., Connecticut Tool and Manufacturing, Mott Corporation, and Wheeler Clinic. Plainville has two industrial parks (Strawberry Fields and Farmington Valley Corporate) which boast a variety of businesses and have additional space available for new businesses. Approximately 120 acres of land is available for industrial development, but some of it may be constrained by shallow bedrock such that the actual acreage may be smaller. Redevelopment of commercial and industrial properties has also occurred in Plainville.

In 2012, the percentage of single-family households accounted for 67.6% of residences in Plainville. A smaller percentage of multi-family, apartments, and condominium developments constitute the remainder of housing options available. New residential developments have continued despite the recent economic downturn. Approximately 1,000 acres of residential land is available for development, but much of it is constrained by shallow bedrock such that the actual acreage may be smaller.

The Town of Plainville is professionally managed by a full-time Town Manager. The Police Department serves as the Emergency Operations Center. The Police Department is comprised of 36 full-time police officers, six civilian emergency dispatch personnel, and additional support staff. Fire protection is provided by the volunteer Plainville Fire company.

According to its Plan of Conservation and Development (POCD), last published in 2009, the Town of Plainville had emphasized conservation of its limited open space and efforts to take a land use inventory. In addition, the Town of Plainville recommended a management plan to protect open space and land conservation beyond the 182 acres already designated, which only accounts for 2.9% of the Town of Plainville's total land area. In recognition of this fact, the POCD stresses the importance of comprehensive open space planning, natural resource protection, and limitation of impervious surface cover.

The POCD incorporates elements of hazard mitigation planning, including a discussion of steep slopes and the 1% annual chance floodplain, as well as the need to mitigate the amount of impervious surfaces to promote infiltration and reduce runoff. The POCD recommends adoption of requirements to address the consequence of development on hillsides and steep slopes, including adopting a requirement for two-foot contour mapping to be submitted with all development proposals. The POCD also encourages adoption of a variety of actions to protect floodplains and mitigate flooding, including encouraging the use of low-impact design techniques, and strengthening regulation of flood hazard areas. Following adoption of the POCD, the Town of Plainville developed a low-impact development guidance manual in 2011. As the population of the community, building square footage, and associated infrastructure increases, so does the risk of damage from natural hazards as discussed in the next section.

## 9.2 Challenges

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The top three natural hazards that present a high risk to Plainville include flooding, winter storms, and tropical storms/hurricanes. According to information from the Town and the FEMA Public Assistance Funded Projects Summary (Open Government Initiative), there were nine federally declared disasters or

emergencies since 1999 that resulted in reimbursement requests to FEMA. These expenses included debris and snow removal, emergency protective measures, and repairs to damaged infrastructure and buildings experienced by private citizens and businesses. A summary is presented in Table 9-1. The types of events in this table are consistent with the top three natural hazards listed above.

Event	Name	Declaration Date	Town of Plainville Reimbursement	Other Local Agency <sup>1</sup> Reimbursement	Total Cost <sup>2</sup>
DR-1302	Tropical Storm Floyd	9/23/1999	\$31,230.68	\$0	\$41,640.91
EM-3176	Snow (February)	3/11/2003	\$37,400.67	\$0	\$49,867.56
EM-3192	Snow (December)	1/15/2004	\$29,344.36	\$0	\$39,125.81
EM-3200	Snow (January)	2/17/2005	\$45,218.61	\$0	\$60,291.48
EM-3266	Snow (February)	5/2/2006	\$52,718.53	\$0	\$70,291.37
DR-1958	Severe Winter Storm	3/3/2011	\$45,772.96	\$9,119.69	\$73,190.20
DR-4023	Tropical Storm Irene	9/2/2011	\$33,555.93	\$0	\$44,741.24
DR-4046	Severe Storm Alfred	11/17/2011	\$371,550.13	\$12,378.97	\$511,905.47
DR-4106	Severe Winter Storm	3/21/2013	\$94,139.91	\$10,357.50	\$139,329.88

Table 9-1 Recent Disasters Where Plainville Applied for Public Assistance.

1. Other Agencies = Fire Districts, Schools, Housing Authorities, Private and Non-Profit Agencies
2. Assuming that federal reimbursement was 75% of damages.

Source: FEMA

Other natural hazards present a moderate or low risk. A general discussion of the Town of Plainville's emergency response capabilities and a discussion of the vulnerability of the community to each hazard is discussed in more detail in the sections below.

While the Town of Plainville is vulnerable to the same hazards as the other towns of the region, its risks are unique. This is due to the particular stock of assets the town possesses, including local, state and interstate routes and highways, rail lines, historical sites, business and employment centers, schools, elderly populations, building and building content value, and police and fire departments. Each hazard will impact these assets to a different extent. The impacts of flooding are local and can be anticipated with some measurement of certainty, snow storms impact the entire region and are considered annual events, and a tornado can have severe impacts on a very local level and are basically unpredictable. The breadth of these impacts make it necessary to inventory all community assets and, where possible, identify if they lie in a high risk area.

### 9.2.1 All Hazards

The Town of Plainville has a variety of emergency operation procedures in place to respond to the effects of natural hazards. In addition to maintaining an Emergency Operations Plan (updated annually) that includes general evacuation procedures and an Emergency Operations Center, the Town maintains shelters, has identified warming/charging stations, and has identified a variety of resources to assist with response to natural hazard events. The Town also maintains a training program for its emergency personnel. The Town utilizes the statewide CT Alerts emergency notification system when residents need to be informed about a natural hazard event. The Town maintains extensive information regarding preparedness on its website, and preparedness pamphlets are available at Town Hall, the Public Library, and the Senior Center. The Town also participates in DEMHS Region 3 and follows the Regional Emergency Support Plan.

The Town has natural disaster procedures in place for the wastewater treatment plant. These include preparation, response, and recovery procedures in case of flooding, tropical storms and hurricanes, earthquakes, and other natural hazards.

The High School is the primary shelter in the community and acts as a regional shelter. It has a generator sufficient to run the shelter. The Senior Center is a backup shelter, but it only has limited backup power capabilities. The Town acquires shelter supplies whenever possible, and all shelters have been recently restocked with cots and blankets. The Town recognizes that most residents choose to shelter in place if possible, and recommends that residents stock three days of supplies.

Other critical facilities with backup power include the wastewater treatment plant and pumping stations. The Fire Department also has sufficient standby power. The Town Hall has a generator that can only power part of the building. Town staff desire to upgrade the Town Hall generator in order to be able to run all of the necessary computers and servers during an extended power outage.

While the above assets are necessary to keep the town up and running, emergency planners also pay close attention to their most vulnerable citizens. Populations that may be particularly vulnerable include: people living under the poverty line, people with limited or no English proficiency, minorities, and people who are dependent on transit.

### **9.2.2 Flooding**

Flooding is a primary concern in the town with recurrent flooding occurring throughout the town and regular localized flooding occurring at known locations several times per year. The Pequabuck River snakes near the downtown area, and a number of structures are within the floodplain. The Quinnipiac River floods frequently as well.

#### **Location**

Figure 9-1 below shows the locations of critical facilities in Plainville, as well as the relationship between them, flood zones, and the most populated areas of the town. As shown in the map, a large portion of Plainville is located within the 1% annual flood zone; this includes both Town Hall and the Police Headquarters. While one of the town's schools is located in a flood zone, the town's primary emergency shelter is not. Most of the most densely populated areas of town are close to a flood zone, but not in one.

Areas at risk of flooding are generally unchanged since the initial Plan. These include the Pequabuck River in the vicinity of Robert Street Extension, near the wastewater treatment facility, West Main Street, and along Forestville Avenue (Route 372).

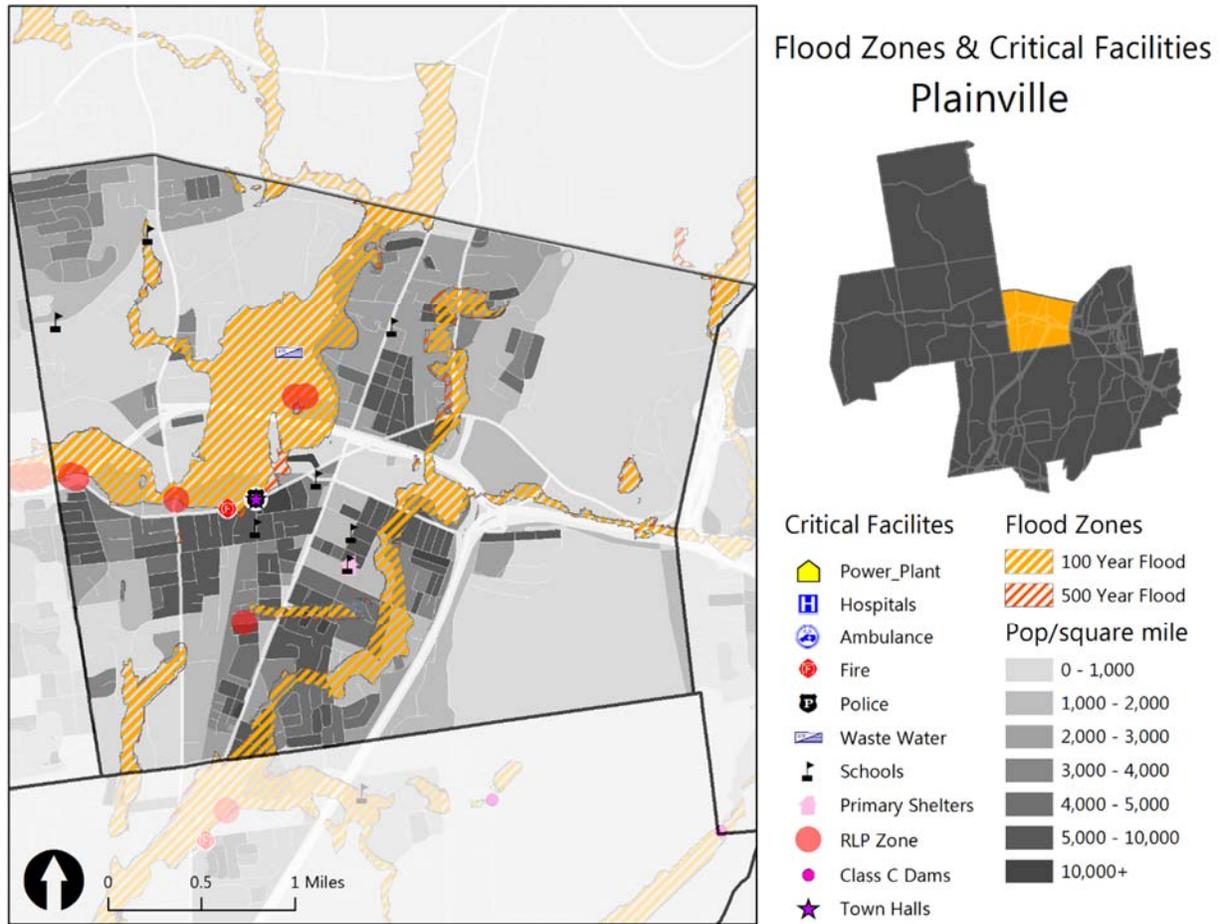


Figure 9-1. Flood Zones, Critical Facilities, and Population Density in Plainville.

**Existing Capabilities**

The Town of Plainville has in place codes and ordinances to reduce the risks to public health and property posed by flooding. These regulations primarily limit any activities on floodplains that would increase flood heights and velocities, or reduce or alter naturally occurring floodplains and water catchment areas. Plainville has very strong floodplain regulations which specifically disallow any use requires substantial investment in a structure or the installation of permanent equipment that could be damaged by flooding. The Town defines floodplains, hereafter special flood hazard areas, off of the Federal Flood Insurance Rate Maps identified in FEMA’s Flood Insurance Study. Table 9-2 includes a brief description of how the Town of Plainville is addressing flood risk in its most important planning documents.

Planning Documentation	Year Established or Updated	Lead Department(s)	Recommendation for Natural Hazard Mitigation
Municipal Building Codes	2003	Municipal Building Inspector	<ul style="list-style-type: none"> <li>The Town of Plainville requires buildings be constructed in accordance with the Connecticut State Building Code; 2003 International Building Code.</li> </ul>

Planning Documentation	Year Established or Updated	Lead Department(s)	Recommendation for Natural Hazard Mitigation
Plan of Conservation & Development (POCD)	2009	Planning and Zoning Commission	<ul style="list-style-type: none"> <li>The Plan promotes the protection of natural resources and open space, which provide flood storage capacity. As such, floodplains and floodways, streams, wetlands, and rights-of-way will be excluded from consideration of the buildable land area of any parcel.</li> <li>The Plan encourages the Planning and Zoning Commission to ensure current zoning codes limit “additional development” in these vulnerable areas, permitting only temporary or passive recreation. Finally the Plan lists “strengthening and coordinating municipal regulation of flood hazard areas to protect life, property and the continued functioning of the natural flood management system” as an ongoing priority for the Planning Department and town engineer.</li> </ul>
Bristol-Plainville-Plymouth Pequabuck River Flooding Study	2015	Technical Services / Town Planner	<ul style="list-style-type: none"> <li>The Bristol-Plainville-Plymouth Pequabuck River Flooding Study was made possible by a \$200,000 grant from the Economic Development Administration.</li> <li>This Study will address flooding and the accompanying economic risks that have restrained development and recovery for the communities along the river following extensive flooding caused by rainfall during Hurricane Irene in 2011.</li> </ul>
Zoning Regulations	2014	Planning and Zoning Commission	<ul style="list-style-type: none"> <li>Plainville’s Floodplain Zone permits basic agricultural, recreational and several industrial uses with restrictions.</li> <li>However nearly all other uses are prohibited including any residential activity, commercial establishment or use requiring a “substantial investment in structure or permanent equipment that could be damaged by flooding.” The Floodplain Zone is laid out to roughly cover the special flood hazard area.</li> <li>The Floodplain Zone is included on the town’s zoning map.</li> </ul>
Subdivision Regulations	2014	Planning and Zoning Commission	<ul style="list-style-type: none"> <li>The Subdivision Regulations stipulate that subdivision must minimize the risk of flood damage. This includes locating public utilities and other facilities away from danger.</li> <li>In particular, the regulations require that drainage be designed to reduce flood exposure, and that elevations and floodway data be included in all subdivision applications for parcels situated in the special flood hazard area.</li> </ul>
Capital Improvement Plan (CIP)	2015	All Departments	<ul style="list-style-type: none"> <li>Identifies the long-term municipal plans associated with funding equipment and infrastructure improvement.</li> </ul>

Planning Documentation	Year Established or Updated	Lead Department(s)	Recommendation for Natural Hazard Mitigation
Inland Wetlands and Watercourses Regulations	2012	Inland Wetlands and Watercourses Commission	<ul style="list-style-type: none"> <li>• The Inlands Waterways and Watercourses Commission was established in 1973 to implement the Inland Wetland and Watercourses Regulations, which were adopted in 1974.</li> <li>• Under Connecticut General Statutes all municipalities shall regulate activities on those wetlands and watercourses that lie within their borders. The regulations include a list of activities that may be regulated and the environmental justifications for the prohibitions. While these regulations are primarily for the protection of environmental and ecological assets, they do address impacts to safety and public health.</li> <li>• As such, the Inland Waterways and Watercourses Commission also has a role to play in mitigating risk in flood hazard areas. Additionally the commission has the mandate to restrict activities beyond the delineated special flood hazard area.</li> </ul>
Community Emergency Response Team (CERT)	2015	Emergency Management	<ul style="list-style-type: none"> <li>• Plainville does not currently have a Community Emergency Response Team (CERT), but can improve the safety of its residents by creating a CERT.</li> <li>• CERT is composed of volunteers who received training in disaster preparedness and response. Using the training, CERT members are able to assist town personnel and support emergency response functions. For example, in Berlin, CERT members are responsible for staffing the emergency shelter when it is activated.</li> <li>• In addition, CERT members engage with the community to educate fellow residents about disaster preparedness. They also have a library of resources online that provides information about emergency situations. CERT has been an important resource to residents in the preparedness stage.</li> </ul>
National Flood Insurance Program (NFIP)	1981	Town Manager, Technical Services	<ul style="list-style-type: none"> <li>• The Town of Plainville is a participating community in FEMA’s National Flood Insurance Program since 1980 and intends to continue participation in the NFIP for the foreseeable future.</li> <li>• The National Flood Insurance Program has paid 66 property damage claims in Plainville totaling \$994,086.70 to date.</li> <li>• The National Flood Insurance Program has paid 23 repetitive loss property damage claims in Plainville on 7 properties. These claims have totaled \$319,075.23.</li> </ul>

Planning Documentation	Year Established or Updated	Lead Department(s)	Recommendation for Natural Hazard Mitigation
Local Emergency Operations Plan	2014-2015	Emergency Management	<ul style="list-style-type: none"> <li>All towns in Connecticut must annually prepare a Local Emergency Operations Plan and submit it to the Department of Emergency Management and Homeland Security (DEMHS) for review.</li> <li>These plans are meant to be applied during an emergency to maximize survival, give direction, integrate departments and expertise, define roles to departments and community leaders, and provide a basis for continued preparation. Specifically the plans identify town personnel and assign responsibilities to each department and its personnel during disasters and emergencies. As part of the plan, instructions are also outlined for activation of the emergency operations center.</li> <li>These plans offer communities an important opportunity to take stock of their level of preparedness and consider any additional steps they can take that may influence their ability to cope and recover.</li> </ul>
Flood Damage Prevention Ordinance	2008	Technical Services	<ul style="list-style-type: none"> <li>The Ordinance acknowledges that there are areas of periodic inundation, “which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.”</li> <li>The purpose of the Ordinance is therefore to restrict uses that result in greater vulnerability. This includes the prohibition of certain uses and strictly stipulates certain conditions for others. It also requires permits for all activities that might alter the river channel or floodplain. The administration of permitting falls under the authority of the town engineer.</li> <li>Plainville only requires that manufactured homes have their lowest floor elevated to or above the BFE within the special flood hazard area.</li> <li>The ordinance generally requires that all new development use construction engineered to resist flood forces and elevate the lowest floor to at least two feet above BFE.</li> <li>For non-residential construction the lowest floor maybe located below BFE if it is adequately flood proofed to the same elevation. Similarly all utilities and electrical appliances must be located above the BFE or be situated to ensure no water is able to enter their workings.</li> </ul>

Planning Documentation	Year Established or Updated	Lead Department(s)	Recommendation for Natural Hazard Mitigation
Low Impact Development and Stormwater Management Design Manual	2011	Planning and Zoning Commission	<ul style="list-style-type: none"> <li>• Because the storm water management system in Plainville has historically and periodically had trouble handling high volume runoff events, the Town, in an effort to mitigate the impacts, has adopted a low impact development manual.</li> <li>• Removing some pressure from the storm water management system will decrease many of the negative impacts associated with an overloaded hydrologic system, such as expanding floodplains and river channel erosion.</li> <li>• If the standards in this manual are extensively applied, the damage caused by a 4% annual flood hazard event, or even a 1% annual flood hazard event can be reduced by detaining a significant portion of the flood waters.</li> </ul>

Table 9-2. Town of Plainville Planning Documents.

Town staff believe that existing ordinances do a good job of discouraging development in and near wetlands and in floodplains. Enforcement and outreach regarding floodplain activities is performed by Technical Services, with outreach typically occurring on a case-by-case basis.

The Town recently purchased 70 acres of floodplain properties following Tropical Storm Irene in 2011, which included the acquisition and demolition of 13 properties at risk of flooding on Robert Street Extension and Forestville Avenue. When heavy rain and flooding is predicted, the Town alerts residents with the CT Alerts notification system, local media, and with individual notices left at houses.

The Town has continued to apply for grant funding recently received a \$1.3 million grant from FEMA to purchase nine additional homes (see discussion below). Homeowners have not been interested in home elevations in the community to date. Town staff do not believe that the Community Rating System program will be cost-effective, and would prefer to remove all of the properties at risk of flooding from the floodplain. Survey respondents suggested that the Roberts Street and Cleveland Street area be turned into a municipal park or other greenspace, but this action cannot be accomplished until more land is acquired.

The Pequabuck River Study should be completed in October 2015. This study (prepared by AECOM and paid for with the assistance of a grant from the State of Connecticut) has examined the impact of the Pequabuck River on the communities of Plymouth, Bristol, and Plainville and identifies measures to reduce the impact of flooding. The study includes major revisions to the hydrology and hydraulics originally used to generate the special flood hazard area for the Pequabuck River, and it is expected that the effective FIS and FIRMs for the three communities will be updated with the new information. Although hoped for by the three communities, the Pequabuck River Study did not identify any one project that would provide significant mitigation for all three communities.

The Pequabuck River Study evaluated numerous alternatives for mitigating flooding, including the installation of flood control structures to detain flows, channelization of the river, construction of levees and floodwalls, sediment removal to enlarge the channel, removal of vegetation, enlargement of bridge crossings, removal of instream obstructions, individual floodproofing, acquisitions, and modifications of

local ordinances. The following potential structural strategies and actions have been identified for Plainville:

- Survey and then acquire or elevate residential structures. This project would involve completing or updating the elevation certificates of 17 or more residential structures located in or near the 1% annual chance floodplain along Roberts Street Extension, Norton Place Extension, Norton Place, West Main Street, McKernan Drive, and Forestville Avenue, as well as additional potentially impacted properties on Woodside Lane, Farmington Avenue, and Northhampton Lane. The survey information would be used to prepare benefit-cost ratios to support FEMA grant applications if the cost for a particular building is too high to qualify for the below-median cost exemption for such projects. These buildings would be acquired or elevated to three feet above the base flood elevation. Alternatively, the survey information could be used to potentially reduce flood insurance premiums for residents who wish to remain by pursuing FEMA Letters of Map Amendment (LOMAs). The Town received a \$1.3 million grant in August 2015 to acquire and demolish nine homes on Robert Street Extension and Norton Place Extension that will be used for part of this effort.
- Implement a floodproofing technical assistance program. AECOM estimates that there are approximately 24 commercial, industrial, and municipal buildings within the 1% annual chance floodplain, and floodproofing could reduce the risk of regular flooding damage. Town activities would include coordinating an outreach program with these businesses and assisting with developing benefit-cost analyses and FEMA grant applications to obtain funding for dry floodproofing if projects qualify.
- Removing sediment from the Pequabuck River channel. Removal of an estimated 4,000 cubic yards of sediment from the Pequabuck River upstream of the railroad crossing and west of Neal Court has been simulated to reduce flood elevations upstream of the railroad bridge by two feet during the 1% annual chance flood event. This project would reduce the flooding potential of approximately four buildings and remove the risk of flooding during the 1% annual chance flood event from nine buildings. The project would also have the minor benefit of reducing the 1% annual chance flood elevation by approximately 0.2 feet upstream of the North Washington Street (Route 177) bridge to Route 72. If this alternative is pursued, the Town will need to take steps to maintain the channel to prevent future accumulation of sediment in the area.

Other non-structural mitigation measures are also identified by the Pequabuck River Study, including updating this Plan, developing more stringent low-impact development guidance and adopting standards in conjunction with other watershed communities, updating the local floodplain management ordinance to meet current model ordinance requirements, and developing a Pequabuck River flood response plan to allow dam operators with gated spillways a chance to close or open spillways to mitigate the effect of flooding. These include adding a freeboard requirement of two feet for all new development and substantial improvement, and selective acquisitions of properties.

Other strategies and actions identified in the Pequabuck River Study will not be pursued. These include replacing the bridge at Route 6 (Scott Swamp Road) north of the Plainville boundary, installing a ring levee around the wastewater treatment plant, and replacing a railroad bridge. However, other alternatives may be possible for the wastewater treatment plant, including structural floodproofing for part of the facility and raising the concrete walls of the open tanks to prevent sewage from mixing with floodwaters. These other alternatives should be evaluated.

One concern of the Town is that even with the results of the Pequabuck River Study, Plainville may continue to be at increased risk from flooding due to the actions of upstream communities. Widespread adoption of Low-Impact Development standards and a watershed compact with other communities could reduce this increased risk. The Town adopted such an ordinance in 2010 and developed a manual in 2011 that details a technical framework of methods of stormwater management that can lead to improvements in stormwater quality as well as a reduction in stormwater runoff.

There are concerns regarding culvert capacity, although the Town has worked to improve a number of culverts. This is performed wherever necessary, although information is not available regarding the condition of culverts on private property. For example, a recent bridge upgrade occurred on Stillwell Drive over the Quinnipiac River, and a bridge upgrade is in permitting for Tomlinson Avenue over the Quinnipiac River. Both projects have attempted to balance upstream and downstream hydraulic conditions. The Town has an annual inspection and maintenance (if needed) schedule for its bridges and culverts.

All new construction is designed using the most recent NRCC rainfall return periods in accordance with December 2014 CT DOT guidance. The Town has not evaluated other culverts in the community based on the new rainfall return periods. Drainage and flooding complaints are routed to either the Fire Department or Public Works, depending on if it is an emergency. Usually Public Works will be involved in resolving any complaint.

The Town's capability to mitigate flooding damage is considered to be effective at preventing damage to new development and substantial improvements. In general, the level of capability of the Town of Plainville relative to all facets of flood mitigation has slightly increased since the 2011 Plan. The recent studies have enabled the Town to move towards mitigation projects that will reduce the impacts of flooding over the long-term. The Town's participation in the MapMod program several years ago resulted in digital FIRMs for the community which make it easier to demonstrate floodplain boundaries to property owners. The recent acquisition projects completed a few years ago reduced the Town's overall vulnerability to flooding.

### Impacts and Loss Estimates

Flood losses reported under the NFIP to properties in Plainville are listed in Table 9-2. The Pequabuck and Quinnipiac Rivers both pass through the town; of the two, the Pequabuck poses the greater flooding risk. At one time flooding from the Pequabuck would divide the town, flooding a bridge on Washington Street and thus rendering the northwest section of town inaccessible. Now, access to the northwest is secured via Northwest Drive, which provides a connection between Routes 10 and 177.

The river still floods several other areas, including a strip of homes on Robert Street Extension. During Tropical Storm Floyd in 1999, the Town evacuated 65 residents from this area, and additional properties at risk of flooding remain in the area. During Tropical Storm Irene, flooding damaged 24 single-family homes, one multi-family home, and four commercial mixed-use properties. A total of 11 homes on Robert Street Extension (and two on Forestville Avenue) were purchased by the town (with a FEMA grant) and demolished following Irene, and 12 homes remain on the street. Residents report that four inches of rain in four to six hours causes significant flooding. The Health Department reports that private wells in the area are at risk of flooding, with one well in the area being contaminated by floodwaters. Other areas at risk of flooding identified by the public include Cronk Road and Norton Place Extension.

One recurring issue noted by Town staff is that although buildings repeatedly flood, they do not flood sufficiently to require substantial improvement. As such, the level of flooding damage does not trigger provisions that would require the elevation of utilities that are in the basement, and the homes continue to receive insurance payouts. Lowering the threshold of the substantial improvement requirement is not believed to be politically acceptable in Plainville at this time.

The town's wastewater treatment plant is subject to flooding, although on a less regular basis. Although according to the FEMA FIS the plant is constructed above the 1% annual chance flood elevation, the plant still floods during extreme conditions. Flooding from Tropical Storm Irene shutdown operations at the plant and a mitigation solution is desired by the Town. The gravity-operated plant was built in the 1940s, and its location is non-negotiable.

Even slight flooding can cause backups in Plainville's sewer and storm water systems. This has been the case for some time, and was the subject of a Comprehensive Drainage Study completed in May of 1975. While the report's findings are still valid, the solutions proposed for alleviating the situation have always been prohibitively expensive (estimate is several hundreds of millions of dollars), and have not been implemented. In addition, even if the drainage system was sufficiently sized, backwater conditions along the Pequabuck River (from the Farmington River) and along the Quinnipiac River prevent water from quickly draining away such that there would be limited benefit.

CCRPA used FEMA's HAZUS-MH model to analyze potential risks that the Town of Plainville might face from a major flooding event. A Level 1 HAZUS-MH Analysis was prepared by CCRPA. Such analyses are known to generally skew high in part based on the limited data entered by the user. Thus, while the numbers below are likely higher than would actually be experienced under a 1% annual chance flood event, they are nonetheless useful for planning purposes. The model estimates that the total economic losses in the town including residential and commercial damage and business interruptions due to a flood having a 1% chance of occurring in any given year (the 100-year flood) would be \$94,640,000. Key impact areas of such a flooding event are summarized in Table 9-3.

Impact of Flooding	Estimated Damage from 1% Annual Chance Flood Event
Households Displaced	638
People Needing Shelter	1,621
Buildings at Least Moderately Damaged	138
Total Estimated Economic Losses	\$94,640,000
Total Residential Building & Content Losses	\$34,290,000
Total Commercial, Industrial, & Other Building & Content Losses	\$59,870,000
Total Business Interruption Losses	\$480,000

Table 9-3. HAZUS-MH 1% Annual Chance Flood Losses for Plainville.

Source: HAZUS-MH

Based on the public assistance reimbursements in Table 9-1, the Town of Plainville has incurred approximately \$86,382.15 since 1999 for impacts due to flooding. Based on the information for the NFIP in Table 9-2, a total of \$994,086.70 has been paid out to NFIP-insured properties since 1980 (34 years). The annualized loss due to flooding based on this information is \$34,996.65. The annualized loss estimate based on the county-wide damages presented in the 2014 *Connecticut Natural Hazards*

*Mitigation Plan Update* (CT NHMP) as described in Section 3.2 is much lower at \$10,307. The greater figure is utilized herein as an estimate of annualized loss for the community.

### 9.2.3 Winter Storms

Plainville faces challenges during winter storms as ice and snow make roads impassable and knock down tree limbs which in turn disrupts utility service. The combined effect can leave people stranded in their homes, potentially without heat or power.

#### Location

All areas of Plainville are susceptible to winter storms. Higher elevations may be at a greater risk because the frequency of winter storm events is typically greater in such areas. Areas in floodplains are at increased risk of winter storm damage due to any flooding that may accompany a winter storm.

#### Existing Capabilities

The Town has approximately 84 miles of local roads and many additional miles of state roads. Removal of the ice and snow for Plainville's town-owned roads is handled by a combination of town workers and contractors; the town also handles debris removal. The Town has established plowing routes that prioritize access to critical facilities. Town staff indicate that most residents are satisfied with the level of service provided during and following winter storms, although staff concede that it can be difficult to keep up during severe winter storms.

There are a few areas in Plainville where seeps can create icy conditions. Town staff mitigate these areas using additional treatment, or install drainage systems if necessary. Overall, icing is a minor issue in the town.

The majority of roofs on Town-owned buildings are flat, including the schools. The Town has an informal program to review snow accumulation on town-owned roofs each winter, with clearing occurring when depths are sufficiently deep or wet. During the successive heavy snows of the winter of 2010 to 2011, contractors were hired to remove snow from roofs of concern. The Town does not believe that it needs a formal snow load evaluation and removal program at this time.

The Town subdivision regulations require that utilities in new residential developments are installed underground, although approximately 90% of all utilities in town are overhead. The underground installation of utilities is encouraged for all new development except in areas at risk of flooding, and most recent developments have had their utilities installed below ground. The Town has considered a formal regulation for all new development in the past, but it was difficult to determine a universal standard. The Town would like to consider adopting an underground utility requirement for industrial subdivisions.

Town staff indicated that one piece of equipment that would help the Town respond to winter storm events would be a compact wheel loader with a snow blower attachment. This would allow for snow to be plowed or blown in areas that plows cannot easily access, such as sidewalks and could also be used during emergencies to create access for EMS personnel.

The Town's capabilities are considered to be effective in regards to response to winter storms, although the Town's capability to mitigate severe winter storm damage is limited to Town facilities. In general, the level of capability of the Town of Plainville relative to all facets of winter storm mitigation has slightly increased since the 2011 Plan with the recent trimming by Eversource reducing the overall vulnerability of the town.

**Impacts and Loss Estimates**

Table 9-4 below considers the impact of Severe Winter Storms on the Town of Plainville based on Winter Storm Alfred in late October 2011. Debris removal was the biggest impact, with the total municipal cost to clean up after the storm totaling nearly a half million dollars.

Impact of Severe Winter Storm	Estimated Losses from a Severe Winter Storm Comparable to Winter Storm Alfred (October 2011)
Number of Electrical Customers Served (2013)	9,328
Maximum Outages During Severe Winter Storm (2011)	9,278
Maximum Outages Percentage of Customers (2011)	99.46%
Number of Businesses Experiencing Outages	>100
Total Lost Wages (Daily)	\$2,012.09
Average Lost Wages (Weekly)	\$48,775.00
Miles of Local Roads Plowed by Town of Plainville	84.36
Municipal Cost (Plowing, Road Treatment, Debris Removal)	\$495,400.17

*Table 9-4. October 2011 Severe Winter Storm Losses for Plainville.  
Source: Eversource, CCRPA Internal Analysis*

A total of 14 buildings in Plainville (residential, garages, and commercial) experienced structural damage during the event. Power was out for some customers up to 11 days, with most power restored after nine days. A substantial amount of commercial and residential food loss was reported except for those homes and businesses with generator capability. Communications were disrupted due to lack of backup power at cellular towers and downed power poles disrupting land lines. Although most streets were passable within a day or two, many businesses suffered from lack of power and could not serve customers or transfer goods while the Governor’s transportation ban was in effect.

The January 2013 blizzard produced a lot of snow in Plainville and contractors were needed to remove it. Snow removal was the primary financial impact. Damage to structures or inventory, loss of power, communication disruptions, and lost wages were not reported although the travel ban may have prevented weekend shipments from occurring and weekend employees from reporting to work.

Based on the public assistance reimbursements in Table 9-1, the Town of Plainville has incurred \$944,001.77 since 1999 (15 years) for impacts due to winter storms. The annualized loss due to winter storms based on this information is \$62,933.45. The annualized loss estimate based on the county-wide damages presented in the 2014 CT NHMP as described in Section 3.2 is much lower at \$18,880. The greater figure is utilized herein as an estimate of annualized loss for the community.

**9.2.4 Tropical Cyclones and Hurricanes**

Plainville faces a number of challenges due to tropical storms and hurricanes. The primary problem is dealing with the impact of downed trees which can interrupt power supply for many days and hinder egress through neighborhoods. Secondary impacts are generally caused by heavy rainfall accompanying the storm.

### Location

All areas of Plainville are susceptible to tropical storms and hurricanes. Higher elevations may be at a greater risk because the speed of the wind may be greater. Areas in floodplains are at increased risk of tropical storm and hurricane damage due to any flooding that may accompany such an event. There are a few mobile home parks in town that would be at increased risk of significant damage during severe wind events.

### Existing Capabilities

The Town of Plainville uses a variety of preparedness and response procedures to deal with the impacts of tropical storms and hurricanes. Town departments have purchased sufficient supplies over the past few years to be prepared for the next major storm event. Much of the tree trimming in Plainville near power lines is conducted by Eversource Energy. A significant amount of trimming occurred in Plainville following the 2011 storms. The Town's Superintendent of Roadways is also the Tree Warden, and the Town removes dead or dangerous trees on Town property after consulting an arborist. The Town does not typically cut trees on private property. The tree maintenance budget is part of the roadway budget and is considered sufficient at this time.

The Town's capabilities are considered to be effective with regard to mitigating hurricane damage. In general, the level of capability of the Town of Plainville relative to all facets of tropical storm and hurricane mitigation has slightly increased since the 2011 Plan with the recent trimming by Eversource reducing the overall vulnerability of the town.

### Impacts and Loss Estimates

Following Tropical Storm Irene in 2011, power was lost for approximately two days in Plainville for most residents, although some residents were without power for five days. A maximum of 1,629 customers were without power. Tropical Storm Sandy did not cause any significant impacts in the community.

CCRPA used FEMA's HAZUS-MH model to analyze the risks that the Town of Plainville might face from a hurricane as powerful as the 1938 Hurricane. The model estimates the economic losses to the town including residential and commercial damage and business interruptions due to such a Category 3 hurricane would be approximately \$74.4 million. The impacts of such a storm are summarized below in Table 9-5.

Impact of Simulated 1938 Hurricane Today	Estimated Losses from 1938 Hurricane Event
Households Displaced	110
People Needing Short-Term Shelter	25
Buildings at Least Moderately Damaged	2,497
Building Completely Damaged	27
Total Estimated Economic Losses	\$74,394,870
Total Residential Building Losses	\$54,967,720
Total Commercial, Industrial, & Other Building Losses	\$17,106,210
Total Business Interruption Losses	\$2,320,940
Total Debris Generated (in tons)	171,080
Truckloads (at 25 tons/truck) of building debris	6,843

Table 9-5. HAZUS-MH 1938 Hurricane Simulated Losses for Plainville.

Source: HAZUS-MH

The Town of Plainville has primarily experienced flooding damage during recent disasters caused by Tropical Storms as opposed to wind damage. The annualized loss estimate for Plainville based on the county-wide tropical storm and hurricane damages presented in the 2014 CT NHMP as estimated by HAZUS-MH is \$1,245,371.

### **9.2.5 Tornadoes and Thunderstorms**

Plainville faces regular challenges due to tornadoes and thunderstorms, although these events are typically less damaging than tropical storms or hurricanes. The primary problem is dealing with the impact of downed trees which can interrupt power supply and hinder egress through neighborhoods. Secondary impacts are generally caused by heavy rainfall accompanying the storm, and direct wind damage or lightning and hail damage to structures and vehicles.

#### **Location**

All areas of Plainville are susceptible to tornadoes and thunderstorms. Higher elevations may be at a greater risk because the speed of the wind may be greater. Areas in floodplains are at increased risk of thunderstorm damage due to any flooding that may accompany such an event.

#### **Existing Capabilities**

The strategies used to mitigate tornado and thunderstorm damage are similar to those used to mitigate damage from tropical storms and hurricanes. The Town has a budget for tree maintenance which is considered sufficient at this time. This is only for Town properties and right-of-ways. Town staff indicate that Plainville experiences relatively minimal power outages as compared to nearby communities except during extreme events (for example, severe winter storms, tropical storms, and hurricanes).

The Town's capability to mitigate thunderstorm damage is similar to that for tropical storms and hurricanes, but the Town's ability to mitigate tornado damage is relatively limited. In general, the level of capability of the Town of Plainville relative to all facets of thunderstorm and tornado mitigation has slightly increased since the 2011 Plan with the recent trimming by Eversource reducing the overall vulnerability of the town.

#### **Impacts and Loss Estimates**

According to Town staff, there are no areas of the Town that are specifically prone to wind damage. However, the handful of mobile home parks in town would be at increased risk to experience tornado damage.

The annualized loss estimate for thunderstorms based on the county-wide damages presented in the 2014 CT NHMP as described in Section 3.2 is \$2,353. The annualized loss estimate for tornadoes based on the county-wide damages presented in the 2014 CT NHMP as described in Section 3.2 is \$259,927. These figures are likely lower than the actual annualized loss for the community as the damages reported to the National Weather Service do not take into account all occurrences of thunderstorm and tornado damage, but the figures are useful for planning purposes.

### **9.2.6 Wildfires**

Wildfires in Plainville are very rare and occur perhaps once every 20 years. When they do occur, they are usually accidentally set, although some may have been ignited by lightning or undetermined sources.

### Location

Less developed areas in Town are at the highest risk for a wildfire. The areas where wildfires have typically occurred include along the ridgelines near the edge of Plainville along former logging cuts.

### Existing Capabilities

The Town maintains mutual aid agreements with all surrounding communities for fire protection. The town does not have any dry hydrants or cisterns. The Town plans to consider adopting a regulation requiring the provision of these structures as part of new developments located in outlying areas without public water service. The Town's Ridgeline Protection Ordinance has helped to slow development in outlying areas of the community. The Town also established Open Burning Regulations as of November 6, 2006 which requires applicants to apply to the local Open Burning Official for approval a minimum of 48 hours prior to the proposed burn. The Town has one Open Burning Official certified by the Connecticut DEEP.

The Town's capabilities are considered to be effective in regards to wildfire response. In general, the level of capability of the Town of Plainville relative to all facets of wildfire mitigation is unchanged since the 2011 Plan.

### Impacts and Loss Estimates

The greatest areas of concern are the areas of town that do not have public water service and have limited access. These areas are located near Bradley Mountain on the southeast side of Plainville, and the northeast corner of town from the ridgeline with Pinnacle Rock east to Interstate 84. One to two acre fires have occurred near Pinnacle Rock.

The annualized loss estimate for wildfires based on the county-wide damages presented in the 2014 CT NHMP as described in Section 3.2 and the population density of Plainville is \$483.

#### 9.2.7 Drought

Only severe droughts would have the potential to cause damages in Plainville. The short-duration and moderate droughts that generally occur every few years are not a concern to Town staff.

### Location

All areas of Plainville are susceptible to drought. Property owners with private wells may have an increased risk of damage due to drought as lower groundwater levels could impact water supply wells.

### Existing Capabilities

The Town primarily relies on regional and statewide measures for mitigating the impacts of drought such as the Connecticut Drought Management Plan. The local water company (Valley Water Systems) maintains an Emergency Contingency Plan that outlines the necessary response procedures when drought is impacting their sources of supply. The company's Rules and Regulations include water use restrictions that could be implemented during times of drought, although such restrictions have not been implemented over the last 25 years. Although the Town of Plainville is not a member, Valley Water Systems is a member of the Water Utility Coordinating Committee that will be reconvening in 2016 and will discuss regional water supply issues and needs including ensuring that supply is available during periods of drought.

The Town does not perform any mitigation activities for drought and its capability to mitigate drought is relatively limited. In general, the level of capability of the Town of Plainville relative to all facets of drought mitigation is unchanged since the 2011 Plan.

### Impacts and Loss Estimates

Town staff could not recall any specific damages due to drought. The Health Department indicated that there are very few private wells in the community as most homes and businesses are served by public water. Town staff did not recall any well deepening permits or new drilling permits being issued recently due to private wells going dry during a drought.

Based on the information above, it is likely that the annualized loss due to drought has been minimal over the past 20 years. An annualized loss figure of \$0 has been used for this Plan update. This is likely lower than the actual annualized loss due to drought, but the number considered acceptable at this time and can be revised if needed in future updates of this Plan.

#### 9.2.8 Earthquakes

Although low intensity earthquakes regularly occur in Connecticut, these earthquakes are not damaging and are generally imperceptible to residents. Stronger earthquakes have historically occurred in Connecticut which have the potential to cause critical levels of damage.

#### Location

All areas of Plainville are susceptible to earthquakes. Property owners with structures that pre-date current building codes (particularly pre-1990 structures) are considered to be at increased risk of suffering earthquake damages, as well as structures built on sandy soils that could be prone to liquefaction (see Section 3.2.8).

#### Existing Capabilities

Due to the very infrequent nature of damaging earthquakes, and the fact that earthquakes generally cannot be predicted, local land use policies in Plainville do not directly address earthquake damage. In the event that significant earthquake damage occurred, the Town of Plainville would activate its Emergency Operations Plan and respond as appropriate. The wastewater treatment plan emergency response plan contains procedures for responding to this type of damage.

The Town's capability to mitigate earthquake damage is limited. In general, the level of capability of the Town of Plainville relative to all facets of earthquake mitigation is unchanged since the 2011 Plan.

### Impacts and Loss Estimates

Town staff could not recall any damages occurring due to earthquakes. The annualized loss estimate for earthquakes based on the county-wide damages presented in the 2014 CT NHMP as described in Section 3.2 is \$1,111. The low figure is consistent with the lack of earthquake damage in the recent historical record.

#### 9.2.9 Dam Failure

Approximately 10 dams could affect the Town of Plainville with their failure, and several Class C (high hazard) dams lie upstream of the town. Only low hazard dams are located within Plainville.

#### Location

Only areas of Plainville that are near watercourses that are downstream of dams are susceptible to dam failure. In many cases a breach could flood a similar area to the 1% annual chance or 0.2% annual chance flood; in some cases (particularly for high hazard dams) the impacted area could be much wider. Table 9-6 summarizes the high and significant hazard dams that could affect Plainville based on files maintained by the Connecticut DEEP. Neither dam was listed to be in poor condition on the 2013 list.

Although several Class C dams are located upstream in Bristol and Plymouth, the failure of these dams are not expected to cause inundation that would significantly affect Plainville.

Dam Name	Hazard Class	Dam Use	Dam Condition	Owner	Downstream Watercourse
Hogback (Goodwin) Dam	C	Hydropower	Satisfactory	Metropolitan District Commission	West Branch Farmington River
Saville Dam (Barkhamsted Reservoir)	C	Water Supply	Good	Metropolitan District Commission	East Branch Farmington River

Table 9-6. Summary of Dams Whose Failure Could Significantly Impact Plainville.  
Source: Connecticut DEEP

### Existing Capabilities

Upstream water utility dams have the greatest risk of affecting Plainville with their failure. These include dams owned by the MDC. The Town has copies of EAPs prepared for other dams whose failure could affect Berlin; this information is maintained by the Emergency Management Director. The Town participates in dam failure training exercises for the MDC dams, but the risk to Plainville due to failure of the remaining dams is believed to be relatively minor. There are no dams of significance along the Quinnipiac River that could impact Plainville. The Town owns only one dam, a minimal hazard dam on a detention basin at the Middle School (Class AA).

The Town's ability to mitigate dam failure is considered to be good for Town-owned dams but limited for privately owned dams and dams owned by other municipalities and water utilities (in these cases, preparation for emergency response is the primary goal). In general, the level of capability of the Town of Plainville relative to all facets of dam failure mitigation is slightly improved since the 2011 Plan due to the recent dam safety law revisions that have occurred statewide.

### Impacts and Loss Estimates

Although potential losses downstream of Class C (high hazard) dams could be catastrophic, Plainville is likely to not receive the full velocity of the dam failure flood wave. However, failure of the MDC dams could cause flooding in Plainville to an extent greater than the 0.2% annual chance flood as the flood wave backwaters upstream along the Pequabuck River from the Farmington River.

An annualized loss estimate for dam failure was developed assuming that failure had a 0.1% annual chance of occurrence in consideration of the estimated value of properties within the 0.2% annual chance floodplain in Plainville. The annualized loss in Plainville due to dam failure is estimated to be \$11,250. This figure is low consistent with the very few dam failure incidents which have occurred in the town.

## 9.3 Goals, Objectives, and Strategies

The goal and five objectives from the 2011 Plan were upheld. No additional objectives were identified, although Objective #5 was re-written to "Mitigate impacts to properties in the National Flood Insurance Program" because the Town of Plainville intends to continue participation in the NFIP.

### 9.3.1 Status of Previous Strategies and Actions

Table 9-7 presents the status of the strategies and actions originally developed in the initial 2011 Plan.

Objective	Task	Priority	Responsible Department	Comment	Status
1. Update and Formalize Existing Plans	Develop a formal evacuation plan for the Robert Street Extension Area and include it in the Emergency Operations Plan	High	Emergency Management	A general evacuation plan is included in the EOP, and a specific plan for this area is no longer believed necessary	Delisted
	Update the 1975 Comprehensive Drainage Study with cost/benefit analyses and an eye towards implementation	High	Technical Services	The update would be expensive, any projects more so, and would ultimately have limited flood mitigation benefit	Delisted
	Revise the subdivision and zoning code to include requirements and incentives for low-impact development	High	Planning	This was completed and an LID regulatory manual prepared	Completed
2. Increase Town Capacity to Plan for and Simulate Hazard Impacts	Develop GIS capacity to assist in emergency planning and response	Medium	Planning	The Town now has GIS capability but this capacity has not yet been fully implemented	Carry Forward
3. Improve Critical Infrastructure and Ensure Access to Critical Facilities	Improve bridges identified as needing repair through the bridge and dam inspection program	High	Public Works	Stillwell Drive bridge replacement is completed and Tomlinson Avenue bridge replacement is in design	Completed
4. Enable Residents to Better Help Themselves Through Preparedness Education	Develop and distribute a pamphlet about household preparedness for natural hazards; post pdf of pamphlet on town website	High	Emergency Management	Preparedness information is provided in the City website and in municipal buildings	Completed
	Post pamphlet and evacuation plan on town website	High	Emergency Management, Staff	See above. Evacuation plans are developed on a case-by-case basis and cannot be posted	Completed
	Encourage preparedness workshops in schools	High	Emergency Management	This is regularly performed and is a capability	Delisted

Objective	Task	Priority	Responsible Department	Comment	Status
5. Continue Participation in the National Flood Insurance Program	Continue enforcement of floodplain management ordinances by regulating all new and substantially improved construction in flood zones	High	Technical Services	This is regularly performed and is a capability	Delisted
	Work with FEMA to update FIRMs as necessary	High	Planning, Public Works	The MapMod program was completed several years ago	Completed
	Continue to distribute information about the NFIP to homeowners	High	Technical Services	This is performed on request and is a capability	Delisted
	Continue to assist homeowners with amendments to NFIP maps as necessary	High	Technical Services	This is performed on request and is a capability	Delisted

Table 9-7. Status of Previous Strategies and Actions for Plainville.

### 9.3.2 Current Strategies and Actions

This section includes both new strategies and actions as well as updates on objectives and mitigation strategies that were carried forward from the 2011-2016 Plan.

**Goal: Reduce losses of life and property, and minimize economic consequences of natural hazards**

#### Objective 1: Update and formalize existing plans

##### Strategies and Actions:

##### 1.1 Adopt requirements to address the consequence of development on hillsides and steep slopes

Action Description: The 2009 POCD recommends adoption of requirements to address the consequence of development in these areas, including the adoption of a two-foot contour mapping requirement to be included on the site plan for all development proposals.

Lead: Planning

Priority: High

Status: Not Started

Estimated Cost: Low

Potential Funding Source(s): Municipal Operating Budget

Timeframe: 7/2016 to 6/2021

##### 1.2 Develop a watershed compact with other Pequabuck River communities

Action Description: Town staff wish to develop low-impact design standards that will be adopted by each community in the watershed and enforced by inter-municipal agreement.

Lead: Planning

Priority: High

Status: Not Started

Estimated Cost: Low

Potential Funding Source(s): Municipal Operating Budget

Timeframe: 7/2016 to 6/2021

**1.3 Adopt a regulation requiring the installation of cisterns or dry hydrants**

**Action Description:** Although most of Plainville has public water service, fire protection in outlying areas is limited. The proposed regulation would require the installation of cisterns or dry hydrants as part of new developments where public water service will not be provided.

**Lead:** Planning, Emergency Management

**Priority:** High

**Status:** Not Started

**Estimated Cost:** Low

**Potential Funding Source(s):** Municipal Operating Budget

**Timeframe:** 7/2016 to 6/2018

**1.4 Incorporate updated hazard mitigation information into community plan updates**

**Action Description:** Hazard mitigation information will be incorporated into future plan updates of the POCD and other planning documents

**Lead:** Planning

**Priority:** Medium

**Status:** Not Started

**Estimated Cost:** Low

**Potential Funding Source(s):** Municipal Operating Budget

**Timeframe:** 7/2016 to 6/2021

**1.5 Participate in the statewide Water Utility Coordinating Committee process**

**Action Description:** The Connecticut DPH is preparing a Coordinated Water Supply Plan for the entire state beginning in 2016. The Town will participate as a non-member (or provide comments to Valley Water Systems) to encourage that drought-related public water supply needs are met throughout the community.

**Lead:** Planning, Emergency Management

**Priority:** Low

**Status:** Not Started

**Estimated Cost:** Low

**Potential Funding Source(s):** Municipal Operating Budget

**Timeframe:** 7/2016 to 6/2018

**1.6 Ensure local officials have most updated version of the Connecticut Drought Management Plan**

**Action Description:** The Connecticut Drought Management Plan is periodically updated. Local officials, land use commissions, health departments, fire departments, and local water utilities should all be made aware of updates to this plan.

**Lead:** Planning

**Priority:** Medium

**Status:** Not Started

**Estimated Cost:** Minimal

**Potential Funding Source(s):** Municipal Operating Budget

**Timeframe:** 7/2016 to 6/2021

**Objective 2: Increase Town capacity to plan for and simulate hazard impacts****Strategies and Actions:****2.1 Improve GIS capacity to assist in emergency planning and response**

Action Description:	The Town has GIS capacity but this capacity has not yet been fully implemented for emergency planning and response. Certain Town staff should be trained in basic GIS use, in more advanced techniques such as the use of HAZUS-MH, and attend FEMA trainings on the use of GIS in emergency planning.
Lead:	Planning, Emergency Management
Priority:	Medium
Status:	In Progress (Carried Forward from Initial Plan)
Estimated Cost:	Moderate
Potential Funding Source(s):	Municipal Operating Budget
Timeframe:	7/2016 to 6/2021

**2.2 Create a Community Emergency Response Team**

Action Description:	A Community Emergency Response Team (CERT) is composed of trained volunteers who can assist in disaster preparedness and response, including staffing of emergency shelters and performing education and outreach to the public.
Lead:	Emergency Management
Priority:	High
Status:	Not Started
Estimated Cost:	Low
Potential Funding Source(s):	Municipal Operating Budget
Timeframe:	7/2016 to 6/2020

**2.3 Develop a Pequabuck River flood response plan for dams**

Action Description:	Several dams in the Pequabuck River watershed have spillways which can be controlled by gates. A coordinated plan to mitigate peak flows could allow for reduced flooding damage in downstream communities. Plainville would work with upstream communities and dam owners to prepare this plan for reducing downstream flooding.
Lead:	Planning
Priority:	Medium
Status:	Not Started (Recommendation of Pequabuck River Study)
Estimated Cost:	Low
Potential Funding Source(s):	Municipal Operating Budget
Timeframe:	7/2016 to 6/2018

**2.4 Encourage sign-ups for the CT Alerts emergency notification system**

Action Description:	The Town uses CT Alerts to provide a town-wide emergency notification system. Targeted mailings may be used to encourage signups in particularly vulnerable areas, such as special flood hazard areas and dam failure inundation areas.
Lead:	Emergency Management
Priority:	Medium
Status:	Not started
Estimated Cost:	Low
Potential Funding Source(s):	Municipal Operating Budget
Timeframe:	7/2016 to 6/2018.

**Objective 3: Improve critical infrastructure and ensure access to critical facilities**

**Strategies and Actions:**

**3.1 Upgrade the generator at the Town Hall to provide full backup power to the building**

Action Description:	The current generator at the Town Hall can only power part of the building. Many computers and servers remain inoperable during power outages.
Lead:	Emergency Management
Priority:	Medium
Status:	Not Started (Grant Dependent)
Estimated Cost:	Moderate
Potential Funding Source(s):	Municipal Capital Budget, HMGP
Timeframe:	7/2016 to 6/2021

**3.2 Pursue structural floodproofing and elevating the walls of the open tanks at the wastewater treatment plant**

Action Description:	The Pequabuck River Study determined that a ring levee around the plant was not feasible, but smaller-scale projects should be considered. Floodproofing part of the facility could prevent damage to interior equipment, and raising the walls of the open tanks could prevent sewage from mixing with floodwaters.
Lead:	Technical Services
Priority:	Medium
Status:	Not Started (Grant Dependent)
Estimated Cost:	High
Potential Funding Source(s):	Municipal Capital Budget, HMGP, PDM, FMA
Timeframe:	7/2016 to 6/2021

**Objective 4: Enable residents to better help themselves through preparedness education****Strategies and Actions:****4.1 Evaluate the effects of climate change and how to assess hazards that change over time**

**Action Description:** The Town wishes to perform a study to evaluate the effects of climate change which will assess the effects of natural hazards as they may change over time.

**Lead:** Planning

**Priority:** Low

**Status:** Not Started

**Estimated Cost:** Moderate

**Potential Funding Source(s):** Municipal Operating Budget

**Timeframe:** 7/2016 to 6/2020

**Objective 5: Mitigate impacts to properties in National Flood Insurance Program****Strategies and Actions:****5.1 Update the local floodplain management ordinance to meet or exceed current model ordinance requirements**

**Action Description:** The Town of Plainville has a strong floodplain management ordinance, but recent revisions to the NFIP have triggered national and state revisions to the model floodplain management ordinance.

**Lead:** Planning, Technical Services

**Priority:** Medium

**Status:** Not Started (Recommendation of Pequabuck River Study)

**Estimated Cost:** Moderate

**Potential Funding Source(s):** Municipal Operating Budget

**Timeframe:** 7/2016 to 6/2019

**5.2 Survey and then acquire or elevate residential properties in the floodplain**

**Action Description:** The Town will complete or update elevation certificates for residential structures at risk of flooding and work with property owners to develop grant applications for acquisition or elevation. This activity will focus first on repetitive loss properties and then on other floodprone properties. Alternatively, the information could be used for property owners to pursue LOMAs which could potentially reduce the cost of flood insurance for this residents. If sufficient contiguous parcels are acquired, the area could be made into a municipal park.

**Lead:** Technical Services, Planning

**Priority:** Medium

**Status:** Not Started (Recommendation of Pequabuck River Study, Grant Dependent)

**Estimated Cost:** High

**Potential Funding Source(s):** Municipal Operating and Capital Budgets, HMGP, PDM, FMA

**Timeframe:** 7/2016 to 6/2021

**5.3 Implement a floodproofing technical assistance program**

Action Description:	The Town will coordinate an outreach program to commercial and industrial property owners and assist with developing benefit-cost analyses and FEMA grant applications to obtain dry floodproofing if possible. This activity will focus first on repetitive loss properties and then on other floodprone properties.
Lead:	Technical Services
Priority:	Low
Status:	Not Started (Recommendation of Pequabuck River Study)
Estimated Cost:	Moderate
Potential Funding Source(s):	Municipal Operating Budget
Timeframe:	7/2016 to 6/2021

**5.4 Remove sediment from the Pequabuck River channel to lower flood elevations**

Action Description:	The Town will pursue removal of approximately 4,000 cubic yards of sediment upstream of the railroad crossing and west of Neal Court to reduce flood elevations in the area. This will remove nine buildings from the 1% annual chance floodplain and reduce the flood risk to an additional four buildings. A significant permitting effort may be required.
Lead:	Technical Services
Priority:	Low
Status:	Not Started (Recommendation of Pequabuck River Study, Grant Dependent)
Estimated Cost:	High
Potential Funding Source(s):	Municipal Capital Budget, PDM, FMA, HMGP
Timeframe:	7/2016 to 6/2021

**9.4 Contributors to Plan Update**

Mark DeVoe (Director of Planning & Economic Development)  
 John Bossi (Director of Technical Services)  
 Carmen Matteo (Director of Physical Services)  
 Larry Sutherland (Fire Marshal)  
 Joe Alosso (WPCA Superintendent)  
 Paul Shanahan (Administrative Sergeant, Police Department)  
 Shane Lockwood (Director of Health)  
 Marco Palmeri (Sanitarian and Housing Code Enforcement Official)  
 Dave Emery (Superintendent of Buildings and Grounds)  
 Donald Vaughn (Operations Manager, Valley Water Systems)