

**HAZARD MITIGATION PLAN
ANNEX
FOR
BOZRAH, CONNECTICUT**

**An Annex of the
Southeastern Connecticut
Regional Hazard Mitigation Plan**

PREPARED FOR:

**Southeastern Connecticut
Council of Governments**

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I. INTRODUCTION

A. Setting

The Town of Bozrah is approximately 25 square miles in area. The town is located in the northwestern portion of New London County, approximately 30 miles southeast of the City of Hartford. Bozrah is bordered by the City of Norwich to the east, the Town of Franklin to the north, the Town of Lebanon to the northwest, the Town of Colchester to the west, the Town of Salem to the southwest, and the Town of Montville to the south.

Bozrah is a rural community with a 2000 U.S. Census population of 2,357. Residential, commercial, and industrial developments are scattered throughout the town. Commercial areas are found on Route 608 near Bozrah Street along the Yantic River and the intersection of Route 82 and South Road. William W. Backus Hospital in Norwich is the closest hospital for area residents.

Major roads that run through Bozrah include Route 2, Route 163, Route 608, and Route 82. Gilman, a section of Bozrah is found along the northwestern boundary. Near Gilman is Gager Field, an airport for small private planes.

Several waterbodies in Bozrah include Tadmá Pond, Bishop Pond, Fitchville Pond, and the Yantic River. The Yantic River flows through Fitchville Pond near a commercial area of Bozrah. The Bear Hill Wildlife Management Area incorporates approximately 375 acres in the southcentral portion of the town between Gager Road and Bishop Road.

Elevations range from approximately 110 feet NGVD at the downstream portion of the Yantic River in the southern section of the town to over 500 feet on Scott Hill near the western corporate boundary.

B. Purpose of Annex

The purpose of this annex is to provide hazard risk assessment, capability assessment, hazard mitigation measures, and a hazard mitigation project ranking for the Town of Bozrah. Hazards such as earthquakes and windstorms which affect the entire region are addressed in the Southeastern Connecticut Council of Governments Regional Hazard Mitigation Plan.

C. Plan Development Process and Public Involvement

The Regional Hazard Mitigation Plan and this annex were developed through a series of meetings and the completion of written questionnaires, personal interviews, and workshops. To provide oversight of the plan development process and maximize local involvement, all member communities in the region and the two tribal affiliate members were invited to appoint a representative to serve on the Hazard Mitigation Steering Committee. Committee members and chief elected officials received notices of all the committee meetings and were encouraged to attend. Meeting notices and agendas were also sent to area media and to town and city clerks for posting in each community. Steering committee meetings were held in public at the Southeastern Connecticut Council of Governments office in Norwich. Three steering committee meetings were held during the development of the hazard mitigation plan. Verbal reports on progress were given to monthly meetings of the Southeastern Connecticut Council of Governments, which are routinely attended and covered by area press in local newspapers. Articles describing the planning process have appeared in the three issues of the SCCOG Quarterly Newsletter since March, 2003. This newsletter is mailed to 285 officials, organizations, and media within the region.

II. HAZARD RISK ASSESSMENT

Based on the results of DELTA's risk assessment research, the most significant hazard in Bozrah is flooding.

One of the major rivers that flows through Bozrah is the Yantic River. It flows southeast through the town into the Thames River. Gardner Brook flows north to south through Bozrah along Route 163. The floodplains in Bozrah are sparsely developed. The structures found along the Yantic River tend to be near roads that were built sufficiently above historic flood heights. Scattered development along State Route 163 is more susceptible to flooding due to the flat floodplains in the area. Buildings located in flood hazard areas are primarily residential. Most of the structures that are threatened by flooding are located within the 100-year floodplain.

Bozrah has no formalized program currently in place to identify the location or the number of structures that are susceptible to flooding. Such information would be valuable in directing hazard mitigation efforts to locations with the greatest risk. A potential hazard mitigation project would involve the review of all existing available data regarding flood hazards and the preparation of an inventory and assessment of structures at risk in the flood hazard areas.

Such an inventory program would be the first step in completing a Flood Audit, which would provide early flood warning, guidance and technical information regarding flood risks to property owners, as well as prioritize future property protection projects. The completion of a Flood Audit would be an important step in the National Flood Insurance Programs Community Rating System by which towns can qualify for a reduction in flood insurance rates.

A. Residential

Based on a review of the Flood Insurance Rate Maps and topographic maps, residential structures that are subject to flooding during significant flood events are located along the Yantic River.

The Yantic River flows through the Town of Bozrah and has a potential to flood several roads and damage structures located near Stanton Hill Road and Stockhouse Road. A large stretch of Stockhouse Road may be flooded during severe storms thus potentially impacting emergency response.

B. Commercial / Industrial

The majority of the town's commercial and industrial facilities appear to be located along Route 608 (Fitchville Road) and Route 163 (Bozrah Street). Route 608 runs parallel to the Yantic River and Route 163 runs parallel with Gardner Brook. However, it appears that structures located along these roads are not in flood hazard areas.

C. Critical Facilities

Critical facilities in Bozrah include the fire station, Town Hall, and schools. None of these critical facilities are located in flood zones. These areas are free from flooding and are generally protected from other potential hazards.

D. Transportation Corridors

Bozrah has several major transportation routes such as Route 2, Route 608, and Route 163 that run through the town. It is critical that these roads and others remain accessible to emergency vehicles and residents during emergencies.

Potential flooding may impact several roads including Bozrah Street near Fitchville Pond, Colchester Turnpike along the Yantic River, and Old South Road along the southern corporate limits of Trading Cove Brook.

Town officials have also expressed concern with increased thru-traffic in Bozrah. Specifically, the town is concerned with the transportation of hazardous materials over their roadways and their ability to respond to a major incident regarding a release of such materials.

III. HAZARD MITIGATION MEASURES

The following sections provide a brief description of the types of hazard mitigation measures and programs that are available to address the natural hazards that exist in the town.

A. Prevention

Hazard prevention includes identification of risks and the use of land-use regulatory and other available management tools to prevent future damage. The Town of Bozrah has planning and zoning tools in place that incorporate floodplain management. The town's planning and zoning regulations, inland wetlands and watercourses regulations, and the building department's enforcement of the Connecticut Basic Building Code are all important existing regulatory mechanisms that address hazard prevention and incorporate floodplain management.

The following are examples of how hazard prevention can be accomplished through existing programs:

1. Planning and Zoning

Planning and Zoning Regulations can be tailored to be consistent with hazard mitigation planning. Establishment of Flood Prone Conservancy Districts, Coastal Resource Zones, and River Corridor Preservation Zones are all techniques that can potentially be employed to limit additional development in hazardous locations.

2. Open Space Preservation

Community Planning that includes open space acquisition and preservation sections can be established or revised in a manner that is consistent with hazard mitigation planning. Acquisition of floodplain and river corridor properties should be encouraged as a municipal priority.

3. Floodplain Development Regulations

The modification of floodplain management regulations to include more restrictive development standards is consistent with hazard mitigation planning. The National Flood Insurance Program Community Rating System gives credit to communities that exceed the minimum floodplain management requirements of the National Flood Insurance Program. Requirements include elevating structures higher than the 100-year base flood elevation, which is an example of a more stringent standard.

4. Stormwater Management

Stormwater management regulations that limit any potential increase in the state of discharge of stormwater and that preserve floodplain storage are examples of the use of stormwater management in a manner consistent with hazard mitigation planning.

5. Wetlands Protection

Wetlands areas are generally also critical flood storage areas. By limiting wetlands development not only are important natural resource areas protected but additional floodplain development is also limited.

7. Erosion and Sediment Control Regulation

Effective implementation of sedimentation and erosion controls include utilization of detention basins and use of other Best Management Practices to slow the velocity and limit increase in runoff. Strict adherence to the requirements are effective hazardous mitigation tools.

B. Property Protection

Property protection measures can address hazards at a single structure or can include multiple structures.

The following list identifies common property protection measures:

1. Relocation
2. Acquisition
3. Building Elevation
4. Utility Protection
5. Flood Proofing

Additional descriptions of property protection measures are provided in Appendix A in the Regional Hazard Mitigation Plan.

C. Emergency Services

Emergency communication is a critical aspect of the hazard response programs currently in place in Bozrah. Emergency Services hazard mitigation measures can be combined with other types of measures to form successful projects, or remain as stand-alone projects.

The major utilities that provide service to the town follow similar procedures. The Connecticut Light and Power Company and Bozrah Light and Power Company have emergency operation centers which become operational in the event of any emergency that could impact the utilities.

The interagency communications between the town and independent utilities requires continued coordination to assure the critical communications link between the town operations and the utilities is effectively maintained. A need for improved and continued coordination has been identified during this study.

Aspects of emergency services typically addressed in hazard mitigation include the following:

1. Emergency Communication
2. Flood Warning
3. Flood Response
4. Critical Facilities Protection

D. Structural Projects

Structural projects include utilization of the flood control strategies that have been and continue to be applied throughout Connecticut. The potential environmental impacts of structural projects are often a concern.

Structural projects that can be included in hazard mitigation planning include the following:

1. Levees/Floodwalls
2. Bridge & Culvert Replacement
3. Channel Modifications
4. Storm Sewer Improvements
5. Structural Project Maintenance and Repair

Any prospective projects which were identified during the course of assembling this plan are included in the hazard mitigation matrix in Appendix A of this annex report. Additional information on some types of structural projects is provided in Appendix A in the Regional Hazard Mitigation Plan.

E. Public Information

Public Information is another type of hazard mitigation measure which, like prevention and resource protection, can be most effectively implemented in conjunction with other hazard mitigation projects.

The Hazard Mitigation Committee has identified the need for a continued and expanded program of public information. Such a program could include providing educational information to the homeowners and business owners in the flood hazard areas. A public

education and information component should be included in all hazard mitigation projects undertaken by the Town of Bozrah. The following list includes some common types of public information measures:

1. Map Information

Development of hazard maps for public distribution or posting in public locations. This type of information is easily understood and assists in raising the public's awareness of the natural hazards that exist in their community.

2. Flood Audits

For additional information regarding flood audits refer to Appendix F of the Regional Hazard Mitigation Plan.

3. Real Estate Disclosure

This is a procedure where buyers and sellers of real estate are compelled to provide notice of known hazards affecting the property to be conveyed.

4. Public Library

Libraries can be an effective location of a hazard information center. Town Halls and other public facilities can also serve as information centers. A wide range of hazard mitigation documentation should be compiled for review.

5. Technical Assistance

Local governments can provide technical assistance to homeowners and contractors regarding hazard resistant construction. An appropriate time for such assistance can be at the time of a building permit application.

6. Environmental Education

Private and public schools and adult education programs can offer environmental education classes that include hazard identification and hazard mitigation components.

IV. HAZARD MITIGATION PROJECT RANKING

Based on the hazard risk assessment analysis, the Hazard Mitigation Committee has developed a matrix of several potential hazard mitigation projects recommended to reduce Bozrah's vulnerability to natural hazards. A matrix depicting potential hazard mitigation projects and a prioritized ranking is included in Appendix A.

Projects identified in the matrix have been prioritized based on the following criteria:

- Safety of the population
- Historical damage
- New development in high risk areas
- Value of property at risk
- Consistency with plan goals and objectives

The projects were also considered on how they relate to potential health risks, structural damage, access/egress for evacuation, and protection of structures that house people with special needs and residential areas housing a large portion of the town's population. For additional information on projects listed in the matrix and for a complete list of criteria used in the prioritization process, please refer to the text and attachments of the Regional Hazard Mitigation Plan.

V. IMPLEMENTATION, MONITORING, AND EVALUATION

The Southeastern Connecticut Council of Governments Regional Hazard Mitigation Plan and this associated community annex report were prepared with the understanding that potential funding sources may not be available within the time frame necessary to implement the recommended actions on a specific schedule. It is therefore necessary to incorporate into the plan a system of monitoring its progress and making necessary adjustments. In addition, the goals and objectives may need to be modified over time in order to meet the demands of a changing community. Accomplished activities will be eliminated, and new ones added.

The staff of the Southeastern Connecticut Council of Governments (SCCOG) serves as coordinator of the Hazard Mitigation Committee that provided oversight of the plan preparations. In accordance with § 201.6 (c)(4)(i) of the Interim Final Rule, it is recommended that the Committee meet on or before the fifth anniversary of the adoption of the plan to review the implementation progress as well as the goals, objectives, and actions outlined in the plan. With input from the Committee, SCCOG staff should prepare a report on the status of plan implementation. The report should include the following: a review of the goals and objectives of the original plan; a review of any disasters or hazards that occurred during the period; a review of each element or objective of the original plan, including what was accomplished the previous year; and recommendations for new projects or revised objectives.

FEMA also recommends that each of the local communities name a person as a local coordinator for the implementation and monitoring of the progress of the plan. This person would act as a contact for the Southeastern Connecticut Council of Governments and the State of Connecticut National Flood Insurance Program Coordinators during the grant application and cost-benefit analysis process.

The Town of Bozrah Hazard Mitigation Projects

Hazard	Vulnerable Location	Mitigation Project	Priority
All Hazards	Town Wide	Evaluate the Hazard Resistant Nature of All Critical Facilities	High
All Hazards	Town Wide	Comprehensive Evaluation of Emergency Communication Capabilities Throughout Town	High
Flooding	Town Wide	Develop a Flood Audit Program	High
Flooding	Yantic River & Tributaries	1) Complete Catch Basin Surveys to Identify Catch Basins in need of Maintenance and/or Replacement 2) Complete Culvert Survey to Determine Priority for Maintenance and/or Replacement Plan	Medium

The Town of Bozrah Hazard Mitigation Projects

All Hazards	Town Wide	Review of Town Transportation Facilities to Identify Critical Risks	Medium
Hazard	Vulnerable Location	Mitigation Project	Priority
Hazardous Materials Spills on Roadways	State Roads	Identify Appropriate Improvements to Traffic Infrastructure and Emergency Response Training and Equipment	Medium
All Hazards	Town Wide	Implement a Reverse 9-1-1 System to Automatically Call Telephones Throughout Town, Relaying Important Information During an Emergency	Low
All Hazards	Town Wide	Distribute or Post Public Information Regarding Hazards in the Town	Low

The Town of Bozrah Hazard Mitigation Projects

All Hazards	Town Wide	Evaluate Emergency Shelters, Update Supplies and Check Communication Equipment	Low
All Hazards	Town Wide	Maintain Emergency Personnel Training as well as Maintaining and Updating Emergency Equipment and Response Protocols	Low
Hazard	Vulnerable Location	Mitigation Project	Priority
Wind Hazards	Town Wide	Evaluate and Consider Burying Power Lines Underground and Away From Possible Tree Damage	Low
Earthquake Hazards	Town Wide	Complete an Earthquake Survey of all Critical Facilities and Infrastructures	Low

The Town of Bozrah Hazard Mitigation Projects

Fire Hazards	Town Wide	Complete a Survey of Fire Hydrants in each Community to Assess Vulnerabilities and Capabilities for Fire Protection Dry Hydrants should be Considered as a means for Emergency Equipment	Low
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