

Town of Scituate Flood Mitigation Action Plan May, 2001



Prepared under a Grant from the
Massachusetts Emergency Management Agency
With the assistance of
The Commonwealth of Massachusetts
Department of Environmental Management
Prepared by
The Town of Scituate
Flood Mitigation Planning Committee
and the
Fire Department & Conservation Commission

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1.0 Executive Summary

The Town of Scituate initiated this Flood Mitigation plan with the help of a Flood Mitigation Assistance Grant from the Massachusetts Emergency Management Agency. The Conservation Commission and Fire Department sponsored the planning grant application, launched the planning process, conducted the meetings and prepared this report.

This plan is based on a process that was conceived and codified by the Department of Environmental Management (DEM) Flood Hazard Management Program. Under the DEM guidelines, the planning process requires the organization of a diverse Committee to review findings and produce a written plan.

By exploring future mitigation projects and activities, this plan provides guidelines for flood mitigation in the Town of Scituate and will help to:

- 1) Reduce public and private damage costs;*
- 2) Reduce social, emotional, and economic disruption;*
- 3) Provide better access to funding sources for flood mitigation projects;*
- 4) Improve ability to implement post-disaster recovery projects.*

*Through the process, specific neighborhoods were identified as “**high hazard**” coastal areas based upon their FEMA flood zone designation, local and federal repetitive loss information (see repetitive loss map in appendix) and, local knowledge provided by the Flood Mitigation Committee members. These areas include the following (from North to South):*

- Glades Road / Minot Beach*
- Surfside Road*
- Oceanside Drive at the Avenues (Proving Grounds)*
- Turner Road / Lighthouse Point*
- Peggotty Beach / Town Way Extension*
- Central Ave. Humarock (North End)*

The Committee identified land uses that have experienced flood damage and land uses that are most likely to experience flood damage in future floods.

In general, few critical facilities (schools, police, fire, etc.) are considered flood hazard risks in the Town of Scituate. Instead, most of the severe flood risk properties are in areas of residential use.

Types of damage which occur during flooding were identified and include the following:

- Structural damage to businesses and residences*
- Flooding of street and structures*

- *Street blockage from over wash & flooding*
- *Interruption of utilities and services*
- *Impediment of emergency services*

The Town conducts and promotes flood hazard mitigation through several types of activities reducing flood risks and future damages. The following statements reflect the goals of the Town of Scituate:

- 1) *To improve coordination of efforts among the primary departments involved with flood mitigation;*
- 2) *To motivate the appropriate Town departments for the execution of flood mitigation projects;*
- 3) *To assist the Conservation Commission in the acquisition of conservation land;*
- 4) *To improve the understanding and preparedness for residents to effectively deal with flooding issues.*

The planning process provided the Committee with a number of projects to evaluate for implementation. The following activities were determined to be the best overall activities for flood damage reduction.

Priority Activities

- Continue with the GIS mapping activities related to the preparation of this Plan including the publishing this report plus other flood hazard mitigation material on the web
- Provide access to all Municipal, State and Federal agencies GIS flood mitigation information before and during storm events on the Towns LAN and through the Web
- Improve culverts and outlets on Oceanside Drive and behind Turner Road as identified in this plan
- Prepare a Flood Mitigation Plan specific to the Turner Road/ Jericho Road area
- Evaluate and enhance drainage and/or flood prevention structures at key intersections or for key intersections (Intersections are specified on the flood mitigation map)
- Identify, map (GIS), and assess the Town's storm drain system
- Develop a system of coordination between Town Departments and the Community Rating System Coordinator (Planning and Conservation staff) so that flooding and drainage issues are routinely addressed and the flood mitigation plan is reviewed and/or updated on an annual basis

- Develop specific criteria for properties to be purchased or relocated by the Town
- Encourage local or federal buy-out of high hazard coastal areas
- Repair seawalls and revetments as recommended in the five year capital plan including the following locations:
 1. Surfside Road
 2. Oceanside Drive
 3. Peggotty Beach Road
- Develop a benchmark system (GIS) of elevation points on NGVD datum throughout the Town (it is estimated that 500 points would have to be established).

Secondary Activities

- Develop a public education program about flood prevention and flood insurance; continue active participation in the Community Rating System including increased credit for Scituate Emergency Management System activities and open space preservation
- Key staff participation in appropriate training in Emmitsburg, Maryland
- Post information in this report on the Town's web site
- Improve culverts and outlets in selected neighborhoods
- Evaluate and enhance drainage and or flood prevention structures at key intersections
- Maintain the GIS flood mitigation database of the Town's storm drain system, escape routes, critical facilities and emergency phone numbers ect.
- Develop a system of coordination between Town Departments Annually assess the official criteria for properties to be purchased or structures to be relocated by the Town

2.0 Flood Mitigation Plan

2.1 Introduction

The Town of Scituate initiated this Flood Mitigation plan with the help of a Flood Mitigation Assistance Grant from the Massachusetts Emergency Management Agency. The Conservation Commission and Fire Department sponsored the planning grant application, launched the planning process, conducted the meetings and prepared this report.

Flood hazard mitigation is any sustained effort that reduces the risk of flood hazards to citizens and minimizes flood damages to structures, infrastructure, and other resources. The term hazard mitigation means preventive actions a community can take to help reduce the destruction caused in major and minor flood events. Hazard elimination and loss prevention is not the same thing as emergency response. A warning system or an evacuation plan for flood prone areas are specific elements of response and preparedness and may achieve some flood loss reduction.

However, warning and evacuation deals only with the immediate needs during and following a flood event. Hazard mitigation is a planning approach that quantifies and qualifies the methods to respond to emergencies by anticipating the potential impact of these hazards.

By exploring future mitigation projects and activities, this plan provides guidelines for flood mitigation in the Town of Scituate. With an effective plan in place, the Town can benefit from its implementation in four ways:

- 1) *Reduced public and private damage costs;*
- 2) *Reduced social, emotional, and economic disruption;*
- 3) *Better access to funding sources for flood mitigation projects;*
- 4) *Improved ability to implement post-disaster recovery projects.*



2.2 Steps for Hazard Mitigation

This plan is based on a process that was conceived and codified by the Department of Environmental Management (DEM) Flood Hazard Management Program. Under the DEM guidelines, the planning process requires the organization of a diverse committee to review findings and produce a written plan. Therefore, in December 2000, the planning process was initiated and a list of prospective members and key staff personnel was assembled. By January 2001, the Scituate Flood Mitigation Community Planning Committee was



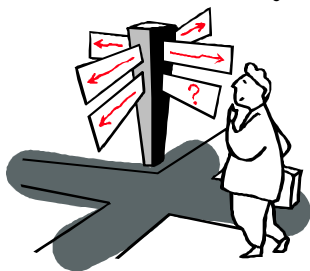
established with the Conservation Agent assigned as the project director and the firm of TPMC as the GIS mapping consultants. The Scituate Flood Mitigation Community Planning Committee met during that month in order to organize and prepare for the start of the Planning Process. The Committee adhered to the methodology as drafted by the Department of Environmental Management mainly to begin identifying threats and key flood risk areas. Base mapping of critical data was initiated using the Town's GIS system. The staff collected information to

add to this initial mapping effort. Through continued individual input and a second public meeting held on April 10th, 2001, the Committee was able to evaluate existing flood mitigation measures and consider future flood mitigation activities and priorities.

Members of the Scituate Flood Mitigation Community Planning Committee include:

- *Vincent J. Kalishes, III, Conservation Agent*
- *Richard Agnew, Town Administrator*
- *Allan Mayberry Greenberg, Chairman, Conservation Commission*
- *Edward Hurley, Fire Chief*
- *Tom Neilan, Police Chief*
- *Brian Stewart, member, Scituate Police*
- *School Department*
- *Library*
- *Elmer Poole, Harbormaster*
- *Anthony Antonelli, Director of Public Works*
- *Paul Scott, Town Engineer*
- *Michael Breen, Department of Public Works*
- *Neil Duggan, Building Inspector*
- *Jennifer Sullivan, Health Agent*
- *Laura Harbottle, Town Planner*
- *Johnathan Warner, Scituate Planning Board*

The Flood Insurance Rate Map (FIRM) is the standard used by the Town for determining the vulnerability of structures to flood hazards. The flood risk information presented is based on historic, meteorological, hydrologic, and hydraulic data, as well as geomorphic conditions, flood control structures and land use. To prepare FIRMs that illustrate the extent of flood hazard in a flood prone community, FEMA conducts engineering studies referred to as Flood Insurance Studies (FISs). Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas (SFHAs) on FIRMs. SFHAs are those areas subject to inundation by a flood that has a 1% chance or greater of being equaled or exceeded during any given year. This type of flood is referred to as a base flood. A base flood has a 26% chance of occurring during a 30-year period (the length of many home mortgages). The base flood is a regulatory standard used by federal agencies and most states to administer floodplain management programs and is also used by the National Flood Insurance Program as the basis for insurance requirements nationwide.

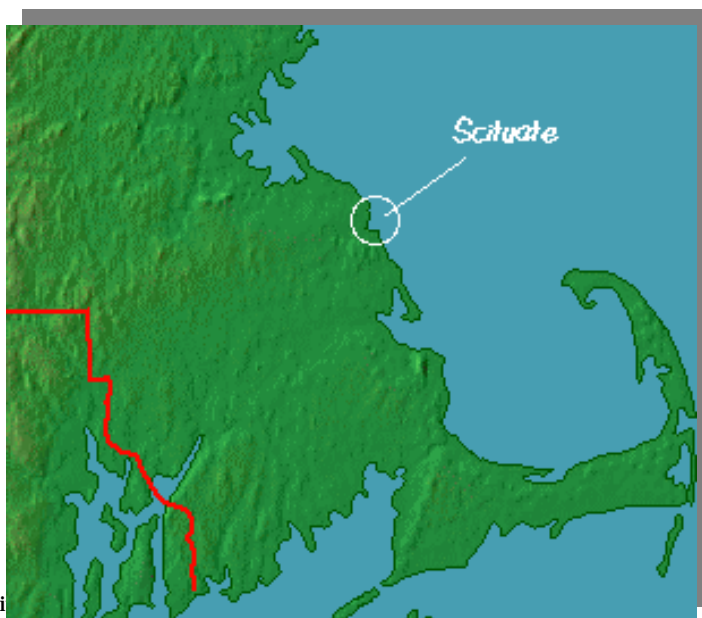


2.3 Environmental Setting

The Town of Scituate is located 25 miles southeast of Boston. The Town is approximately 12,160 acres (19 square miles) in area: 1,340 acres of the total area is covered with water, and 1,600 acres is salt marsh.

The western section of Scituate (West of Route 3A) is known locally as the “West End”. This section of Town is characterized by gently rolling hills and numerous wetland areas. Great South Swamp, located in the West End, is the largest single source of the water supply for Scituate. This section of Town lies within the watersheds of Bound Brook and First Herring Brook. The rural, wooded setting of Scituate’s West End offers a relatively idyllic quality not present elsewhere in Town.

The northern part of Town includes North Scituate Village and Minot Village. Much of this section of Town is within the Mushquashicut Brook watershed, a tidal waterway that drains into Cohasset Harbor. North Scituate/Minot is influenced by its close proximity to the shore. Sand and cobble beaches, extensive salt marshes and rocky shoreline characterize the coastline of North Scituate. Steep bedrock ledges up to 30 feet high bind Strawberry Point locally known as the Glades. Numerous bedrock islands punctuate the near shore waters seaward of Strawberry Point. Extensive salt marshes occur within the sheltered bay (Cohasset Harbor) landward of Strawberry Point,



and penetrate inland along Musquashicut Brook and its tributaries. Minot Beach and North Scituate Beach, coarse-grained beaches anchored by bedrock headlands, are located South of Strawberry Point. The Musquashicut Pond barrier beach, which protects Mushquashicut Pond, is part of North Scituate Beach.

The central section of Scituate encompasses the areas just north and south of Scituate Harbor. It lays within the watershed of Satuit Brook which discharges into Scituate Harbor. Sand and cobble beaches, including Egypt Beach and Peggotty Beach, characterize the coastline. First and Second Cliffs, along with Cedar Point, shelter Scituate Harbor from ocean waves. Inland areas are characterized by rolling topography interspersed with wetlands.

The southern part of Scituate is located within the watershed of First Herring Brook. The North River, one of the most significant waterways in the region, borders this area. Third and Fourth Cliffs, among the most prominent coastal features in Scituate, rise 79 feet and 62 feet above mean sea level, respectively. Both drumlins offer spectacular views of Massachusetts Bay and the mouth of the North and South Rivers.

The Coleman Hills, located North of the North River Estuary, is another prominent topographic feature. This complex of sand and gravel deposits was formerly much more extensive, but was strip-mined largely for fill material to construct Logan International Airport. Today, this once barren landscape has been reclaimed as a municipal golf course.

Humarock Beach, also a part of Scituate, lies south of the mouth of the North and South Rivers. Fourth Cliff anchors the northern end of Humarock Beach, a barrier beach, over three miles in length. Fourth Cliff is the only unarmored sea cliff in Scituate and is currently used by the U.S. Air Force as a seasonal recreational facility for Air Force personnel.

The original settlers of Scituate found the stony glacial soils poorly suited for crops, however, the development of shipbuilding and fishing helped to overcome the agricultural limitations. These industries provided support for a stable population of a few thousand residents between the mid-1600s and the early 20th Century.

As the northernmost town in Plymouth Colony and County, Scituate originally looked southward rather than North to Boston. This influence began to shift in the 1800s with the completion of the Old Colony Railroad. Boston became a comfortable two-hour train ride rather than a difficult daylong journey by stagecoach or packet sloop. Farmers were able to ship fresh produce to the Boston market and summer vacationers were quick to discover the sandy beaches of the Town. By 1910, the population doubled to 5,000 in the summertime. With the end of World War II, Bostonians began to purchase family homes in Scituate raising the year-round population to 11,000 by 1960. In that year the Southeast Expressway replaced the railroad as the principal means of access to Boston. Today, with the exception of a modest fishing industry, Scituate is a commuter suburb of Boston. The present population is slightly over 18,000.

The railroad reached North Scituate in 1871. Several summer hotels were soon built along North Scituate Beach to cater to vacationers arriving by train. Horse-drawn buses carried the guests from the depot to the hotels. After 1880, prominent businessmen from as far away as Worcester built elegant shingled “cottages” in the area inland from the hotels. These businessmen incorporated the “Hatherly Beach Playground Association” that evolved

into the present Hatherly Country Club and golf course. In the 1920's, prominent Bostonians of Irish extraction including James Michael Curley and Cardinal O'Connell purchased many of the homes.

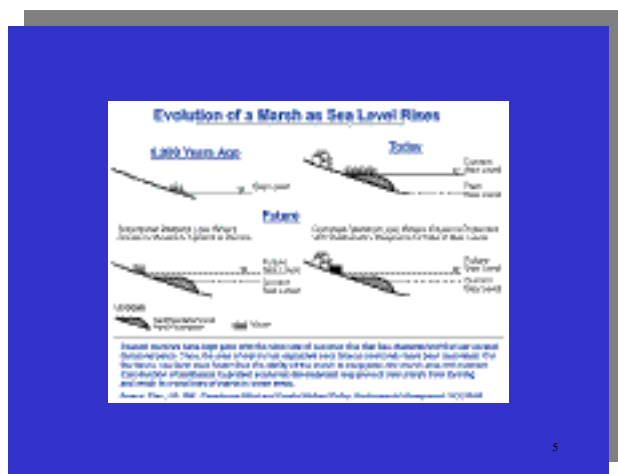
The railroad was completed through Scituate in the 1880's. Soon, a colony of small frame summer cottages grew up along the shore from Egypt Beach to Cedar Point. Their owners occupied some of these cottages and some were leased by the week. Many of the summer cottages were owned or rented by Boston fire lieutenants, police captains and other municipal workers of modestly comfortable means and Irish ancestry. By the 1930's, the coast of Scituate had become known as the "Irish Riviera."

Immediately after the end of World War II, Boston residents began to move to the suburbs. Many of those who purchased homes in Scituate were former vacationers and their children who had fallen in love with the Town. Summer cottages were winterized or replaced. New subdivisions spread inland across abandoned pastures as fast as the Scituate Planning Board could approve the plans. By 1980, the population had grown to 17,300 almost all of who depended directly or indirectly on employment outside the Town of Scituate.

In 1940, Scituate was a small town with slightly over 4000 residents. After World War II, the Town expanded rapidly as people began to move from the city to suburban areas. Between 1950 and 1970 the population almost tripled from 5,943 to 16,744. The population stabilized between 1970 and 1990, however, construction of residential subdivisions resumed in the nineties. Today, Scituate is a maturing Town with an aging population and much of the land developed.

3.0 Current Flood Risks

Fact: The sea level is rising. Each year this trend puts more and more "upland" with various structures in harms way. Although this trend is relatively slow, it is constant and relentless. Buildings, which have never been previously damaged, are now in jeopardy.



Flood zone designations can be identified in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM). Flood hazard areas are identified by zones (A, V and X) depending on the severity of the flood threat. In Scituate, an initial identification was conducted in 1986 with the first map issued in June 1986. A complete revision, including changes to base flood elevations and special flood hazard areas, was completed in 1992 in order to account for the effects of wave action and to change designations. A draft revision was issued in early 2001 to reflect FEMA studies along the

entire coast of Scituate. The causes of flooding in Scituate are primarily associated with the coastal areas where the 100-year flood boundary extends inland from the ocean.

3.1 High Hazard Areas

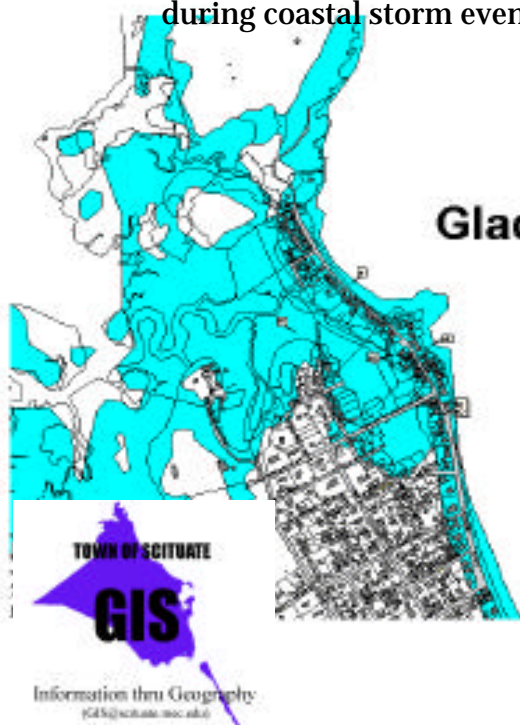
Specific neighborhoods were identified and mapped using the Towns GIS system as “**high hazard**” coastal areas based upon their FEMA flood zone designation, local and federal repetitive loss information (See appendix Repetitive Loss Map) and, local knowledge provided by members of the Flood Mitigation Committee. These areas include the following (from North to South):

- *Glades Road / Minot Beach*
- *Surfside Road*
- *Oceanside Drive at the Avenues (Proving Grounds)*
- *Turner Road / Lighthouse Point*
- *Peggotty Beach / Town Way Extension*
- *Central Ave. Humarock (North End)*

3.2 Area Description Details

3.2.1 Glades Road from “the Gate” to the Glades to the intersection with Bailey’s Causeway:

This area consists of a barrier beach with associated overwash. Although seawalls protect it, the potential for damage here is great as evidenced by a significant number of residences in this area that been elevated since 1978 and the number of repetitive losses. Access to this area is extremely limited during coastal storm events especially at high tide.

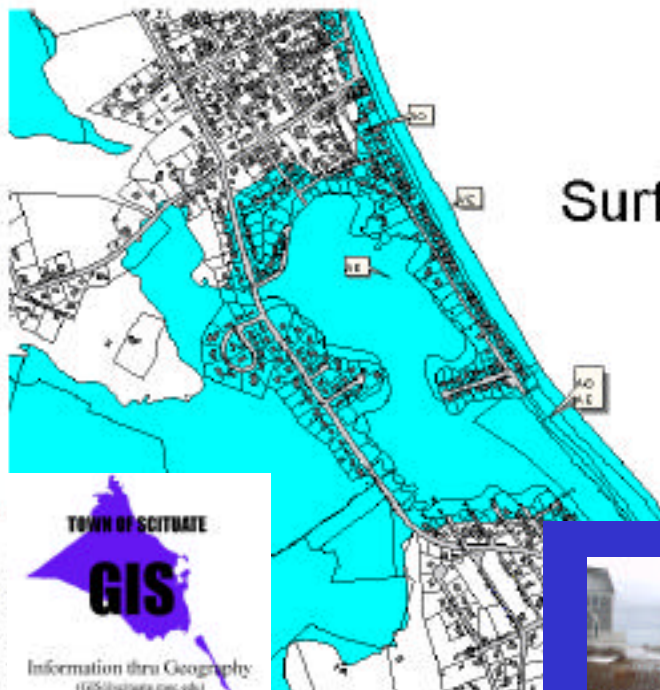


High Hazard Area Glades Road / Minot Beach



3.2.2 Surfside Road from Gannett Road to the end

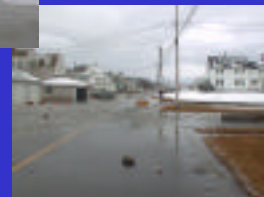
Another of Scituate's barrier beaches, Surfside Road is also behind a seawall that is slated for repair in the near future. Many of the residences have had concrete patios installed between the structure and the seawall. The south end of this developed beach abuts a shingle beach that acts as a storm buffer to the Musquashicut Pond area.



Surfside Road



Surfside Road
March, 2001



Surfside Road
1976

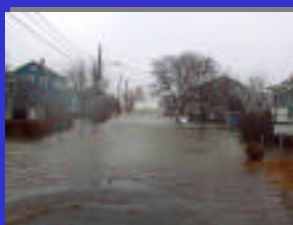


3.2.3 Oceanside Drive at Fifth to Tenth Avenues

This area has historically had a flooding problem. Because of its basin-like structure and the seawall, it retains any floodwaters that flow into it from the ocean or storm run-off. This area has historically had a flooding problem. In the March 2001 storm, the seawall was compromised and has been slated for repair. The intention is to design it so that water impounded on the landward side will drain as the tide subsides.



Sixth Ave.
looking east

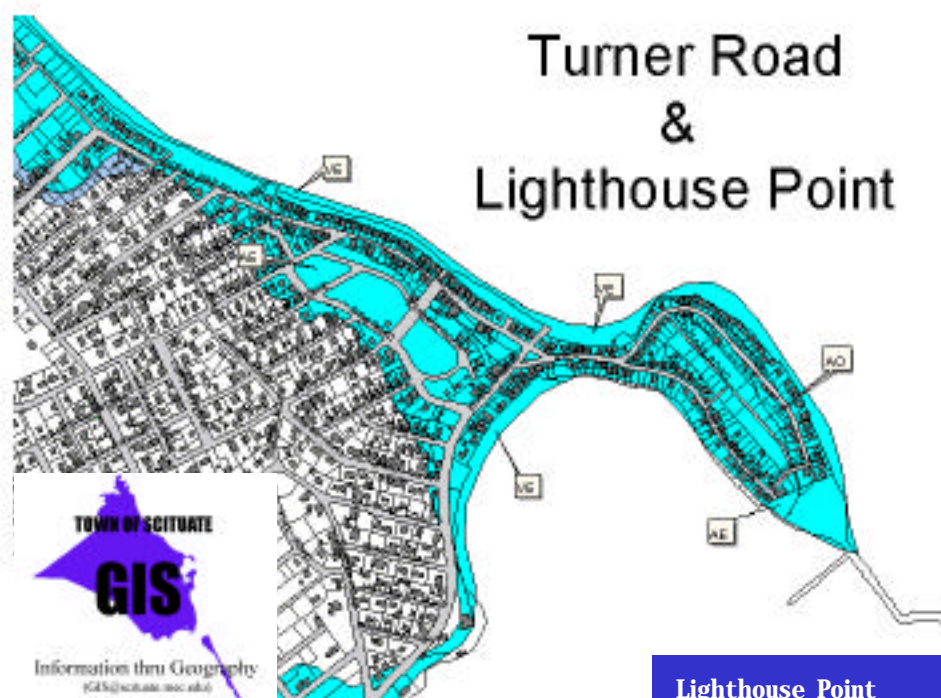


looking west



3.2.4 Turner Road & Lighthouse Point

This area has experienced severe storm damage over the years. During high tides, in major coastal events, the “Point” becomes isolated from the Town. This area has some seawall protection but is flooded and overwashed regularly.



Turner Rd.
1978

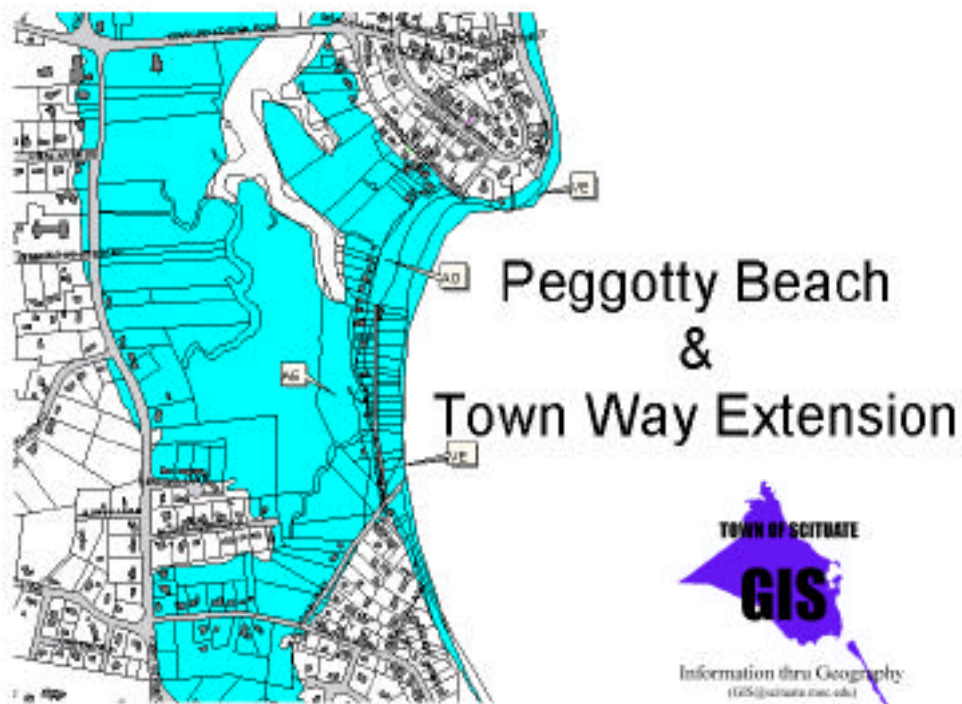


Lighthouse Point



3.2.5 Peggotty Beach including Town Way Extension

This area exhibits the effects of coastal erosion at its worst. The Town Way Extension section of the beach had summer homes on it every fifty feet, from Town Way to the Town Beach, as recently as 1972. Now, there are but six homes left. Overwash forces the Town to bulldoze open the roadway every spring.

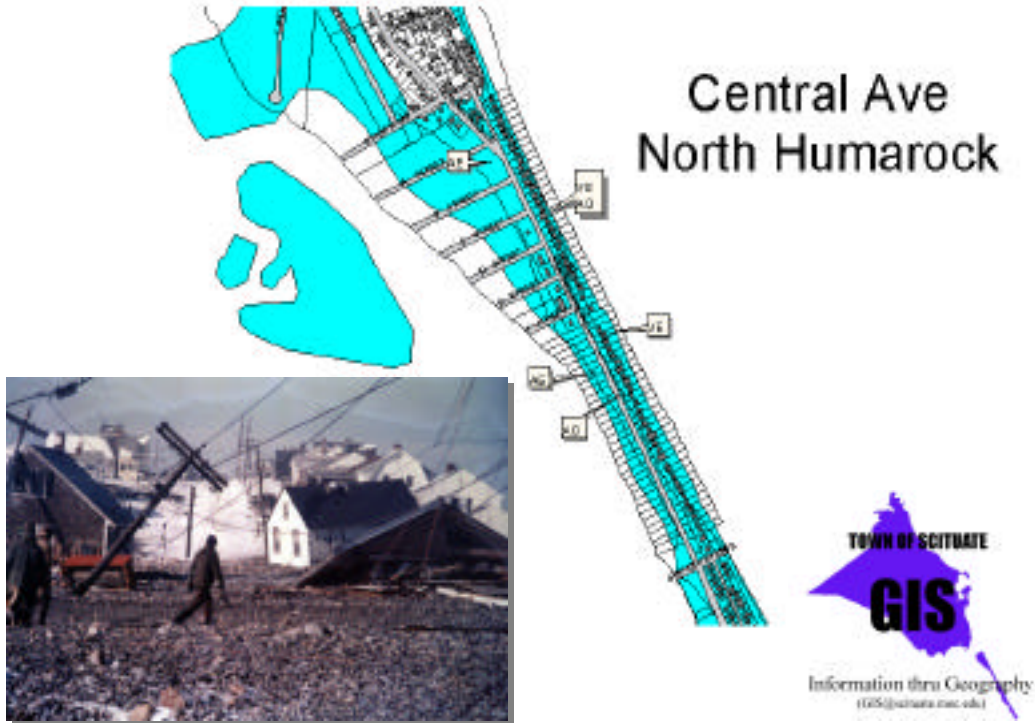


Town Way Ext.
March, 2001



3.2.6 Humarock

Now an island, Humarock was once connected to Scituate's mainland through the area now defined by the mouth of the North River. In 1898, the "New Mouth" was formed by the breach of a then barrier beach, which connected Third and Fourth Cliffs. Erosion continues to this day. In storm events the North end of Central Ave. becomes impassable due to flooding and over wash. Access during these events is only by four-wheel drive vehicles until the road is cleared.



4.0 Critical Facilities

There are no critical facilities within the Town of Scituate located in flood zones. Locations identified on the following list and mapped in the Critical Facilities Plan (See Appendix) include structures, which could provide shelter and/or needed provisions and services. These would be public and quasi-public buildings with halls or other types of group facilities, convenience stores, and gasoline stations. Emergency municipal facilities and health care operations are also included.

List of Critical Facilities (see map attached in appendix)

Facility Name	Street #	Street Name	Map/Block/Lot
Cushing School	1	ABERDEEN DR	031-002-009R
Hatherly School	72	ANN VINAL RD	027-006-000A
Library	85	BRANCH ST	038-001-016A
Senior Center	27	BROOK ST	050-006-000A
Christ Lutheran Church	460	C J CUSHING HWY	043-001-017A
High School	606	C J CUSHING HWY	032-009-000A
Police Headquarters	604	C J CUSHING HWY	037-005-004
Sunoco Station	781	C J CUSHING HWY	025-003-001
Town Hall	600	C J CUSHING HWY	037-005-004
DPW Garage	68	CAPTAIN PIERCE RD	027-005-003
Scituate Housing Authority Central Park	1	CENTRAL PARK DR	038-001-016
Coast Guard Office	101	COLE PARKWAY	
Harbormaster Building	100	COLE PARKWAY	
Scituate Etrusco	1	COMMON ST	049-001-007A
Cardigan Nursing Home	59	COUNTRY WAY	048-001-014A
Ellis Estate	709	COUNTRY WAY	012-003-001
First Baptist Church	656 & 660	COUNTRY WAY	020-004-016
Driftway Animal Hospital	53	DRIFTWAY	053-005-000B
Scituate Ocean Manor	309	DRIFTWAY	053-003-002
Water Pollution Control Facility	161	DRIFTWAY	059-001-002C
Widows Walk Golf Course	250	DRIFTWAY	059-009-001
Fire Headquarters	143	FIRST PARISH RD	049-001-039A
Gates School	327	FIRST PARISH RD	038-012-000B
Harbor Methodist Church	55	FIRST PARISH RD	050-010-000B
Jenkins School	67	FIRST PARISH RD	050-010-000A
Unitarian Church	330	FIRST PARISH RD	038-001-010A
Scituate Post Office	108	FIRST PARISH RD	049-002-013A
Harborside Shell	141	FRONT ST	050-003-023
Scituate Marketplace	71	FRONT ST	050-005-028
Sunoco Station (McBriens)	348	GANNETT RD	013-002-039
North Scituate Post Office		GANNETT RD	013-001-038
Dad's Place (variety store)	222	HATHERLY RD	026-016-024
Greenbush Post Office	23	FORD PLACE	053-005-017

Fire Station Hummarock	2 & 4	RIVER ST	072-017-000A
Humarock Post Office	10	CENTRAL	072-002-007
Wompatuck School	266	TILDEN RD	034-017-000A
Water Plant	262-272	C J CUSHING HWY	048-001-010A
Wheeler Park		9 COMMON ST	049-001-002
Central Fire Station		143 FIRST PARISH RD	049-001-039A

4.0 Current Risks

The Committee identified and mapped land uses that have experienced flood damage and land uses that are most likely to experience flood damage in future floods. This portion of the plan explains what areas are at risk. In general, few critical facilities (schools, police, fire, hospitals, etc.) are considered flood hazard risks in the Town of Scituate. Instead, most of the severe flood risk properties are in areas of residential use. This can be verified, in part, through the Town's repetitive loss (flood damage) property list (*See Appendix: Generalized List of Repetitive Loss locations*). Types of damage which occur were identified in the previous examples including:

- *Structural damage to businesses and residences*
- *Flooding of street and structures*
- *Street blockage from overwash*
- *Interruption of utilities and services*
- *Impediment of emergency services*

In certain areas, neighborhoods are isolated for periods of time due to flooding and coastal storm overwash at high tides. Each of these situations have been analyzed and action plans have been developed and included in the **Town of Scituate Comprehensive Emergency Management Plan** now under review by Town of Scituate department heads and MEMA officials. When this review is completed, that Plan and this Action Plan will be voted upon accepted by the Board of Selectmen and accepted for the Town of Scituate.

6.0 Flood Hazard Mitigation in Place

The Town conducts and promotes flood hazard mitigation through several types of activities. Flood mitigation is at work through the activities of the Scituate Emergency Management Agency/Massachusetts Emergency Management Agency, the goals of the 1998 Open Space Plan, and all floodplain conservation acquisitions. Most of the Town's flood mitigation activities are initiated, monitored or assessed by staff for FEMA's Community Rating System (CRS). The CRS is an incentive program under the National Flood Insurance Program (NFIP). Under the CRS program, the NFIP provides incentives for communities to do more than regulate construction of new buildings



to minimum national standards. Under the CRS program, flood insurance premiums are adjusted to reflect community activities that reduce flood damage to existing buildings, manage development in areas not mapped by the NFIP, protect new buildings beyond the minimum NFIP protection level, help insurance agents obtain flood data, and help people obtain flood insurance. As flood mitigation activities increase, insurance premium rates decrease. The Town of Scituate has been a participant in the CRS Program for several years realizing premium percentage decreases for Scituate residents of flood prone areas. The CRS activities represent one of the flood hazard mitigation efforts currently being conducted in Scituate. A list of other current activities of mitigation efforts is provided below:

- Requiring Elevation Certificates
- Providing Map Determinations
- Outreach Projects such as mailings and educational meetings
- Flood Protection Library maintained in the Library and Town Hall
- Higher Regulatory Standards imposed by the Building Department and the Conservation Commission
- Flood Protection Assistance
- Open Space Preservation
- Stormwater Management
- Dam Safety awareness
- Community Growth Adjustment
- Identification of Repetitive Loss Properties
- Local flood zone and wetlands by-laws
- Text of this report posted to Town's web site
- Scheduled drainage maintenance
- Scheduled street sweeping
- Preparedness drills
- Re-design of foreshore protection structures and procedures

In addition, incorporated herein by reference, and referred to in appendix, the Town has established a local Emergency Management Agency charged with the responsibility to develop and implement **Comprehensive Emergency Management Plan** (CEM). The plan in development, by this Committee, addresses situations in which actions of many different agencies must be coordinated. Based upon the data developed in this **Action Plan** and the CEM plans, emergency response **Standard Operating Procedures** (SOPs) are being developed for local emergency response personnel. These SOPs will be maintained separately as supporting analog, digital and GIS files.

7.0 Goal Statements

The list of existing measures provide an understanding of how well the Town approaches flood mitigation and suggests items which could be implemented for improvement to these existing programs or policies. From this work, a set of goal statements was derived.

The set of goal statements below describes what the community has deemed necessary in order to reduce flood risks and future damages:

- 1) To improve coordination of efforts among the primary departments involved with flood mitigation;**
- 2) To motivate the appropriate Town departments for the execution of flood mitigation projects;**
- 3) To assist the Conservation Commission in the acquisition of Conservation lands;**
- 4) To improve the understanding and preparedness of residents and Town officials to effectively deal with flooding issues through education with an emphasis on GIS mapping and with its easy availability for review.**

8.0 Future Town Mitigation Activities

With the Town's goals in mind for flood mitigation, the Committee discussed potential future actions. This section captures possible actions that the community could take to reduce flood losses and minimize hazard damages. The following items represent some possible actions the Town may take:

- *Direct staff to develop a system of coordination among Town Departments to update the Flood Hazard Mitigation Plan and to consider flood hazard mitigation priorities and to use*
- *Reconstruct or rehabilitate several culvert-related projects throughout the Towns' older neighborhoods which were built without proper regard for adjacent streams (to be mapped)*
- *The Town engage in culvert cleaning, rehabilitation, and/or replacement in several neighborhoods (to be mapped)*
- *The Town may continue to acquire properties which are located in Zone A and V floodplain areas*
- *The Town can develop a program of education including the development of official criteria for properties to be purchased or relocated by the Town*
- *The Town has identified a need to educate citizens and business owners of flood mitigation concepts. By increasing the outreach conducted in the*

CRS Program, the Town could enhance the public education component of its flood mitigation program

- *The Committee acknowledges that public education could also concentrate on town-wide issues such as the flood insurance rate map, drainage issues, and the planning process*

For some of these topics, the Town could rely on local experience, state personnel and literature, and publications such as the FEMA publication "Protecting Your Home from Flood Damage" (2nd Edition, revised 1996). To develop official criteria for land purchases and/or relocation, the Town could study the floodplains and land abutting conservation (park/floodplain/wetland areas, and wetlands) to develop principles for this type of action.

9.0 Town of Scituate Priorities

The planning process provided the Committee with a number of projects to evaluate for implementation. The following activities were determined to be the best overall activities for flood damage reduction. These activities are listed below as "priority activities" and "secondary activities." The Town will accept these activities as the plan of action for current and future flood hazard mitigation.

9.1 Priority Activities

- Continue with the GIS mapping activities related to the preparation of this Plan including the publishing this report plus other flood hazard mitigation material on the web
- Provide access to all Municipal, State and Federal agencies GIS flood mitigation information before and during storm events on the Towns LAN and through the Web
- Improve culverts and outlets on Oceanside Drive and behind Turner Road as identified in this plan
- Prepare a Flood Mitigation Plan specific to the Turner Road/ Jericho Road area
- Evaluate and enhance drainage and/or flood prevention structures at key intersections or for key intersections (Intersections are specified on the flood mitigation map)
- Identify, map (GIS), and assess the town's storm drain system
- Develop a system of coordination between Town Departments and the Community Rating System Coordinator (Planning and Conservation staff) so that flooding and drainage issues are routinely addressed and the flood mitigation plan is reviewed and/or updated on an annual basis

- Develop specific criteria for properties to be purchased or relocated by the Town
- Encourage local or federal buy-out of high hazard coastal areas
- Repair seawalls and revetments as recommended in the five year capital plan including the following locations:
 - Surfside Road
 - Oceanside Drive
 - Peggotty Beach Road
- Develop a benchmark system (GIS) of elevation points on NGVD datum throughout the Town (it is estimated that 500 points would have to be established).

9.2 Secondary Activities

- Develop a public education program about flood prevention and flood insurance; continue active participation in the Community Rating System including increased credit for Scituate Emergency Management System activities and open space preservation
- Key staff participation in appropriate training in Emmitsburg, Maryland
- Post information in this report on the Town's web site
- Improve culverts and outlets in selected neighborhoods
- Evaluate and enhance drainage and or flood prevention structures at key intersections
- Maintain the GIS flood mitigation database of the Town's storm drain system, escape routes, critical facilities and emergency phone numbers ect.
- Develop a system of coordination between Town Departments
- Annually assess the official criteria for properties to be purchased or structures to be relocated by the Town

10.0 Conclusion

The strategy of implementation concludes Phase I of the Flood Mitigation Plan. Phase II of the Plan includes monitoring of the plan as projects and activities are completed. The Committee will organize a collective effort to update the plan as the various Departments observe flood hazard conditions in the Town. Residents, business owners, property owners and Town staff members may contact the Community Rating System Coordinator (Vin Kalishes) at the Conservation Commission office for questions, comments or ideas for future revisions of this plan. See the list below for contact information.

- For more local information about this plan, flood mitigation opportunities, the Flood Mitigation Library, or the Community Rating System in Scituate, contact:

Conservation Commission
Scituate Town Hall
600 Chief Justice Cushing Hwy. (Rte. 3A)
Scituate, MA 02066
(781) 545-8721
(781) 545-8704 fax-c/o Conservation
kalishes@scituate.mec.edu
<http://www.town.scituate.ma.us/>

- For reference materials, flood protection library materials can be found at the Public Library, Branch Street, Scituate, MA. Publications from both the Federal and State governments as well as private organizations on a variety of topics dealing with flooding are available in the Library. For more state resources, contact:

Massachusetts Department of Environmental Management
Department of Environmental Management
251 Causeway Street, Boston, MA 02114-2104

- For federal resources, contact the local office of the Federal Emergency Management Agency.

Region I Office
J.W. McCormack POCH
Boston, MA 02109-4595
www.fema.gov/FederalEmergencyManagementAgency