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Environmental Consulting & Restoration, LLC

Specializing in Wetland and Coastal Resource Area Delineation & Permitting



WHITE HORSE BEACH MANAGEMENT PLAN

SUBMITTED TO:

Town of Plymouth

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Introduction

This Management Plan for White Horse Beach, Plymouth, Massachusetts is proposed as a guidance document for the management of White Horse Beach activities and to provide reference for the ongoing restoration and maintenance of wetland resource areas protected by the state Wetland Protection Act (MGL c. 131 § 40) and the Plymouth Wetlands Bylaw (§196). This Management Plan is organized as follows:

- Section 1 – Goals of the Management Plan;
- Section 2 – Description of White Horse Beach: a brief geological history, the history of development and use, the current management of White Horse Beach, and a description of Town property limits;
- Section 3 – Protected Resource Areas: a summary of applicable regulations and a description of the wetland resource areas;
- Section 4 – Beach Use and Management: a description of public beach access points, recreational activities management and an emergency action plan;
- Section 5 – Beach and Dune Maintenance and Restoration: background on the importance of the program and a description of measures to maintain and restore the beach front as well as the dune system at White Horse Beach;
- Section 6 – Public Education and Outreach: a discussion on ways the public will be informed of the management efforts outlined in this plan to be undertaken by the Town of Plymouth;
- Section 7 – Recommendations: measures to improve the coastal resource areas of White Horse Beach;
- Section 8 – References.

1.1 Goals of the Management Plan

- Serve as a reference document for use by managers of White Horse Beach
- Provide a summary of White Horse Beach including geologic formation, historical development and use, and current management
- Describe the property limits of White Horse Beach
- Describe the statutes and regulations applicable to White Horse Beach and to the protection of its natural resources
- Provide a management program that is consistent with federal, state, and local laws and regulations
- Provide a management program that allows for safe recreational use of the beach and outlines actions to take in the event of an emergency
- Describe beach and dune maintenance and restoration activities to protect natural resources
- Outline public education and outreach efforts

2.0 DESCRIPTION OF WHITE HORSE BEACH

2.1 Geological History

White Horse Beach (WHB) is narrow, low-lying strip of beach approximately 1.35 miles long made up of coastal beach, coastal dunes, and coastal banks on the outer portion of Cape Cod Bay and extends parallel to the trend of the coast. It was formed and currently is shaped by coastal processes.

The area of WHB was formed as a result of the last glacial period, shaped by erosion of glacial headlands and shallow glacial deposits. The beach is currently reshaped by storm overwash and wind transport of sand.

The major geologic events that influenced the development of the soils in Plymouth County are the formation of basement rock during the late Precambrian (Proterozoic) and Paleozoic era, the Pleistocene glaciation, and post glacial Holocene deposition.

2.2 History of Development and Use

The WHB area began developing rapidly at the beginning of the 20th century as transportation routes sprouted up through the Pine Hills. Assessor's records show that the first two cottages on WHB were built in 1910. WHB was established as a public beach in 1917. Through the 1930's, 27 cottages were developed along WHB and by the 1950's the beach community had grown significantly to over 100 cottages. Today there are over 150 residential homes between WHB and Taylor Avenue.

2.3 Current Management of White Horse Beach

WHB is currently managed and maintained by the Town of Plymouth Department of Public Works, including the Parks & Forestry and Recreation Divisions, and the Department of Marine and Environmental Affairs. Due to limited resources, management at the WHB has been very limited. Only about 560 feet of WHB is supervised by the Recreation Division and consists of 4 on duty lifeguards that cover two stations between the south end of the seawall and the condominiums to the south. There are four marine buoys that mark a "no-boating" area off of WHB. Other management consists of response to complaints and periodic inspections as well as trash removal during the summer season.

2.4 Town Property Limits

According to the Plymouth Assessors Maps, the Town of Plymouth owns the majority of the beach, but does exclude a small section included with Map 46 Parcels 88F, 88G, and 88H, which are privately owned and hold rights to the land up to the mean high tide line. In 2015, the Town purchased property on Taylor Avenue near Bartlett Brook (Map 45B Lot 14-24). The two cottages on the property were demolished and a small dune restoration project was completed on the property. The Town also owns another piece of property, Map 46 Parcel 7A-3, which is planned as a bathhouse facility. See Figure 11

for the Assessor's maps and Attachment 6 for a list of Town-owned properties.

This beach management plan addresses the Beach, Primary Dune Area, and Taylor Avenue. For the purposes of this plan, the Beach and Primary Dune Area include the public land to the north of Taylor Avenue, between WHB Road and the boat ramp at Boat House Lane, extending to the extreme low water of Cape Cod Bay. See Attachment 2 for site photographs.

3.0 PROTECTED RESOURCE AREAS

3.1 Summary of Applicable Environmental Laws, Regulations, Orders and Guidelines

The following is a list of the most significant environmental laws, regulations, orders and guidelines applicable to WHB, organized according to the agency responsible for oversight.

Local

Town of Plymouth Conservation Commission

Massachusetts Wetlands Protection Act – MGL Chapter 131 §40 and 310 CMR 10.00

Town of Plymouth – Wetlands Protection Bylaw, Chapter 196

Town of Plymouth Parks and Forestry Division/Department of Marine and Environmental Affairs, Town of Plymouth Recreation Department, and Plymouth Police Department

Town of Plymouth Bylaws – Beaches and Parks, Chapter 30

Beach General Rules and Regulations

Town of Plymouth Bylaws – Harbor, Chapter 81

Town of Plymouth General Shellfish regulations

Other pertinent Local Bylaws, Rules, or Regulations

State

Department of Environmental Protection Wetlands & Waterways Protection Program (DEP)

Massachusetts Wetlands Protection Act – MGL Chapter 131 §40 and 210 CMR 10.00 (overview and appeal authority of local Conservation Commission decisions)

Executive Office of Energy and Environmental Affairs

Massachusetts Environmental Policy Act (MEPA)

Coastal Zone Management Act

Executive Order Number 181 Barrier Beaches

Department of Marine Fisheries

Marine Fish and Fisheries – MGL Chapter 130

Federal

Federal Emergency Management Agency (FEMA)

Coastal Barriers Resources Act (CBRA)

Coastal Barrier Improvement Act (CBIA)

Town of Plymouth: Conservation Commission

The Plymouth Conservation Commission is a 7 member board appointed by the Board of Selectmen. The Conservation Commission is the regulatory body responsible for implementation of both the Massachusetts Wetlands Protection Act (WPA) (MGL Chapter 131 §40 and 310 CMR 10.00) and the Town of Plymouth Wetlands Bylaws Chapter 196.

Wetlands Protection Act

The coastal portion of the WPA (MGL Chapter 131 §40 and 310 CMR 10.00) is the principal law and regulations governing the protection of the wetlands resource areas at WHB.

The WPA was implemented in 1978 to clarify the public review and decision-making process by which activities affecting Areas Subject to Protection under M.G.L. c. 131, § 40 are to be regulated. The WPA establishes standard definitions and uniform procedures by which conservation commissions and the Department may carry out their responsibilities under M.G.L. c. 131, § 40. The purpose of the MA WPA is to contribute to the following interest:

- Protection of public and private water supply
- Protection of ground water supply
- Flood control
- Storm damage prevention
- Prevention of pollution
- Protection of land containing shellfish
- Protection of fisheries
- Protection of wildlife habitat

The WPA was promulgated by the State but is enforced by the local Conservation Commission in order to protect these interests.

WHB consists of the following protected coastal wetland resource areas (moving from the ocean landward):

- Land Under the Ocean
- Land Containing Shellfish
- Coastal Beaches
- Coastal Dunes
- Barrier Beaches
- Coastal Banks
- Land Subject to Coastal Storm Flowage

A full description of these resource areas and their applicability to WHB is provided in Section 3.2.

Other protected wetland resource areas exist in close proximity to WHB and are associated with Bartlett Pond and Bartlett Brook. These resource areas, however, are considered to be outside the limits of WHB and are not discussed in this Management Plan.

Town of Plymouth Wetlands Bylaws, Chapter 196

The Town of Plymouth has enacted its own wetland law through a passage of a local general bylaw entitled Chapter 196 Wetlands Protection. The wetland bylaw contains the similar wetland resource areas previously identified under the WPA. However, the bylaw includes additional, more stringent requirements, including the protection of endangered plant species, agricultural and aquaculture values,

and aesthetic and recreational values.

Town of Plymouth: Parks and Forestry Division/Department of Marine and Environmental Affairs, Recreation Department, and Police Department

Plymouth's Parks and Forestry Division and Department of Marine and Environmental Affairs, the Recreation Department, and the Police Department all provide services that help protect and enhance WHB. These departments are responsible for the overall management of WHB and ensure that users of the beach comply with all appropriate rules and regulations including:

- Town of Plymouth Bylaws, Beaches and Parks, Chapter 30
- Town of Plymouth Bylaws, Harbor, Chapter 81
- Town of Plymouth General Shellfish Regulations

Since these departments are responsible for the oversight of WHB, it is important that they ensure activities in this management area are in compliance with other environmental laws and regulations, including, but not limited to, the WPA, the Town of Plymouth Wetlands Protection bylaw, the Massachusetts fisheries and wildlife laws and regulations, and the federal Clean Water Act.

Town of Plymouth Bylaws – Beaches and Parks, Chapter 30

The Town of Plymouth has enacted a local general bylaw entitled Chapter 30 Beaches and Parks. This chapter of the Plymouth bylaws addresses beach stickers, domestic animals, sand dunes, littering, open fires, glass containers, and other beach-related matters. See Attachment 1 for the full text of Chapter 30 of the Plymouth bylaws.

Town of Plymouth Bylaws – Harbor, Chapter 81

The Town of Plymouth has enacted its harbor law through passage of a local general bylaw entitled Chapter 81 Harbor. This bylaw applies to boating activities for all areas of the harbor and municipal waterways and specifically addresses pollution, floats, pier and ramp access, regulations of the Harbormaster, and other issues related to the harbor.

Town of Plymouth General Shellfish Regulations

In December 2009 the Plymouth Board of Selectmen approved the General Shellfish Regulations, which became effective as of January 1, 2010. These regulations are enforced by the Harbormaster, Assistant Harbormasters, and Shellfish Constables. The regulations address permits, harvestable species, digging areas, fishing schedule, equipment, violations and other requirements. This is relevant to WHB because a portion is mapped by MassGIS as a suitable shellfish area. Environmental Consulting & Restoration, LLC performed a shellfish survey as part of this report, please see Attachment 4 for more information. The shellfish survey revealed that WHB has very limited shellfish resources.

Other Pertinent Local Bylaws, Rules or Regulations

Other pertinent Plymouth bylaws includes Chapter 18 Alcoholic Beverages, Chapter 23 Animals, Chapter 51 Disorderly Conduct, Chapter 77 Graffiti and Litter, Chapter 120 Noise, and Chapter 162 Streets and

Sidewalks. General beach rules are also currently posted on signage at WHB addressing fires, domestic animals, fishing, camping, littering and other issues.

State: Department of Environmental Protection (DEP) – Wetlands Protection Program

The DEP Wetlands Protection Program includes educational outreach, monitoring & assessment, guidance, policies, and rules & regulations to protect the interests discussed in section 3.2. DEP holds the authority to rule on any appeal of local Conservation Commission decisions including any pertaining to WHB. The appeal of any wetland permit is required to follow the procedures set forth in the WPA 310 CMR 10.00.

State: Executive Office of Energy and Environmental Affairs

The Executive Office of Energy and Environmental Affairs (EEA) is a state agency that aims to preserve open space and species habitat, enforce pollution laws to protect public health and natural resources, manage fish and wildlife, and provide opportunities for outdoor recreation at parks and beaches. The EEA enforces the Massachusetts Environmental Policy Act (MEPA) and the Coastal Zone Management Act, both of which apply to WHB.

Massachusetts Environmental Policy Act (MEPA)

EEA implements the Massachusetts Environmental Policy Act (MEPA). MEPA review is required for projects that are undertaken by a state agency, require a permit issued by a state agency or involve financial assistance by a state agency. This office reviews submissions, either Environmental Notification Forms or, for large and/or complex projects, Environmental Impact Reports.

Coastal Zone Management Act

The Massachusetts Office of Coastal Zone Management (MCZM) implements the federal Coastal Zone Management Act in Massachusetts. Projects requiring federal funding, or federal permitting that also exceed certain MEPA thresholds, must obtain a Coastal Zone Management Federal Consistency Certification and demonstrate that the project is consistent with the policies of this state agency.

Executive Order Number 181 Barrier Beaches

Executive Order Number 181 was issued on August 8, 1980 by Governor Edward J. King and recognizes the importance of barrier beaches to help minimize storm damage and flooding. This Order addresses appropriate allocation of funds for barrier beaches and describes specific requirements for development and construction on barrier beaches. Since portions of WHB are mapped as Barrier Beaches, this Order applies.

Marine Fish and Fisheries, M.G.L. Chapter 130

The Massachusetts Department of Marine Fisheries implements recreational and commercial fishing regulations throughout Massachusetts. M.G.L 130, Marine Fish and Fisheries, identifies the laws governing some recreational activities at WHB including fishing for finfish and shellfish.

Federal: FEMA - Coastal Barrier Resources and Improvement Acts

In 1990 the Coastal Barrier Improvement Act was passed by Congress to reauthorize the Coastal Barrier Resources Act, and for other purposes. The Act was implemented to discourage development on coastal barriers and prevent the loss of natural resources. Certain areas along the Atlantic and Gulf Coasts, the Great Lakes, Puerto Rico, and U.S. Virgin Islands are now part of the Coastal Barrier Resource System (CBRS) and ineligible for most new Federal expenditures and financial assistance.

Federal: EPA/Army Corps of Engineers – Clean Water Act

Section 404 of the Clean Water Act provides the Army Corps of Engineers with authority for the protection of the nation's wetlands. Section 404 jurisdiction at WHB applies to all beach areas below the high tide water line.

3.2 Wetland Resource Areas

WHB contains several types of wetland resource areas with respect to the WPA. These wetland resource areas include land under the ocean, coastal beach, coastal dunes, coastal banks, land containing shellfish, and land subject to coastal storm flowage. Other protected wetland resource areas exist in close proximity to WHB and are associated with Bartlett Pond and Bartlett Brook. These resource areas, however, are considered to be outside the limits of WHB for purposes of this Management Plan and are not discussed in this plan.

Land Under the Ocean

As defined in 310 CMR 10.25(2), Land Under the Ocean is “land extending from the mean low water line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries.”

Land under the ocean along WHB extends the entire limit of the beach from the northern-most section to the southern-most section to the offshore municipal limits. The vast land under the ocean resource of WHB is significant to the interests of storm damage protection as well as wildlife habitat (e.g., shellfish and shorebird habitat).

Coastal Beach

As defined in 310 CMR 10.27(2), Coastal Beach means “unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats. Coastal beaches extend from the mean low water line landward to the dune line, coastal bankline or the seaward edge of existing human-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.”

The majority of WHB consists of a coastal beach, which is protected by the WPA. The coastal beach at WHB is significant to the interests of storm damage protection and wildlife habitat.

Coastal Dunes

As defined in 310 CMR 10.28(2), a Coastal Dune is “any natural hill, mound or ridge of sediment landward of a coastal beach deposited by wind action or storm overwash. Coastal dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.”

Coastal dunes are located within the southern-most portion of WHB between the access point near the seawall and the southern-most limits of the beach. This dune system stands approximately 10 feet high and has suffered significant damage from both natural and human causes. Coastal dunes on WHB are significant to the interests of storm damage protection as well as wildlife habitat and coastal vegetation.

Barrier Beaches

As defined in 310 CMR 10.29(2), a Barrier Beach is “a narrow low-lying strip of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast. It is separated from the mainland by a narrow body of fresh, brackish or saline water or a marsh system. A barrier beach may be joined to the mainland at one or both ends.”

There are two sections of WHB that are mapped as barrier beaches on the MassDEP Wetlands layer (January 2009) located on the MassGIS Datalayers website (<http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/layerlist.html>). One area near Bartlett Brook is separated from the mainland by Bartlett Pond. Another area to the south is also mapped as a barrier beach and is separated from the mainland by a smaller, unnamed body of water.

Coastal Banks

As defined in 310 CMR 10.30(2), a Coastal Bank is “the seaward face or side of any elevated landform, other than a coastal dune, which lies at the landward edge of a coastal beach, land subject to tidal action, or other wetland.”

To the north of the coastal dune system on WHB are both man-made (revetment or seawall) and naturally formed coastal banks that have been armored. The portion of seawall stands approximately 8 feet tall. Further north, the naturally occurring coastal banks that are armored, stand approximately 25 feet tall, separating the coastal beach from the elevated upland. These man-made and naturally occurring banks are both protected by the WPA and the local bylaw.

Land Containing Shellfish

As defined in 310 CMR 10.34(2), Land Containing Shellfish means “land under the ocean, tidal flats, rocky intertidal shores, salt marshes and land under salt ponds when any such land contains shellfish.”

According to the Shellfish Suitability Areas layer (May 2011) located on the MassGIS website (<http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic->

information-massgis/datalayers/layerlist.html), there are shellfish resources on portions of WHB, within the surrounding land under the ocean, and tidal flats, which are protected by the WPA.

Land Subject to Coastal Storm Flowage

As defined in 310 CMR 10.04, Land Subject to Coastal Storm Flowage is “land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater.”

The entire limits of WHB fall within land subject to flooding according to the FEMA Flood Maps. WHB is located within FEMA Flood Zone VE el 16, which is a velocity zone. The flood zone extends beyond the limits, landward of WHB in certain areas.

4.0 BEACH USE AND MANAGEMENT

4.1 Beach Access

The majority of beachgoers at WHB are pedestrians accessing the beach from Taylor Avenue. The beach does not allow for off-road vehicle access and is used very rarely for boat access. For these reasons, the public access points for pedestrians should be the focus of improvement. Adequate public access is important to WHB in order to protect the natural resources, keep beachgoers safe, and protect the privacy of nearby homeowners in the area. Currently, the three public access points being used most often by pedestrians are located:

1. Off Taylor Ave, across from Hilltop Ave
2. Off Taylor Ave, along Bartlett Brook
3. Off Taylor Ave, at the corner of White Horse Beach Road

These three access points allow for pedestrians to enter multiple areas of WHB quite easily. See Figure 12 for a map of these access points. However, the access point at Hilltop Avenue receives the most pedestrian traffic by far, which causes an overcrowding effect along the beach, between Hilltop Avenue and the nearby residences. With limited parking available at and near the three main access points, the overcrowding effect is a significant issue. In addition to previous parking proposals prepared by the Town of Plymouth, it would be beneficial to increase signage to these access points through roadway signs and mapping. Crosswalks at all access points are also recommended as many of the current crosswalks have proved ineffective for pedestrians in this area. The installation of bike racks has been recommended to present an alternative to vehicle parking for nearby users of WHB, which would help to ease parking issues. In addition to implementing the recommendations of the previous parking proposals, ECR recommends the following:

- Pedestrian signage—including signs at access points and crosswalks
- Crosswalk maintenance—crosswalks need to be maintained with possible seasonal painting in appropriate locations to direct beachgoers to the specified access points
- Increase the number of access points—other possible areas for public access should be identified to relieve overcrowding in areas of WHB
- Bike racks – placement of bike racks to provide an alternative to vehicle parking
- Boardwalks—this is a technique to help protect natural resources and make access points more identifiable and useable such as elevated wooden boardwalks or roll out boardwalks
- Regular maintenance of access points—maintain a specified width of access to accommodate pedestrians, beach maintenance equipment, and emergency vehicles

4.2 Recreational Activities Management

WHB is a popular place for local residents as well as visitors from out of town to gather and enjoy

Plymouth's beautiful coast line. Beachgoers take part in activities that include swimming, sunbathing, walking, and beach games. Only a small portion of the beach is supervised by lifeguards during the summer. Swimmers are advised by signage to swim at their own risk in unguarded areas. These unguarded areas have limited regular supervision by the Town. This has been a noticeable issue on weekends and holidays when an increased number of beachgoers are present and issues such as unpermitted bonfires and public consumption of alcohol or drugs has become a problem. It is strongly recommended that a regularly scheduled means of supervision is implemented such as:

- Add additional areas supervised by lifeguards
- Increased patrols by the Plymouth Police Department and/or Plymouth Fire Department
- Scheduled inspections by the Department of Marine and Environmental Affairs

Independence Day festivities, particularly on July 3rd, have been the most evident issue in the past. The Plymouth Police and Fire Departments intensively manage human activity on WHB on July 3rd to ensure public safety.

Pedestrians at WHB also tend to roam into protected resource areas, specifically the coastal dunes. Beachgoers have been observed using the coastal dune as an unauthorized restroom and a place to publicly consume alcohol or use drugs. There is signage at the beach that prohibits beachgoers from entering the dunes, but it has proven ineffective. This is a difficult area to manage because of its ease of accessibility. Wooden fencing has been installed previously to deter people from entering the dune, however it was vandalized rather quickly (used as fire wood). It is recommended that increased supervision is implemented to protect this resource area. Fencing may also be an effective strategy if constructed out of appropriate material.

It is also strongly recommended that some type of restroom service is implemented at WHB. Currently there are no public restrooms at WHB, which is a major cause for pedestrians venturing into the dune systems. A plan for the construction of a bath house on Taylor Avenue is underway, however construction has not begun. The Town of Plymouth purchased the property referenced as Map 46 Lot 7A-3 and intends to use this site as a bath house. This bath house would alleviate restroom issues for a portion of the beach, but not the entire beach. Additional restrooms facilities could be investigated to alleviate restroom issues for the remaining sections of WHB.

These suggestions that include lifeguarding, signage, fencing, and restrooms will help to improve WHB, but as reported by the public, the most concerning issue is the lack of enforcement. There are rules and regulations in place for use of Town beaches, however many beachgoers are reportedly non-compliant with the current regulations. An increased and maintained enforcement effort by the Town is recommended to maintain WHB and help mitigate one of the major concerns of nearby residents.

4.3 Emergency Action Plan

It is essential to have several emergency action plans for a beach as large as WHB and one that attracts so many beachgoers. Emergency conditions can threaten public safety, health and welfare of the

community, and the natural resources at WHB. Such conditions include:

- Shark Sightings
- Coastal Storms (nor'easters, tropical storms, hurricanes)
- Health Emergency Conditions

The Town has Standard Operating Procedures (SOP) in place for shark sightings and shark attacks that addresses sightings, response, and communication. It is important that specific precautions and procedures are in place for WHB. The Town installed signage to warn beachgoers of the presence of Atlantic white sharks in the area and set up a flag system as described in the SOP to alert beachgoers of confirmed or unconfirmed sightings. Sharks are an unavoidable issue that requires preparation to lower the risk of harm to humans; Plymouth's SOP can be effective as long as all appropriate personnel are informed as well as the public. It is recommended that current signage at WHB be updated to include information about the flag system.

Coastal storms in New England can take a tremendous toll on resource areas as well as cause threats to beachgoers. Coastal storms generally consist of high onshore winds, elevated tides, and storm driven waves that can produce storm surge and overwash. While these storms are unavoidable, a plan to keep the public safe under these circumstances must be implemented to include stipulations such as beach closures, maintenance of roadways and access ways after storms, and debris cleanup. It is also important to take measures prior to the storm that include removing objects and debris that could act as projectiles as well as equipment that could be damaged, and taking photos of pre-storm conditions.

There may be instances when health emergency conditions exist including excessive debris, buildups of seaweed and infestations of flies, uncontrolled fires, and other conditions that could affect public health or safety. In these situations it is imperative that the appropriate officials be notified. This may lead to emergency cleanups, treatment of insect infestations, or intervention by the Plymouth Fire Department.

Emergency Access

Currently, emergency access to WHB is possible by pedestrian travel, off-road vehicle, and boat coordinated through the Town, Fire Department, and Coast Guard. Four wheel drive emergency access is possible through the public access way at the corner of Taylor Avenue and White Horse Beach Road, and near Bartlett Brook, which provide access to the area of beach north of Bartlett Brook. Four wheel drive emergency access for the area south of Bartlett Brook is possible at the public boat ramp on the south end of the beach and the access point near Hilltop Avenue.

Beach Closure

WHB will require closures under certain circumstance to support public safety and protect natural resource areas. Closures will more than likely be due to emergency situations discussed in section 4.3. The most appropriate way to control beach closures is through signage located at all access points of WHB as well as some type of barrier to block these entrances. It is recommended that some type of removable barrier is installed at all access points, such as a rope or chain to signify beach closure with

associated signage.

4.4 Parking

The area of WHB is a densely populated area and home to a number of year round residents and even more summer residents. During the summer months, especially weekends and holidays, parking can be a challenging issue for local residents and beachgoers. A parking report was completed in 2013 that details the parking issues at WHB and recommends strategies to address the problem. The White Horse Beach Parking Report is included as an attachment to this management plan (see Attachment 7). It is recommended that one or more of the strategies outlined in the parking report be implemented to help with seasonal parking at WHB.

5.0 BEACH AND DUNE MAINTENANCE AND RESTORATION PROGRAM

WHB is made up of several different resource areas which would benefit from maintenance and restoration to preserve these areas. There is a great deal of opportunity for natural resource management initiatives at WHB that focus on the coastal dunes and coastal beach. Current management of these areas has been limited. Management of the coastal dunes has focused on controlling erosion from foot traffic through the placement of signs and fencing. Coastal beach management has been concentrated on alleviating litter through the use of trash barrels placed between the mean high water and coastal dunes, however this has not eliminated the problem.

5.1 Coastal Dune Maintenance, Restoration and Protection

The coastal dunes have received the most abuse from storm damage and human foot traffic. There should be a focus on attempting to restore this resource area as it provides a buffer to help with storm damage prevention and flood control. There are three essential elements that play roles in the formation of coastal dunes: wind, sand, and vegetation. The sand is carried by the wind until it reaches an obstacle such as beach grass or fencing. Dune maintenance relies on creating obstacles to trap the sand. Beach grass planting is a popular method, which not only helps catch sand to build the dune, but also helps to stabilize the dune because of its deep root system. Planting native woody shrubs such as northern bayberry (*Myrica pensylvanica*) and beach plum (*Prunus maritima*) will also help in a similar way. The roots of dune vegetation can be easily damaged by foot traffic resulting in degradation of the dune. Issues arise with this strategy when human foot traffic is uncontrolled; a strategy to prevent beachgoers from entering the dune area must be formed in conjunction with this type of maintenance plan. A fence is present between Taylor Avenue and the rear side of the dune system in an attempt to minimize foot traffic. This fence has deteriorated in a number of places and it is recommended that it be replaced in order to increase the odds of successfully restoring the dune system.

Sand fencing can also act as an obstacle for sand to help maintain and rebuild the dune system at WHB. Sand fencing can act as a barrier to human foot traffic at the same time and is often used in conjunction with dune grass and woody shrubs. As wooden sand fencing has proved ineffective at WHB in the past due to vandalism, other materials should be considered. When designing sand fence projects it is important to consider location, placement, and spacing. Alternative means of fencing could be investigated such as posts with cables, planting rows of woody shrubs such as bayberry or beach plum. Dune protection and maintenance strategies should be reviewed on an ongoing basis by the Department of Marine and Environmental Affairs and should be modified as necessary to achieve the goals of the Management Plan.

In order to mitigate against storm impacts that have eroded the face of the coastal dune, dune nourishment can be used to replace the lost sand. Dune nourishment would consist of finding a borrow sand source such as dredge spoils or a sand pit that is compatible with the existing native sand within the dune. Sieve analyses of the native and borrow sand will determine if they are similar in grain size

composition. If they are compatible, the borrow sands would be deposited on the beach and graded against the eroded dune face in order to restore the dune profile. Upon replacement or nourishment of the dune profile, the surface could be planted with American beachgrass (*Ammophila breviligulata*) to promote stability or left exposed as a sacrificial dune face for anticipated storm impacts. The loss of the sand from the dune helps to nourish the coastal beach so loss of dune sand is not a complete loss, but rather, part of the natural process. Nourishment projects for WHB should be consistent with the guidance developed by DEP and MCZM entitled Beach Nourishment: MassDEP's Guide to Best Management Practices in Massachusetts (May 2007) or similar guidance.

Nature finds ways to stabilize the dunes, most effectively through vegetation. As previously described, American beachgrass has proven to be effective strategy for strengthening and holding dunes together. Beachgrass has fast-growing rhizomes that allow it to establish quickly and has a very dense root system that penetrates the dune as deep as 8 feet. This helps to stabilize the dune, as well as rebuild the dune by catching wind-blown sand. The dune systems at WHB would most certainly benefit from beach grass plantings. It is recommended that a beach grass planting project be developed to include plantings over the course of several years or even conducted as an annual task. The use of neighborhood, community groups, or other volunteer groups could be pursued as the labor force for planting efforts in order to minimize costs. The MCZM has created online resources as part of their "CZ-Tips" program to encourage beach grass plantings and sets out procedures for planting beach grass.

The majority of the vegetation within the coastal dune consists of native coastal plant species that are typically found in New England dune environments. ECR cataloged the existing vegetation within the coastal dune as documented in Attachment 3. Of concern is the growth of non-native invasive plant species such as Oriental Bittersweet (*Celastrus orbiculatus*) and Autumn Olive (*Elaeagnus umbellata*) within the coastal dune closest to Taylor Avenue. Oriental Bittersweet and Autumn Olive are non-native invasive plant species as listed by the Massachusetts Invasive Plant Advisory Group (MIPAG). MIPAG defines invasive plants as "non-native species that have spread into native or minimally managed plant systems in Massachusetts, causing economic or environmental harm by developing self-sustaining populations and becoming dominant and/or disruptive to those systems." MIPAG was charged by the Massachusetts Executive Office of Environmental Affairs to provide recommendations to the Commonwealth regarding which plants are invasive and what steps should be taken to manage these species. The question one might ask is "Why manage non-native invasive plant species?" The answer is that non-native invasive plant species are recognized as one of the greatest threats to the integrity of natural communities and also as direct threats to the survival of many indigenous species. In relation to WHB, the management of these non-native plant species is key to the health of the coastal dune and surrounding natural environment.

5.2 Coastal Beach Maintenance and Restoration

The coastal beach receives the most human foot traffic and recreational use on WHB. This area spans between mean high water and the coastal dune or coastal bank. One of the major issues ECR observed

at the coastal beach is litter and unleashed dogs. In an effort to counter litter, trash barrels need to be made more accessible to all beachgoers. The first strategy would be to increase the number of trash barrels available and use signage to promote the use of these barrels. The trash also needs to be collected on a regular basis to prevent an overflow; a schedule should be assigned to appropriate Town staff. Recycling barrels may also help to limit the amount of refuse for disposal.

Another strategy to curb the extensive litter and debris found at WHB is to schedule community clean up days. These types of days should be scheduled on a regular basis and often times work simultaneously to promote the importance of a clean beach when scheduled on heavy traffic beach days such as weekends or holidays. This type of program can be simple and involve half of a day to gather litter, rake the beach, and other maintenance.

WHB does allow dogs year round, but also requires that dogs be leashed at all times. Failure of dog owners to leash their dogs has become an issue and a disturbance for many beachgoers. Unleashed dogs can find their way onto private property, can defecate without it being picked up, and be a general nuisance to others enjoying the beach. Bylaws are in place for dogs on Town beaches and it is recommended that these rules for dogs be regularly enforced by the Town.

Another major issue faced at WHB is a loss of beach area, which could be the result of sea level rise and increased coastal storms. Beach nourishment is a possible strategy to improve the coastal beach by adding to the existing beach sediment. Beach nourishment would follow the same protocol as dune nourishment previously described. Beach nourishment can be a very effective way to rebuild areas of an eroded beach by adding compatible beach sediment. Due to the size and considerable length of WHB, a large scale beach nourishment effort would likely come from an off-shore mining with associated hydraulic dredging to deposit new sediment onto the beach, which would then be mechanically spread over the beach to increase the beach elevation and width. It is unlikely that a sand source such as a gravel pit with trucks transporting the sediment to the beach would be possible at the WHB due to location and dense abutting residential neighborhoods.

Beach raking or grooming is another possible activity to improve the coastal beach. Beach raking is intended to clean or remove debris and excess seaweed from the beach and could be conducted by hand or by a rake-type machine. Proper permits from the Plymouth Conservation Commission would be necessary prior to the start of beach raking activities. Beach raking would need to follow specific protocols to ensure the protection of coastal beach resources including beach vegetation, beach sand, and shorebird habitat.

If beach and dune activities are pursued, ongoing monitoring and reporting is necessary. Beach and dune profile transects should be established in order to create a baseline and database for monitoring the beach and dunes. Dune profiles should be surveyed annually and compared against previous profiles in order to maintain the goals and objectives of the improvement program. The dune profiles should start from the back dune facing Taylor Avenue and extend to the toe of the coastal dune/beginning of the coastal beach. Beach profiles should start at the toe of the coastal dune or edge of seawalls and extend

to the low tide line.

6.0 PUBLIC EDUCATION AND OUTREACH

Public education and outreach is a great way to implement new management strategies by reaching out to the general public and guests of WHB. The goal of this type of outreach is to educate users on the importance of WHB and the value it adds to the natural world as well as our human lives. Reaching out to the community to become active participants in the protection and management of WHB will ensure the future enjoyment of the beach for all.

Along with educating people about the importance of WHB, outreach can also be used to “re-brand” the beach. Based on discussions with the residents of Plymouth, it was evident that WHB has a reputation for being a “party” beach instead of a neighborhood family-friendly environment. Educational and outreach programs can position WHB as a family-friendly beach to encourage the revival of a positive reputation.

Public education and outreach could consist of:

- Informative signage at the beach
- “Beach Day” for Plymouth public schools
- Community clean ups
- Partnering with existing outreach programs (Library, Chamber of Commerce, Destination Plymouth, Museums)
- Pamphlets
- Website
- Questionnaires/surveys
- Advertising (newspapers, magazines, radio, television)
- Community events (recreational, entertainment)

As part of the processes of developing this management plan, public meetings were held to gather insight from the local residents. Public meetings brought discussion about issues that the people living in the area are facing on a regular basis with respect to WHB. Meetings were held on June 23, 2015 and September 30, 2015 and included local residents, officials from Plymouth’s Department of Marine and Environmental Affairs, and Environmental Consulting & Restoration, LLC. Public discussion topics included natural resource protection, signage, parking issues, beach access, enforcement, marketing, and property rights. One of the most supported discussions during the meetings was an increase in enforcement; local residents expressed their concern about issues they are facing on a regular basis that violate current regulations that are not being routinely enforced in the area. Another major issue raised during these meetings was public versus private land rights, easements, and right-of-ways. Please see Attachment 8 for the meeting minutes from June 23rd and September 30th.

7.0 RECOMMENDATIONS

As a result of ECR's involvement with preparing the White Horse Beach Management Plan, ECR offers the following recommendations on managing and improving the resources of WHB:

1. Enforcement—Regularly scheduled supervision must be implemented by the Plymouth Police Department, Plymouth Fire Department, Plymouth Department of Marine and Environmental Affairs, and all other appropriate departments. Many of the issues at WHB stem from a lack of enforcement of the current rules and regulations. Scheduled supervision could consist of routine off-road police patrols on the beach, patrols along Taylor Avenue and abutting streets, creation of patrol shifts to cover morning, day, and night periods, horseback patrols, and bike patrols.
2. Public versus Private – The investigation of public versus private property is needed to clarify the extent of the WHB public property and will be directed by the Town Manager's Office. Special attention will be paid to how property lines relate to the Mean High Water and Mean Low Water lines. This task would involve efforts such as:
 - research of deeds, legal documents, and plans
 - legal interpretation by municipal counsel
 - survey and mapping
3. Signage – The placement of signage, both regulatory and informational, is necessary to maintain and improve WHB. Signage is recommended to identify:
 - All usable public access points leading to WHB from adjacent streets
 - Location of trash disposal areas
 - Location of public restroom facilities
 - Rules of beach use should be posted at access points
4. Permitting – Prior to new management activities at WHB, proper permits are necessary. Any new structures or activities within the coastal resource areas of WHB require approval by the local, state, and federal permitting agencies if applicable. The submittal of an application detailing the proposed improvement activities to the Plymouth Conservation Commission is the first step in this process. It is the responsibility of the party proposing the project to ensure all permits are in place prior to the start of work.
5. Coastal Dune Nourishment – The eroded face of the coastal dune should be nourished to restore and protect the profile of the coastal dune. Upon nourishment, stabilization such as planting of American beachgrass and the protection against human encroachment through fencing and signage is necessary. In order to promote success of a dune nourishment project close attention must be paid to the following:
 - Location—the most successful dune nourishment projects occur in areas with dry beach at high tide after the new dune sediments are added to the site. In areas where there is no beach during high tide, dune nourishment is typically short-lived; it is recommended that beach nourishment is considered in these areas.

- Sediment—new dune sediment must be compatible with existing sediment on site in terms of size, shape, color, and texture.
 - Volume of material—this will be determined by performing profile surveys to establish existing versus desired dune profiles. The volume of material is also based on responses to major storm events.
 - Erosion Control—the two most successful options include vegetation and sand fencing. Native, salt-tolerant vegetation with extensive root systems will help hold the dune together as well as collect windblown sand. Sand fencing will also help collect sand and form a limited barrier for beachgoers to enter the dune. This fencing shall be erected by April 15th of each year by DMEA, and will be maintained throughout the summer season.
 - Dune Slope—to prevent unstable dunes the ideal slope is less than 3:1 (base:height). When determining the best possible slope it is important to consider location, sediment, and volume of material. All dune nourishment projects shall be the responsibility of DMEA. DPW will truck, screen, and replace sand after storms to ensure material is brought back to the beach to the maximum extent practicable.
 - Equipment—a plan must be in place to bring the new sediment to the dune. Access points for heavy equipment need to be identified to prevent destruction to the existing resources on site.
6. Bartlett Brook/Pond Storm Maintenance – DMEA shall file a maintenance plan with the Plymouth Conservation Commission in order to receive an Order of Conditions for this work going forward. DPW shall perform this work at the direction of DMEA.
7. Coastal Beach Maintenance – Expanding trash disposal areas will help to maintain the beach and reduce the amount of beach littering. The establishment of public restrooms will improve the quality of the beach and reduce foot traffic onto abutting areas such as the coastal dune. It is recommended that specific beach maintenance includes the following:
- Public access ways must be maintained and options to improve these access ways should be explored to include permanent or semi-permanent boardwalks such as beach mats or walkover structures. Handicap accessibility should also be included as part of public access maintenance and improvement.
 - Trash disposal areas with signage installed every 200 feet over the length of the beach during the summer months. Disposal areas on the beach should also consider existing conditions such as interaction with high tide events (i.e. floating due to high tides). The maintenance of trash barrels over a longer period than just the summer months is also recommended. A time period of early May to early October has been recommended by WHB users for maintenance of trash barrels on the beach. Included as part of the trash disposal areas should be dispensers with signage to handle dog waste. Maintenance of trash receptacles, dog waste dispensers, and disposal of refuse along the extent of WHB shall be the responsibility of the DPW.
 - Signage installed to notify beachgoers of trash disposal areas, access points, rules of the

beach, “off limit” zones (i.e. dunes), and beach closures. In addition to new signage, the existing signs that are worn and hard to read should be replaced.

- Access and signage to the future bath house/restrooms on Taylor Avenue. Any future public restroom facilities shall be the responsibility of the Recreation Department and the Department of Community Resources.
 - Regularly scheduled cleanups to include litter removal from the beach, dunes, access points, and Taylor Avenue. These cleanups scheduled during the summer months can primarily be done by hand and should be conducted 4 to 7 days per week. Like the maintenance of trash receptacles, this too shall be the responsibility of the DPW.
 - Beach nourishment to follow similar protocol as coastal dune nourishment in order to restore the coastal beach profile, improve the beach surface for users, and protect against storm impacts.
8. Removal of Non-Native Invasive Plant Species – The removal of non-native invasive plant species is paramount before the natural plant community is severely degraded. The removal of non-native invasive plants would require supervision and coordination with a qualified botanist or Town staff, licensed pesticide applicator, and work crew. The non-native invasive plants would need to be flagged in the field by the overseeing botanist prior to removal activities. The plants would then be flush cut and the stumps immediately painted with herbicide (Rodeo herbicide with the active ingredient glyphosate) using a foam paint brush, which prevents application of herbicide to non-target species. Where possible, smaller shrubs and vines will be hand pulled, collected, and disposed of. All removed plants should be collected and disposed of at a facility familiar with the disposal of non-native invasive plants. The initial removal event would be the most extensive with ongoing monitoring and annual maintenance removal events as necessary. DMEA staff trained in plant identification will be responsible for the removal of any invasive species.
9. Investigate Future Improvement Possibilities – In addition to the management and maintenance activities described above, a consideration for future alternatives should be investigated. ECR recommends an ongoing review and critique of the management plan be established in order to evaluate the success of the plan, make recommendations, and allow for necessary changes. It has been recommended that an ongoing two year assessment is established in order to achieve this, which would allow for future improvement possibilities to the management plan.

For more information, please refer to the Figures and Attachment sections included with this report.

8.0 REFERENCES

Duxbury Beach Reservation, Inc. (2003). Duxbury Beach Management and Habitat Conservation Plan. Retrieved from <http://www.town.duxbury.ma.us>.

Energy and Environmental Affairs (2015). CZ-Tip – 10 Ways to Enjoy and Protect Massachusetts Beaches. Retrieved from <http://www.mass.gov/eea/agencies/czm/program-areas/communications/cz-tips/cz-tip-beaches.html>.

Haney, R., Kouloheras, L., Malkoski, V., Mahala, J., Unger, Y. (2007). Beach Nourishment MassDEP's Guide to Best Management Practices for Projects in Massachusetts. Retrieved from <http://www.mass.gov/eea/docs/dep/water/resources/a-thru-m/bchbod.pdf>.

Hayes, N. W., Cristofori, N. (2009). Ecological Evaluation of Natural Resources Swift Beach, Wareham, MA. BSC Group, West Yarmouth, MA, Retrieved from <http://www.wareham.ma.us>.

Massachusetts Office of Coastal Zone Management (2013). StormSmart Properties Fact Sheet 1: Artificial Dunes and Dune Nourishment. Retrieved from <http://www.mass.gov/eea/docs/czm/stormsmart/properties/ssp-factsheet-1-dunes.pdf>.

Town of Plymouth Planning Department (2014). Manomet Village Center Master Plan Update June, 2014. Retrieved from <http://www.plymouth-ma.gov>.

Turenne, J. (undated). Plymouth County Soil Survey: General Geology of Plymouth County. Retrieved from <http://nesoil.com/plymouth/geology.htm>.

White Horse Beach Parking Committee (2013). White Horse Beach Parking Committee Final Report. Retrieved from <http://www.plymouth-ma.gov>.

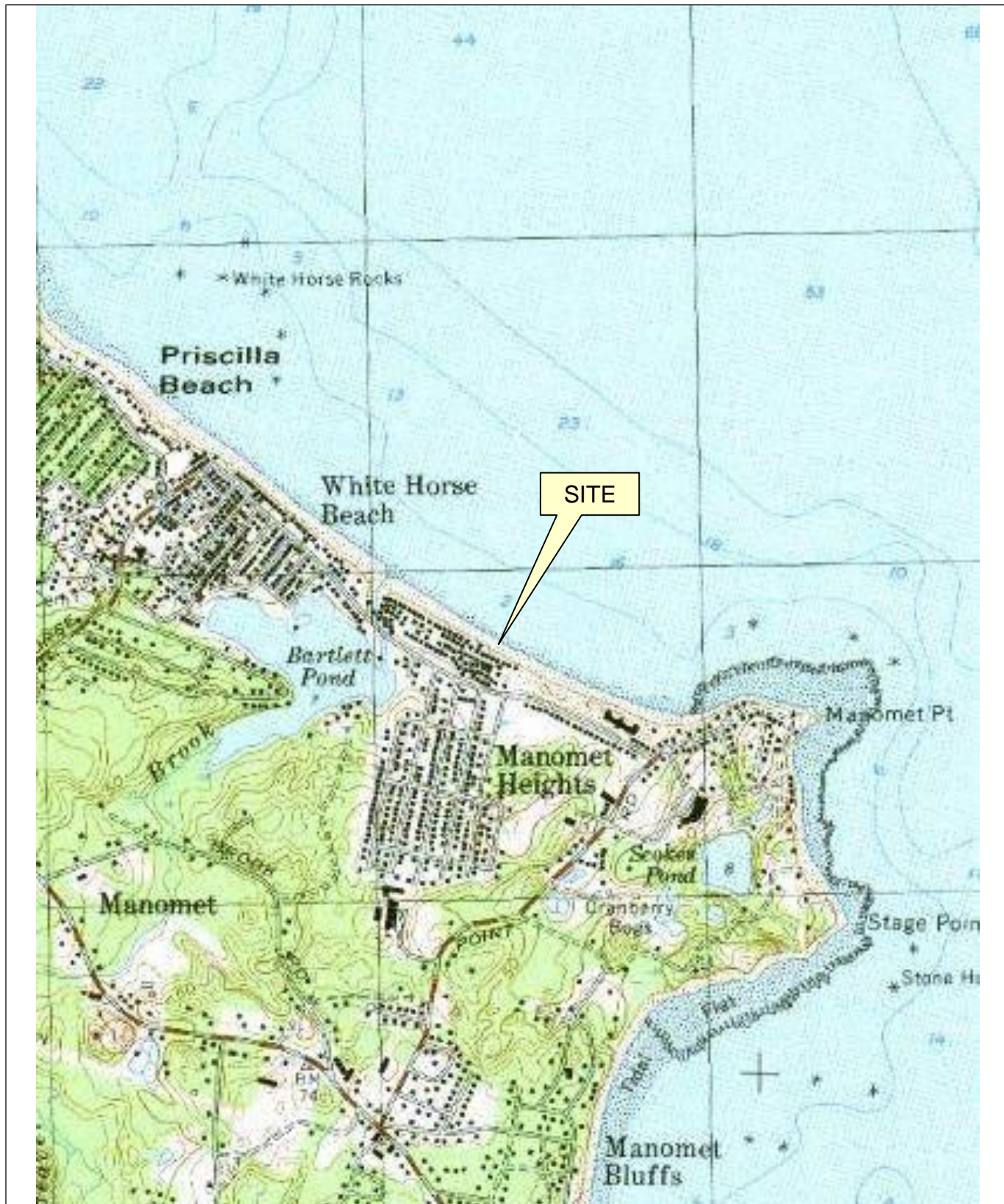
Woods Hole Group (2003). Long Range Natural Resource Management Plan for Sandy Neck Barrier Beach. Retrieved from <http://www.town.barnstable.ma.us>.

FIGURES

- Figure 1: USGS Site Locus Map
MassGIS scanned the USGS topographic quadrangles to create a digital database that can provide images of the paper maps.
- Figure 2: Priority of Rare Species, Estimated Habitat of Rare Wildlife & Certified Vernal Pool Map
White Horse Beach is not within a mapped habitat
The Priority Habitats of Rare Species datalayer contains polygons representing the geographic extent of Habitat of state-listed rare species in Massachusetts based on observations documented within the last 25 years in the database of the Natural Heritage & Endangered Species Program (NHESP).
The Estimated Habitats of Rare Wildlife datalayer contains polygons that are a subset of the Priority Habitats of Rare Species. They are based on occurrences of rare wetland wildlife observed within the last 25 years and documented in the NHESP database.
The Certified Vernal Pool datalayer contains points for all vernal pools that have been certified by the Natural Heritage and Endangered Species Program (NHESP) according to the Guidelines for the Certification of Vernal Pool Habitat (MA Division of Fisheries & Wildlife, 2009).
- Figure 3: FEMA Map
White Horse Beach is located within Land Subject to Coastal Storm Flowage
- Figure 4: Shellfish Suitability Map
The southern portion of White Horse Beach is mapped as Blue Mussell suitability.
The remaining areas are not located within a Shellfish Suitability Area
The polygons delineate areas that are believed to be suitable for shellfish based on the expertise of the Massachusetts Division of Marine Fisheries (MarineFisheries) and local Shellfish Constables, input from commercial fishermen, and information contained in maps and studies of shellfish in Massachusetts.
- Figure 5: Shellfish Growing Area Map
The White Horse Beach is a prohibited area for shellfish growing.
The Designated Shellfish Growing Area (DSGA) datalayer was compiled by the Department of Fish and Game's (DFG) Division of Marine Fisheries (DMF). Three hundred four growing areas in Massachusetts have been designated by DMF's Shellfish Project.
- Figure 6: Eelgrass Map
The White Horse Beach does not contain mapped Eelgrass.
This map contains features mapped in the fifth phase of the MassDEP Eelgrass Mapping Project. Phase 5 was conducted in 2012 and focused on re-mapping a portion of the Massachusetts Bay and Cape Cod Bay coastline running from the New Hampshire border through the North Shore, Boston Harbor, South Shore and the northern coastline of Cape Cod to Provincetown.

- Figure 7: Lobster Harvest 1997 Map
The White Horse Beach is within a 500,001 to 1,000,000 pound lobster harvest area.
This map is made up of a datalayer consisting of 25 distinct "statistical reporting areas" covering a large portion of the Gulf of Maine and south, including the territorial waters of the Commonwealth of Massachusetts.
- Figure 8: Barrier Beach Map
Portions of White Horse Beach are mapped as Barrier Beaches.
The barrier beach map is made up of a data layer that was compiled by the Resource Mapping Project staff at the University of Massachusetts, Amherst for the Massachusetts Coastal Zone Management Program.
- Figure 9: MassDEP Wetlands Map
The White Horse Beach is mapped as Coastal Beach, Barrier Beach and Coastal Dune.
The MassDEP Wetlands Map is made up of a data layer interpreted from 1:12,000 scale, stereo color-infrared (CIR) photography by staff at UMASS Amherst.
- Figure 10: ECR GPS Wetland Delineation Map
The ECR GPS Wetland Delineation Map delineates the limit of the Coastal Beach/Coastal Dune interface as mapped in the field by GPS mapping.
- Figure 11: Town of Plymouth Assessors Maps
- Figure 12: Public Access Points Map

FIGURE 1



USGS SITE LOCUS MAP
White Horse Beach
Plymouth, Massachusetts

Source: MassGIS Oliver Viewer



FIGURE 2

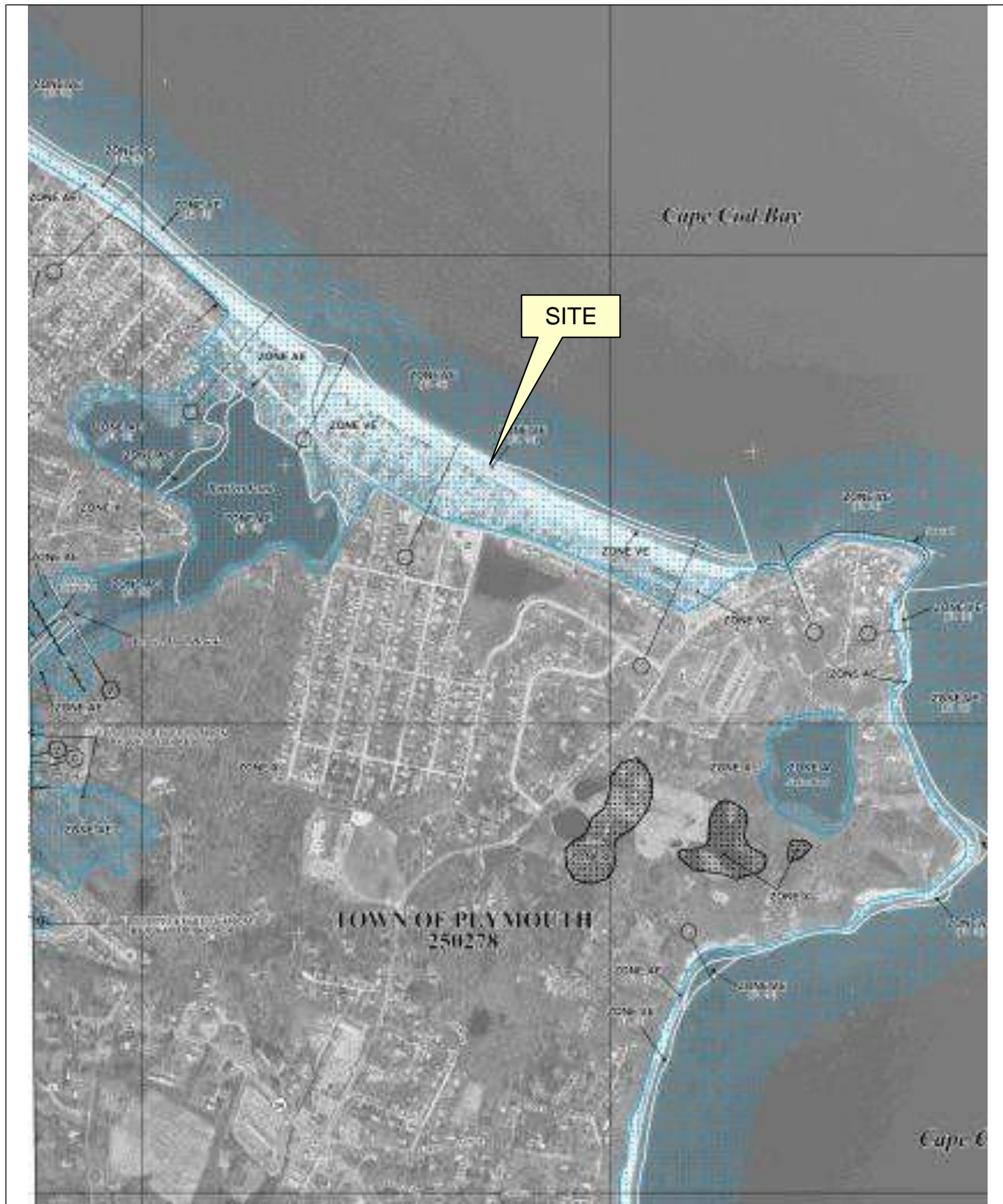


**Priority Habitats of Rare Species, Estimated Habitat of Rare Wildlife
& Certified Vernal Pools Map
White Horse Beach
Plymouth, Massachusetts**

Source: MassGIS Oliver Viewer



FIGURE 3



FEMA MAP
White Horse Beach
Plymouth, Massachusetts

Source: FEMA Map 25023C0391J 07/17/2012



FIGURE 4



**Shellfish Suitability Area Map
White Horse Beach
Plymouth, Massachusetts**

Source: MassGIS Oliver Viewer



FIGURE 5



**Shellfish Growing Area Map
White Horse Beach
Plymouth, Massachusetts**

Source: MassGIS Oliver Viewer



FIGURE 6



**Eelgrass Map
White Horse Beach
Plymouth, Massachusetts**

Source: MassGIS Oliver Viewer, MassDEP Seagrass 2013



FIGURE 7



**Lobster Harvest Zones
White Horse Beach
Plymouth, Massachusetts**

Source: MassGIS Oliver Viewer, Lobster Harvest Zones 1997 Overlay



FIGURE 8



**Barrier Beach Map
White Horse Beach
Plymouth, Massachusetts**

Source: MassGIS Oliver Viewer, Barrier Beaches Overlay



FIGURE 9

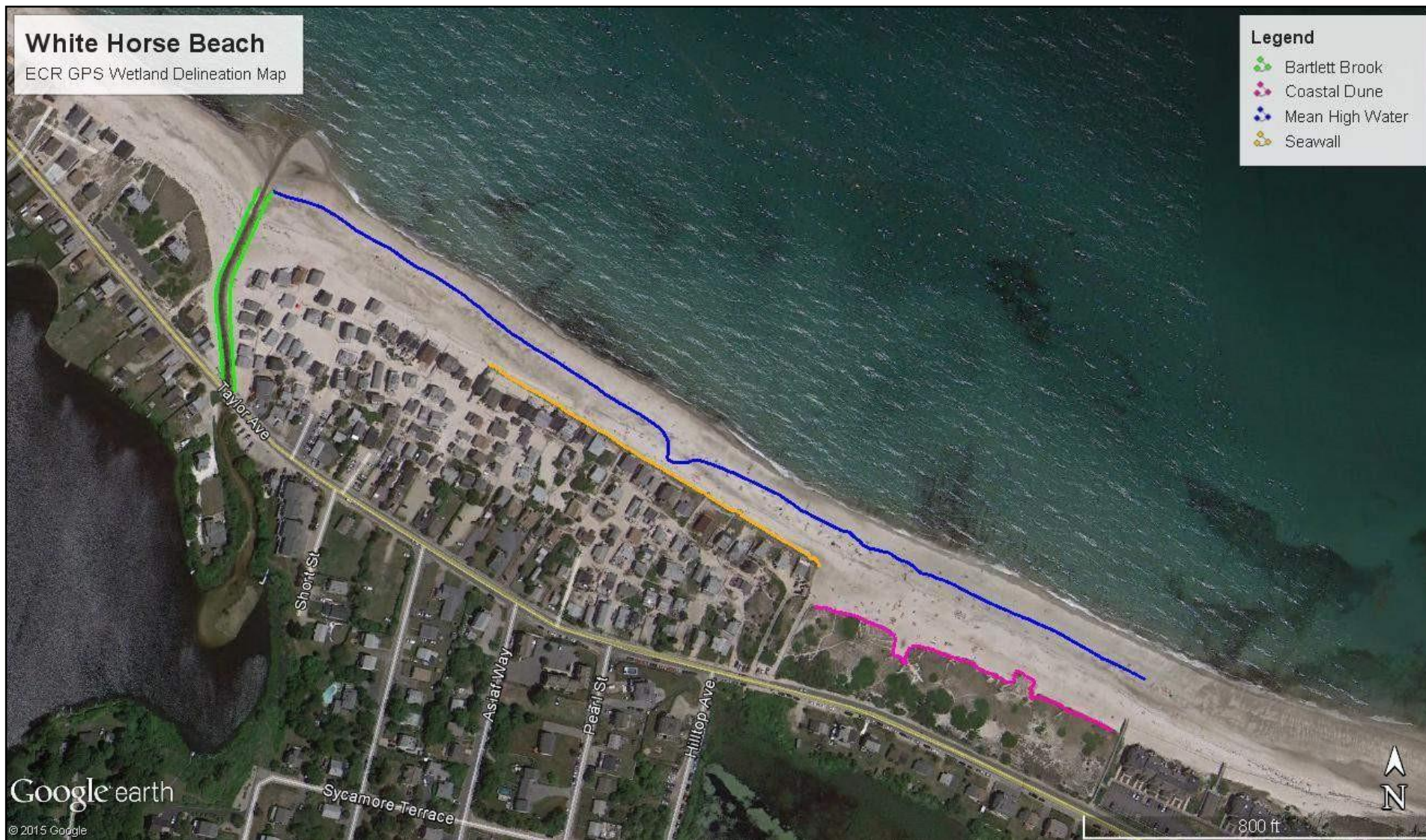


**DEP Wetland Map
White Horse Beach
Plymouth, Massachusetts**

Source: MassGIS Oliver Viewer, DEP Wetland 12K Overlay



FIGURE 10



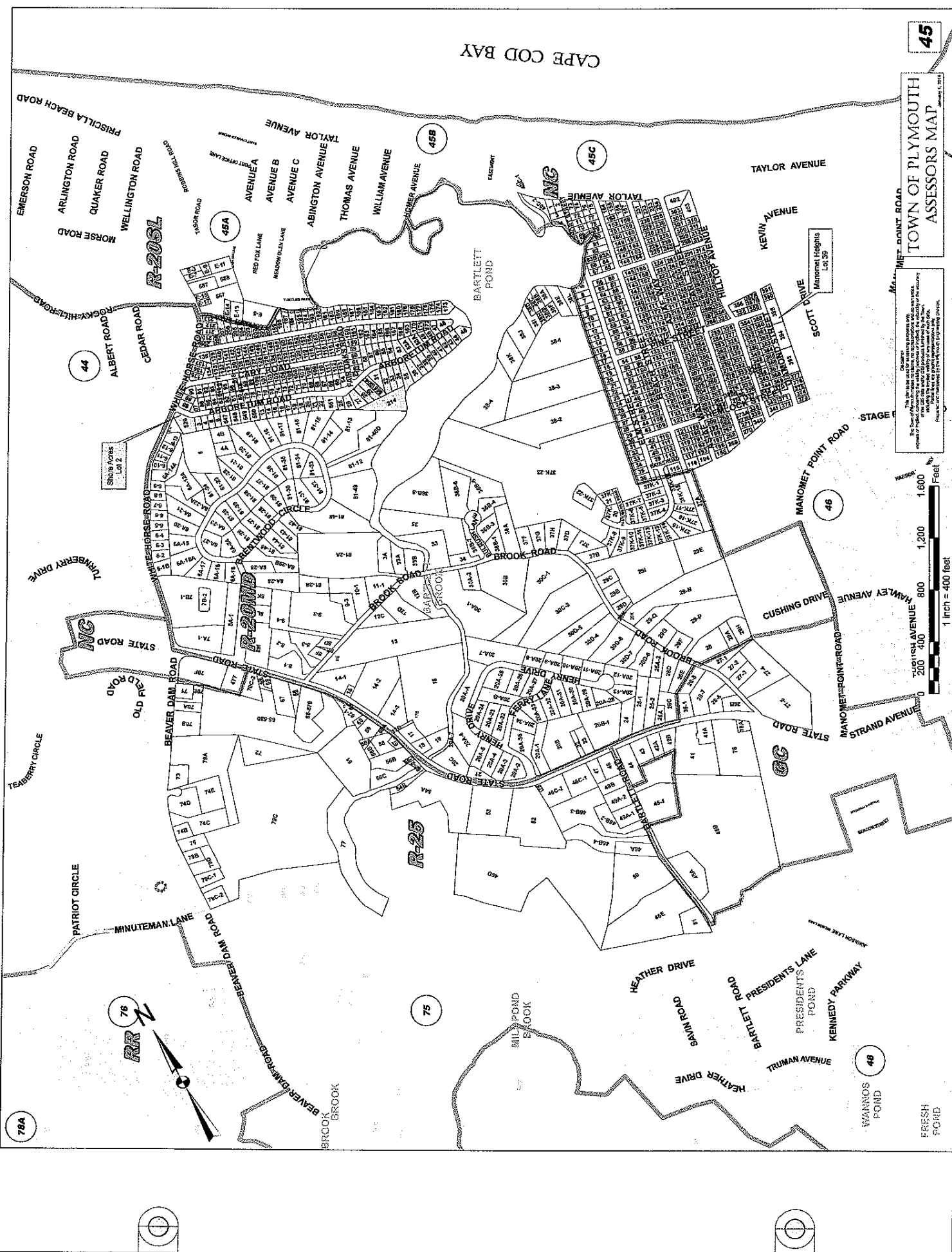
**ECR GPS Wetland Delineation Map
White Horse Beach
Plymouth, MA**

Delineated on April 29, 2015

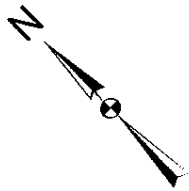
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FIGURE 11



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CAPE COD BAY

45A

TOWN OF PLYMOUTH
ASSESSORS MAP

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Prepared and Published by the Town of Plymouth, Massachusetts
January 1, 2014

WILLIAM AVENUE

THOMAS AVENUE

ABINGTON AVENUE

HOMER AVENUE

BARTLETT
POND

FAIR OAKS ROAD

ARBORETUM ROAD

CARY ROAD

VINE BROOK ROAD

ROPER STREET

BRIAN'S WAY

WHITE HORSE ROAD

ROCKY HILL ROAD

ALBERT ROAD

GEAR ROAD

MORSE ROAD

WELLINGTON ROAD

PRISCILLA BEACH ROAD

ROBBINS HILL ROAD

WHITE HORSE ROAD

PETERSON ROAD

TABOR ROAD

THEATRE COLONY WAY

R-20SL

R-25

R-20ND

0 50 100 200 300 400
1 inch = 120 feet

ARBORETUM ROAD

VINE BROOK ROAD

R-20SL

BRIAN'S WAY

HONEY BEE LANE

RED FOX LANE

MEADOW GLEN LANE

AVENUE B

AVENUE C

AVENUE A
POST OFFICE LANE

SALES CHARGE IS ANTICIPATED

TAYLOR AVENUE

BARTLETT
FOND

SHORT STREET

TAYLOR AVENUE



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45C

EASEMENT.

TAYLOR AVENUE

2418	7417	HOMER AVENUE
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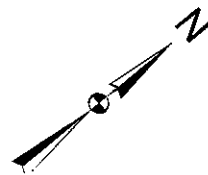
WILLIAM AVENUE

THOMAS AVENUE

ABINGTON AVENUE

45A

CAPE COD BAY



45B

TOWN OF PLYMOUTH
ASSESSORS MAP

Cautioner

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0 50 100 200 300 400 Feet

1 inch = 120 feet

1 inch = 120 feet

CAPE COD BAY

R-20SL

A-3

EASEMENT

45B

45

TAYLOR AVENUE

TAYLOR AVENUE

R-20MB

HILLTOP AVENUE

PEARL STREET

ASIAF WAY

BEACH STREET

SHORT STREET

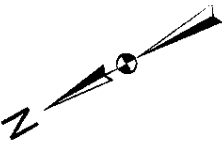
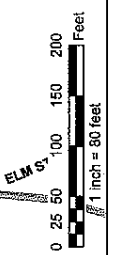
BARTLETT POND

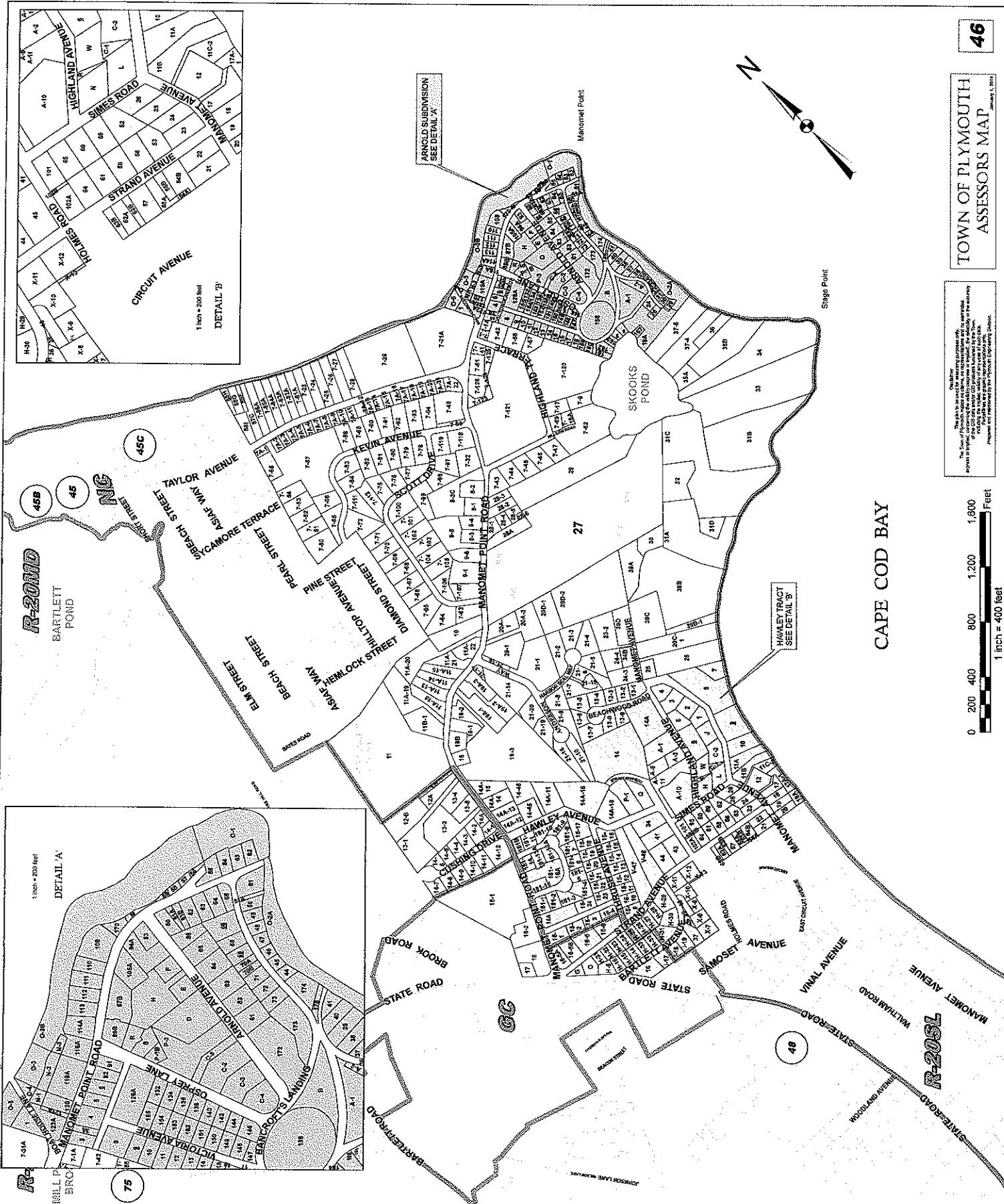
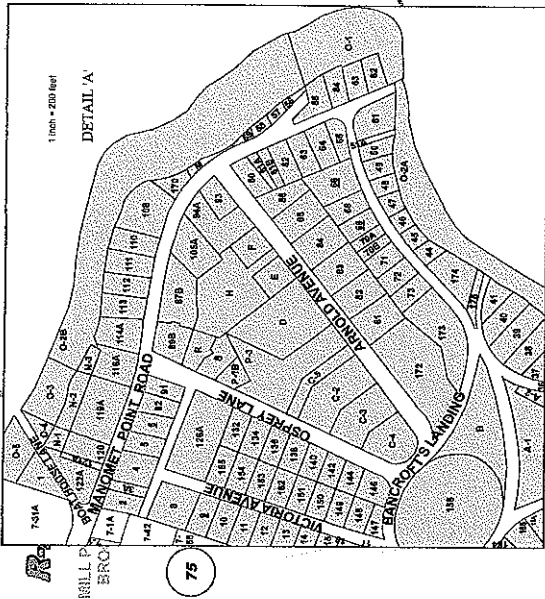
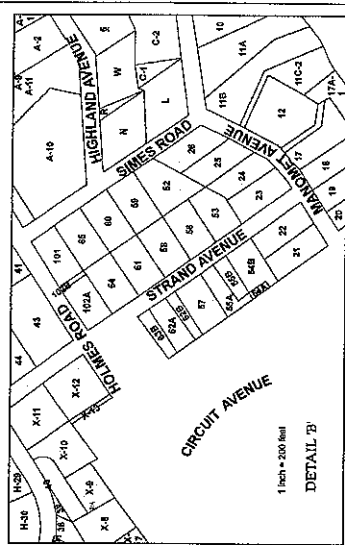
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TOWN OF PLYMOUTH
ASSESSORS MAP
August 1, 2011

45C





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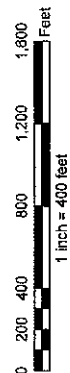


FIGURE 12



**Public Access Points
White Horse Beach
Plymouth, MA**

Source: Google Maps



ATTACHMENTS

- Attachment 1: Beaches and Parks, Chapter 30
- Attachment 2: Site Photograph Pages
- Attachment 3: Wetland Evaluation Memo with Photograph Pages
- Attachment 4: Shellfish Survey
- Attachment 5: American Beach Grass document with planting tips
- Attachment 6: Plymouth Assessors Property Record Cards for parcels 88F, 88G & 88H
- Attachment 7: White Horse Beach Parking Committee Final Report
- Attachment 8: June 23, 2015 Meeting Minutes
- Attachment 9: KP Law White Horse Beach Access Title Report

ATTACHMENT 1

Chapter 30

BEACHES BEACHES AND PARKS [Amended 5-20-2006 ATM by Art. 33]

- § 30-1. Beach stickers required.**
- § 30-2. Motorcycles, minibikes and all-terrain vehicles prohibited; horses restricted.**
- § 30-3. Domestic animals.**
- § 30-4. Sand dunes and grassy areas.**
- § 30-5. Garbage and rubbish.**
- § 30-6. Restricted area.**
- § 30-7. Parking on private property.**
- § 30-8. Speed limit.**
- § 30-9. Type of allowed vehicles.**
- § 30-10. Camping.**
- § 30-11. Glass containers.**
- § 30-12. Use of grills and hibachis.**
- § 30-13. Open fires.**
- § 30-14. Liability.**
- § 30-15. Stuck vehicles.**
- § 30-16. Riding on outside of vehicle.**
- § 30-17. Limitation on number of vehicles.**
- § 30-18. Right-of-way to be open.**
- § 30-19. Firearms.**
- § 30-20. Closing hours.**
- § 30-21. Blocking traffic.**
- § 30-22. Violations and penalties.**
- § 30-23. Parallel parking in certain areas.**
- § 30-24. Swimming and bathing.**

[HISTORY: Adopted by the Annual Town Meeting of the Town of Plymouth 4-16-1974 by Art. 58 as Art. 8 of the 1974 Bylaws. Amendments noted where applicable.]

GENERAL REFERENCES

Alcoholic beverages -- See Ch. 18.
Animals -- See Ch. 23.

Disorderly conduct -- See Ch. 51.
Harbor -- See Ch. 81.
Noise -- See Ch. 120.
Ponds -- See Ch. 134.
Solid waste -- See Ch. 157.
Vehicles and traffic -- See Ch. 185.

~~§ 30-1. Beach stickers required.~~

~~No persons except property owners, taxpayers and residents of Plymouth and their guests shall be allowed with vehicles on Plymouth Beach north of Manter's Point. All vehicles shall have proper Plymouth Beach stickers.~~

~~§ 30-2. Motoreycles, minibikes and all terrain vehicles prohibited; horses restricted.~~

~~No motoreycles, minibikes or minicars or all terrain vehicles shall be allowed on any public beach. No horses shall be allowed on any public beach between Memorial Day and Labor Day.~~

~~§ 30-3. Domestic animals. [Amended 1-9-1978 STM by Art. 9]~~

~~All domestic animals on public beaches shall be under control at all times. Dogs are to be leashed in accordance with Chapter 23, Animals, § 23-4A.~~

~~§ 30-4. Sand dunes and grassy areas. [Amended 1-9-1978 STM by Art. 9]~~

~~No person shall walk or drive any vehicle or wagon or ride a horse on the sand dunes or grassy areas or over any other type of vegetation on all public beaches. Driving is to be on designated trails only.~~

~~§ 30-5. Garbage and rubbish.~~

~~All persons on any public beach, except owners and occupants of cottages located in Plymouth, must deposit garbage and rubbish in barrels which shall be provided along the beach. Owners and occupants of cottages located in Plymouth shall provide otherwise for the proper disposal of their own garbage and rubbish.~~

~~§ 30-6. Restricted area. [Amended 4-7-1984 ATM by Art. 29]~~

~~No vehicle shall be allowed to pass on the east side of Plymouth Beach south of the crossover between Memorial Day and Labor Day, except in the case of an emergency or the established rights of Plymouth fishermen.~~

~~§ 30-7. Parking on private property.~~

~~No vehicles shall be parked on private property on any Plymouth Beach without the consent of that property owner.~~

~~§ 30-8. Speed limit. [Amended 4-7-1986 ATM by Art. 22]~~

~~No vehicle shall exceed a speed of 10 miles per hour while driving on any portion of any public beach.~~

~~§ 30-9. Type of allowed vehicles. [Amended 1-9-1978 STM by Art. 9]~~

~~All vehicles driven on Plymouth Beach north of Manter's Point shall be four wheel drive vehicles.~~

~~§ 30-10. Camping. [Amended 1-9-1978 STM by Art. 9]~~

~~Camping on all public beaches shall be restricted to Plymouth residents and Plymouth taxpayers and their guests, but only by a special permit issued by the Park Division.~~

~~§ 30-11. Glass containers.~~

~~Glass containers of any kind are prohibited from all public beaches.~~

~~§ 30-12. Use of grills and hibachis.~~

~~All cooking fires from grills, hibachis, etc., shall be properly extinguished. No hot coals shall be left on any public beach.~~

~~§ 30-13. Open fires.~~

~~No open fires will be allowed on any public beach without a permit from the Fire Department.~~

~~§ 30-14. Liability.~~

~~All persons using the beach do so at their own risk.~~

~~§ 30-15. Stuck vehicles. [Added 1-9-1978 STM by Art. 9]~~

The operator of a stuck vehicle is responsible for filling in ruts and holes caused by said vehicle and removing all debris.

§ 30-16. Riding on outside of vehicle. [Added 1-9-1978 STM by Art. 9]

~~Riding on the fenders, tailgate, roof or any other position outside of a vehicle is prohibited.~~

§ 30-17. Limitation on number of vehicles. [Added 1-9-1978 STM by Art. 9; amended 4-8-1992 ATM by Art. 28]

~~Limitations may be placed by the park police and/or the Beach Conservation Officer on the number of vehicles to be allowed on the beach at any one time.~~

§ 30-18. Right of way to be open. [Added 1-9-1978 STM by Art. 9]

~~Parked vehicles shall keep the right of way open at all times.~~

§ 30-19. Firearms. [Added 1-9-1978 STM by Art. 9]

~~Except for a property owner, the police and during the migratory waterfowl open hunting season, no firearms are allowed.~~

§ 30-20. Closing hours. [Added 1-9-1978 STM by Art. 9; amended 4-8-1992 ATM by Art. 28]

~~Except for property owners, their guests, Plymouth fishermen and campers with a special permit, the Plymouth Beach and its parking lot shall be closed to all vehicles between the hours of 9:00 p.m. and 4:00 a.m.~~

§ 30-21. Blocking traffic. [Added 4-7-1986 ATM by Art. 23]

~~No person shall block the vehicle trail by means of sporting equipment/games, four wheel drive vehicles, campers or tents which will impede the normal flow of beach traffic.~~

§ 30-22. Violations and penalties. [Added 4-7-1986 ATM by Art. 24]

~~A. Any person who violates § 30-4 or 30-8 of this chapter shall, for the first violation thereof, be fined \$100. Any person who violates § 30-4 or 30-8 of this chapter shall, for the second and all subsequent violations thereof within a twelve month period, be fined \$100 for each violation and shall have his or her privilege of operating a motor vehicle upon Plymouth Beach suspended for one~~

~~year.~~

~~B. The owner of any vehicle operated in violation of either § 30-4 or 30-8, whether said vehicle was operated at the time of said violation by the owner thereof or by another person acting under the authority of or with the consent of the owner thereof, shall be given written notice of every violation of § 30-4 or 30-8 involving said owner's vehicle. The privilege of said owner to have any vehicle of his or hers operated on Plymouth Beach shall be suspended, canceled, revoked or declared forfeited for one year whenever said vehicle shall have been operated in violation of either § 30-4 or 30-8 for a second time within a period of 12 consecutive months.~~

~~C. Any person who operates a motor vehicle on Plymouth Beach without an effective permit for said vehicle or after his or her personal privilege to operate a vehicle on Plymouth Beach has been suspended, canceled, revoked or forfeited, without renewal thereof, shall be subject to arrest for trespass pursuant to MGL c. 266, § 120, as amended.~~

§ 30-23. Parallel parking in certain areas. [Added 4-5-1989 ATM by Art. 27]

~~All vehicles adjacent to the snow fence, vegetated areas or dune areas must parallel park no less than 15 feet from the frontal dune, unless the area is otherwise designated.~~

§ 30-24. Swimming and bathing. [Added 4-22-1991 ATM by Art. 24]

~~A. No person shall bathe or swim in the waters of Plymouth Beach, White Horse Beach or any coastal waters adjacent thereto or any ponds which are under the jurisdiction of the Town of Plymouth during such time as the lifeguard on duty at said beach determines conditions to be hazardous to the health, safety and welfare of swimmers and bathers. Upon posting of warning signs by the lifeguard on duty or oral notice from the lifeguard that conditions are deemed hazardous, all persons shall exit the water until it is determined that the hazardous condition has abated.~~

~~B. Violations of this section shall be punishable by a fine of \$50 for each offense.~~

~~C. This section may be enforced by means of a complaint or noncriminal disposition under MGL c. 40, § 21D by any police officer of the town.~~

§ 30-1. Beach stickers required.

Only taxpayers and residents of Plymouth and their guests with proper beach stickers shall be allowed with vehicles on Plymouth Beach north of Manter's Point. All vehicles entering public parks shall have proper stickers or pay the daily entry fee set by the Board of Selectmen.

§ 30-2. Motorcycles, minibikes and all-terrain vehicles prohibited; horses restricted.

No motorcycles, minibikes or minicars or all-terrain vehicles shall be allowed on any public beach or in any park at any time except on designated travelways set by the Park Department. No horses shall be allowed on any public beach or in any public park picnic area between Memorial Day and Labor Day.

§ 30-3. Domestic animals.

All domestic animals on public beaches or parks shall be under control at all times. Dogs are to be leashed and their waste removed and disposed of in accordance with Chapter 23, Dog Control

§ 23-4 and § 23-14

§ 30-4. Sand dunes and grassy areas.

Walking or driving is restricted to designated trails and or roads only. No person shall walk, drive any vehicle or ride a horse on the sand dunes or grassy areas or over any other type of vegetation on all public beaches.

§ 30-5. Dumping and Littering

Dumping (the deposit or leaving of household or commercial trash) is prohibited. Littering (the leaving of all other trash except in designated Town receptacles) is also prohibited.

Penalty	
Littering	\$50
Dumping	
First Offense	\$100
Subsequent Offence's	\$500

§ 30-6. Restricted area.

No vehicle shall be allowed to pass on the east side of Plymouth Beach south of the crossover between Memorial Day and Labor Day, except in the case of an emergency or the established rights of Plymouth fishermen. No vehicles are allowed to drive along White Horse Beach except in the case of an emergency or the established rights of Plymouth fishermen or at designated boat launch areas.

§ 30-7. Parking on private property.

No vehicles, other than those owned by the property owner, shall be parked on private property on any Plymouth Beach or parked without the written consent of that property owner.

§ 30-8. Speed limit.

No vehicle shall exceed a speed of 10 miles per hour while driving on any portion of any public beach or park.

§ 30-9. Type of allowed vehicles.

All vehicles driven on Plymouth Beach north of Manter's Point shall be four-wheel-drive vehicles.

§ 30-10. Overnight Camping.

Overnight camping within any Town beach or park is prohibited without a permit issued by the Parks Division, based on policies approved by the Board of Selectmen. Overnight camping on Plymouth Long Beach shall be restricted to Plymouth residents and Plymouth taxpayers and their guests, but only by a permit issued by the Parks Division based on policies approved by the Board of Selectmen.

§ 30-11. Glass containers.

Glass containers of any kind are prohibited from all public beaches and parks.

§ 30-12. Use of grills and hibachis.

Cooking fires contained in grills, hibachis and similar devices is permitted, but only in designated park and beach areas, based on policies approved by Board of Selectmen. All coals must be properly extinguished and may not be left on any public beach or park.

§ 30-13. Open fires.

No open fires (fires not contained in grills, hibachis or similar devices) will be allowed on any public beach or park without permits from both the Park Division and Plymouth Fire Department. No open fires will be allowed on a private beach unless the consent of the land owner is documented to the satisfaction of and without permit issued by the fire department. **[Previous Sentence Added 4-2-2011ATM by Article 43]**

§ 30-14. Liability. All persons using the public beaches and parks do so at their own risk.

§ 30-15. Stuck vehicles.

The operator of a stuck vehicle is responsible for filling in ruts and holes caused by said vehicle and for removing all related debris from any beach or park.

PLYMOUTH CODE

§ 30-16

§ 30-16. Riding on outside of vehicle.

Riding on the fenders, tailgate, roof or any other unenclosed exterior portion of any vehicle is prohibited.

§ 30-17. Limitation on number and parking of vehicles.

Limitations may be placed by the Director of Public Works, the Police Chief or the Environmental Technician and their designees on the number of vehicles allowed on any beach or park at any one time or on the location of allowed parking.

§ 30-18. Right-of-way to be open.

Parked vehicles shall keep the pedestrian and vehicular rights-of-way open at all times

§ 30-19. Hunting and Firearms.

No hunting or firearms are allowed within any park or beach except for properly licensed hunters on Town beaches during the migratory waterfowl open hunting season.

§ 30-20. Closing hours.

Town beaches and parks are open from dawn to dusk. Exceptions may be made by policies approved by the Board of Selectmen. Except for private property owners on Plymouth Beach their guests, or fishermen who are residents or taxpayers of Plymouth or overnight campers with the required permit, Plymouth Beach and its parking lot shall be closed to all vehicles between the hours of 9:00 p.m. and 4:00 a.m.

§ 30-21. Blocking traffic.

No person shall block any road or any pedestrian or vehicular trail by means of sporting equipment/games, four-wheel-drive vehicles, campers or other vehicles, or tents which would impede the normal flow of beach or park traffic.

§ 30-22. Violations and penalties.

Unless otherwise specifically provided herein, any person who violates any provision of this chapter shall be subject to the following penalties:

First offense	\$25.00
Second offense	\$50.00
Third and subsequent	\$100.00

- A. Any person who violates § 30-4 or 30-8 of this chapter shall, for the first violation thereof, be fined \$100. Any person who violates § 30-4 or 30-8
- BEACHES AND PARKS
- § 30-22

of this chapter shall, for the second and all subsequent violations thereof within a twelve-month period, be fined \$100 for each violation and shall have his or her privilege of operating a motor vehicle in beaches and parks suspended for one year.

B. In addition to the forgoing

1. The owner of any vehicle operated in violation of either § 30-4 or 30-8, whether said vehicle was operated at the time of said violation by the owner thereof or by another person acting under the authority of or with the consent of the owner thereof, shall be given written notice of every violation of § 30-4 or 30-8 involving said owner's vehicle. The privilege of said owner to have any vehicle of his or hers operated on beaches and in parks shall be suspended, canceled, revoked or declared forfeited for one year whenever said vehicle shall have been operated in violation of either § 30-4 or 30-8 for a second time within a period of 12 consecutive months.

2. Any person who operates a motor vehicle on beaches or in parks without an current effective permit for said vehicle or after his or her personal privilege to operate a vehicle on Plymouth Beach has been suspended, canceled, revoked or forfeited, without renewal thereof, shall be subject to arrest for trespass pursuant to MGL c. 266, § 120, as amended.

§ 30-23. Parallel parking in certain areas.

All vehicles adjacent to the snow fence, vegetated areas or dune areas must parallel park no less than 15 feet from the frontal dune, unless the area is otherwise designated.

§ 30-24. Swimming and bathing.

- A. No person shall bathe or swim in the waters of Plymouth Beach, White Horse Beach or any coastal waters adjacent thereto or any ponds which are under the jurisdiction of the Town of Plymouth during such time as the lifeguard on duty at said beach determines conditions to be hazardous to the health, safety and welfare of swimmers and bathers. Upon posting of warning signs by the lifeguard on duty or oral notice from the lifeguard that conditions are deemed hazardous, all persons shall exit the water until it is determined that the hazardous condition has abated.
- B. Violations of this section shall be punishable by a fine of \$50 for each offense.

- A. This section may be enforced by means of a complaint or noncriminal disposition under MGL c. 40, § 21D by any police officer of the town.

ATTACHMENT 2

White Horse Beach Site Photographs



Photograph #1 – View of the beach leading to the dune where users travel into the dune for use as a restroom. Trash litter is a major problem at WHB, but is slightly reduced during the summer months when Town trash barrels are available.



Photograph #2 – View of the storm impacts causing significant loss of dune.

**White Horse Beach
Site Photographs**



Photograph #3 – Aerial view of the dune system with numerous unauthorized pathways.



Photograph #4 – Aerial view northwest across the coastal beach. The beach in this section is bordered by a manmade stone revetment.

**White Horse Beach
Site Photographs**



Photograph #5—This is a view of White Horse Beach on a Friday Afternoon in July.



Photograph #6—Another view of the beach on the same Friday as the above picture, along the southern section of beach.

**White Horse Beach
Site Photographs**



Photograph #7 – View of the public access across from Hilltop Avenue.



Photograph #8 – View of the public access near Bartlett Brook.

**White Horse Beach
Site Photographs**



Photograph #9 – View of the public access at the end of White Horse Beach Road.

ATTACHMENT 3



Environmental Consulting & Restoration, LLC



WETLAND EVALUATION MEMO

TO: Town of Plymouth
FROM: Brad Holmes
DATE: June 10, 2015
RE: White Horse Beach Coastal Dune System

ECR performed an analysis of the Coastal Dune system at White Horse Beach on June 10, 2015 to document the existing vegetation. The dune is divided into two sections, which are the front dune facing the ocean and the back dune facing the Taylor Avenue. Please note the following:

BACK DUNE

Back Dune is vegetated with the following plant species:

- Red Cedar (*Juniperus virginiana*)
- Black Cherry (*Prunus serotina*)
- Bayberry (*Myrica pennsylvanica*)
- Poison Ivy (*Toxicodendron radicans*)
- Rugosa Rose (*Rosa rugosa*)
- American Beach Grass (*Ammophila breviligulata*)
- Beach Heather (*Hudsonia tomentosa*)
- Beach Pea (*Lathyrus japonicas*)
- Seaside Goldenrod (*Solidago sempervirens*)
- Crab Apple (*Malus spp.*)
- Oriental Bittersweet (*Celastrus orbiculatus*)
- Autumn Olive (*Elaeagnus umbellata*)

The dominant plant species in the Back Dune are Poison Ivy, Bayberry, Rugosa Rose, and Red Cedar. There are minor amounts of non-native invasive plants such as Oriental Bittersweet and Autumn Olive within the Back Dune closer to Taylor Avenue. The removal of non-native invasive plants is recommended.

FRONT DUNE

Front Dune is vegetated with the following plant species:

- American Beachgrass (*Ammophila breviligulata*)
- Seaside Goldenrod (*Solidago sempervirens*)
- Bayberry (*Myrica pennsylvanica*)
- Dusty Miller (*Artemisia stelleriana*)
- Beach Pea (*Lathyrus japonicas*)
- Poison Ivy (*Toxicodendron radicans*)

The dominant plant species in the Front Dune are American Beach and Bayberry.

For more information, please refer to the photograph pages included with this memo.

**White Horse Coastal Dune
Site Photographs**



Photograph #1 – View across the back dune with Taylor Avenue on the right. Notice Bayberry and Poison Ivy growth leading to Black Cherry and Red Cedar closer to Taylor Avenue.



Photograph #2 – Another view of the back dune with Taylor Avenue on the left.

**White Horse Coastal Dune
Site Photographs**



Photograph #3 – View of Oriental Bittersweet vines in the back dune that should be removed from the dune system.



Photograph #4 – View across the front dune. Notice the dominance of American Beach Grass.

**White Horse Coastal Dune
Site Photographs**



Photograph #5 – View of the front dune edge that has eroded due to storm impacts. Dune nourishment and American Beach Grass planting could restore the dune face.



Photograph #6 – Another view of the front dune edge that has eroded due to storm impacts.

ATTACHMENT 4



Environmental Consulting & Restoration, LLC



Phase 1 Shellfish Survey

TO: Town of Plymouth
FROM: Brad Holmes
DATE: May 15, 2015
RE: White Horse Beach – Shellfish Survey

Environmental Consulting and Restoration, LLC performed the first phase of a shellfish survey on May 12, 2015 at White Horse Beach in Manomet (the Site). The purpose of this first phase was to observe shellfish populations from the Mean Low Water line landward. The weather on May 12th was partly cloudy, warm (approximately 75 degrees) with wind. During the first phase the following observations were made:

- Low tide was at 12:56 pm and -0.02 meters.
- No evidence of any shellfish were found (live specimen, siphon holes, etc.)
- Less than 10 surf clam shells were found washed ashore
- Sand is consistently granular and well drained throughout the beach from Mean Low Water landward
- Looking at MassGIS the southern portion of White Horse Beach contains suitable habitat for Blue Mussels
- Looking at MassGIS this is a prohibited area for growing shellfish

Based on the results of the first phase of the shellfish survey at White Horse Beach on May 12th ECR concludes that there are no shellfish populating the area from Mean Low Water landward. ECR will conduct phase two of the shellfish survey at the next extreme low tide.



Environmental Consulting & Restoration, LLC



Phase 2 Shellfish Survey

TO: Town of Plymouth
FROM: Brad Holmes
DATE: May 19, 2015
RE: White Horse Beach – Shellfish Survey

Environmental Consulting and Restoration, LLC performed the second phase of a shellfish survey on May 19, 2015 at White Horse Beach in Manomet (the Site). The purpose of this second phase was to observe shellfish populations during an extreme low tide. The weather on May 19th was partly cloudy, warm (approximately 55 degrees) with light wind. During the second phase the following observations were made:

- Low tide was at 6:59 am and -1.4 feet
- Low numbers of surf clams found in sand flats near eastern access point
 - 8 inch surf clam
 - 11 inch surf clam
 - 5 inch surf clam
 - Several seedlings between 1 – 1.5 inches
 - 2 sand dollars
- Low numbers of surf clams found in sand flats below Bartlett Brook to the west
 - 10 inch surf clam
 - 2 seedlings between 1 – 1.5 inches
 - Several sand dollars
- No mussels were visible at low tide, but it is expected that mussel habitat includes the rock area within the western portion of the beach

Based on the results of the second phase of the shellfish survey at White Horse Beach on May 19th ECR concludes that there is minimal surf clam habitat between extreme low tide and Mean Low Water. ECR also concludes that it is likely mussel habitat exists within the rocky area along the western portion of the beach. Please see the attached photo pages for more information.

**Shellfish Survey, White Horse Beach, Manomet
Site Photographs**



Photograph #1 – View west down White Horse Beach during an extreme low tide event. Low tide on May 19th was -1.4 feet.



Photograph #2 – View of a surf clam found within the sand flats on the eastern portion of White Horse Beach

**Shellfish Survey, White Horse Beach, Manomet
Site Photographs**



Photograph #3 – An example of one of several seedlings between 1 and 1.5 inches found in the sand flats.



Photograph #4—View of another surf clam found in the sand flats during the extreme low tide on May 19, 2015.

ATTACHMENT 5

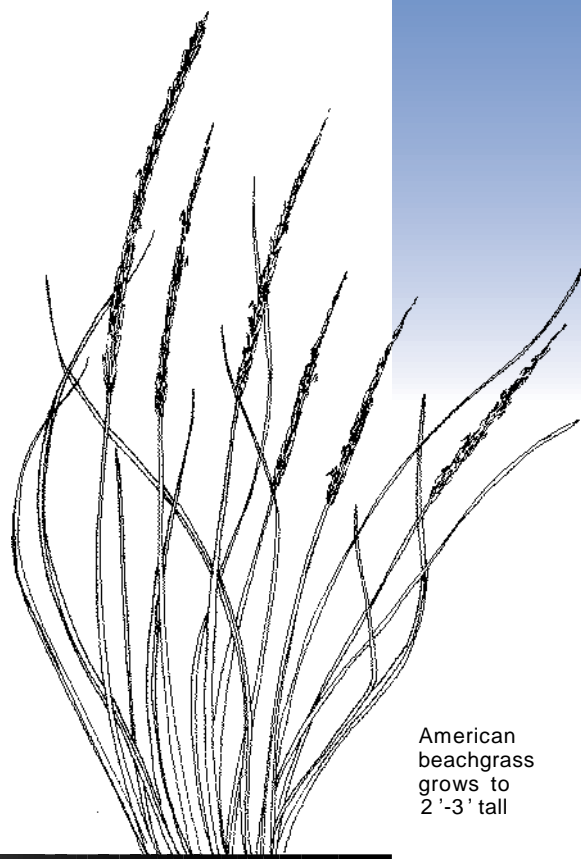
American Beach Grass

Introduction

Maritime beach communities are found above the mean high tide line. Wind erosion and storm waves shape these communities. Plants that grow there need to be tolerant of dry and salty conditions and of the constant burial by shifting sand. The most common plant species found in the maritime beach is American beachgrass (*Ammophila brevifolium*). American beachgrass is able to live in this very hot and salty environment characterized by coarse sand, little organic matter and almost no water. American beachgrass does not only grow on dunes by the ocean, it can be found on beaches along the bays, harbors, and at the base of bluffs along Long Island Sound. Given its dense root structure and ability to grow through accreting sand, American beachgrass helps in the formation of dunes. Dunes play a very important role in protecting the coast, by buffering incoming waves. Although American beachgrass is adapted to life in a tough environment, it can not withstand people walking on it. Once the American beachgrass starts to die off, the stability of the dune is threatened. Dunes are also affected by natural forces such as storms and floods. Planting American beachgrass can restore damaged dune systems.

American Beachgrass Characteristics

American beachgrass has a range that extends from New England to North Carolina. It has the ability to continue to grow even as nature buries it with sand. As the grass captures sand that winds blow across it, dunes are built. The grass responds to being buried by sending up a new rhizome (underground stem). From the new rhizome, a new shoot forms. The rhizomes also help the plant spread horizontally up to 6'-10' annually. American beachgrass grows up to 2'-3' tall. The plant does produce a seedhead and seeds, but much of the spreading is through the rhizomes. Seedlings have a tough time getting established in a hot, dry environment.



American beachgrass grows to 2'-3' tall

Planting Guide

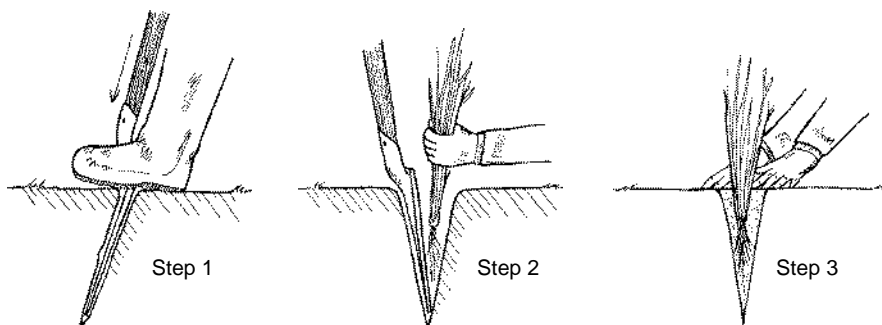
American Beach Grass

Planting Tips

American beachgrass comes in more than one variety. The variety recommended by the United States Department of Agriculture Natural Resources Conservation Service for our area is called "Cape." Some Long Island nurseries are propagating beach grass from our Long Island dunes. Some groups feel it is better to use beachgrass from this local source. The United States Department of Agriculture Natural Resources Conservation Service offers this advice:

1. Plant strips of beachgrass parallel to the coastline. It is easily done by hand. The row closest to the ocean should be at least 100' above the mean high tide line. Along the ocean, if space permits, plant a 40'-50' wide strip, but no less than 20', and 10 rows deep. This permits the planting to trap blowing sand, and to build a dune.
2. American beachgrass can be planted from October 15th to March 31st in the Mid-Atlantic, as long as the sand is not frozen.
3. Plants and roots must be kept moist before and during planting. Try using wet burlap. On most sites, the recommended plant spacing within a row is 18". Where erosion is severe, decrease the spacing to 12" apart.
4. Plant two 18"-24" stems in a hole, approximately 7"-9" deep.
5. Stagger the rows. An 18' by 18' spacing requires 38,000 culms or stems per acre, or 889 culms per 1,000 square feet.
6. Compact the sand firmly around the plants.
7. Beachgrass should be fertilized. Broadcast fertilizer over the planting at a rate equivalent to 1.4 pounds per 1,000 square feet. Fertilizer should be applied 30 days after the planting date, but not before April 1st.
8. Protect your new planting from foot/vehicle traffic by placing snow fencing around it.

American beachgrass is easily planted by hand.



and
Cornell
Cooperative
Extension of
Suffolk County

Marine Program

Obtaining Help

It's a good idea to obtain some professional advice before implementing a beach grass planting. Good sources of help are:

Cornell Cooperative
Extension of
Suffolk County
Marine Program,
3690 Cedar Beach Rd.,
Southold NY 11971
516-852-8660

New York Sea Grant
Extension Program,
3059 Sound Ave.,
Riverhead, NY 11901
516-727-3910

USDA Natural Resources
Conservation Service,
Riverhead County Ctr.,
Room N-210,
Riverhead, NY 11901
516-727-2315

These three organizations
can also help you locate
sources of American
beachgrass plants.

ATTACHMENT 6

Unofficial Property Record Card - Plymouth, MA

General Property Data

Parcel ID **045B-000-014-024**
 Prior Parcel ID **1100 -G01 -045B0030***
 Property Owner **JORGE MANUEL P JR**
JORGE AGNES G
 Mailing Address **50 DEAN ST**

Account Number **6815**

Property Location **161 TAYLOR AV**
 Property Use **MULTI HOUSE**
 Most Recent Sale Date **5/24/1974**
 Legal Reference **C53038**
 Grantor **BITTER, MELVIN**
 Sale Price **20,500**
 Land Area **0.070 acres**

City **TAUNTON**
 Mailing State **MA** Zip **02780**
 ParcelZoning **R20S**

Current Property Assessment

Card 1 Value	Building Value 18,700	Xtra Features Value 0	Land Value 224,200	Total Value 242,900
Total Parcel Value	Building Value 41,600	Xtra Features Value 0	Land Value 224,200	Total Value 265,800

Building Description

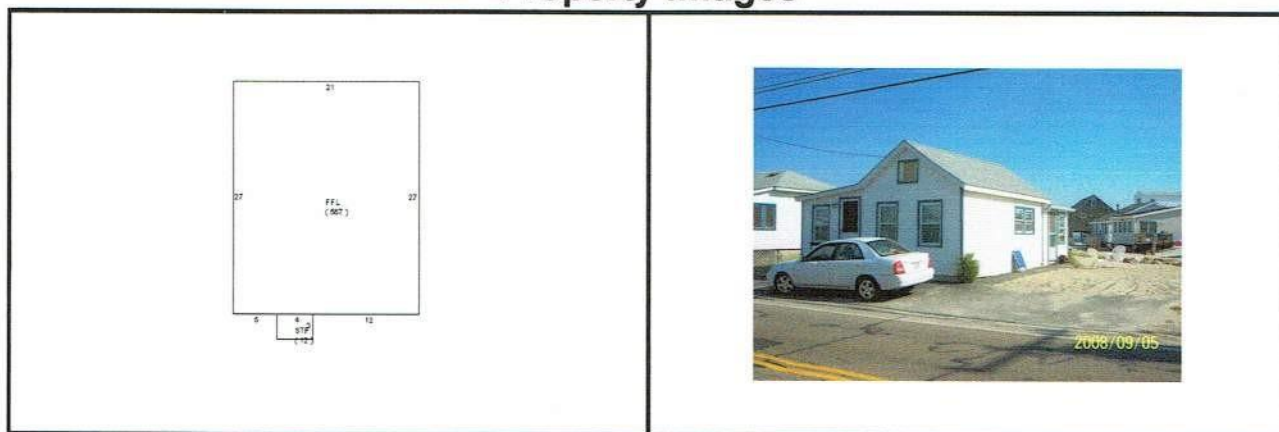
Building Style Cottage	Foundation Type SLAB	Flooring Type LINO/VINYL
# of Living Units 1	Frame Type WOOD	Basement Floor N/A
Year Built 1940	Roof Structure GABLE	Heating Type NONE
Building Grade FAIR	Roof Cover Asphalt	Heating Fuel NONE
Building Condition Average	Siding VINYL	Air Conditioning 0%
Finished Area (SF) 567	Interior Walls DRYWALL	# of Bsmt Garages 0
Number Rooms 5	# of Bedrooms 2	# of Full Baths 0
# of 3/4 Baths 1	# of 1/2 Baths 0	# of Other Fixtures 0

Legal Description

Narrative Description of Property

This property contains 0.070 acres of land mainly classified as MULTI HOUSE with a(n) Cottage style building, built about 1940 , having VINYL exterior and Asphalt roof cover, with 1 unit(s), 5 room(s), 2 bedroom(s), 0 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Plymouth, MA

General Property Data

Parcel ID 045B-000-014-025
 Prior Parcel ID 1100 -G01 -045B0029*
 Property Owner PORTER WILLIAM R SR
 PORTER AMY L
 Mailing Address 6 LINWOOD DR

Account Number 6816

Property Location 163 TAYLOR AV
 Property Use ONE FAM
 Most Recent Sale Date 7/9/2014
 Legal Reference C120647-
 Grantor 163 TAYLOR AVENUE REALTY TRUST,
 Sale Price 90,000
 Land Area 0.120 acres

City SHREWSBURY
 Mailing State MA Zip 01545
 ParcelZoning R20S

Current Property Assessment

Card 1 Value Building Value 68,500

Xtra Features Value 0

Land Value 191,800

Total Value 260,300

Building Description

Building Style Ranch
 # of Living Units 1
 Year Built 1970
 Building Grade AVERAGE
 Building Condition Average
 Finished Area (SF) 720
 Number Rooms 5
 # of 3/4 Baths 0

Foundation Type CONCRETE
 Frame Type WOOD
 Roof Structure GABLE
 Roof Cover Asphalt
 Siding VINYL
 Interior Walls DRYWALL
 # of Bedrooms 3
 # of 1/2 Baths 0

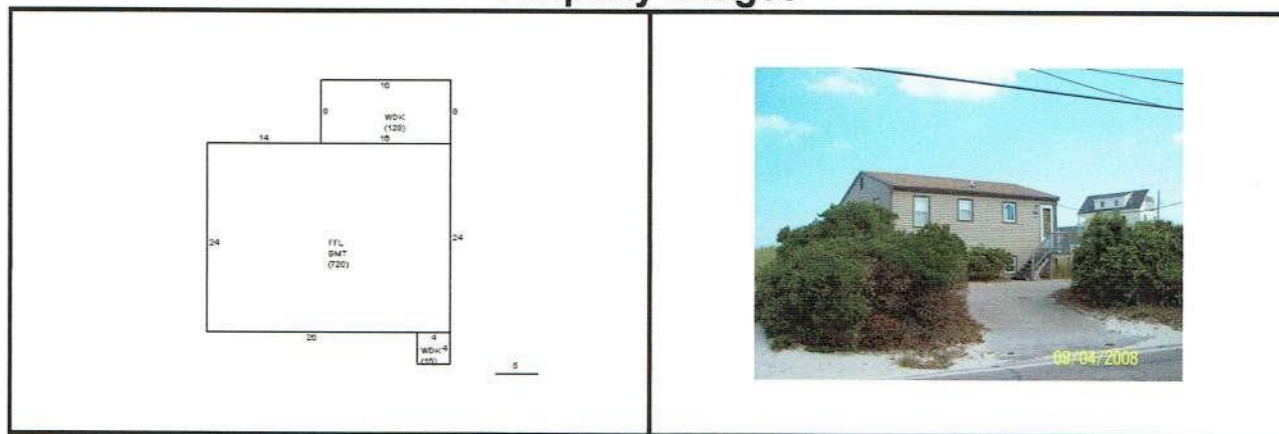
Flooring Type CARPET
 Basement Floor CONCRETE
 Heating Type ELECTRIC
 Heating Fuel ELECTRIC
 Air Conditioning 0%
 # of Bsmt Garages 0
 # of Full Baths 1
 # of Other Fixtures 0

Legal Description

Narrative Description of Property

This property contains 0.120 acres of land mainly classified as ONE FAM with a(n) Ranch style building, built about 1970 , having VINYL exterior and Asphalt roof cover, with 1 unit(s), 5 room(s), 3 bedroom(s), 1 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Plymouth, MA

General Property Data

Parcel ID **046-000-007A-003**
 Prior Parcel ID **1100 -G01 -046*0054***
 Property Owner **PLYMOUTH TOWN OF**

Account Number **7074**

Mailing Address **11 LINCOLN ST**

Property Location **54 TAYLOR AV**
 Property Use **Improved**
 Most Recent Sale Date **7/17/2013**
 Legal Reference **C119300-**
 Grantor **LOCKWOOD,DIANNE S**
 Sale Price **205,000**
 Land Area **0.140 acres**

City **PLYMOUTH**
 Mailing State **MA** Zip **02360**
 ParcelZoning **R20S**

Current Property Assessment

Card 1 Value Building Value **51,000**

Xtra Features
Value **0**

Land Value **193,700**

Total Value **244,700**

Building Description

Building Style **CONV COTTAGE**
 # of Living Units **1**
 Year Built **1965**
 Building Grade **AVERAGE-**
 Building Condition **Average**
 Finished Area (SF) **779**
 Number Rooms **4**
 # of 3/4 Baths **0**

Foundation Type **PIERS/PILING**
 Frame Type **WOOD**
 Roof Structure **GABLE**
 Roof Cover **Asphalt**
 Siding **WOOD**
 Interior Walls **DRYWALL**
 # of Bedrooms **2**
 # of 1/2 Baths **0**

Flooring Type **CARPET**
 Basement Floor **N/A**
 Heating Type **FORCED H/A**
 Heating Fuel **PROPANE**
 Air Conditioning **0%**
 # of Bsmt Garages **0**
 # of Full Baths **2**
 # of Other Fixtures **0**

Legal Description

Narrative Description of Property

This property contains 0.140 acres of land mainly classified as Improved with a(n) CONV COTTAGE style building, built about 1965 , having WOOD exterior and Asphalt roof cover, with 1 unit(s), 4 room(s), 2 bedroom(s), 2 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

ATTACHMENT 7

WHITE HORSE BEACH PARKING COMMITTEE **FINAL REPORT**



TOWN OF PLYMOUTH

SEPTEMBER 2013

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INTRODUCTION

In the Fall of 2012, the Board of Selectmen initiated the process of reviewing the seasonal parking situation at White Horse Beach. The Selectmen created a short-term Committee consisting of nine members as follows:

- 1 Natural Resources & Coastal Beaches Committee designee
- 1 East White Horse Beach Representative
- 1 Manomet Height Association Representative
- 1 Sands of White Horse Beach Association Representative
- 1 Ocean Point Condominium Representative
- 1 White Horse Beach Representative
- 1 Manomet Village Steering Committee Representative
- 1 Priscilla Beach Association Representative
- 1 Member at Large

The White Horse Beach neighborhood consists of many associations each stakeholder group was represented on the committee.

THE WHITE HORSE BEACH PARKING GUIDING TEAM

Dawn Dillon (Chair)	East White Horse Beach Association
Christine Bostek (Vice-Chair)	Sands at White Horse Beach Association
Peg O'Hearn	Manomet Heights Association
John Vacha	White Horse Beach Association
Cheryl Damiano.....	Member at Large
Linda Evans	Manomet Village Steering Committee Representative
Tim Bennett	Priscilla Beach Association
Jan Zabriskie.....	Ocean Point Condominium
Peter Denehy.....	Natural Resources Beach Committee Designee

COMMITTEE CHARGE

General Mission: The Town of Plymouth recognizes the requests of White Horse Beach residents to assist in adequately controlling parking in the White Horse Beach area, particularly in the summer months. Problems of inadequate residential parking, competing visitor parking, and parking in areas that are causing concerns and frustrations are escalating. The White Horse Beach Parking Committee shall research parking plans in coastal areas with cluster development, and shall develop possible strategies to mitigate or improve the seasonal parking situation.

Objectives: The White Horse Beach Parking Committee shall put together a proposal for the White Horse Beach area in and around Taylor Avenue that will provide parking for taxpayers in the area, visitors to the area, and residents of the area. The proposal shall include an assessment, a plan for implementation, a timeline, enforcement procedures, administrative procedures, any staffing needs and a projected revenues/expenditure pro forma budget, as well as other ancillary details. The proposal will consider the development, management, and operation of on and off-street parking, as well as any structured parking (public lots or private lots), directional in informational signage, transit services (i.e. shuttle), and other parking needs that will balance residential and visitor needs.

Logistics:

- Deadline for recommendation set for July or August of 2013 (keeping in mind that if there are town meeting requests, those deadlines should also be accommodated)
- Study other towns that have successfully implemented successful parking programs in similar areas – successful designed as balancing residential and visitor needs
- Establish a report of recommendations to present to the Board of Selectmen, including an implementation plan and schedule
- The Selectmen may periodically ask the Committee to provide an update on their progress at a Selectmen's meeting
- The Committee shall do outreach to as many residents in the area as possible, including one public hearing.
- Report required to the Town Clerk 30 days before Annual Town Meeting

ACKNOWLEDGEMENTS

The White Horse Beach Parking Committee would like to thank everyone who supported and continue to encourage our effort; this document is better for their input. The Committee is grateful to the following for providing staff support for the committee:

Elizabeth Sullivan, Special Assistant to the Town Manager

Valerie Massard, AICP, Senior Planner

Thank you to the following individuals who also gave their time to meet with the Committee as guest speakers providing technical expertise and suggestions:

Lee Hartmann, AICP, Director of Planning & Development

Denis Hanks, Executive Director Plymouth Chamber of Commerce

Paul Cripps, Executive Director Destination Plymouth

John Burke, Director Park Plymouth

Jonathan Beder, Director of Public Works

Michael Botieri, Chief of Police

Sid Kashi, PE, Town Engineer

EXECUTIVE SUMMARY

In order to study the problems of inadequate residential parking, competing visitor parking, and parking in this area the Board of Selectmen created the short-term White Horse Beach Parking Committee. Under the required charge, the Committee held bi-monthly open public sessions meeting a total 14 times over the last seven months. All meetings were posted and open to the public and included a public brainstorming session as well as public forum with the Manomet Village Steering Committee, held on July 25, 2013.

This Plan and recommendations are intended to serve as a foundation for the future policy setting for parking in the White Horse Beach study area. Recommended strategies include short, mid and long-term parking improvements and programs. The Plan was prepared with staff support using previous studies, residents, public input, and the technical expertise of many guest speakers. Early on the Committee held a brainstorming session, which was well attended by many citizens of Plymouth and including residents of the White Horse Beach neighborhood. Through this session, the Committee set their priorities and goals, which helped to guide the Committee and will continue to serve as principles for the future management of parking in the area.

Key strategic and operational issues are identified that must be addressed in order to mitigate the parking conditions for residents, citizens of Plymouth and tourists. White Horse Beach is a public beach with no designated public parking. Through this process the Committee struggled at times because there is a lack of vision for this public natural resource. Implementation of any kind will require policy makers to develop a vision for White Horse Beach, engage stakeholders in both the White Horse beach neighborhood as well as residents throughout Plymouth, and finally generate a consensus on potential strategies for this area.

The White Horse Beach parking Report is intended to act as a guide for public policy decisions and investments for the area studied. These recommended improvements must in all cases support the approved *Taylor Avenue Reconstruction Plan* initiatives and be consistent with the Committee's goals which serve as guiding principles for future decision-making.

EXISTING CONDITIONS

THE PROBLEM:

Problems of inadequate residential parking, competing visitor parking and parking in restricted areas are causing concerns between residents, citizens of Plymouth and tourists; frustrations are escalating. The White Horse Beach Parking Committee was established to provide recommendations to the Board of Selectmen for improvements to mitigate the seasonal parking conditions.

STUDY AREA:

The Committee opted to define the **Study Area**, based on their local knowledge and experience, as primarily that area east of State Road within the area enclosed by White Horse Beach Road, to Taylor Avenue, and Manomet Point Road, including the beach itself.



White Horse Beach has always been a sandy coastline, widening out west of Manomet Point in a beach-level setting where access from land is not obstructed by coastal bluffs. A colored decade map using year-built data from the Assessor records was generated on the Town's GIS system, below, to provide a perspective on the development trends in the Study Area through 1950. While used for recreation, there was no substantial development of beach colonies or recreational beachfront until the early to mid-1900s.

Brief History of Settlement in the study area.

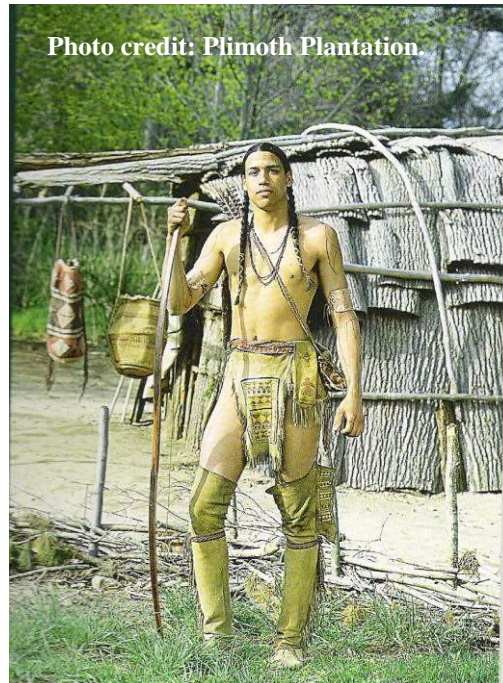
The following is based upon the Public Archaeology Lab's *Town of Plymouth Narrative History Comprehensive Survey, Phase IV, 1997*, with some added information by the Planning Office¹.

Archaeological evidence suggests that Wampanoag tribes lived near the coast during warm months, planting corn, beans, and squash, and fishing from the ocean and streams. The Wampanoag were part of a larger confederation of Native Americans who lived throughout southeastern Massachusetts. A network of trails connected the Plymouth-area residents to communities north, west and south. Just prior to the permanent settlement by the English, the Wampanoag people endured three epidemics, which destroyed the local population, in some cases wiping out entire villages.

The Pilgrims arrived in 1620 on the Mayflower, settling in Plymouth at the mouth of spring-fed Town Brook, where it empties into the ocean at Plymouth Harbor, initiating the European settlement of the area. The existing paths running north and south along the coast were still present and used by travelers heading from Sandwich to Plymouth (Old Sandwich Road). Robert

Bartlett, a passenger on the Mayflower, was one of the first to build a house on what is now Brook Road in 1660, although this house was badly damaged in a fire in the late 1990s. For most of its history, Manomet has been relatively isolated from the rest of Plymouth due to the physical barrier created by the Pine Hills.

Farmers began building houses in Manomet south of the Pine Hills in the seventeenth century and by 1739, the area had enough families to support its own church, the Second Church of Plymouth Congregational. The original burial ground for this church, White Horse Cemetery, still exists, but the original church building was replaced in 1826 with a new building. In the late 1700s, fishermen and shipbuilders began moving to the coastal area at the base of Plymouth Beach near Eel River. David Manter was one of the first fisherman to locate on the point, and he was followed by other seamen, carpenters, and farmers. Travel to Plymouth was by method of boat, or over the Pine Hills walking, horseback or horse and carriage. By the end of the 1700s, Assessor's records show two developed parcels in or near the study area.



¹ *Town of Plymouth Narrative History Comprehensive Survey, Phase IV, 1997.*

The development of Wellingsley [the area situated by Wellingsley Brook north of Manomet] and Manomet to the south was facilitated by the construction of rail lines in the late nineteenth century. The Old Colony Railroad first linked Plymouth and Boston in 1845, and the development of the coastal areas of Plymouth was spurred by the construction in 1889 of an electric streetcar which traveled from Kingston through Plymouth Center and along Sandwich Street, Warren Avenue, and Rocky Hill Road to the Manomet Shore. Using Assessor's records, approximately 50 developed parcels were scattered in all of Manomet Village at the turn of the century, and there were 4 developed parcels in the study area.



By 1910, the first two beach cottages on White Horse Beach are developed, according to Assessor records. Other cottages located to the north of Bartlett Pond but not on the beach are also springing up, and a few developed parcels are shown near Fisherman's Landing at the end of White Horse Beach. There are also two developed parcels on the south edge of Bartlett Pond.

Development in the area accelerated rapidly at the turn of the twentieth century when transportation routes were extended through the Pine Hills. These included the State Road, the State Highway, and the electric rail line. The new roads and electric rail helped transform Manomet into a summer resort community. Developers built large homes and hotels on Manomet Bluffs and Manomet Point, while smaller-scale cottages were built in the area around White Horse Beach.

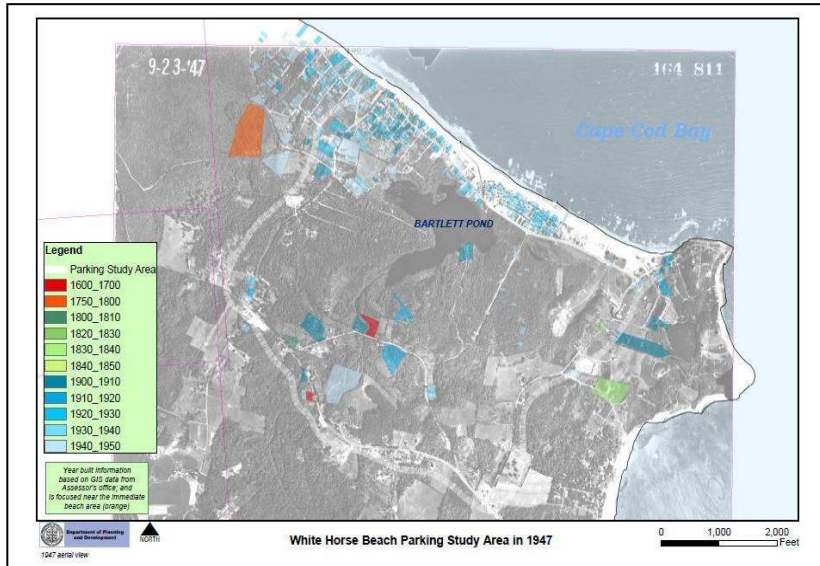
White Horse Beach was itself established as a public beach in 1917 with the transfer of land to the town. The adjacent Priscilla Beach was developed ten years later, on a portion of the old Taylor Farm. The trolley lines were abandoned in the 1920s. By 1920, two more cottages on White Horse Beach are shown.

In the 1930s and 1940s, Priscilla Beach was an attractive destination for famous actors who often performed at the Priscilla Beach Theater and stayed in surrounding homes.

The White Horse Beach sand cottage community expanded in the 1930s, when there were 27 beach cottages, through the 1950s to over 100 cottages on White Horse Beach and its dunes. In that same time period, north of Bartlett Brook, 14 developed parcels exist within the dunes in 1920, increasing by four beach cottages by 1950, although roughly 200 parcels in and around Priscilla Beach (but not on the physical beach) have been built. By 1950, nine parcels are developed on the hill on the west side of White Horse Beach, and a handful of developed parcels have grown up around the original homes on the south end of Bartlett Pond.



In 1960, Priscilla Beach development is scattered infill near existing pockets of previously developed land. Many of the formerly undeveloped land on the south of Bartlett Pond (opposite White Horse Beach) have been developed, and the stretch of the west side of Taylor Avenue from what is now Hilltop Avenue towards Fisherman's Landing is developed. The east side of Bartlett Pond and other parts of its shore are becoming settled. By the 1970s another twenty-two beach cottages are added to White Horse Beach, and a new subdivision is built on the north end of Bartlett

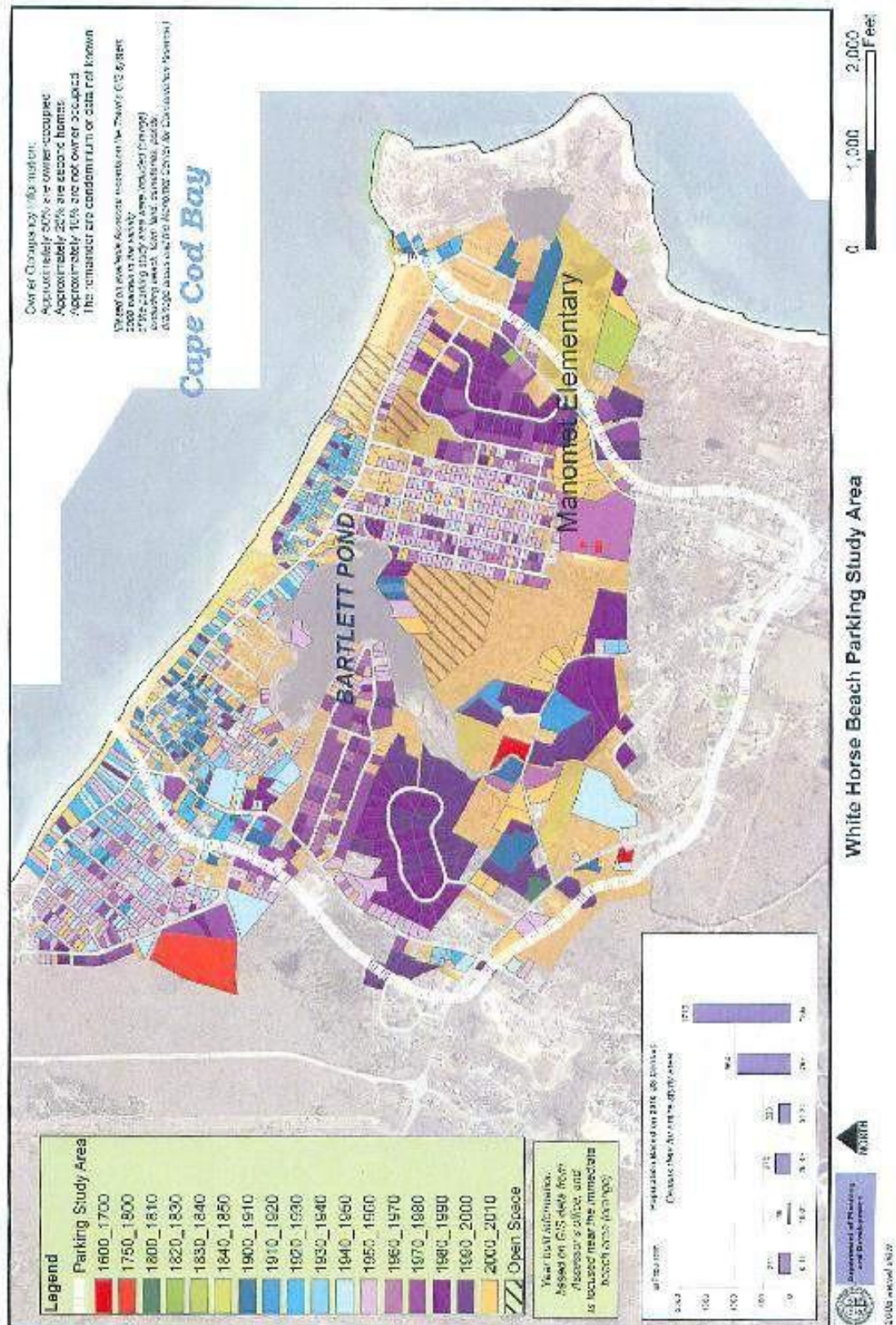


Pond, with additional development near what is now the Manomet Elementary School (constructed in 1960). The Blizzard of 1978 caused some significant damage to White Horse Beach², and homes were reconstructed, as they have been from time to time due to fire or storm damage. In the 1980s and 1990s, residential development is primarily closer to State road and around the elementary school, although a handful of beach homes and residences are built near the south end of Bartlett

Pond. Another subdivision is built between the White Horse Cemetery and Bartlett Pond. In the 2000s, previously undeveloped beach and older neighborhood lots are developed as infill, and home conversions to year-round homes are more common, as there is little land available for new construction.



² Blizzard of '78 Coastal Storm Damage Study, Prepared by the New England Division of the USACE, February 1979.



Off-Season Parking

After examining the study area in the field and using aerial views, an estimated 110 cottages located on the beach and dunes do not have parking spaces visibly associated with the residence. An aerial inspection found that the rest of the dwellings within the study area appear to have on-site driveway parking or are adjacent to private or public parking lots that front on Taylor Avenue.³

In 1976, regional policy projected future growing demands on public beaches, directing planners to design satellite parking off the Route 3 interchange. In response to an inquiry by a local resident in 1976 regarding parking in the White Horse Beach Area, the Selectmen asked the Parking and Traffic Study Committee to examine parking needs in the study area, with input from the Planning Director, Town Engineer and Chief of Police at that time⁴. Two undeveloped privately owned parcels in the area were identified, as possible sites with a yield of roughly 100 parking spaces if acquired for such purposes however, this did not proceed. Board of Selectmen acted to create on- street parking as a result of that study.

See Map on following page.

³ It has not yet been determined why the beach residents who lack frontage/parking do not park on the beach next to their dwellings, or when the ability to park on the beach next to their dwellings was eliminated.

⁴ White Horse Beach: Use, Traffic and Parking, consisting of compiled memorandums and data, dated October 18, 1976 by Planning Board Staff, received by the Selectmen November 2, 1976.



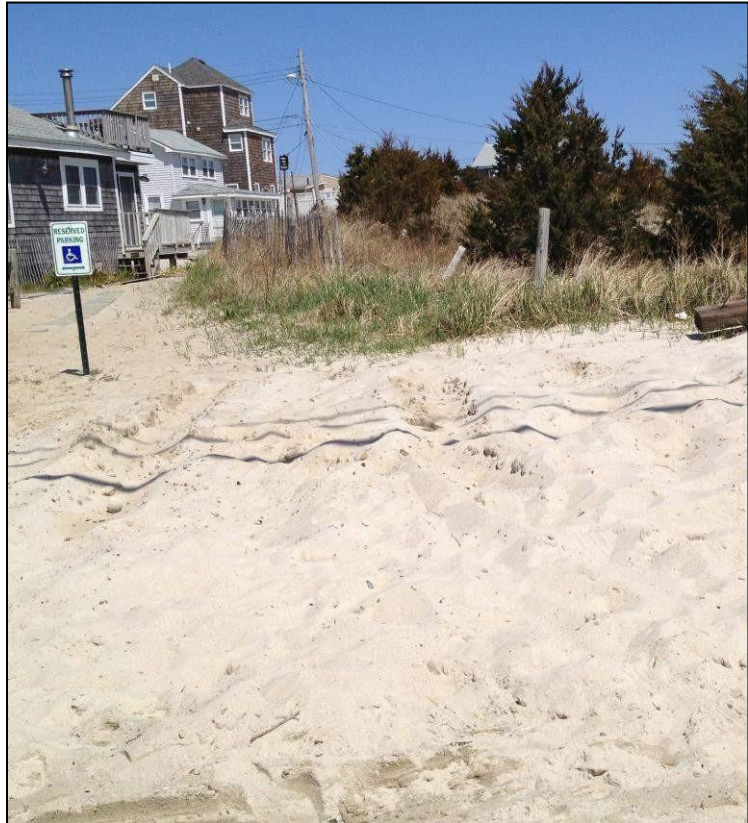
Not much has changed since the on street parking was created. According to a GIS Map created by Planning Staff (using the Board of Selectmen Traffic Rules and Orders, with input from DPW Engineering staff), the available public on-street parking, after accounting for driveways, crosswalks, hydrant buffers and

intersection buffers required under the Traffic Rules and Orders, parking for a size of 10'x18' on a portion of Taylor Avenue is 68 spaces and Hilltop Avenue is 31 spaces. The Town also has an off-street parking lot on Taylor Avenue that can accommodate roughly 25 vehicles. The Selectmen also created room for approximately 9 recognized spaces near Fisherman's Landing. In total,

133 public available parking spaces were created.⁵ Taylor Avenue reconstruction plans will result in an estimated 69 on-street parking spaces, or a net increase of 1 space, to 134.

Broadly, we know from the Census and Assessor information that approximately 50% of the homes in the study area are owner-occupied year-round residences. Current zoning requires that a new single

family dwelling to have two parking spaces (such as in a driveway or garage). This translates to 220 private parking spaces which would have to be created on the properties of these private beach cottages if they were built under today's requirements. Looking at off-season use, there is a demand for 110 spaces for seasonal residential use to support the private residents in the study area, assuming no use of the rental or second-homes year-round. The public parking already available satisfies that number, not accounting for the informal parking arrangements already in existence in the area.



⁵Additional on-street parking was also created in the Priscilla Beach vicinity around the same time, which for discussion purposes is considered too far from the public beach for inclusion.

Seasonal Parking

The Police, Committee and guidance from the Board of Selectmen indicate that summer weekends are the most high-demand parking times for the study area. Estimates for seasonal parking demands are based on the following:

In 2012, the seasonal population of Plymouth, as estimated by the Town Clerk, was 85,191.⁶ The Town Planning Office estimates that the year-round population of Plymouth in 2012 was 56,794, so tourism represents a rough percentage increase in population of about 50% annually.

The year-round population of the Study Area, based on the 2010 US Census, is 1719 people. Using



the estimated increase in population during peak season above and applying it to the area of this study an estimated increase of 860 seasonal users can be expected in the Study Area. For the purposes of this study we know there are private residences in the study area as well. is a rough estimate. We estimate that the private residences on the dunes and beach area that are seasonal users have a demand of approximately 86 seasonal parking spaces to serve the demand of these residents.

Using the Census data, we can estimate, again based on the seasonal tourism increase town-

wide, 860 visiting population seasonally for the Study Area. Using an estimate of 2 visitors per vehicle, or 375 visitor parking spaces represent the highest demand. Statements from the Committee members and Police indicate that the 4th of July weekend is this high-demand event. Applying the 80-20 Pareto principal for planning purposes, 80% of the time only 20% of these spaces reflect demand for a typical summer weekend – or 86 visitor spaces.

The two seasonal users taken together thus leave the area with an estimated shortfall of 151 parking spaces. In comparison, the Manomet Elementary School has roughly 55 parking spaces. A commercial parking lot of approximately the same scale was used by Planning Staff to estimate land area for 225 spaces, which is about 1.75 to 2 acres accounting for travel and turning lanes within a parking lot, which adjusts for safety, liability, or other events which may occur in or around the parking lot.

⁶ Selectmen's vote of seasonal population, December 11, 2012.

Assessment Summary

Off-season demand:

As noted previously, 25 years ago the Town Selectmen created 118 additional on-street parking spaces in the Study Area. To this day this additional parking remains adequate for the off-season demand.

Seasonal demand:

Appears to be between 150 - 200 parking spaces. Almost all of the nearby land has been developed now, with the exception of one large private undeveloped parcel which may be developed in the future.

Seasonal Parking Space Demand Estimates	Estimated Parking Space Demand	Estimated Gap in Available On-Street Parking Spaces
Off-Season only spaces	110	0 (23 extra*)
Summer Season:		
Estimated added Seasonal Private Residence spaces	76	-53
Estimated added Average Seasonal Weekend visitor spaces	75	-75
Total Average Added Seasonal Demand (weekend) Spaces	151	-128
Estimated <i>Peak</i> Demand (4th July)	561	-428
(110 year-rounder + 76 seasonal residence + 375 visitor spaces)		

*Existing on-street parking is 133 spaces

BRAINSTORMING DATA - SPECIFIC ISSUES & PRIORITIZATION

Committee Ranking of Priorities

Priority	Scores	Total/Rank
Enforcement of parking regulations	1, 1, 1, 1, 1, 2, 2, 2, 2, 1	26
Penalties/fining	1, 1, 1, 2, 2, 2, 3	16
Explore resident permit parking	1, 2, 2, 1, 1, 1	16
Needs to be better signage	1, 3, 1, 2, 3, 2, 3, 2	15
Limited parking on side streets	1, 1, 2, 2, 2, 2	14
Concerned that parking issues will not be addressed for future	1, 1, 2, 2, 2, 2	14
Private lots for resident only parking	1, 1, 3, 2, 2, 2, 3	14
Inadequate public parking, need a balance	1, 2, 1, 3, 3, 3	11
Public lots for general public parking	2, 1, 1, 3, 2	11
Concerned about adequate parking in the future for family guests	3, 3, 3, 3, 2, 2, 2	10
If there is sticker parking that it should go to residents first	1, 1, 1, 3	10
Avoid parking near intersections	2, 2, 2, 2	8
Town parking facilities	1, 1, 2	8
Fair balance for future	1, 2, 3, 3	7
Off street public parking	1, 2, 3, 3	7
Converting Taylor Ave Lot to Residents only	2, 1, 3, 3	7
Lack of safety	1, 2, 3	6
Lack of consistency with enforcement	1, 3, 3, 3	6
Trash	1, 3, 2	6
Avoid parking near the north end of WHB	2, 1	5
Future concerns about increased parking demands both households and visitors	1, 2	5
The current parking situation is a "free for all"	1, 3	4
Free	2, 2	4
Avoid parking near coastal resources areas	3, 2	3
Too much public parking in the future	1	3
No sidewalks	3, 3, 3	3
No lighting	1	3
Educating public on parking regulations	3, 3, 3	3
There is not enough parking for everyone	2	2
Illegal blocking/coning	2	2
Speeding	2	2
Public beach with limited public services	3	1
The condition of pavement is poor	3	1
Parking issues tied to beach	3	1
Easy access to beach	3	1
Limited parking by sticker	0	0
Seasonal parking	0	0
Driveways for parking	0	0

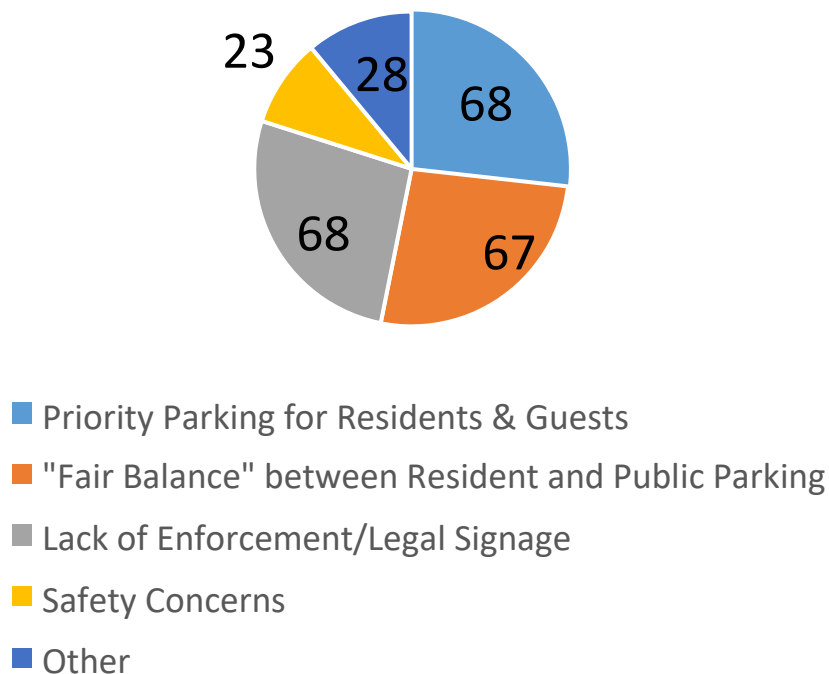
GOALS STATEMENT

BASED ON THE RANKED PRIORITIES THE COMMITTEE CREATED THE FOLLOWING GOALS:

1. Provide a balanced approach, with an emphasis on area residents that improves parking at White Horse Beach for residents and visitors.
2. Improved enforcement and education of parking rules and regulations.
3. Enhance safety for pedestrians bicycle and vehicles associated with parking and traffic circulation.



Grouped Priority Rankings



PUBLIC INVOLVEMENT FORUM

The White Horse Beach Parking Committee held 14 bi-monthly regularly scheduled public meetings. One of these meetings was a brainstorming session where the Committee generated goals. The priorities and goals were set based on both the Committee and stakeholder input received during the brainstorming session. In addition, in coordination with the Manomet Village Steering Committee the Committee held one public forum.

On July 25, 2013 the White Horse Beach Parking Committee presented their draft findings and solicited public input on the various parking ideas researched by the Committee to date. The meeting was hosted by the Manomet Village Steering Committee. Immediately following the presentation, the Committee was available for questions.

The Forum was well attended and many residents from the White Horse Beach area offered public comment. Feedback ranged from leaving things “status quo”, to opposition of some of the recommended strategies, and further, offering additional alternatives for the area.

The Manomet Village Steering Committee recorded in their minutes that the meeting was attended by more than 102 individuals and many of them took the time to stand up and express their opinions on the findings and proposals presented at the meeting. At the end of the public forum portion of the meeting the Chair of the Manomet Village Steering Committee asked the public to participate in an ad hoc straw poll.

The five questions and results were as follows:

- 1) Improved Legal Signage and Enforcement – Majority in Favor
- 2) Increased Parking Violation Fines – Majority in Favor
- 3) Parking along Dunes – Majority Opposed
- 4) Satellite Parking – appeared to be a 50/50 split
- 5) A Permit Parking Program – Majority Opposed

A full record of the Manomet Village Steering Committee Minutes are included in the appendix.

Other Concepts suggested which were not included in the Committees research included:

- Off Road Beach Parking – drive on beach parking, this is done presently Long Beach
- Setting up a revolving fund for White Horse Beach
- Consultant funding for Parking Study

The White Horse Beach Parking and Manomet Village Steering Committees organized the educational event to provide residents with an opportunity to hear and make public comment on the parking concepts suggested by the Committee. The meeting was public and all interested residents/citizens were encouraged to attend and offer comments.

INFORMATION FROM OTHER AGENCIES

POLICE CHIEF - SUMMARY

The Police Department enforces signage authorized by the Board of Selectmen, including signage on private roads with plans approved by the Selectmen. The Parking and Traffic Task Force Committee, which includes a Police Captain, representatives Department of Public Works and Board of Selectmen, reviews signage, marking complaints and suggestions. Recommendations to the Selectmen go through this committee. Examples of infrastructure and signage that are less successful include speed bumps (or speed “humps,” which are wider). Examples of successful ideas include those already used in regulations enforced by the Police Department.

The Committee asked about municipal stickered parking, and the Chief cautioned the committee against creating a situation that could lead to unintended consequences. Chief Botieri noted that Park Plymouth is a private corporation that enforces parking downtown within a specific area, they generate the revenue and the town collects a percentage. The Chief recommends that the Committee look at whether higher fines for parking violations might be a reasonable approach. A vehicle may not park in front of a driveway and must be ten (10) feet from a fire hydrant. The Police can help in situations that are not in regulations, depending on the situation, but will only tow a vehicle if there is an issue with public safety. Chief Botieri stressed that if people are calling the Police and feel that they are not adequately responsive, to let him know.

There is someone assigned year-round to Manomet, however, the number one priority is response to 911 calls. The business line is for non-emergency calls such as parking. Chief Botieri then made a point to provide the non-emergency line to the Committee and everyone in attendance.

TOWN ENGINEER, DEPARTMENT OF PUBLIC WORKS - SUMMARY

Mr. Sid Kashi, Town Engineer, gave an overview of the proposed Taylor Avenue reconstruction project – a locally administered project which will be funded by that State. The first outreach meeting on this project was in 2005 when a notice was sent to all White Horse Beach residents. The Taylor Avenue reconstruction project is part of Transportation Improvement Program (TIP). Mr. Kashi stated that presently, the Town is waiting to get a commitment letter from the State on the funding to do the improvements. A criterion of state is to have local support from Board of Selectmen, residents and the community, and further that the project accommodates pedestrians and bicyclists. The Samoset Street and Obery Street projects are examples of TIP-funded projects in Plymouth.

The Committee asked whether there may be an opportunity within (or in front of) the Town-owned dunes to create parking in a small area along Taylor Avenue. A Bond Bill for the Taylor Avenue Project is earmarked, and the plans are at 75% design. There are some aspects, such as new utilities or work outside of the road layout, which the state will not pay for. State design guidelines must be met for state funding. Sid commented that the Town does not fund any road projects, Chapter 90 does, and legislators need to bond the project. Sid suggested the Committee send a letter of support to the Secretary of Transportation. Once funding is secured, the project will go to the regional planning agency, Old Colony Planning Council.

At the request of the Parking Committee, a discussion was held between DPW Director Jonathan Beder and Sid Kashi. Mr. Beder authorized the angled parking concept offered by the Committee for consideration to be added to the 100% design plans for possible angled parking at White Horse Beach along Taylor Avenue by the public beach entrance, allowing it to be constructed with or before the Taylor Avenue reconstruction. A follow up report was received from Fay, Spofford and Thorndyke, the firm charged with the design on behalf

TOWN ENGINEER, DEPARTMENT OF PUBLIC WORKS - SUMMARY

of the Town, showing a conceptual plan and summarizing a series of permitting challenges that would have to be overcome in order to implement the concept. If the Town prepared the area as a gravel pad, there would be minimal construction costs, but permitting could be expensive and time-consuming. The feasibility of permitting parking along the dunes would need to be explored further. The Taylor Ave Transportation Improvement Project/TIP may be in future 2018-2020 TIP.

PARK PLYMOUTH - SUMMARY

John Burke, Park Plymouth explained that the Town needs to have a vision for the White Horse Beach as far as, who we are hoping to attract to the area - for example, tourists? Plymouth residents only? Residents of White Horse beach only? If the general public or all Plymouth residents are sought then there will need to be vastly more public parking accommodations that could be costly and necessitate charging or raising fees on parking/beach access. Mr. Burke stated that a resident's only parking program is more exclusive and more involved with regard to program enforcement, signage/stripping and administration. According to Mr. Burke, any resident parking program would need to take into account the parking demand for private homes in the area, rentals and visitors. John indicated that if a residential parking program in a beach area was desired, we may want to look at other coastal communities that are doing this already such as Newburyport, MA or Newport, RI. He stated that any expansion of Park Plymouth's defined Downtown, Waterfront and North Plymouth parking district would require authorization from the PGDC Board of Directors as well as the Plymouth Board of Selectmen.

PLYMOUTH AREA CHAMBER OF COMMERCE & DESTINATION PLYMOUTH - SUMMARY

Denis Hanks, Executive Director for Plymouth Area Chamber of Commerce gave an overview of Chamber activities for tourism. Mr. Hanks stated that the Chamber advertises Plymouth on Jet Blue airlines and the public Beaches of Plymouth are included on the video.

Paul Cripps of Destination Plymouth stated that Plymouth is a worldwide destination and is marketed that way. He stated that he receives guidance from the Town as far as what gets promoted. Beaches are a huge website hit. Mr. Cripps also stated other than Boston, Plymouth and Plymouth County were highest for occupancy by percentage in the state of MA. Mr. Cripps further stated said Plymouth is a fabulous place to market especially with the population swell in the summer months, further stating that the number one industry in Plymouth is tourism.

INFORMATION FROM OTHER COMMUNITIES

Assessment of Existing Plymouth Beach Data

Beach:	Resident/Beach Sticker Required:	Public Parking: (fee)	Sanitary Facilities:	Bath House:	Food Concession:	Lifeguards:	Handicap Access:
White Horse Beach	no(Taylor Ave lot only, limited enforcement)	yes (free)	no	no	yes (ice cream truck)	yes	no
Plymouth Beach	yes(\$15-\$40)	yes (\$10- \$15))	yes	no	yes	yes	no
Long Beach, Plymouth, MA	yes	no	no	no	no	no	no
Nelson Park, Plymouth, MA	Resident Parking (20 spots)	yes/(free)	yes	no	yes	no	yes
Scusset Beach	yes	yes (\$7)	yes	yes	yes	yes	
Fresh Pond, Plymouth, MA	yes	yes (\$10- \$15)	yes	no	no	yes	
Hedges Pond, Plymouth, MA	yes	yes (\$10- \$15)	yes	yes	no	yes	
Morton Park, Plymouth, MA	yes	yes (\$10- \$25) closed July 3-4	yes	no	no	yes	
Stephen's Field	no	yes (free)	no	no	no	no	

*White Horse Beach is the only beach where Residents compete for
Public Parking*

Assessment of other Coastal Massachusetts Communities Beach Data

Beach:	Resident/Beach Sticker Required:	Public Parking: (fee)	Sanitary Facilities:	Bath House:	Food Concession:	Lifeguards:	Handicap Access:
Duxbury Beach, MA	yes	yes (fee)	yes	yes	yes	yes	
Rocky Nook, Kingston, MA	Private, Res only	no	no	no	no	no	
Gray's Beach, Kingston, MA	no	yes	yes	no	yes	yes	
Burke's Beach, Marshfield, MA	yes (\$30)	yes (\$10-\$20)	portable	no	no	yes	
Brant Rock, Marshfield, MA	yes (\$30)	yes (\$10-\$15)	yes	no	no	yes	
Green Harbor, Marshfield, MA	yes (\$30)	no	portable	no	no	yes	
Rexhame Beach, Marshfield, MA	yes (\$30)	yes(\$10-\$15)	yes		yes	yes	
Niles Beach, Gloucester, MA	yes (\$20)	no	portable	no	no	yes	
Plum Cove, Gloucester, MA	yes (\$20), limited	no	no	no	no	yes	
Front Beach, Gloucester, MA	yes	metered	yes	no	no	yes	
Long Beach, Gloucester/Rockport, MA	yes (\$25)	private lots	no	no	no	yes	
Cape Hedge Beach, Rockport, MA	yes (\$25)	no	no	no	no	no	
Pavillion Beach, Gloucester, MA	no	street	no	no	no	no	
Nantasket Beach, Hull	yes (\$14, residential on-street)	yes (fee)	yes	no	yes	yes	

Gray's Beach in Kingston is the most similar to White Horse Beach, and residents experience the same parking issues

Assessment of other Coastal Communities Area Research

Beach:	Resident/Beach Sticker Required:	Public Parking: (fee)	Sanitary Facilities:	Bath House:	Food Concession:	Lifeguards:	Handicap Access:
Chapoquoit Beach, W. Falmouth, MA	yes	no	portable	no	yes (ice cream truck)	yes	
Megansett Beach, W. Falmouth, MA	yes	no	portable	no	yes (ice cream truck)	yes	
Wood Neck Beach	yes	no	portable	no	yes (ice cream truck)	yes	
Bristol Beach	yes	no	portable	no	yes (ice cream truck)	yes	
Wellfleet, MA	yes	yes (3-day, week/seasonal, \$45-\$250)	portable	no	yes	yes	
Ogunuit, ME	yes (year-round res. only)	yes (\$25)	yes	yes	yes	yes	

Overwhelming majority of coastal beaches have resident parking stickers and public parking lots, providing a fair balance between Residents and Visitors

IDEAS FOR SOLUTIONS & PRIORITIZATION

During the course of our Committee meetings, we worked diligently to complete the charge we were given – to come up with proposed solutions to the ongoing parking issues in the White Horse Beach area – particularly in the summer months when there is not enough parking to accommodate both residents and visitors. A multitude of ideas along with healthy debate came out of these meetings.



With the help, experience and guidance of Town employees and officials we were able to narrow down the list of ideas based on geography, zoning and the simple fact that there is a limited amount of parking inventory available in the area. Using these resources we broke down the alternatives into three groups; immediate, mid-term and long-term based on the

possible timing of implementing each idea.

We did not define the ranges themselves, since some ideas would be easier to implement than others. This may or may not be accurate due to unforeseen complications (zoning/by-laws). What follows is a list of the alternative strategies as well as the Pros and Cons, analysis and project outcomes that were researched during our public meetings and with input from residents.

RECOMMENDATIONS/ POSSIBLE STRATEGIES

In order to address key strategic issues associated with the seasonal parking conditions at White Horse Beach the White Horse Beach Parking Committee recommends the Town of Plymouth, through the Board of Selectmen, pursue implementation of the following strategies:

Immediate Proposals/Strategies

1) Improve Legal Signage for Parking and Public Beach Access via Town DPW

Pros:

- Increased public safety and awareness
- Improves street access for emergency vehicles
- Avoids any confusion on locations of legal on street parking

Cons:

- Does not increase available parking

2) Amend Traffic Rules and Orders ⁷ document to allow parking on Taylor Ave between Short & Hilltop, as created in 1976.⁸

Pros:

- Legalizes parking where people have been parking for at least the past 30+ years
- Will be allowed as part of the Taylor Ave Reconstruction Project.

Cons:

- Does not increase additional parking
- Does not prioritize parking for residents

3) Outreach and Education regarding public parking in the area via print and online media

Pros:

⁷ White Horse Beach: Use, Traffic and Parking, consisting of compiled memorandums and data, dated October 18, 1976 by Planning Board Staff, received by the Selectmen November 2, 1976.

⁸ Per Traffic Rules and Orders document page 24.

- Increased public safety and awareness
- Improved public awareness that efforts to are being made to engage with the community and avoid confusion

Cons:

- Does not increase available parking

- 4) Increased and **consistent enforcement of parking regulations** via public safety officials

Pros:

- In conjunction with improved legal signage, it will provide a fair and balanced “playing field” for public parking
- Could provide additional revenue to the Town

Cons:

- Strict enforcement may create conflict with residents
- Does not increase available parking

- 5) Initiate By-Law change to **increase parking fines** in the White Horse Beach Area – recommend the fine be not less than \$50 for parking violations – current \$15 violation is less expensive than day parking at all the beaches the Committee reviewed

Pros:

- Deterrent to illegal parking
- Increased public safety
- Potential for increased revenue

Cons:

- May cause conflict with residents
- Does not increase available parking
- By-Law change could fall into a Mid to Long Term Strategy

- 6) Allow **seasonal ocean-side parallel parking** within the roadway layout, on the shoulder adjacent to where the future parking is proposed as part of the Taylor

Avenue Reconstruction Project⁹

Pros:

- Additional parking created
- In line with future plans for the area
- Fronts town property
- Little to no cost to initiate

Cons:

- Parking along dunes prior to the reconstruction project would be subject to permitting by the Conservation Commission.
- No sidewalk – potential safety issue
- Opposition from Residents/Abutters

7) Offer **Seasonal Public parking at Manomet Elementary School** or outreach to locally owned business lots

Pros:

- Additional “Satellite” parking created
- Walking distance to the Public Beach entrance
- Revenue generation from parking fees¹⁰
- Use of Gatra bus
- Potential for a shuttle service

Cons:

- If existing on-street parking is still “free,” no incentive to pay/park farther away
- Currently no signage
- Potential for increased vandalism and litter
- Ongoing maintenance of the parking area
- Security & liability

Mid-Term and Long-Term Proposals/Strategies

1) Explore additional seasonal public parking at the Public Beach entrance by **creating sand/gravel/paved angled parking adjacent to Taylor Avenue**

⁹ At the time of this report the Taylor Ave Reconstruction Project Plan was 75% complete – parking layout pages are attached in Appendix

¹⁰ Staffing costs and projected revenue included in Appendix

Pros:

- May provide additional parking but not in line with what we believe are Town goals
- Lower cost if sand/gravel
- Angled parking could create additional parking if feasible

Cons:

- Environmental permitting may be an issue
- May prove too costly
- Potential for lack of support by the State and/or abutters/residents
- Subject to permitting from the conservation Commission and MA DEP.

2) Organize Parking by implementing existing **seasonal “Beach Sticker” Parking** program along Taylor Ave between Short & Hilltop

Pros:

- Generates revenue for the town
- Organizes parking for residents closer to their properties
- Legalizes parking where people have been parking for at least the past 30 years
- Parking in this area will be allowed as part of the Taylor Ave Reconstruction Project.
- Beach sticker parking is currently enabled at the Taylor Ave Lot
- *Note: Parking in this area is directly where there is lack of off-street parking for property owners*

Cons:

- Beach sticker parking could force non-resident parking further up the side streets
- May lead to expanding Resident Parking to side streets
- Opposition from Residents

3) Permit **changes to area zoning** to allow privately owned parking lots – Must be proportional to the size of the area

Pros:

- Provides additional parking

- Could be zoned for day parking or long term lease parking if close to the Public Beach entrance
- There appear to be unbuildable lots in the area that could be used.

Cons:

- May encourage conversion of yards or demolition of homes for the construction of parking lots
- *Note: The ability to do this should be regulated and proportional to the size of the area without changing the residential/beach community “feel” of the area.*

- 4) **Town purchase of real estate**, as it becomes available, in the area to be used for public parking – Must be proportional to the size of the area.

Pros:

- Coordinated effort by Town staff
- Actively being done in other areas already.

Cons:

- Funding availability
- *Note: the ability to do this should be regulated and proportional to the size of the area without changing the residential “feel” of the area.*

- 5) Explore **expanding the jurisdiction of Park Plymouth** to White Horse Beach

Pros:

- Park Plymouth has been successful downtown
- Enforcement should be seasonal only
- Frees up Public Safety officials from non-emergency enforcement
- Prioritizes Plymouth Resident parking
- Revenue generation
- Spaces and a pay station can be designated for visitor parking closer to the Public Beach entrance (potentially eliminating cutting through private property and walking through the dunes).

Cons:

- Costs of public parking/traffic study
- Sticker parking adds costs to residents

- “Guest”/Rental parking logistics
- Opposition from Abutters and/or Residents

APPENDICES

1. Traffic Rules & Orders – general prohibitions and street restrictions parking sections, pages 9, 10, 14, 19, 24, 25, 26, 27, 28
2. Taylor Ave Reconstruction PowerPoint by Town Engineer, includes parking layout design
3. Proposed Taylor Avenue Reconstruction Plans over 2008 Aerial Photo
4. Additional Parking Overlays – drafted by Committee
5. Memorandum 3/26/13 - Taylor Avenue Reconstruction Project, Overview of Permitting for Additional Parking
6. Satellite Parking – Staffing costs and projected revenue table
7. Manomet Village Steering Committee Public Forum meeting minutes

ARTICLE V

PARKING

Section 18. General Prohibitions.

No person shall park a vehicle in any of the following places and vehicles found parked in violation of the provisions of this section may be moved by or under the direction of an officer and at the expense of the owner to a place where parking is permitted.

- Within an intersection.
- Upon any sidewalk
- Upon any crosswalk.
- Upon the roadway in a rural or sparsely settled district.
- Upon the roadway in a business or residential district where parking is permitted unless both wheels on the right side of the vehicle are within twelve (12) inches of the curb or edge of the roadway except where angle parking is required.
- Upon any roadway where the parking of a vehicle will not leave a clear and unobstructed lane at least ten (10) feet wide for passing traffic.
- Upon any street or highway within ten (10) feet of a fire hydrant.
- Upon or in front of any private road or driveway without the consent of the owner of said private road or driveway.
- Upon any street or highway within twenty (20) feet of an intersecting way, except alleys.
- In a parallel parking space facing the direction of travel.
- Backed into a "head-in only posted parking stall.

Section 19. Prohibited on Certain Streets.

Upon the following streets or parts thereof parking is hereby prohibited.

Alden Street	Northerly side starting at a point 500 feet Westerly from Standish Ave for a distance of 1100 feet westerly to Westerly Rd.	12/18/86
Allerton Street	Southeasterly side from Court St. southwesterly for approximately 50 feet	06/21/11
Allerton Street	Easterly side northerly from Russell St. for a distance of 70 feet	10/11/78

Allerton Street	Westerly side northerly from Russell St. for a distance of 88 feet	10/11/78
Allerton Street	Easterly side from a point 200 feet northerly of Russell St. to Vernon Street	06/21/11
Allerton Street	Easterly side easterly from Samoset St. for a distance of 80 feet.	10/11/78
Allerton Street	Easterly side, westerly from Samoset St. for a distance of 78 feet	10/11/78
Allerton Street	Northwesterly side, from Court St. southwest-erly for a distance of 40 feet	10/11/78
Allerton Street	Easterly side, 358 feet northerly from Cushman St. for a distance of 90 feet	09/18/78
Allerton Street	Westerly side from Thomas St. for a distance of 151 feet	06/21/11
Arlington Road	Northerly side, westerly from Priscilla Rd. for a distance of 100 feet	10/11/78
Arlington Road	Southerly side, westerly from Priscilla Rd. for a distance of 100 feet	10/11/78
Arlington Road	Westerly side, approximately 100 feet southerly from Priscilla Rd.	10/11/78
Asiaf Way	Easterly side, southerly from Taylor Ave. for a distance of 50 feet	10/11/78
Beach Street	Southerly side, approximately 100 feet westerly from Taylor Ave.	09/24/68
Beach Street	Westerly side, southerly from Taylor Ave. for a distance of 46 feet	10/11/78
Bourne Road	Southeasterly side, starting at the Plymouth/ Bourne town line then northeasterly for a distance of 1500 feet	01/24/79
Bradford Street	Northerly side starting at the corner of Sandwich St. for a distance of 670 feet easterly to Union St., entire length	06/26/85
Bradford Street	Southerly side, easterly from Sandwich St. for a distance of 75 feet	06/26/85

	320 feet northerly	06/21/11
Court Street	Westerly side from Bourne St. to South Spooner St.	06/21/11
Court Street	Westerly side from a point 180 feet north of South Spooner St. to Forest Ave.	06/21/11
Court Street	Westerly side from North Spooner St. to the Plymouth/Kingston Town Line	06/21/11
Emerson Road	Westerly side approximately 100 feet southerly from Priscilla Rd.	09/24/68
Farmhurst Road	Westerly side approximately 100 feet southerly from Priscilla Rd.	09/24/68
Farmhurst Road	Easterly side approximately 100 feet southerly from Priscilla Rd.	10/11/78
Fishermans Landing	Easterly and westerly sides, northeasterly from Point Rd. for 100 feet	09/24/68
Forest Avenue	Southerly side, southwesterly from Court St. for a distance of 340 feet	05/02/73
Franklin Street	Northerly Side from Pleasant to Mayflower	11/25/08
Freedom Street	Northerly side 50 feet westerly from Union St.	09/24/68
Freemont Street	Southerly side starting at the corner of Sandwich St. for a distance of 60 feet easterly	06/21/11
Freemont Street	Northerly side starting at the corner of Sandwich St. for a distance of 50 feet easterly	06/21/11
Guild Road	no parking	07/26/94
Hayloft Road	no parking	07/26/94
Hedge Road	Northerly side starting at the corner of Court St. for a distance of 40 feet easterly	11/15/78
Hedge Road	Southerly side starting at the corner of Court St. for a distance of 40 feet easterly	07/03/86
High Street	South side between Market St. and Russell St.	09/21/54
Hilltop Avenue	Northerly side 120 feet easterly of Spruce St. westerly to Pine St.	10/11/78

Pearl Street	Northerly side, westerly from Taylor Ave. for a distance of 50 feet	10/11/78
Pearl Street	Southerly side, westerly from Taylor Ave. for a distance of 50 feet	10/11/78
Peck Avenue	Southerly side, westerly from Standish Ave. for a distance of 70 feet	10/11/78
Peck Avenue	Northerly side, westerly from Standish Ave. for a distance of 250 feet	01/10/80
Pleasant Street	West side from Bass Alley to Robinson St.	08/01/61
Pleasant Street	East side from Sandwich St. to South St.	09/21/54
Point Road	Northerly side from Taylor Ave. to a point 1000 feet easterly of Fisherman's Landing	10/11/78
Point Road	Northerly side from State Rd. to Taylor Ave.	10/11/78
Point Road	Southerly side from State Rd. to Taylor Ave.	10/11/78
Point Road	Southerly side, easterly side of Fisherman's Landing entrance for a distance of 1100 feet in an easterly direction	09/24/68
Point Road	To shore	09/21/54
Point Road	Northerly side, Fisherman's Landing entrance opposite Highland Terr. for a distance of 15 feet easterly and 15 feet westerly of the Landing	10/11/78
Priscilla Road	Easterly side, intersection of Robbins Hill Rd. to intersection of Farmhurst Rd.	09/24/68
Robinson Street	Southerly side from Pleasant St. to Mayflower St.	10/11/78
Robinson Street	Northerly side starting at corner of Mayflower St. for a distance of 155 feet easterly.	11/25/08
Robinson Street	Northerly side from Pleasant to Sagamore St.	11/25/08
Royal Street	West side of Royal Street from Samoset Street north to the pole with Entergy siren.	5/11/01
Russell Street	Northerly side from Court St. to Sever St.	06/21/11
Russell Street	Either Side from Sever St. to Allerton St.	06/21/11

	Rd. for a distance of 600 feet easterly to Thrush Ave.	11/22/82
Summer Street	Northerly side, from Market St. for a distance of 190 feet westerly	06/21/11
Summer Street	Southerly side, from Newfield St. to a point 233 feet westerly of Oak St.	10/11/78
Summer Street	Northerly side, from Edes St. to Tilton St.	10/11/78
Summer Street	Northerly side, from Billington St. to Westerly Route	10/11/78
Summer Street	Southerly side, from Billington St. to a point of 440 feet westerly	10/11/78
Summer Street	South side from Oak St. to Market St.	09/21/54
Summer Street	Southerly side from junction of Market St. for a distance of 200 feet westerly	06/21/11
Summer Street	Northerly side, from entrance gate of P.F. O'Connor for a distance of 280 feet westerly	06/30/87
Summer Street	25 feet east of the intersection with Russell St.	06/21/11
Suosso Lane	Southerly side starting at the corner of Court St. for a distance of 480 feet easterly	10/23/86
Swales Farm Road	no parking	07/26/94
Taylor Avenue	Easterly side, 70 feet northerly from Bartlett Brook Bridge	09/24/68
Taylor Avenue	Westerly side from White Horse Rd. to a point 40 feet southerly of Hilltop Ave.	10/11/78
Taylor Avenue	Easterly side from White Horse Rd. to Point Rd., excepting therefrom 61 feet in front of the Bri-Di-Mar Beach Lodge	10/11/78*
Taylor Avenue	West side to Avenue B	09/21/54
Taylor Avenue	To shore	09/21/54
Town Wharf	Easterly side of Lot 12, northwesterly from public way for a distance of 40 feet	09/24/68
Union Street	Southerly side, starting at the corner of Water St./Union St. for a distance of 45 feet easterly	06/21/11

Union Street	Easterly side, junction of Water and Union Sts. for a distance of 200 feet southerly	09/21/54
Union Street	On the ocean side from Freemont St. to the second entrance of the Yacht Club	09/16/99
Vernon Street	Southerly side, from Court St. for a distance of 270 feet westerly.	06/21/11
Vernon Street	Northerly side, westerly from Court St. for a distance of 325 feet	05/22/73
Vinal Avenue	Southerly side from State Rd. easterly for a distance of 100 feet	09/24/68
Washington Street	Northerly side starting at a point 65 feet easterly of Mayflower St. for a distance of 130 feet	11/25/08
Washington Street	Southerly side, starting at Mayflower St. for a distance of 422 feet northeasterly to Pleasant St.	04/11/84
Washington St	Northerly side starting at Pleasant St for a distance of 65 feet westerly	11/25/08
Water Street	Southeasterly side between Sandwich St. and a point 168 feet north of the Pilgrim Memorial State Park northern driveway	06/21/11
Water Street	Northwesterly side between Sandwich St. and a point 105 feet north of Leyden St.	06/21/11
Water Street	Westerly side from a point 290 feet south of North St. to Brewster St.	06/21/11
Water Street	Westerly side, southerly from Park Ave. for a distance of 102 feet	10/11/78
Water Street	Easterly side from the exit driveway from Town Wharf a distance of 75 feet northerly	06/21/11
Water Street	Westerly side from 170 Water St. to Nelson St.	06/21/11
Water Street	Easterly side from the Town Pump House entrance to Nelson St.	06/21/11
Weston Avenue	Southerly side, Standish Avenue westerly for a distance of 212 feet	08/28/80
White Horse Road	Southerly side, easterly from State Rd. for a distance of 140 feet	10/11/78

White Horse Road	Northerly side, from State Rd. to Taylor Ave.	10/11/78
White Horse Road	Southerly side, from Cary Rd. to Robbins Hill Rd.	10/11/78
White Horse Road	South side, from a point 100 feet west of Pond Avenue to Taylor Ave.	09/21/54
Winslow Street	West side	09/21/54
Winter Street	Southerly side, starting at the corner of Sandwich St. for a distance of 102 feet easterly	11/21/86

Section 20. Bus Stops and Parking Areas

- No person shall park a vehicle other than a bus or shuttle in a bus stop. No person shall park a bus or shuttle upon any street within a business district at any place other than a bus stop, when a nearby bus stop is available for use.
- No person shall park any vehicle other than a bus, shuttle or RV in the designated Municipal Bus/RV Only Parking Lot located adjacent to the Town Pump House.
- No person shall park any vehicle other than a bus or shuttle on the easterly side of the Plymouth Memorial State Park north access drive.

Section 21. Taxicab Stands

- No person shall park a vehicle other than a taxicab upon any street within a business district in any taxicab stand for a period of time longer than twenty (20) minutes except while actually engaged in active loading or unloading.
- No person shall park a taxicab upon any street within a business district at any place other than the taxicab stand or stands designated for the use of his taxicab or taxicabs except while engaged, or while waiting for an opportunity to use a taxicab stand designated for his use.

Section 22. Service Zones/Designated Loading Zones

- No person shall park a vehicle upon any street in any service/loading zone between the hours set forth on signs posted thereat, unless such vehicle is a commercial vehicle actually engaged in loading or unloading, provided that such loading or unloading zone is clearly marked as such and does not exceed a period of time longer than 20 minutes or the posted time limit on signage at that zone.

Section 23. Time Limited in Designated Places – Fifteen (15) Minute Parking

- No person shall park a vehicle for longer than fifteen (15) minutes at any time, between the hours of 9 a.m. and 7 p.m. of any day on the following streets or parts thereof:

Brewster Street	Northerly side, three (3) spaces located from a point 85 ft. west of Water St. a distance 60 ft. westerly	06/21/11
Court Street	Easterly side, one (1) space located 60 ft. south of Magoni Terrace a distance 22 ft. southerly	06/21/11
Main Street Ext.	Westerly side, two (2) spaces located from a point 5 ft. north of the most northerly entrance into the Main St. Ext. parking lot a distance 40 ft. northerly	06/21/11
Main Street Ext. Lot	Four (4) spaces at the northerly side of the parking lot parallel to the south side of the 15 Main St. Ext. Building	06/21/11
Market Street	Easterly side, two (2) spaces located from a point 20 ft. north of the Main St. Ext. parking lot driveway a distance 36 ft. northerly	06/21/11
Memorial Ave. Lot	Five (5) spaces located on the easterly side of the parking lot adjacent to the Visitor's Service Center	06/21/11
North Street	Northerly side, one (1) space located from the entrance to the Sovereign Bank parking lot a distance 20 feet westerly	06/21/11
North Street	Southerly side, two (2) spaces located from a point 65 ft. east of Court St. a distance 40 ft. easterly	06/21/11
Town Wharf	One (1) space located on the east boundary of the wharf just north of the pier loading zone	06/21/11
Water Street	Westerly side, one (1) space located from a point 116 ft. south of Memorial Ave. a distance 20 ft. Southerly	06/21/11

Section 24. Time Limited in Designated Places – Twenty (20) Minute Parking

- No person shall park a vehicle for longer than twenty (20) minutes at any time, between the hours of 9 a.m. and 7 p.m. of any day on the following streets or parts thereof:

Main Street Ext.	Easterly side, two (2) spaces located 60 feet south of Leyden St. a distance 44 ft. southerly	06/21/11
Middle Street	Northerly side, two (2) spaces located directly in front of 18 and 20 Middle Street	06/21/11

Section 25. Time Limited in Designated Places – One (1) Hour Parking

- No person shall park a vehicle for longer than one (1) hour at any time, between the hours of 9 a.m. and 7 p.m. of any day on the following streets or parts thereof:


Brookside Avenue	Northerly and southerly sides, entire length, both sides, 525 ft. each side. Not parking on either side. No parking on either side between the hours of 7 a.m. and 5 p.m. Mon. thru Fri. inclusive	01/02/85
Court Street	East side between Atlantic St. and a point 295 ft. south of Prince St.	06/21/11
Court Street	West side between Hamilton St. and a point 445 feet south of Cherry St.	06/21/11
Court Street	Easterly side from a point 420 feet north of Prince Street northerly to Hedge Road	06/21/11
Court Street	Easterly side from Hedge Road northerly 300 ft.	06/21/11
Court Street	Westerly side from a point 320 feet north of Cherry Street to Bourne Street	06/21/11
Court Street	Westerly side from South Spooner Street a distance 180 feet northerly	06/21/11
Court Street	Easterly side between 421 Court Street and 427 Court Street	06/21/11
Court Street	Westerly side from Forest Avenue to North Spooner Street	06/21/11
Manomet Point Rd	Southerly side starting at a point opposite Kevin Ave. for a distance of 760 ft. northeasterly to a point opposite the easterly side of Fisherman's Landing. No parking on this section between the hours of 12:00 am and 5:00 am seven (7) days a week	08/31/83
Standish Avenue	Westerly side from Peck Ave. to Saverys Ave.	06/21/11
Standish Avenue	Westerly side, one space in front of 210 ½ Standish Ave.	06/21/11

Section 26. Time Limited in Designated Places – Two (2) Hour Parking

- No person shall park a vehicle for longer than two (2) hours at any time, between the hours of 9 a.m. and 7 p.m. of any day on the following streets or parts thereof:

Court Street – East side from Brewster Street to Memorial Drive		06/21/11
Court Street	West side from North Street to Vernon Street	06/21/11
Main Street	Both sides from Leyden Street to North Street	06/21/11

Reconstruction of Taylor Avenue
Town of Plymouth, Massachusetts



25% Design Public Hearing
April 9, 2009

Meeting Agenda

- Project Team
- Project Overview
- Design Goals
- 25% Design
- Schedule
- Questions

FST
April 9, 2009


Project Team

- Town Staff and Officials
- MassHighway
- FST Project Team
 - Fay, Spofford & Thorndike (FST)
 - Survey & Mapping Consultants
 - LEC Environmental

FST
April 9, 2009



Project Overview



- Locally administered MassHighway project
- Manomet Point Road to White Horse Road
- \$5.5M Construction Cost Estimate

FST
April 9, 2009



Design Goals

- ✓ Establish uniform travel lanes
- ✓ Provide a continuous ADA compliant sidewalk
- ✓ Provide multi-modal accommodations
- ✓ Improve existing storm drain system







April 9, 2009



Design Goals


- ✓ Formalize parking
- ✓ Define roadway edge
- ✓ Minimize impacts to adjacent property








April 9, 2009




Resident Comments


- Public Information Meeting held on March 27, 2007
- Major concerns raised by residents included the need to:
 1. Maximize On-Street Parking
 2. Provide a Continuous Sidewalk
 3. Address Drainage Issues
 4. Determine construction timeframe
- Incorporated these comments into the 25% Design




April 9, 2009



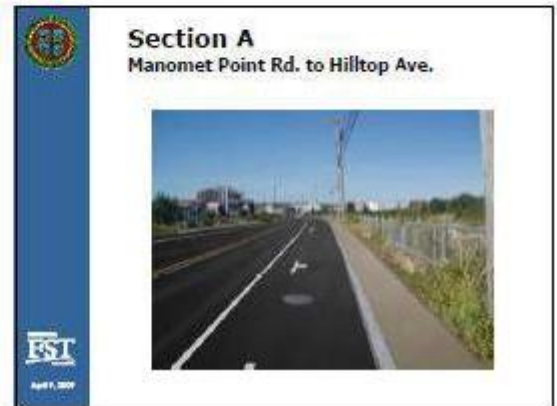
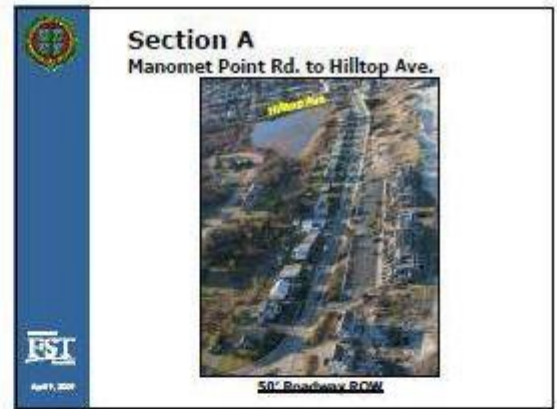
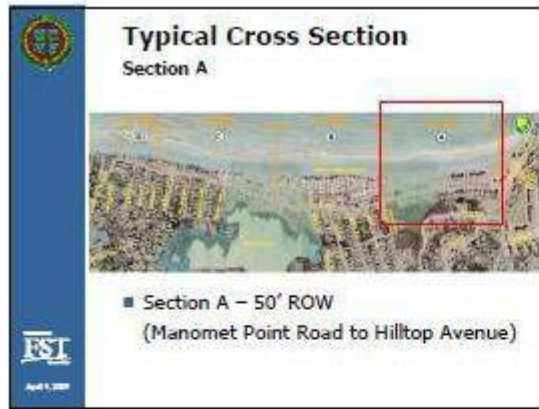
Roadway Right of Way

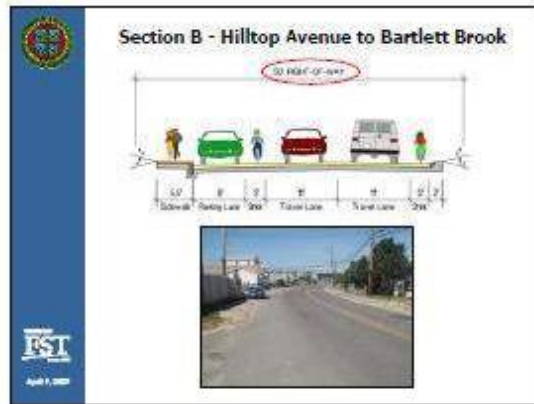
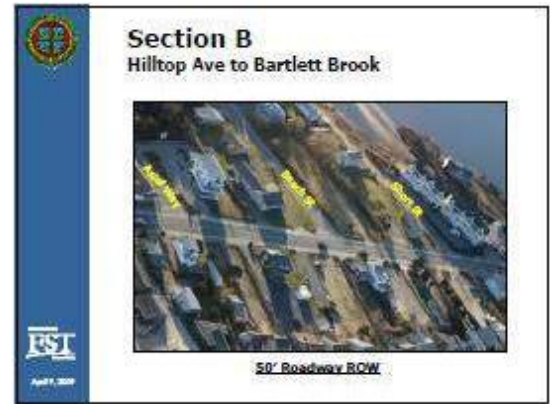
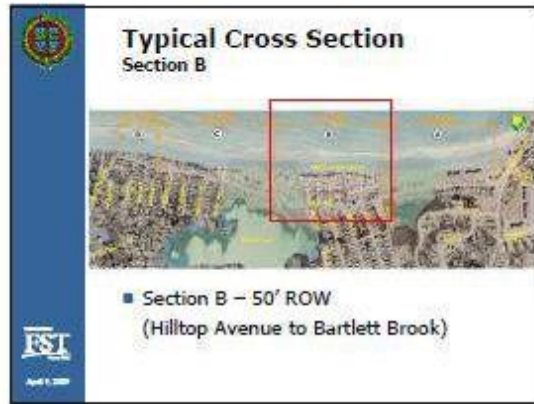


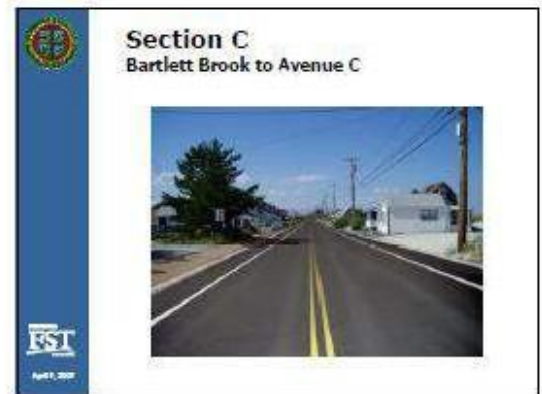
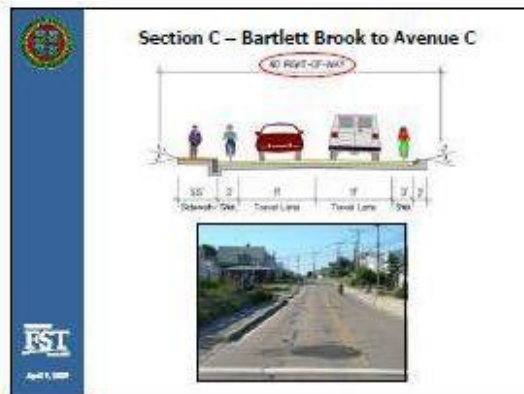
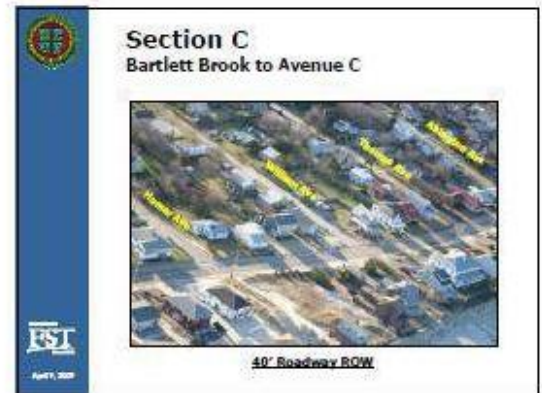
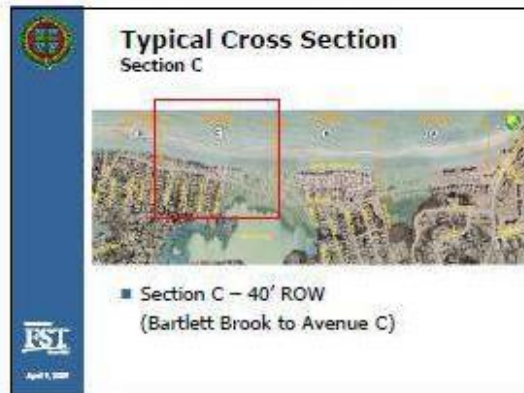
- Right of Way (ROW) varies along corridor
- Divided project into 4 sections

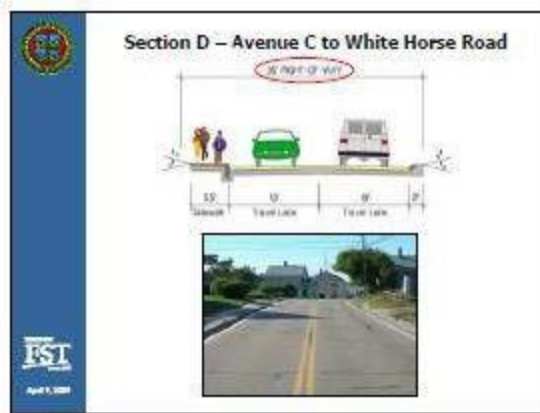
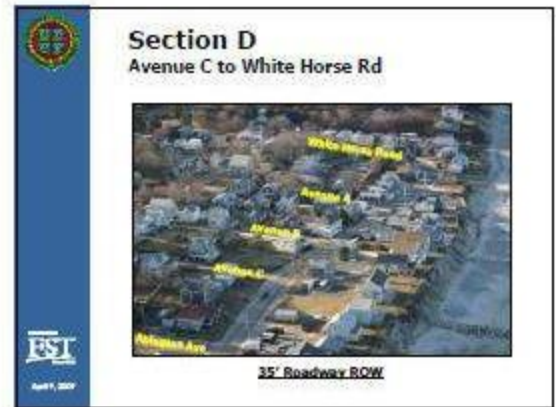
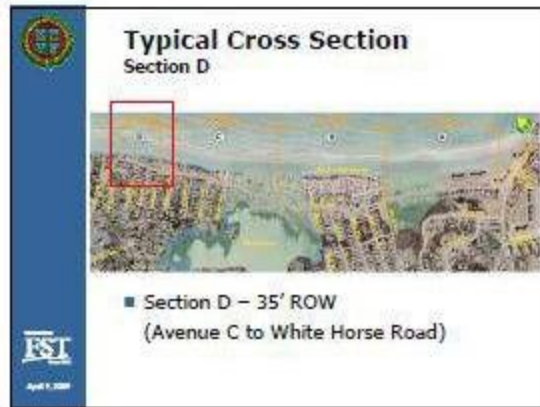


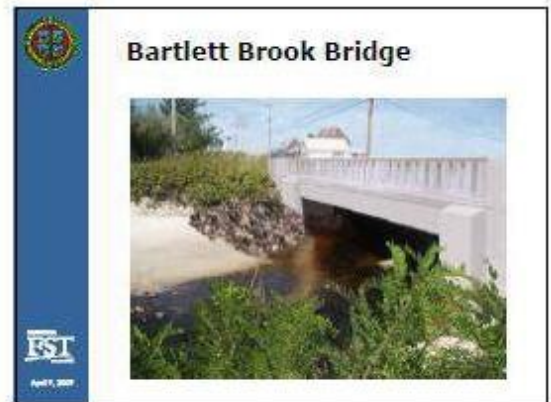
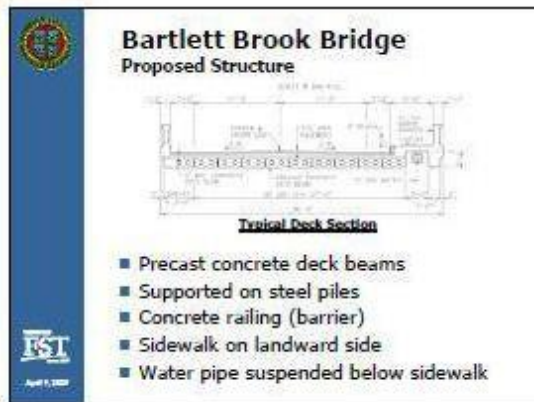
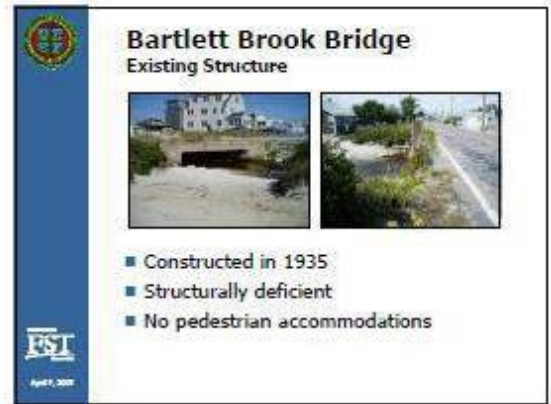
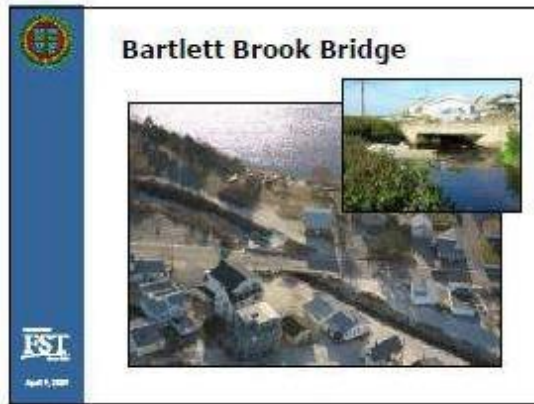
April 9, 2009
















Bartlett Brook Bridge


- Closure of Taylor Avenue at the bridge site
- Proposed detour route
- Require contractor to keep the bridge open from Memorial Day to Labor Day




April 1, 2009



Bartlett Brook Bridge



Detour Route During Bridge Construction



April 1, 2009



Pedestrian Access

- Improve sidewalk accessibility
 - Provide consistent width
 - Construct wheelchair ramps
- Direct visitors to public beach access points
- Improve safety at proposed crosswalks







April 1, 2009



Pedestrian Access

Crosswalks

- Currently 14 existing crosswalks
- Consider reducing to 5 crosswalks at public beach access points located at:
 - White Horse Road
 - Williams Avenue
 - Bartlett Brook
 - Hilltop Avenue
 - Manomet Point Road





April 1, 2009

Pedestrian Access

Crosswalks




- Safety improvements include:
 - Warning signs at all crosswalks
 - Raised crosswalk at primary beach access near Hilltop Avenue
 - Advance signage and yield lines at White Horse Road crosswalk

FSI
April 5, 2009

On-Street Parking

- Manomet Point Rd. to Hilltop Ave.
 - Ocean side - 46 spaces
- Hilltop Ave. to Bartlett Brook Bridge
 - Landward side - 23 spaces
- Parking located on same side as sidewalk



31'-0"

8'-0"

22' (TYP.) 22' (TYP.)

20' (MIN.)

Proposed Parking Stalls

FSI
April 5, 2009

Storm Drain Improvements



- Utilize four (4) existing outfalls along project corridor

FSI
April 5, 2009

Storm Drain Improvements

- Bartlett Brook to White Horse Rd.
 - Retrofit existing closed drainage system
- Manomet Point Rd. to Bartlett Brook
 - New closed drainage system
 - Proposed stormwater infiltration areas on Town-owned property

FSI
April 5, 2009



Storm Drain Improvements




Leaching Pit Detail


- Proposed closed drainage system
- Test pits to determine leaching basin locations



April 5, 2009




Storm Drain Improvements



**INSERT
COLORED
PLAN**

Proposed Stormwater Infiltration Area #1



April 5, 2009



Storm Drain Improvements




**INSERT
COLORED
PLAN**



Proposed Stormwater Infiltration Area #2




April 7, 2009




Driveways Sidewalk Side of Roadway

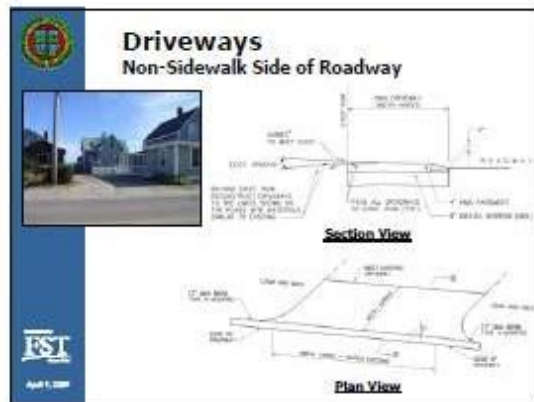
Section View



Plan View



April 7, 2009



Property Impacts

- Permanent and temporary construction easements on private property will be required as part of this project
- Easements needed for:
 - Grading/sloping
 - Landscape restoration
 - Drainage improvements

FSI
April 1, 2009

Property Impacts

INSERT EXAMPLE COLORED PLAN

FSI
April 1, 2009

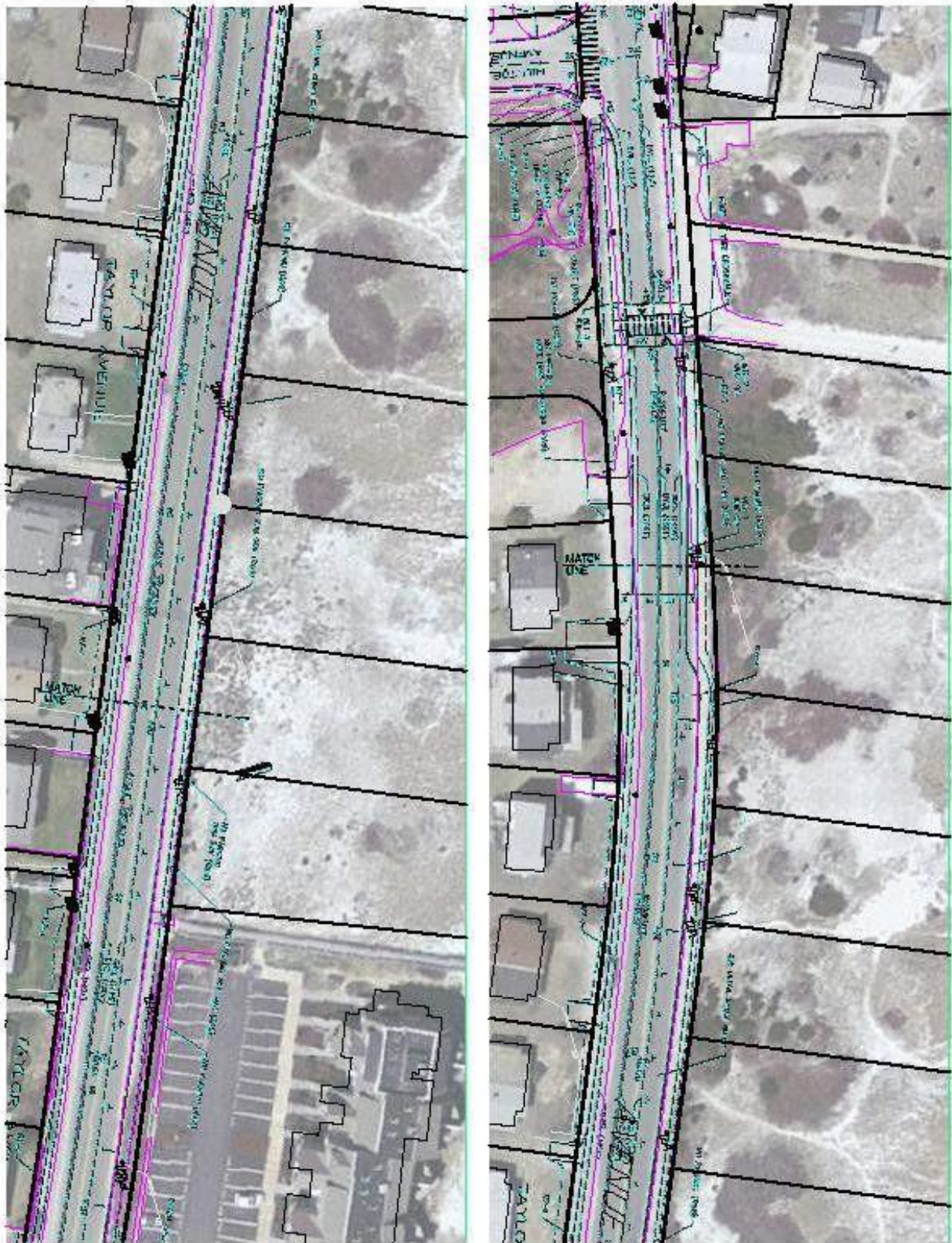
Project Schedule

- Conceptual Design Phase
 - Public Information Meeting on March 28, 2007
- 25% Design Phase
 - Public Hearing on April 9, 2009
- Final Design Phase (75%, 100%, PS&E)
- Environmental Permitting
- Construction Anticipated in 2012

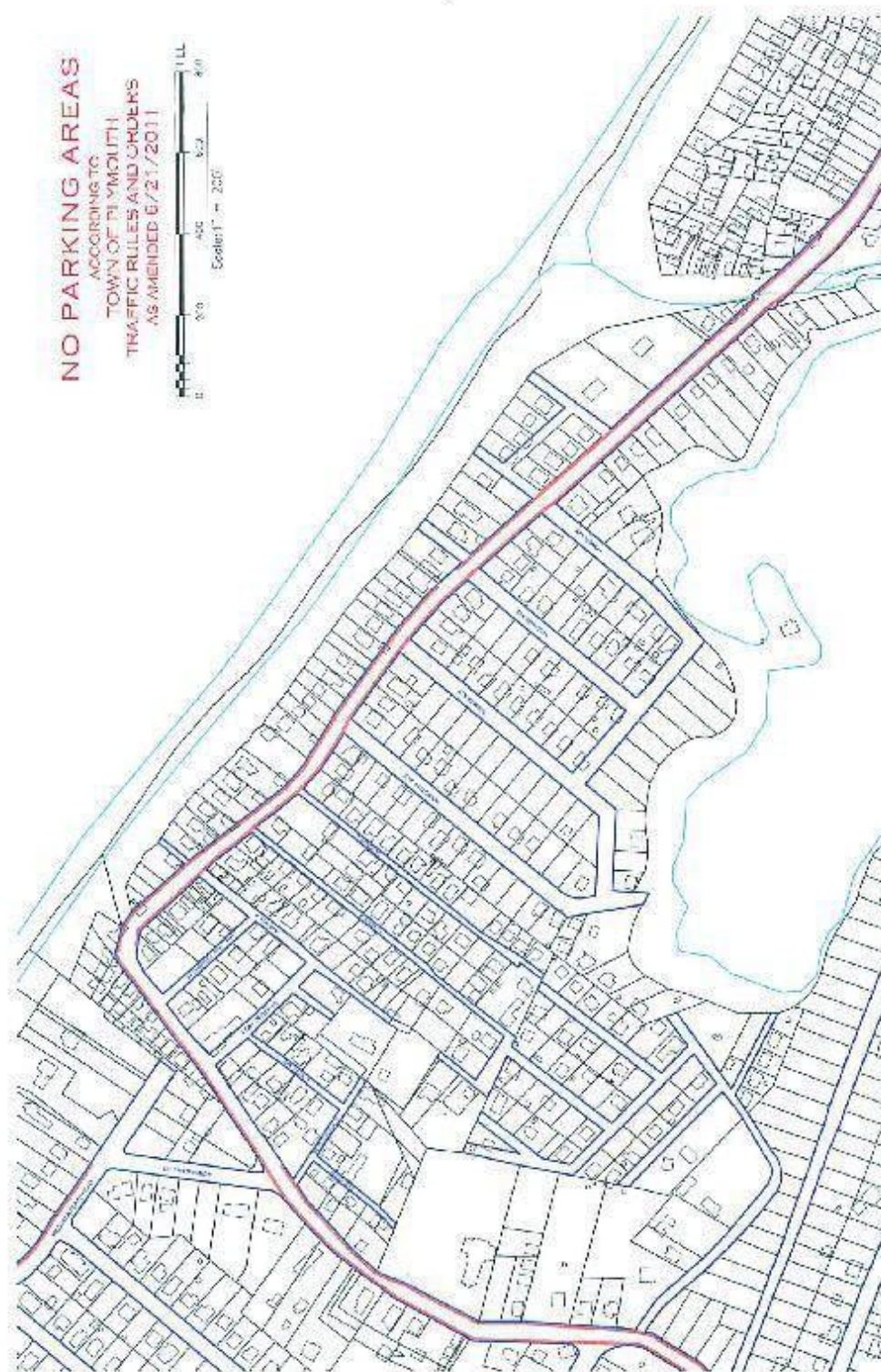
FSI
April 1, 2009



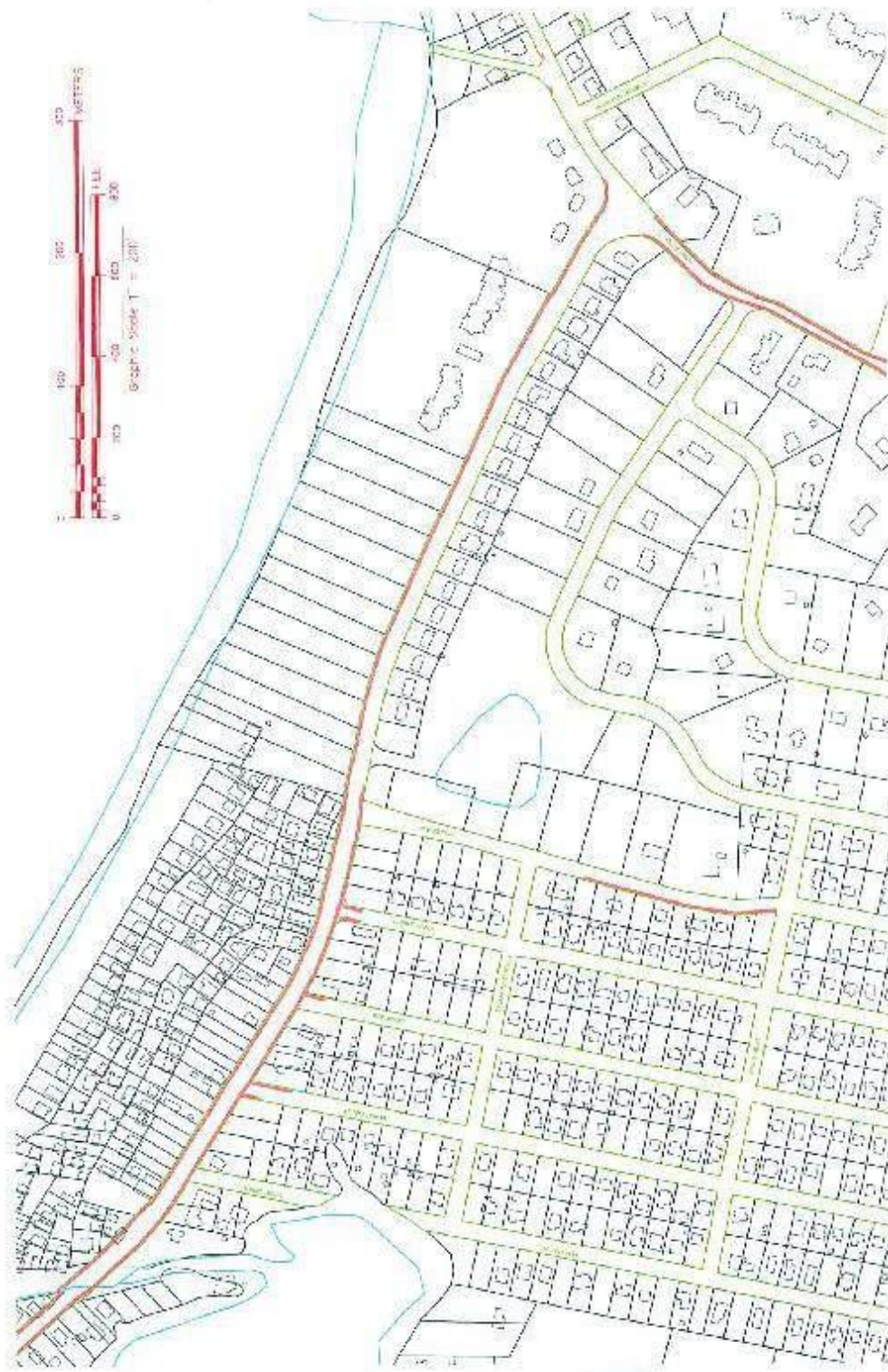
Proposed Taylor Avenue Reconstruction Plans Over 2008 Aerial Photo



“No Parking” Areas (highlighted in red) Per Current Traffic Rules & Orders



“No Parking” Areas (highlighted in red) Per Current Traffic Rules & Orders



(Currently prohibited by Plymouth Traffic Rules & Orders)



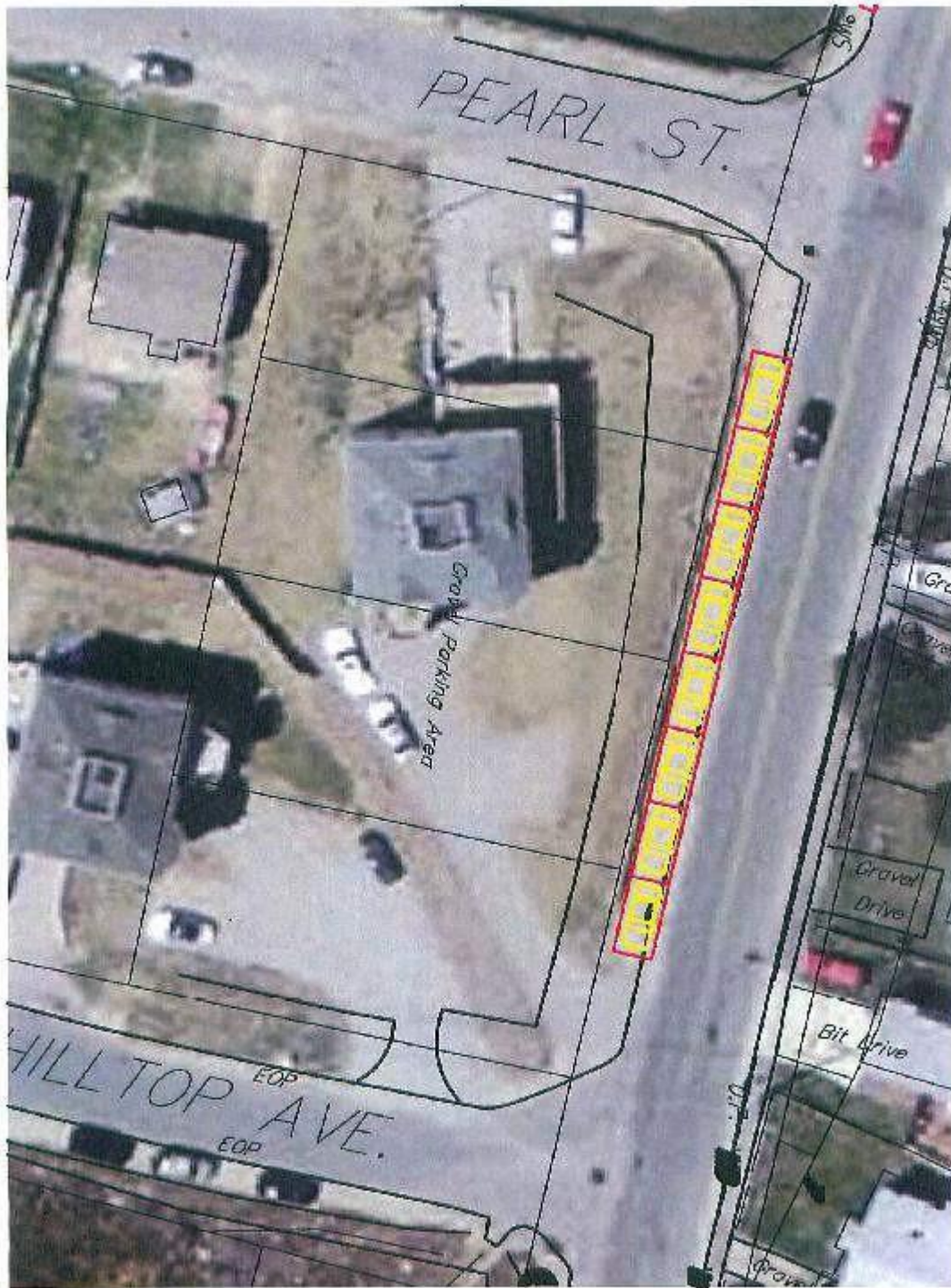
**Potential Parking Spots
(Currently prohibited by Plymouth Traffic Rules & Orders)**



(Currently prohibited by Plymouth Traffic Rules & Orders)



Potential Parking Spots
(Currently prohibited by Plymouth Traffic Rules & Orders)





FAY, SPOFFORD & THORNDIKE, LLC
ENGINEERS • PLANNERS • SCIENTISTS
5 Burlington Woods, Burlington, Massachusetts 01803
Tel 781-221-1000 Fax 781-229-1115

MEMORANDUM

TO: Jill McLaughlin, P.E.
FROM: Jennifer A. Ducey, P.E.
DATE: March 26, 2013
SUBJECT: Taylor Avenue Reconstruction Project
Plymouth, MA
Overview of Permitting Implications for Additional Parking

It is our understanding that the White Horse Beach Association has approached the Town of Plymouth about developing additional angled parking along the natural coastal dune area/barrier beach PM-8 on the ocean side of Taylor Avenue east of Hilltop Avenue. This memorandum is intended to document the anticipated permitting implications of incorporating additional parking into the larger Taylor Avenue Reconstruction Project.

The additional parking would require review by:

- Plymouth Conservation Commission under the MA Wetlands Protection Act (WPA)/Notice of Intent (NOI) application process
- Massachusetts Department of Environmental Protection (MassDEP) under the WPA/NOI application process
- Secretary of Environmental Affairs under the Massachusetts Environmental Policy Act (MEPA)/Environmental Notification Form (ENF) process
- MA Coastal Zone Management Office under the MEPA/ENF process and Federal Consistency Review in conjunction with the U.S. Army Corps of Engineers permit application for the larger project

MA Wetlands Protection Act (WPA)

Altering the dune's form, volume, and vegetation to create parking stalls cannot be permitted by the Plymouth Conservation Commission and/or MassDEP unless it is either considered a "limited project" or possibly, as an accessory to existing dune residences.

"Limited Project": It is unlikely that this additional parking could be considered a "limited project" under the MA WPA pursuant to 310 CMR 10.24(7)(c)(1). The limited project status is intended to address activities required to improve a substandard roadway and creating additional parking does not typically fall under this interpretation.

Accessory to Residences: An alternative approach would be to meet with MA DEP Southeast Region Office (SERO) to discuss whether the creation of resident-only stalls within the dune areas could be considered under 310 CMR 10.28(4). This section of the MA WPA allows for small parking areas to be created in dune areas provided they serve as accessories to residences that already exist within coastal dunes. This permitting

1

approach would consider the additional parking as a consolidated parking area which would serve multiple dune-based residences.

If this is not considered a limited project or accessory to dune residences, then altering the dune's form, volume, and vegetation to create parking stalls cannot be permitted by the local Conservation Commission and would require a variance from the MA WPA. The variance request would need to demonstrate the overriding public benefit of the additional parking stalls. It would also trigger a mandatory Environmental Impact Report (EIR). The preparation of a variance and EIR are time and labor intensive activities that are beyond what is needed for the larger project.

MA Environmental Policy Act (MEPA)

The resource area impacts associated with the proposed additional parking would be addressed as part of the ENF. An ENF is already required for the larger project for the alteration of one half or more acres of any other wetlands (Riverfront Area) [301 CMR 11.03(3)(b)1f.]. The proposed parking would also exceed the MEPA review threshold for alteration of coastal dune and barrier beach [301 CMR 11.03(3)(b)1a.].

MA Coastal Zone Management (CZM)

The proposed additional parking would be reviewed by CZM as part of the MEPA/ENF process and Federal Consistency Review in conjunction with the U.S. Army Corps of Engineers permit application for the larger project. CZM will review the proposed project to ensure it is consistent with the Massachusetts Coastal Program Policies. Therefore a pre-application meeting with CZM is also recommended.

Alternative Parking Location

As an alternative to disturbing the natural coastal dune/barrier beach (PM-8) on the ocean side of Taylor Avenue, consideration should be given to developing a parking on the already disturbed Town-owned property on the land side of Taylor Avenue east of Hilltop Avenue. These properties are still within coastal dune/barrier beach PM-8 and also within buffer zone to an inland wetland resource area. However, these properties have been previously disturbed and may not serve the same functions and values as the natural dune areas.

Recommendations

Based on our preliminary review, we recommend the following steps be taken before the additional angled parking is incorporated into the larger project:

- Determine if any similar projects have been proposed and permitted in Plymouth
- Evaluate alternative parking location on the Town-owned property east of Hilltop Avenue
- Schedule a pre-application meeting with the Plymouth Conservation Planner
- Schedule a pre-application meeting with the MA DEP SERO
- Schedule a pre-application meeting with the CZM Office
- Pending the outcome of the Conservation/DEP/CZM meetings, include the parking area and resultant impacts in the ENF for public agency review and comment

The successful outcome of the effort to incorporate the additional parking along the natural coastal dune area/barrier beach PM-8 is questionable, and will be contingent upon favorable input from all of the involved regulatory agencies.

“Satellite Parking”
Manomet Elementary School
Staffing Costs & Projected Revenue

<u>Staff:</u>	<u>Qty:</u>	<u>Hrly Rate:</u>	<u># hrs:</u>	<u># wks:</u>	<u>Total Salary:</u>
Parking Attendant	1	\$ 9.00	56	12	\$ 6,048
Supervisor	1	\$ 12.44	14	12	\$ 2,090
Total Staffing Salary:					\$ 8,138*

*Staffing numbers provided by Recreation Director

<u>Revenue:</u>	<u># spots:</u>	<u>Fee:</u>	<u>Days :</u>	<u># wks:</u>	<u>Daily Revenue</u>	<u>Weekly Revenue</u>	<u>Seasonal Revenue</u>
M-F Parking	55	\$ 10	5	12	\$ 550	\$ 2,750	\$ 33,000
Weekend Parking	55	\$ 15	2	12	\$ 825	\$ 1,650	\$ 19,800
Total Seasonal Revenue							\$ 52,800
Net Profit to Town:							\$ 44,662*

*Revenue could go into a 'revolving fund' for neighborhood

Minutes of the Manomet Village Steering Committee

Town Hall, Plymouth, MA

June 25, 2013

6:30 p.m. EDT

These minutes are not verbatim - they are the clerk's interpretation of what took place at the meeting. Open Meeting Law, G.L. c. 30A § 22.

The following are the minutes of the meeting of the Manomet Village Steering Committee ("Committee") held at the above time and place pursuant to notice duly given to all members and the public. Present at the meeting were Committee members Linda Evans, James Hoagland, John Vacha, Richard McGuinness, Randy Parker, Karen Buechs and Tim Grandy. A list of public attendees is provided in Appendix A.

Mr. Parker called the meeting to order.

Mr. Parker then requested nominations for the coming year for the following Committee positions; Clerk, Vice Chair and Chair.

After discussion by the Committee and upon motion duly made by Mr. Hoagland and seconded by Ms. Evans, it was unanimously

RESOLVED: That John Vacha will be the Clerk for the coming year.

After discussion by the Committee and upon motion duly made by Ms. Evans and seconded by Ms. Buechs, it was unanimously

RESOLVED: That James Hoagland will be the Vice Chair for the coming year.

After discussion by the Committee and upon motion duly made by Ms. Buechs and seconded by Mr. McGuinness, it was unanimously

RESOLVED: That Linda Evans will be the Chair for the coming year.

Ms. Evans took over the meeting as chair.

After discussion by the Committee and upon motion duly made by Mr. Vacha and seconded by Mr. Hoagland, it was unanimously

RESOLVED: That a reading of the 6/27/2013 minutes of the Committee be waived and;

RESOLVED: That the 6/27/2013 minutes of the Committee are approved

Ms. Evans then called for the special project permit put forth before the Committee to come forward. The presenters were not available at this time. A general discussion ensued.

After discussion by the Committee and upon motion duly made by Mr. Parker and seconded by Ms. Buechs, it was approved with one abstention, Mr. Vacha.

RESOLVED: That the proposed special project is approved by the Committee.

A Fifteen minute break was called to allow the public to arrive for the scheduled 7pm presentation.

Page 1

Minutes of the Meeting

July 25, 2013

Ms. Evans handed the floor to the White Horse Beach Parking Committee.

Dawn Dillon, chair of the White Horse Beach Parking Committee, explained the purpose, goals and efforts that have gone in to the draft findings and proposals that were presented this evening.

Ms. Evans then offered the Committee the opportunity to ask questions of the White Horse Beach Parking Committee and then opened the floor for public comment.

Several members of the public in attendance (see Appendix A) took the opportunity to express their opinions on the findings and proposals presented this evening. Each person who asked to speak was given time to express their opinions. No questions were asked by the public to the White Horse Beach Parking Committee.

The Committee thanked the White Horse Beach Parking Committee for their presentation.

At this time Ms. Evans asked the public for a show of hands if they were in favor of the following items (by visual count the conclusions of the hand count are shown following each item);

- 1) Improved Legal Signage – majority in favor
- 2) Increased Parking Violation Fines – majority in favor
- 3) Parking along Dunes – majority opposed
- 4) Satellite Parking – appeared to be a 50/50 split
- 5) A Permit Parking Program – majority in opposed

The Committee entered into a general discussion in which they requested that a full written draft of the White Horse Beach Parking Committee report be made available to them as soon as possible.

There being no further business, a motion was made and seconded and the meeting was thereupon duly adjourned.


John F. Vacha
Clerk of the Meeting

ATTACHMENT 8

White Horse Beach Public Meeting

Plymouth Public Library

June 23, 2015

RE: Meeting Minutes

Attendance

- Present from Town of Plymouth
 - David Gould, Director of Marine and Environmental Affairs
 - Nathan Cristofori, Natural Resources Warden
- Present from Environmental Consulting & Restoration, LLC
 - Brad Holmes, Manager, Professional Wetland Scientist
 - Cameron Larson, Wetland Scientist
- Members of Public Present

Opening Remarks by David Gould

Overview of White Horse Beach Management Plan as of June 23, 2015 by Brad Holmes

Public Discussion

- Public vs Private property—important to note that this plan is for public property only
- Beach signage
 - Trash and litter signs that include fines
 - Dog signs (must be leashed, pick up feces, etc.)
 - Beach access signs
 - Alcohol
 - Allowed and disallowed activities
 - Signs must be visible and include penalties/fines
 - Post for new signs on beach have been installed as of the day of this meeting
- Taylor Street/Adjacent streets
 - Crosswalks and signs have been ineffective because of location
 - Re-paint sidewalks in appropriate locations
 - Visible signs
 - Suggestion to consult with the Traffic Steering Committee
 - Fence along road and dune should be replaced
 - Public vs private parking
 - Automobile speeding issues
- Natural Resource Protection
 - Coastal dune restoration
 - Sand fencing has been torn down multiple times in the past
 - Beach grass planting

- Sand nourishment
 - Signs to keep off dunes
 - Restore dunes along the entire beach
- Restoration of resource areas near Bartlett Brook
- Regular Beach Maintenance
- Enforcement—issue that was brought up most frequently
 - Need to find ways to enforce current regulations
 - Signage
 - Regular beach patrol
 - Plymouth Police
 - Plymouth Fire
 - Natural Resource Wardens
 - Focus patrol on weekends
 - Enforcement cameras
- Parking/Beach Access
 - Refer to 2013 Parking Plan
 - Parking permits
 - Source of revenue
 - Prevent unauthorized parking
 - Limit access to only Plymouth residents
 - Entrance fee for beach/beach sticker
- Miscellaneous
 - Marketing
 - “Re-market” as a family beach, not a party beach
 - Limit marketing all together
 - Bartlett Brook backs up in winter with sand
 - Comments about problems coming from out-of-town beach goers

Moving Forward

- Keep meetings organized
- Plan is to try to meet one more time this summer
- Important for summer residents to be present

ATTACHMENT 9

November 3, 2017

Lee S. Smith
lsmith@k-plaw.com

Mr. David Gould, Director
Department of Marine and Environmental Affairs
Town of Plymouth
26 Court Street
Plymouth, MA 02360

Re: Access to White Horse Beach

Dear Mr. Gould:

As you requested, we have had a title examination performed on certain access points to White Horse Beach for the purposes of determining whether the general public has rights to pass and re-pass over such land for purposes of access to White Horse beach. I have attached the title report (the "Report") and title abstract prepared by Richard Golder, Esq. of Marsh, Moriarty, Ontell & Golder, P.C. and I offer the following summary of the results. The numbered paragraphs below refer to those access points you have described on Exhibit 1 that you have provided as the subject areas of this examination. The text shown in bold, italics below are the conclusions based upon the Report.

1. White Horse Road extension (See Report Item #4, Exhibit #2)

Exhibit #1 that you have provided states "Not an owned parcel; part of the road". Assessors Map 45A shows the area as an extension of White Horse Road. The title examination on the parcels adjacent to the White Horse Road extension shows a reference to "a certain right of way leading to the beach" and Plan #76-303 (see Exhibit #3) describes the land as "Town of Plymouth". The title exam did not find any record of this section of White Horse Road being taken as a public way or the Town's ownership of the beach itself. The Town may have records of Town Meeting votes (perhaps circa 1883) with respect thereto. Please advise as to whether any such documentation can be located or if you would like us to request further title research on the extension or beach itself in this area. ***If such documentation can be located supporting a conclusion that the Town does own the White Horse Road extension parcel, the Town may allow the general public to access the beach via this parcel.***

2. Access between Assessors Map 45B, Parcel 7 and Parcel 8 (See Report Item #5, Exhibit #4)

Mr. David Gould
Director
November 3, 2017
Page 2

This parcel across Taylor Avenue in between Abington Avenue and Thomas Avenue is shown as "Howard Ave." on Land Court Plan #10020A, Sheet 1 (see Exhibit #5). This parcel is privately owned by the abutters as well as other property shown on that Plan. ***These property owners have the right to exclude the general public from access over this parcel.***

3. Access between Assessors Map 45B, Parcel 14-11 and 14-12 (See Report Item #6, Exhibit #6)

This parcel across from William Avenue is shown as "Avenue" Land Court Plan #10020A, Sheet 1 (see Exhibit #7). This parcel is privately owned by the abutters (Lot 11 and Lot 12). ***These property owners have the right to exclude the general public from access over this parcel.***

4. Access between Assessors Map 45B, Parcel 14-35, Parcel 14-36, Parcel 14-15, and Parcel 14-16 (See Report Item #7, Exhibit #8)

This parcel across from the intersection of Taylor Avenue and Homer Avenue is shown as "Avenue" Land Court Plan #10020A, Sheet 2 (see Exhibit #9). This parcel is privately owned by the abutters (Lot 35, Lots 36 and 15, and Lot 16). ***These property owners have the right to exclude the general public from access over this parcel.***

5. Access between Assessors Map 45B, Parcel 14-32, Parcel 14-19, and Parcel 14-160A (See Report Item #8, Exhibit #10)

This parcel intersects with Taylor Avenue to the northeast of Homer Avenue and is shown as "Avenue" Land Court Plan #10020A, Sheet 2 (see Exhibit #11) and Plan #10020 N-1 (see Exhibit #12). This parcel is privately owned by the abutters (Lot 32, Lot 19 and Lot 160A). ***These property owners have the right to exclude the general public from access over this parcel.***

6. Access via Assessors Map 45B, Parcel 14A (See Report Item #1, Exhibit #13)

This parcel is adjacent to Beaver Dam Brook and Taylor Avenue and is shown on Land Court Plan #10020A, Sheet 2 (see Exhibit #14) as Lot A. This parcel is owned by the Town and ***the Town may allow the general public to access the beach via this parcel.***

7. Access via Assessors Map 46, Parcel 88I and Parcel 87C (See Report Item #3, Exhibit #15)

Mr. David Gould
Director
November 3, 2017
Page 3

These parcels are to the northeast of Hilltop Avenue abutting Taylor Avenue and are shown on Land Court Plan #2275F (see Exhibit #16) as Lots 88I and 87C. The parcels are owned by the Town and, subject to a private right of way as shown on the Plan, ***the Town may allow the general public to access the beach via these parcels.***

8. 161 Taylor Avenue; Assessors Map 45B, Parcel 24 (See Report Item #2, Exhibit #17)

This parcel is adjacent to Lot A described above and Taylor Avenue and is shown on Land Court Plan #10020A, Sheet 2 (see Exhibit #18) as Lot 24. This parcel is owned by the Town and, ***the Town may allow the general public to access the beach via this parcel.***

In summary, the access points shown on Exhibit 1 as Parcel #1, Parcel #6, Parcel #7 and 161 Taylor Avenue may be used by the general public. Parcel #2, Parcel #3, Parcel #4, and Parcel #5 are privately owned and are not accessible by the general public.

Please let me know if you have any questions or if I may be of further assistance. Thank you.

Very truly yours,



Lee S. Smith

LSS/ekh
Enc.
cc: Town Manager

MARSH, MORIARTY, ONTELL & GOLDER, P.C.

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COURTNEY D. HILLIARD
ROCKY D. LEAVITT

OF COUNSEL
JOSEPH T. RUBINSTEIN
† ALSO ADMITTED IN NEW HAMPSHIRE

October 18, 2017

Lee S. Smith, Esq.
KP Law
101 Arch Street
Boston, MA 02110

Re: White Horse Beach, Plymouth – research regarding specific access points to the beach
MMOG File No. 52905

Dear Attorney Smith,

You have provided us with information identifying eight potential access points to White Horse Beach in the Town of Plymouth and asked that we review title materials in an effort to determine whether each access point is strictly private, or whether the public might share rights of access to the beach. We were also asked to identify any restrictions that we might find on the identified beach parcels.

Our findings are as follows, and I will begin by addressing the parcels owned by the Town of Plymouth:

1. Assessor's Parcel 045B-000-014A-000

- This parcel is registered land and is owned by the Inhabitants of the Town of Plymouth by virtue of Transfer Certificate of Title No. 30296. It is depicted as Lot A on Land Court Plan 10020^A. It should be noted that only the southeasterly portion of Lot A is accounted for in the above referenced Assessor's Parcel. The northwesterly portion of Lot A, which begins at the northwesterly bound of Parcel 14-11A on Map 45B, extends across the northeasterly bounds of Lots 5 through 13 on Map 45B. While Lot A is shown as a very thin parcel of land on Land Court Plan 10020^A, it is bound "Northeasterly by Plymouth Bay," so, to the extent land is adjacent to and seaward of Lot A, it would be included in Lot A. In other words, all beach adjacent to Lot A, to the low water line, would be included within the bounds of Lot A. The northwesterly portion of Lot A, as described, should extend Assessor's Parcel 14A into Map 45A, however a large portion of Whitehorse Beach appears without a parcel number on Map 45A. The easterly portion of the unmarked Beach Parcel is the portion of Lot A described above. We haven't performed specific research to identify the source of title in the Town of Plymouth for the westerly portion of the unmarked area of White Horse Beach.

- The Certificate of Title recites: "Said lot is subject to rights for boating and bathing in favor of the other land shown on said plan between Taylor Avenue and White Horse Beach, westerly of lot No. 11." There are numerous lots on the southwesterly side of Taylor Avenue, but the deed to the Town doesn't indicate that the rest of the subdivision has rights to use the beach. There are no public rights referenced on the face of the Certificate, or on the encumbrance sheet, but the beach would be subject to common law rights below mean high water.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title. It would appear that Lot A only touches Taylor Avenue at a point at its extreme southerly end. The portion of White Horse beach, as shown on Map 45A, that extends to Taylor Avenue between Lots 7 and 8 on Map 45B, is not part of the Registered Lot A and is addressed in Item 5 below.
- It is noteworthy that while the Certificates of Title for many of the other lots, including Lot 24 addressed below, contain the following language: "There is appurtenant to said lot the right to use the whole of the ways as shown on said plan, in common with others entitled thereto," the Certificate for Lot A does not contain similar language.

2. Assessor's Parcel 045B-000-014-024

- This parcel is registered land and is owned by the Inhabitants of the Town of Plymouth by virtue of Transfer Certificate of Title No. 122084. It is depicted as Lot 24 on Land Court Plan 10020^A.
- Lot 24 is a triangular parcel that has frontage on Taylor Avenue and is contiguous to White Horse Beach (the above described Lot A) along its easterly bound. Although according to the Land Court plan there is very little land between said easterly bound and the "Creek."
- As noted above this Certificate of Title does reference appurtenant rights to use "the whole of the ways as shown on said plan."
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title. This provides public access to Lot 24, which is contiguous to Lot A, the larger beach parcel.

3. Assessor's Parcel 046-000-088I-000 (and we assume 046-000-87C-000)

- This parcel is registered land and is owned by the Town of Plymouth by virtue of Transfer Certificate of Title No. 11430. It is depicted as Lots 88I and 87C on Land Court Plan 2275^F. While Parcel 87C appears on the Assessor's Map, it doesn't appear to be separately assessed. We found no card for 87C in the

Assessor's Database. We assume, based on the acreage of 88I, that it is intended to include Parcel 87C.

- These parcels are subject to a private right of way, depicted as "Way" on the plan for access to Lot 87F.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title. This provides public access to Lots 87C and 88I. Lot 87C extends directly to Cape Cod Bay and may include a small portion of Beach, but these parcels are not contiguous to other portions of White Horse Beach covered by this Report.

4. **Assessor's Parcels 045A-000-114A-000, 045A-000-121-000 and 045A-000-104-000.**
Note: Each of these parcels has frontage on White Horse Road, which appears to extend through the Beach to the Bay. While there is an 1885 plan, recorded in Plan Book 1, Page 5 of "House Lots at White Horse Landing, Charles H. Peterson, Proprietor," the land on the beach side of the roads does not appear as subdivided lots on the Plan. White Horse Road is depicted as extending through the Beach to the Bay.

- **Assessor's Parcel 045A-000-114A-000.**

- This Parcel is recorded land and is owned by Nancy J. Amenkowicz, a.k.a. Nancy J. Murray, by virtue of a Deed dated May 22, 1990 and recorded in Book 9762, Page 261. Its frontage is on White Horse Road and its easterly and northerly bounds would appear to be by the Beach. This small section of Beach west of the White Horse Road extension to the Bay is not assigned an Assessor's number on Map 45A.
- We traced title back to the first deed out of Charles Peterson, recorded in 1877 in Book 443, Page 1 and found no specific reference to rights in the Beach, but the description does run to the "shore." When the next owner conveys in 1889, the description used is very close to the current legal description. The land to the east, which would be Beach, is described as land of Charles H. Peterson and the northeasterly bound is "by the top of the bank." This would appear to exclude any rights in the beach,
- We found no evidence of ownership of this portion of the Beach by the Town. However, we did not examine the historic Charles Peterson title to determine whether he may have conveyed the Beach to the Town, or been subject to a taking. We believe that the Peterson family owned the land in question at least back to the 1840's. We also found no taking of White Horse Road as a public way.

- **Assessor's Parcel 045A-000-121-000.**

- This Parcel is recorded land and is owned by Full Sail, Inc., by virtue of a Deed dated May 8th, 1975 and recorded in Book 4066, Page 101. Its frontage is on Taylor Road and it is bounded on the north by "a certain right of way leading to the beach," which would appear to be the extension of White Horse Road. The deed recites descriptions of two parcels, making no reference to a plan of record. However, the two parcels combine to form the land shown as land of "Full Sail Inc." on the plan recorded in Book 4156, Page 405.
- We traced the title to each parcel back to the ownership of Charles Peterson. With respect to the first parcel, the land comes out of Peterson's estate in 1893, as part of a deed that after describing various non-locus lots, conveys "all other land, if any, at said Manomet." The actual parcel is first described in a deed out of Peter Wood in 1925, Book 1493, Page 399. Said Deed grants no specific rights to the Beach, nor does it reference rights of others, but it would have the benefit of common law rights to use "the right of way leading to the Beach." The second parcel comes out of a deed from Peterson in 1883, recorded in Book 506, Page 196. It is part of a parcel of land "between the Beach Field Road (now Taylor Road) and the sea shore" opposite the first parcel in the deed.
- While this parcel abuts Taylor Avenue and White Horse Road, we found no taking for either street in this location. The plan referenced above, in Book 4156, Page 405, indicates that Taylor Road is public in this location, based on a "1912 Town Layout" and shows White Horse Road as "Town of Plymouth." It is not clear from said plan that there is a road along the northerly bound, or whether it is just land of the Town. Again, we found no record of a deed or taking establishing ownership of White Horse Road or the Beach in the Town.

- **Assessor's Parcel 045A-000-104-000.**

- This parcel is recorded land and is owned by Full Sail, Inc. by virtue of a deed dated April 30, 1976 and recorded in Book 4156, Page 405. It has frontage on Taylor Road and is shown as the 1006 S.F. parcel on the above referenced plan recorded in Book 4156, Page 405. The legal description in said Deed describes the northerly bound as "by land now or formerly of the Town of Plymouth. . ." It makes no mention of White Horse Road in this location.
- We traced title to the same deed out of Charles Peterson referenced above, a deed from Peterson in 1883, recorded in Book 506, Page 196. It is part of a parcel of land "between the Beach Field Road (now Taylor Road) and the sea shore" opposite the first parcel in the deed.

- As recited above, we found no relevant takings for Taylor Avenue, White Horse Beach Road or the Beach. Our focus was on ownership of these three parcels and not the Beach itself, so it is possible that additional research might uncover the source of title to the Town's claim of ownership to this portion of the Beach. We suspect that White Horse Beach Road has been treated as Town access to the beach for many years and that this might have been the location of a Town landing.

5. **Assessor's Parcels 045B-000-007-000 and 045B-000-008-000. Note: These parcels are contiguous to and on opposite sides of an Avenue labeled "Howard Avenue" on Land Court Plan 10020^A, although neither parcel is registered land.**

- **Assessor's Parcel 045B-000-007-000.**

- This parcel is recorded land and is owned by Michael J. Lack and Gregory M Cogan as trustees of the 223-225 Taylor Avenue Realty Trust by virtue of a deed dated September 30, 2010 and recorded in Book 39050, Page 327. Note that the name of the Trust has been changed to the 225 Taylor Avenue Realty Trust by Amendment recorded in Book 41652, Page 157. It is depicted as Lot 5 on a "Plan of Lots at White Horse Beach" recorded in 1923 in Plan Book 3, Page 533.
- We traced title to the lot to the first deed out of the developer, in 1903, and recorded in Book 885, Page 2. The deed does not exclude the fee in Howard Avenue (just referred to as "an Avenue" in the deed) and, by application of the Derelict Fee Statute would convey the fee to the center line along with ownership of Lot 5.
- The 1903 deed also recites "The grantee shall also have a right for boating and bathing purposes in common with other owners of the lots sold by us, on the beach in front of said lots . . ."
- The 2017 Taylor Avenue taking is recorded against this parcel, but there is no evidence of public rights in Howard Avenue. The Beach at the northerly end of Howard Avenue is the Registered Lot A referenced in Item 1 above. This Parcel would be one of the lots that have a private right to use this portion of White Horse Beach.

- **Assessor's Parcel 045B-000-008-000.**

- This parcel is recorded land and is owned by Dianne Boudreau by virtue of a deed dated August 2, 2000 and recorded in Book 18786, Page 224. It is depicted as Lot 6 on the above referenced "Plan of Lots at White Horse Beach" recorded in 1923 in Plan Book 3, Page 533.
- We traced title to the lot to the first deed out of the developer, in 1903, and recorded in Book 879, Page 214. The deed does not exclude the fee in

Howard Avenue (just referred to as “an Avenue” in the deed) and, by application of the Derelict Fee Statute would convey the fee to the center line along with ownership of Lot 6.

- The 1903 deed also recites “Also a right for bathing and boating in common with the other lot owners on the beach in front of said lot . . .”
- The 2017 Taylor Avenue taking is recorded against this parcel, but there is no evidence of public rights in Howard Avenue. Again, the Beach at the northerly end of Howard Avenue is the Registered Lot A referenced in Item 1 above. This Parcel would be one of the lots that have a private right to use this portion of White Horse Beach.

6. Assessor’s Parcels 045B-000-014-011 and 045B-000-014-012. Note: These two parcels are contiguous to an access “Avenue” slightly northeast of the intersection of William Avenue with Taylor Avenue.

- **Assessor’s Parcel 045B-000-014-011.**

- This parcel is registered land and is owned by Sonia M. Forst by virtue of Transfer Certificate of Title No 60673. It is depicted as Lots 11A and 11B on Land Court Plan 10020^B. These lots are on the northwesterly side of said Avenue and the northeasterly side of Taylor Avenue. The Avenue extends northeasterly to Lot A, addressed in Item 1 above, a portion of White Horse Beach.
- The Certificate of Title recites the following: “Said lots are subject to the rights of ways of all persons lawfully entitled thereto as stated in Certificate of Title No. 1992, so far as applicable; and there is appurtenant to the above described parcels the right to use the whole of said ways in common with others entitled thereto.” Original Certificate of Title No. 1992 recites: “So much of said parcels as by implication of law or by direct reference are included in any of the ways shown on said plan are subject to the rights of all persons lawfully entitled thereto in and over the same including the owners and occupants for the time being of the lands shown on said plan northeast of Taylor Avenue and northwest of lot No. 11 shown on said plan as to the ways lying between Taylor Avenue and the beach; and there is appurtenant to the parcels of land hereby registered the right to use the whole of said ways in common as aforesaid.” We researched title back to the first deed out of the developer, which is L.C. Document No. 4285 and confirmed that Lot 11 also includes the fee interest in the adjacent Avenue to the center line. The deed doesn’t contain a specific grant, but the fee interest would pass through application of the Derelict Fee Statute.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title.

- While the public has access to the end of the Avenue, via Taylor Road, there is nothing that would establish the general public's right to use the Avenue extending to the Beach.

- **Assessor's Parcel 045B-000-014-012.**

- This parcel is registered land and is owned by Edward R. Gates by virtue of Transfer Certificate of Title No 114404. It is depicted as Lot 12 on Land Court Plan 10020^A. This lot is on the southeasterly side of said Avenue and the northeasterly side of Taylor Avenue. The Avenue extends northeasterly to Lot A, addressed in Item 1 above, a portion of White Horse Beach.
- The Certificate of Title recites the following: "Said land is subject to the rights of ways of all persons lawfully entitled thereto as stated in Certificate of Title No. 1993, so far as applicable; and there is appurtenant to the above described parcel the right to use the whole of said ways in common with others entitled thereto." Original Certificate of Title No. 1993 recites: "So much of said parcels as by implication of law or by direct reference are included in any of the ways shown on said plan are subject to the rights of all persons lawfully entitled thereto in and over the same including the owners and occupants for the time being of the lands shown on said plan northeast of Taylor Avenue and northwest of lot No. 11 shown on said plan as to the ways lying between Taylor Avenue and the beach; and there is appurtenant to the parcels of land hereby registered the right to use the whole of said ways in common as aforesaid." We researched title back to the first deed out of the developer, which is L.C. Document No. 5976 and confirmed that Lot 12 also includes the fee interest in the adjacent Avenue to the center line. The deed doesn't contain a specific grant, but the fee interest would pass through application of the Derelict Fee Statute.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title.
- While the public has access to the end of the Avenue, via Taylor Road, there is nothing that would establish the general public's right to use the Avenue extending to the Beach.

7. **Assessor's Parcels 045B-000-014-035, 045B-000-014-036, 045B-000-014-015 and 045B-000-014-016. Note: These four parcels are contiguous to an access "Avenue" directly north of the intersection of Homer Avenue with Taylor Avenue.**

- **Assessor's Parcel 045B-000-014-035.**

- This parcel is registered land and is owned by Steven P. Kleinman and David M Brillhart by virtue of Transfer Certificate of Title No. 121187. It is depicted as Lot 35 on Land Court Plan 10020^A. It is on the southeasterly side of the "Avenue" and the northeasterly side of Taylor Avenue. The Avenue extends northeasterly to Lot A, addressed in Item 1 above, a portion of White Horse Beach.
- The Certificate of Title recites the following: "Said lot is also subject to the rights of all persons lawfully entitled thereto to use the ways as shown on said plan; and there is appurtenant to said lot the right to use the whole of said ways in common with others entitled thereto." We researched title back to the first deed out of the developer, which is L.C. Document No. 31934 and confirmed that Lot 35 also includes the fee interest in the adjacent Avenues to the center line.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title.
- While the public has access to the end of the Avenue, via Taylor Road, there is nothing that would establish the general public's right to use the Avenue extending to the Beach.

- **Assessor's Parcel 045B-000-014-036 and Assessor's Parcel 045B-000-014-015**

- These parcels are registered land and are owned by Urban Family Limited Partnership by virtue of Transfer Certificate of Title No. 117232. They are depicted as Lots 36 and 15 on Land Court Plan 10020^A. They are on the northwesterly side of the "Avenue" and the northeasterly side of Taylor Avenue. The Avenue extends northeasterly to Lot A, addressed in Item 1 above, a portion of White Horse Beach.
- The Certificate of Title recites similar rights to those recited above, indicating that "those persons lawfully entitled" have the right to use the Avenue. We researched title back to the first deeds out of the developer, which are L.C. Document Nos. 4834 and 26724 and confirmed that Lots 36 and 15 also include the fee interest in the adjacent Avenues to the center line. The deeds don't contain specific grants, but the fee interest would pass through application of the Derelict Fee Statute.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title.
- As above, while the public has access to the end of the Avenue, via Taylor Road, there is nothing that would establish the general public's right to use the Avenue extending to the Beach.

- **Assessor's Parcel 045B-000-014-016.**

- This parcel is registered land and is owned by Thomas J. Whyte Jr. by virtue of Transfer Certificate of Title No. 105562. It is depicted as Lot 16 on Land Court Plan 10020^A. It is on the southeasterly side of the "Avenue" and the northeasterly side of another Avenue. It does not abut Taylor Avenue. The first mentioned Avenue extends northeasterly to Lot A, addressed in Item 1 above, a portion of White Horse Beach.
- The Certificate of Title recites the following: "Said lot is also subject to the rights of all persons lawfully entitled thereto to use the ways as shown on said plan; and there is appurtenant to said lot the right to use the whole of said ways in common with others entitled thereto." We researched title back to the first deed out of the developer, which is L.C. Document No. 31931 and confirmed that Lot 16 also includes the fee interest in the adjacent Avenues to the center line. The deed doesn't contain a specific grant, but the fee interest would pass through application of the Derelict Fee Statute.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is not entered on the Memorandum of Encumbrances for the Certificate of Title, as it does not abut Taylor Avenue.
- Again, as above, while the public has access to the end of the Avenue, via Taylor Road, there is nothing that would establish the general public's right to use the Avenue extending to the Beach.

8. **Assessor's Parcels 045B-000-014-032, 045B-000-014-019, and 045B-000-014-160A.**
Note: These three parcels are contiguous to an access "Avenue" southeast of the intersection of Homer Avenue with Taylor Avenue.

- **Assessor's Parcel 045B-000-014-032.**

- This parcel is registered land and is owned by Salvatore Zirilli and Janet Zirilli by virtue of Transfer Certificate of Title No. 108696. It is depicted as Lot 32 on Land Court Plan 10020^A. It is on the northwesterly side of the "Avenue" and the northeasterly side of Taylor Avenue. The Avenue extends northeasterly to Lot A, addressed in Item 1 above, a portion of White Horse Beach.
- The Certificate of Title recites the following: "So much of said lot as by implication of law, or by direct reference, is included in any of the ways shown on said plan is subject to the rights of all persons lawfully entitled thereto in and over the same; and there is appurtenant to said lot the right to use the whole of said ways in common as aforesaid." We researched title back to the first deed out of the developer, which is L.C. Document No. 34819 and confirmed that Lot 32 also includes the fee interest in the

adjacent Avenues to the center line. The deed doesn't contain a specific grant, but the fee interest would pass through application of the Derelict Fee Statute.

- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title.
- While the public has access to the end of the Avenue, via Taylor Road, there is nothing that would establish the general public's right to use the Avenue extending to the Beach.

- **Assessor's Parcel 045B-000-014-019 .**

- This parcel is registered land and is owned by Marie F. Bourett by virtue of Transfer Certificate of Title No. 121555. It is depicted as Lot 19 on Land Court Plan 10020^A. It is on the northwesterly side of the "Avenue" and the northeasterly side of another Avenue. It does not abut Taylor Avenue. The Avenue extends northeasterly to Lot A, addressed in Item 1 above, a portion of White Horse Beach.
- The Certificate of Title recites the following: "So much of said lot as by implication of law, or by direct reference, is included in any of the ways shown on said plan is subject to the rights of all persons lawfully entitled thereto in and over the same; and there is appurtenant to the above described land the right to use the whole of said ways in common as aforesaid." We researched title back to the first deed out of the developer, which is L.C. Document No. 23835 and confirmed that Lot 19 also includes the fee interest in the adjacent Avenues to the center line by specific grant.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is not entered on the Memorandum of Encumbrances for the Certificate of Title, as the Lot does not abut Taylor Avenue.
- While the public has access to the end of the Avenue, via Taylor Road, there is nothing that would establish the general public's right to use the Avenue extending to the Beach.

- **Assessor's Parcel 045B-000-014-160A**

- This parcel is a registered land condominium by virtue of Master Condominium Certificate of Title No. C14. It is depicted as Lot 160A on Land Court Plan 10020^{N-1}. Common areas would be owned by the Seaside Condominium Association. It is on the southeasterly side of the "Avenue" and the northeasterly side of Taylor Avenue. The Avenue extends northeasterly to Lot A, addressed in Item 1 above, a portion of White Horse Beach.

- The Certificate of Title recites similar rights to those recited above, indicating that “those persons lawfully entitled” have the right to use the Avenue. We researched title back to the first deed out of the developer, which is L.C. Document No. 32234 and confirmed that Lot 160A also includes the fee interest in the adjacent Avenue. The deed doesn’t contain a specific grant, but the fee interest would pass through application of the Derelict Fee Statute.
- The taking for the layout of Taylor Avenue as a public way, recorded by the Town of Plymouth on August 1, 2017, is entered on the Memorandum of Encumbrances for the Certificate of Title.
- While the public has access to the end of the Avenue, via Taylor Road, there is nothing that would establish the general public’s right to use the Avenue extending to the Beach.

In summary, the Town of Plymouth owns the portion of White Horse Beach that is comprised of Lot A and the beach adjacent to Lot A on Land Court Plan 10020^A (Assessor’s Map 45B, Parcel 14A). It has access to this portion of the Beach from Taylor Road to Parcel 14-24 on Assessor’s Map 45B, which is also owned by the Town and has frontage on Taylor Road. We presume that the Town owns the westerly portion of White Horse Beach that is shown as two unnumbered parcels on Map 45A, one on each side of White Horse Road, as it extends to the Beach. We also presume that the easterly end of White Horse Road is public, as it is labeled “Town of Plymouth” on a plan of the adjacent Lot 104. However, we found no evidence or record to establish the Town’s rights in either the westerly portion of the Beach, or White Horse Road. If this easterly portion of White Horse Road is public, it would provide access to the westerly end of White Horse Beach, as described above. While Lot A is adjacent to the stub ends of several “Avenues,” as shown on L.C. Plan 10020^A, the Certificate of Title for Lot A does not recite it has the right to use said Avenues. While there may well be a common law argument to support the right to use the Avenues, all of the other Certificates reviewed specifically address the right to use the streets on L.C. Plan 10020^A.

When Lot A was initially established as a private beach, as it apparently existed until its conveyance to the Town in 1960, it was only subject to the rights of Lot owners “between Taylor Avenue and White Horse Beach, westerly of Lot 11.” There was no clear intent to benefit all of the lots on the Land Court plan, let alone the public in general.

We also reported on Parcels 88I and 87C on Assessor’s Map 46. These parcels, owned by the Town, provide public access to the shore, but this location is not contiguous to the other portions of White Horse Beach addressed above.

The various “Avenues” addressed above are all owned privately by their abutters. While they are clearly subject to rights of the other lot owners on LC Plan 10020^A, even though only a small portion of those owners have the right to use the beach, the Avenues are not subject to rights of the Public.

MARSH, MORIARTY, ONTELL & GOLDER, P.C.

If you would like to have us spend additional time exploring the Town's source of title to the westerly portion of White Horse Beach, please advise accordingly.

Very Truly Yours,

A handwritten signature in black ink, appearing to read 'R. Golder', with a long horizontal flourish extending to the right.

Richard M. Golder

G;LM/52905/Smith letter.10-18-17

ALL-STATE LEGAL

EXHIBIT

1

1. (Not an owned parcel; part of the road)

2

3

4

5

161 Taylor Ave

6

AVENUE A

AVENUE B

AVENUE C

ABINGTON AVENUE

THOMAS AVENUE

WILLIAM AVENUE

HOMER AVENUE

TAYLOR AVENUE

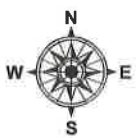
VINE BROOK ROAD

SHORT STREET

BIRCH STREET

bing

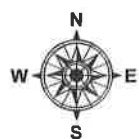
Image courtesy of USGS Earthstar Geographics Corporation
SIO 0-219-M-1080



White Horse Beach Access (1 of 2)

0 160 320 640 Feet

Department of Marine &
Environmental Affairs



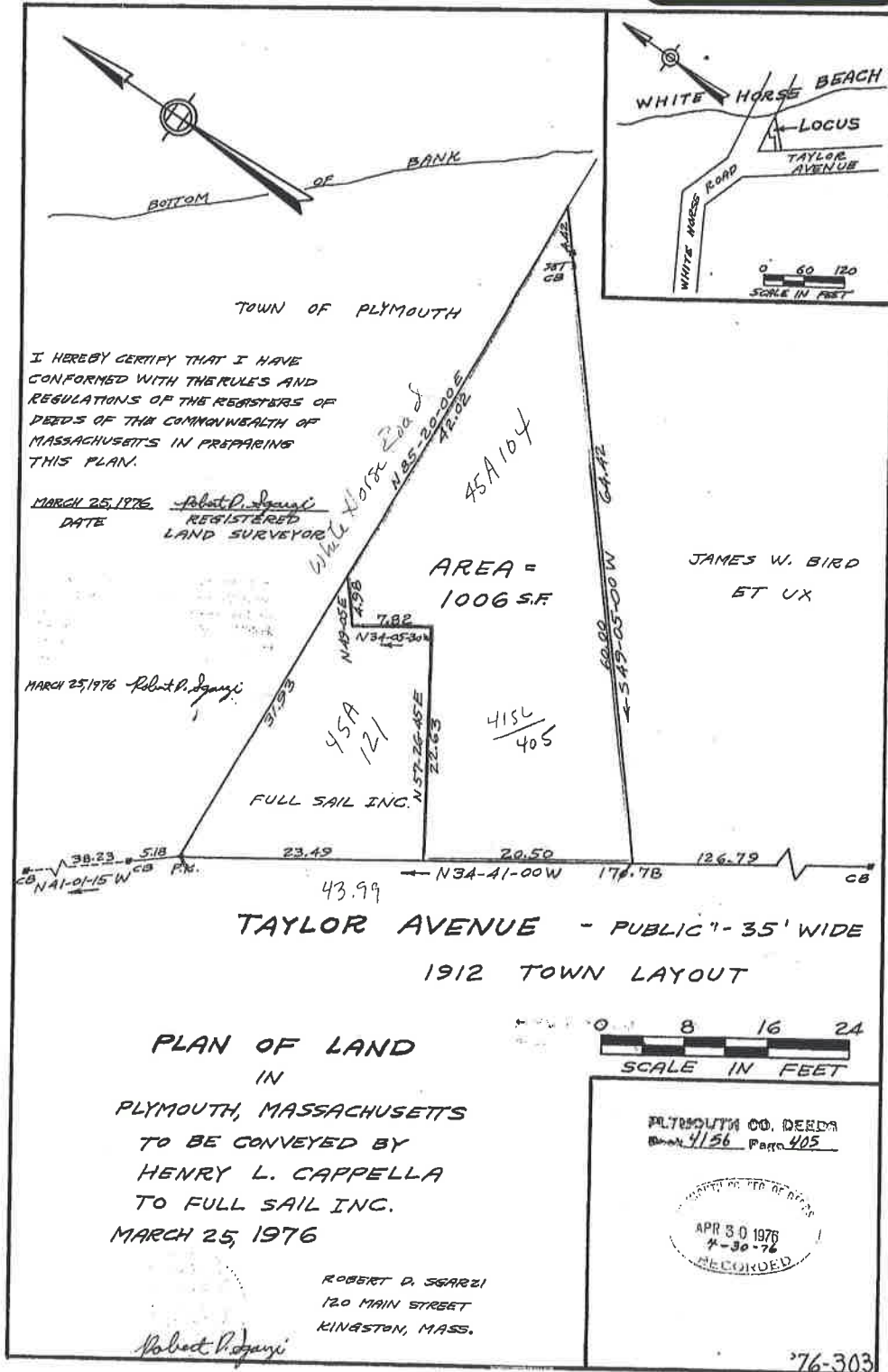
White Horse Beach Access (2 of 2)

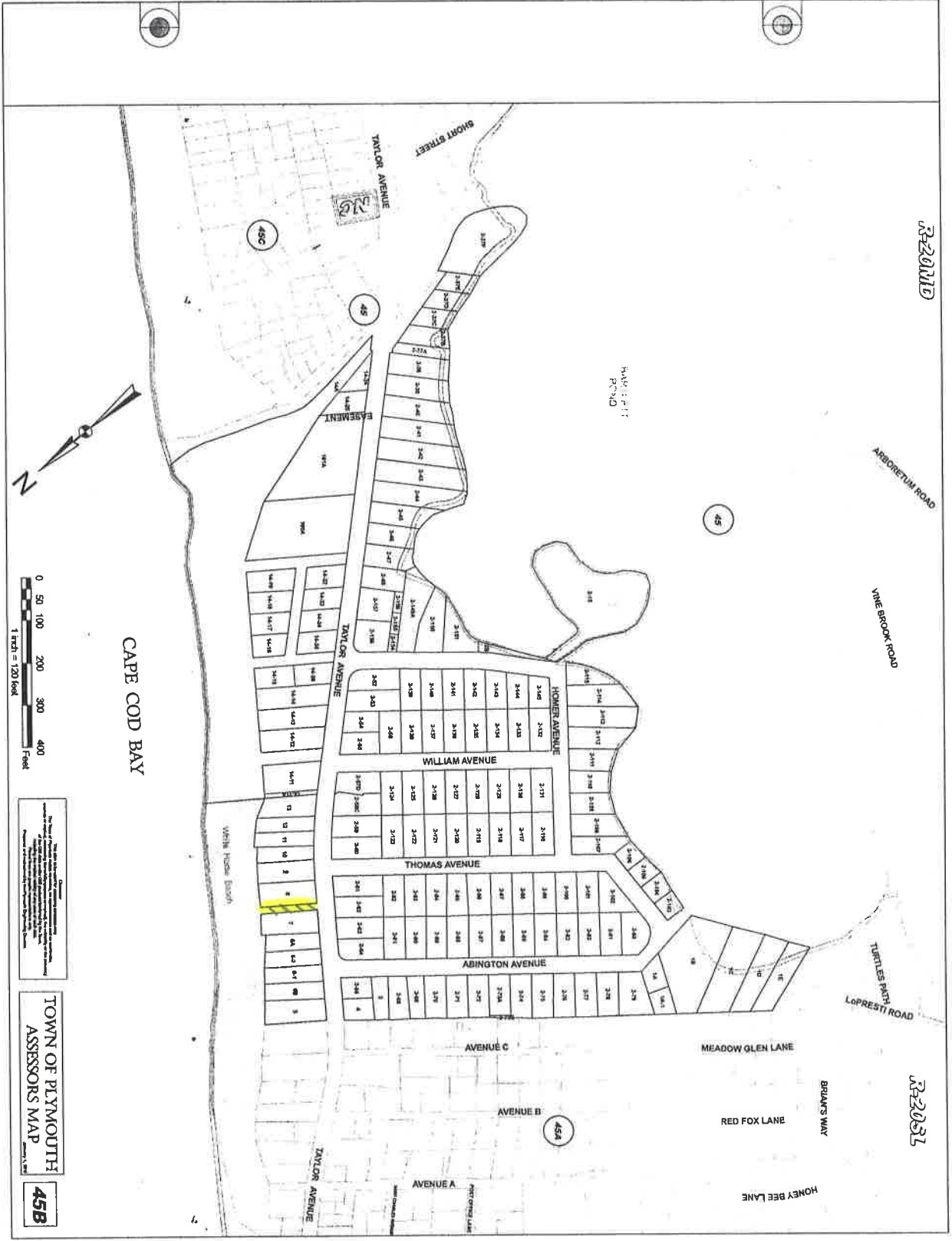
0 160 320 640
Feet

Department of Marine &
Environmental Affairs



4156
405





100208 - LOTS 1104-110. C.R.P. 2657
 100209 - LOTS 1106-1108. C.R.P. 172
 100210 - LOTS 1109-1112. C.R.P. 17708

Plan of Land in Plymouth

Scale 60 feet to an inch

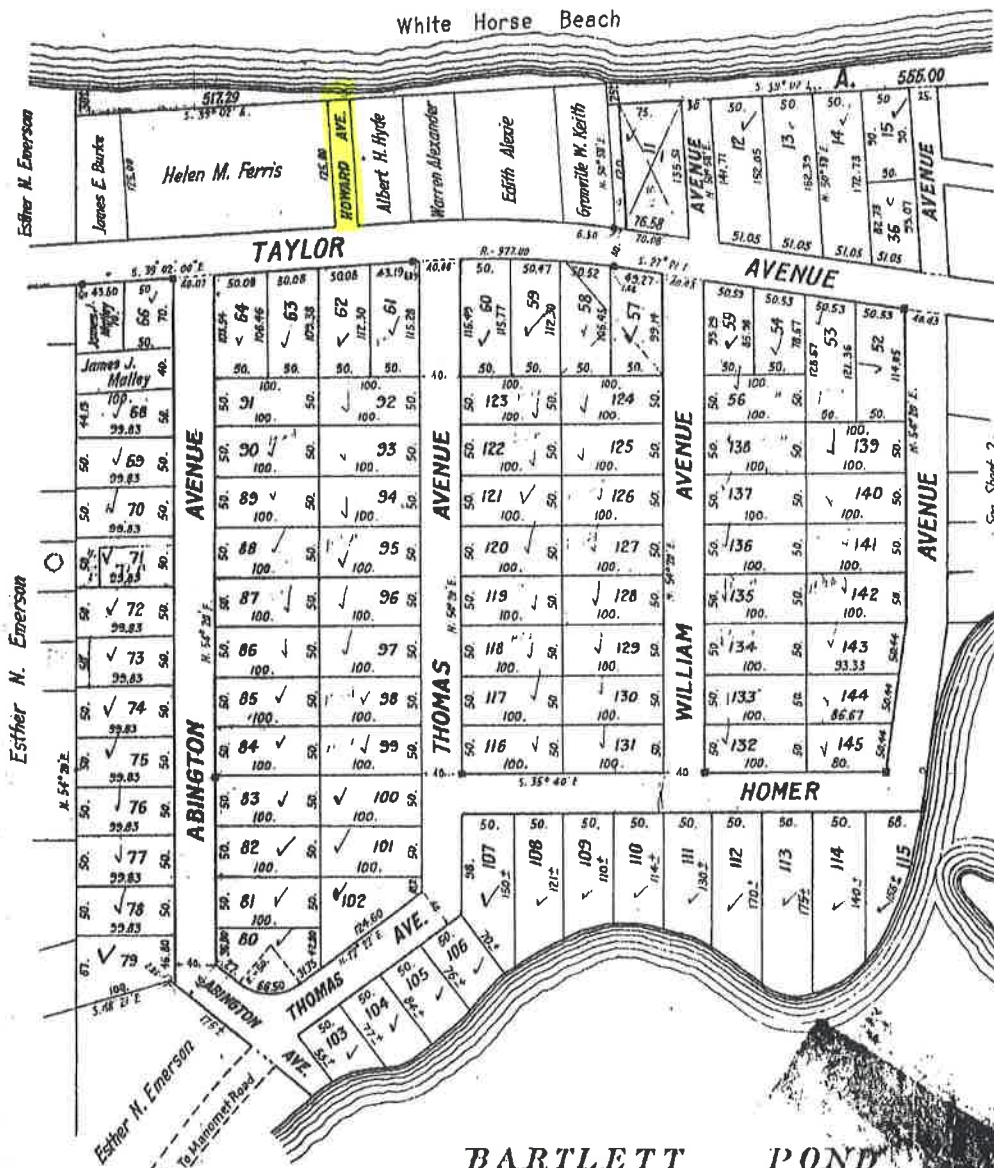
NOV., 1923.

W. Archer Torrey, Surveyor.

10020A
 Sheet 1

PLYMOUTH BAY

White Horse Beach



BARTLETT POND

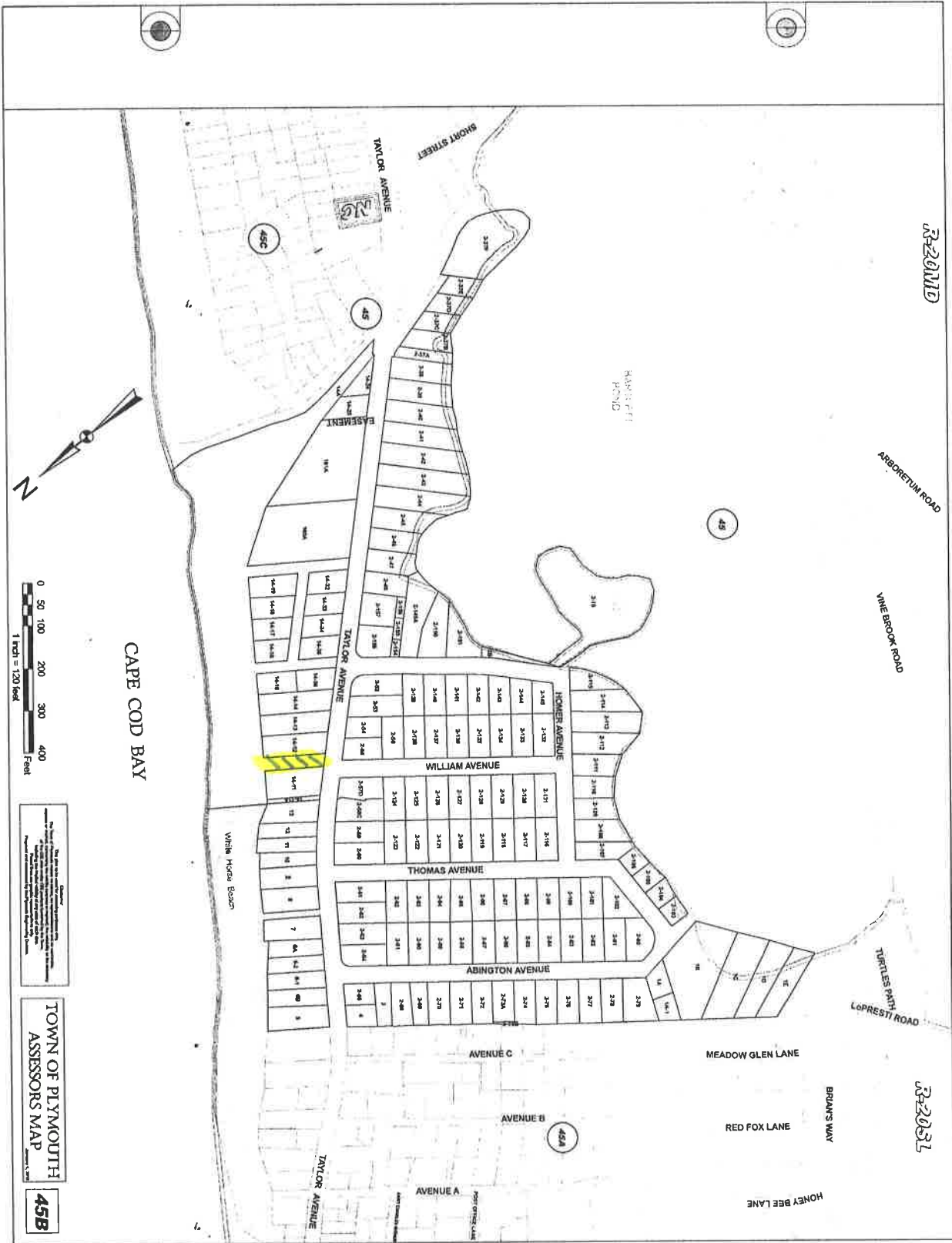
THIS PLAN FILED WITH
 CERTIFICATE No. 1991

Separate certificates of title may be issued
 for lettered and numbered lots shown hereon.
 By the Court

April 13, 1925

Charles A. Southworth
 Recorder

Copy of part of plan
 filed in
 LAND REGISTRATION OFFICE
 FEB. 14, 1924
 Scale of this plan 120 feet to an inch
 C.B. Humphrey, Engineer for Court



Map of the Town of Plymouth, Massachusetts, showing the location of the property described in the accompanying document. The map is for informational purposes only and does not constitute a warranty or representation of the accuracy of the information contained herein.

TOWN OF PLYMOUTH
 ASSESSORS MAP

45B

100208 - LOTS 110+110. CIRC. 2657
100209 - LOTS 110+110. CIRC. 112
100210 - LOTS 110+110. CIRC. 1120K
100211 - LOTS 110+110. CIRC. 1120K
100212 - LOTS 110+110. CIRC. 1120K

Plan of Land in Plymouth

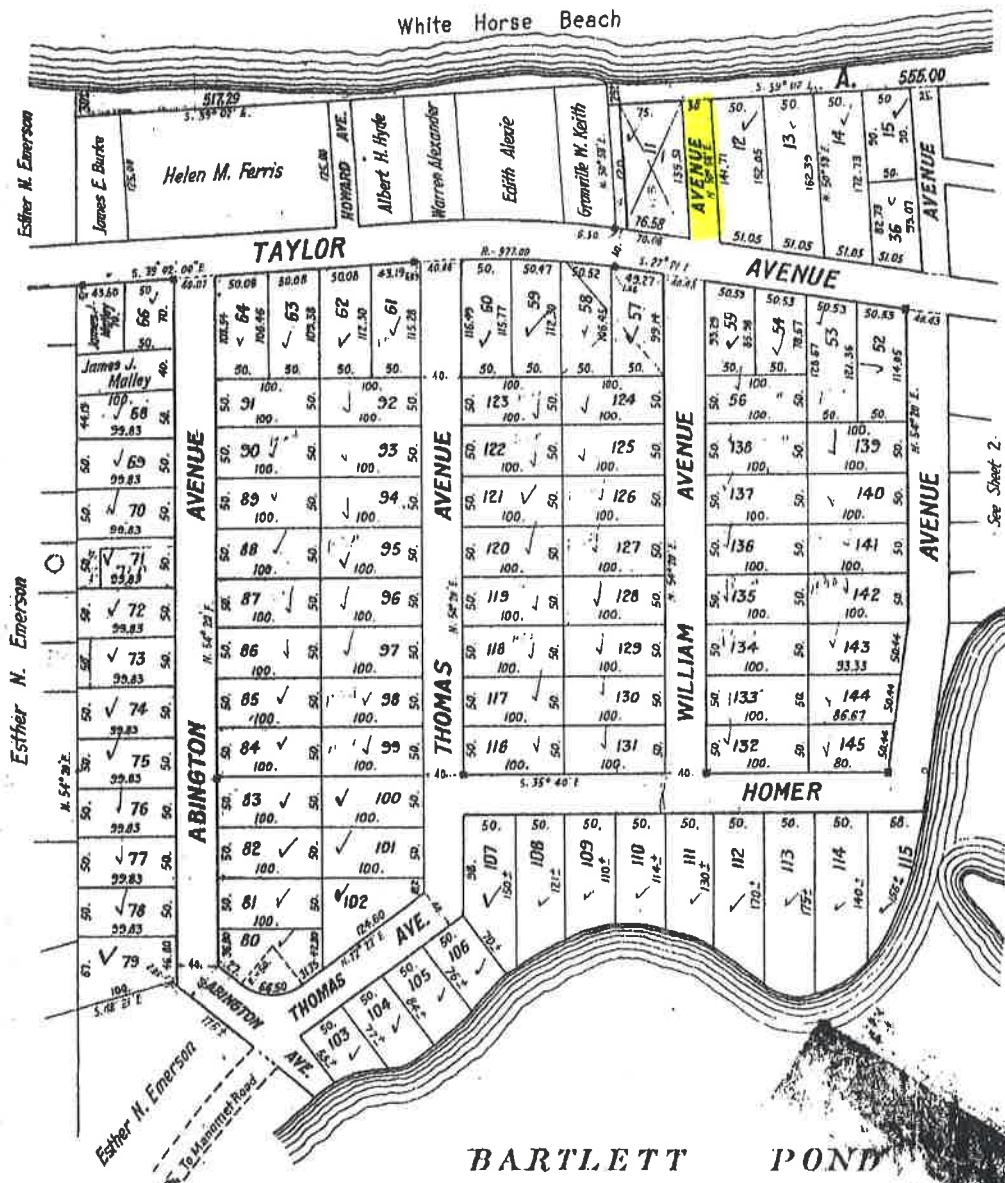
Scale 60 feet to an inch
NOV., 1923.

W. Archer Torrey, Surveyor.

10020A
Sheet 1

PLYMOUTH BAY

White Horse Beach



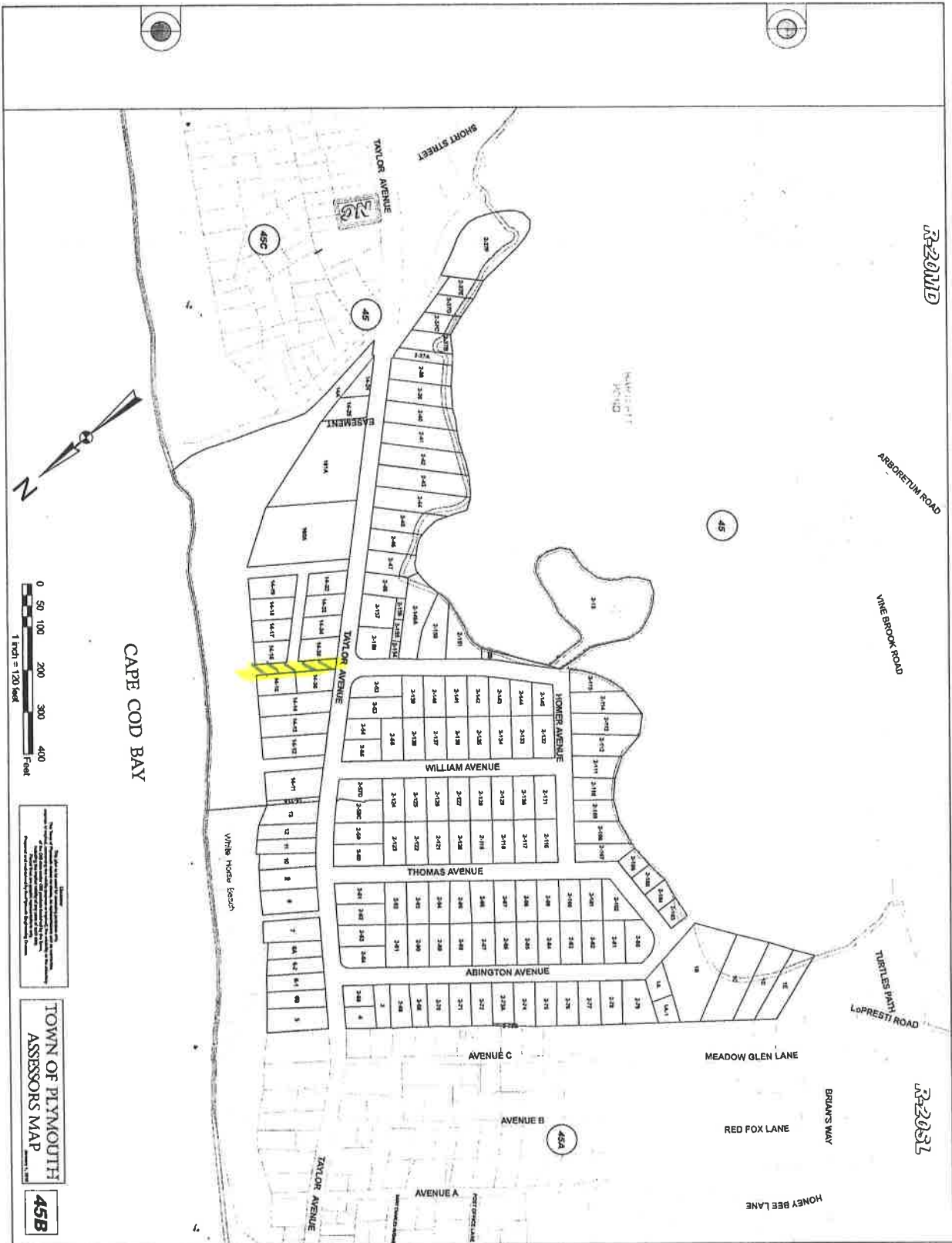
Separate certificates of title may be issued for lettered and numbered lots shown hereon.

By the Court
April 13, 1926

Charles A. Southworth
Recorder

THIS PLAN FILED WITH
CERTIFICATE No. 1991

Copy of part of plan
filed in
LAND REGISTRATION OFFICE
FEB. 14, 1924
Scale of this plan 120 feet to an inch
C.B. Humphrey, Engineer for Court

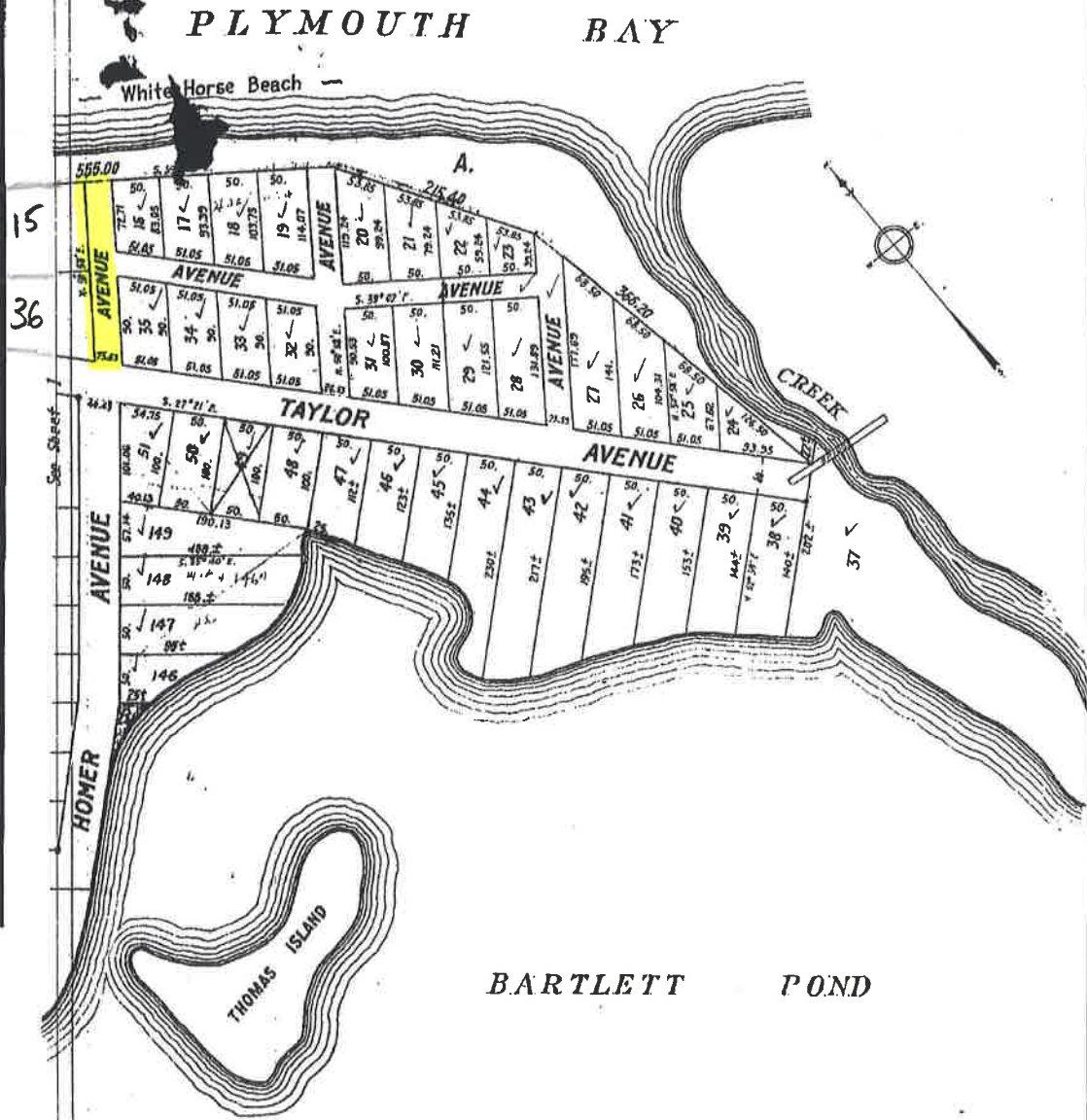


10020 D- LOTS C, D, E, F, G, & H - CERT. 3029
 10020 F- LOTS 146A+149A-CERT. 16626
 10020 G- LOTS 152 thru 155-CERT. 16627
 10020 K- LOTS 157, 158-CERT. 16627

10020 A
 Sheet 2

Plan of Land in Plymouth
 Scale 60 feet to an inch
 NOV., 1923.

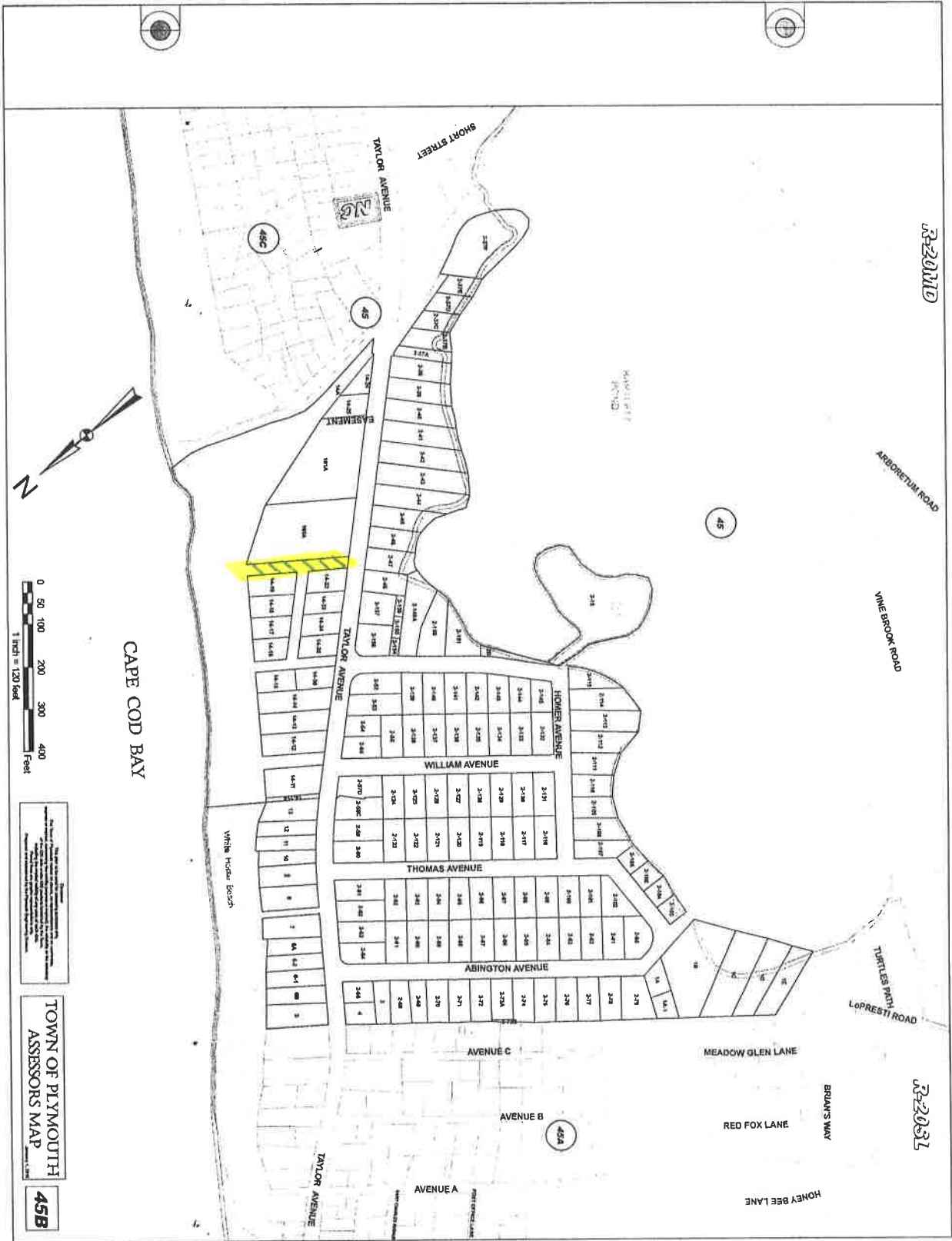
W. Archer Torrey, Surveyor.



THIS PLAN FILED WITH
 CERTIFICATE No. 1991

Separate certificates of title may be issued
 for lettered and numbered lots as shown hereon
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Charles A. Southworth
 Recorder

Copy of part of plan
 filed in
 LAND REGISTRATION OFFICE
 FEB. 14, 1924.
 Scale of this plan 120 feet to an inch
 C.B. Humphrey, Engineer for Court



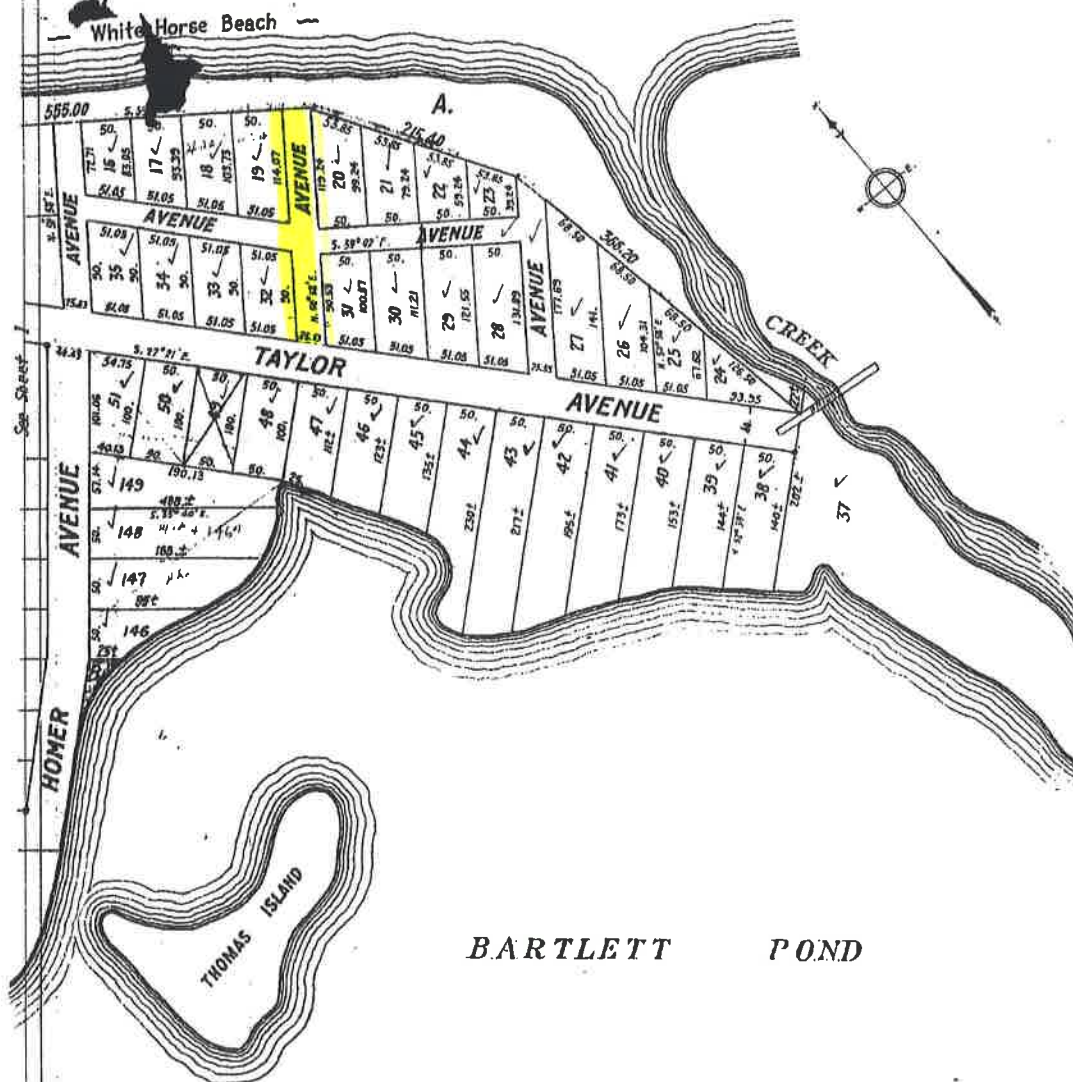
10020 D- LOTS C, D, E, F, G, H - CERT. 8039
 10020 F- LOTS 146A+149A- CERT. 16626
 10020 I- LOTS 152, 154, 155- CERT. 20139
 10020 K- LOTS 156, 157, 158- CERT. 24487

10020 A
 Sheet 2

Plan of Land in Plymouth
 Scale 60 feet to an inch
 NOV., 1923.

W. Archer Torrey, Surveyor.

PLYMOUTH BAY



BARTLETT POND

THIS PLAN FILED WITH
 CERTIFICATE No. 1991

Separate certificates of title may be issued
 for lettered and numbered lots as shown hereon
 By the Court

April 13, 1925

Charles A. Southworth
 Recorder

Copy of part of plan
 filed in
LAND REGISTRATION OFFICE
 FEB. 14, 1924.
 Scale of this plan 120 feet to an inch
 C.B. Humphrey, Engineer for Court ✓

10020N-1

ALL-STATE LEGAL

EXHIBIT

12

CONDOMINIUM

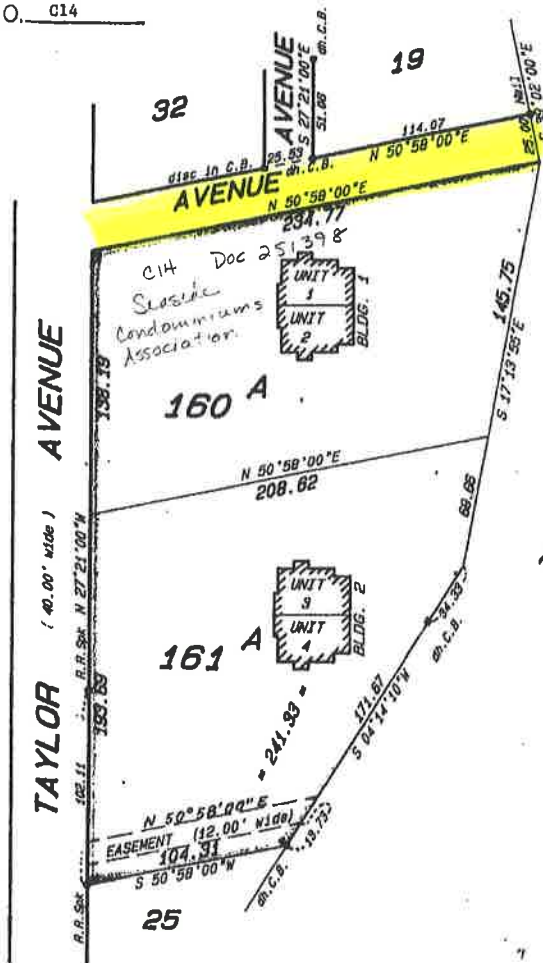
10020N-1

MODIFICATION PLAN OF LAND IN PLYMOUTH

Hood & Stefani Surveyors Inc., Surveyors

JAN 21, 1988

THIS PLAN FILED WITH
CERTIFICATE NO. C14



FEB 5 1988

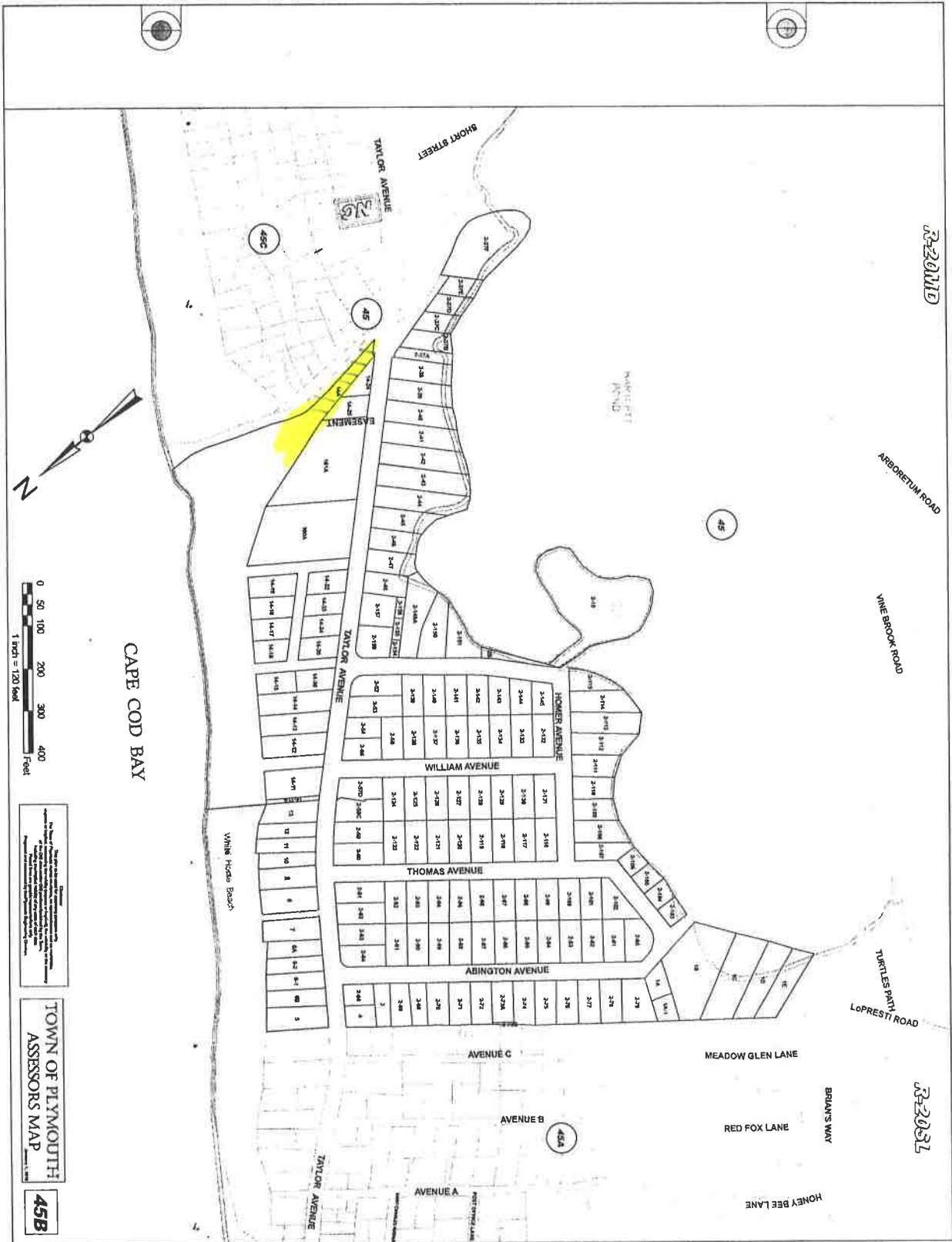
Modification of Lots 160 and 161
Shown on Plan 10020-M
Filed with Cert. of Title No. 72899 --
Registry District of Plymouth County

For more details and descriptions of the units
hereon see plans and deeds on file in the
Registered Land Section of the Registry of Deeds
and noted on the Master Condominium Certificate
issued referring to this plan.

By the Court.

MAR 5 1988
N.B. -20

Copy of part of plan
filed in
LAND REGISTRATION OFFICE
MAR 5, 1988
Scale of this plan 80 feet to an inch.
Louis A. Moore, Engineer for Court



10020 D- LOTS C, D, E, F, G, H - CERT. 8039
 10020 F- LOTS 146A+149A - CERT. 16626
 10020 I- LOTS 152 thru 155 - CERT. 54377
 10020 K- LOTS 156, 157+158 - CERT. 44887

10020 A
 Sheet 2

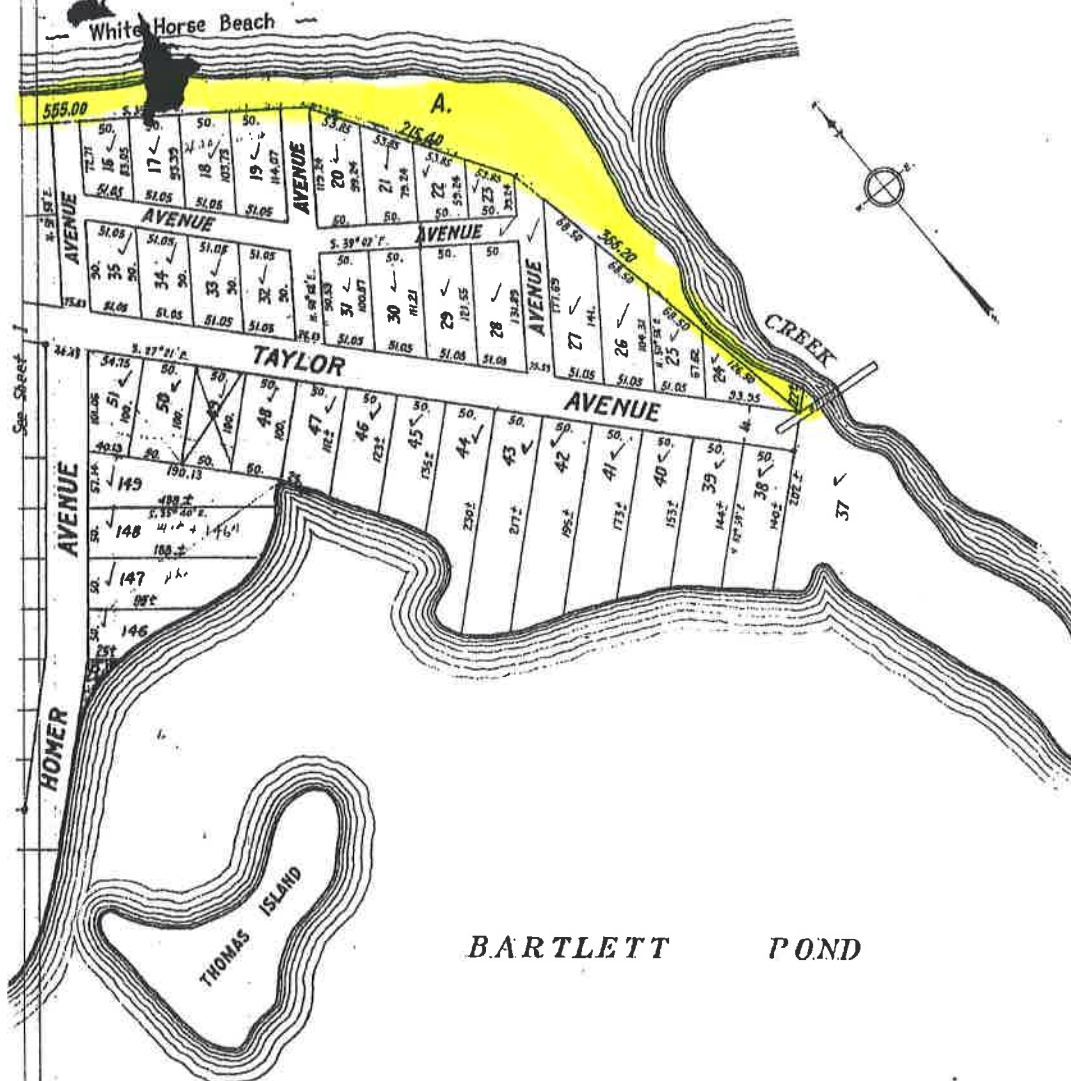
Plan of Land in Plymouth

Scale 60 feet to an inch

NOV., 1923.

W. Archer Torrey, Surveyor.

PLYMOUTH BAY



BARTLETT POND

THIS PLAN FILED WITH
 CERTIFICATE No. 1991

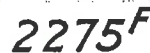
Separate certificates of title may be issued
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 By the Court

April 13, 1925

Charles A. Southworth
 Recorder

Copy of part of plan
 filed in
 LAND REGISTRATION OFFICE
 FEB. 14, 1924.
 Scale of this plan 120 feet to an inch
 C. B. Humphrey, Engineer for Court







10020 D - LOTS C, D, E, F, G, H - CERT. 3029

10020 F - LOTS 146A + 149A - CERT. 16626

10020 I - LOTS 152 thru 155 - CERT. 24199

10020 K - LOTS 156, 157 + 158 - CERT. 44807

Plan of Land in Plymouth

Scale 60 feet to an inch

NOV., 1923.

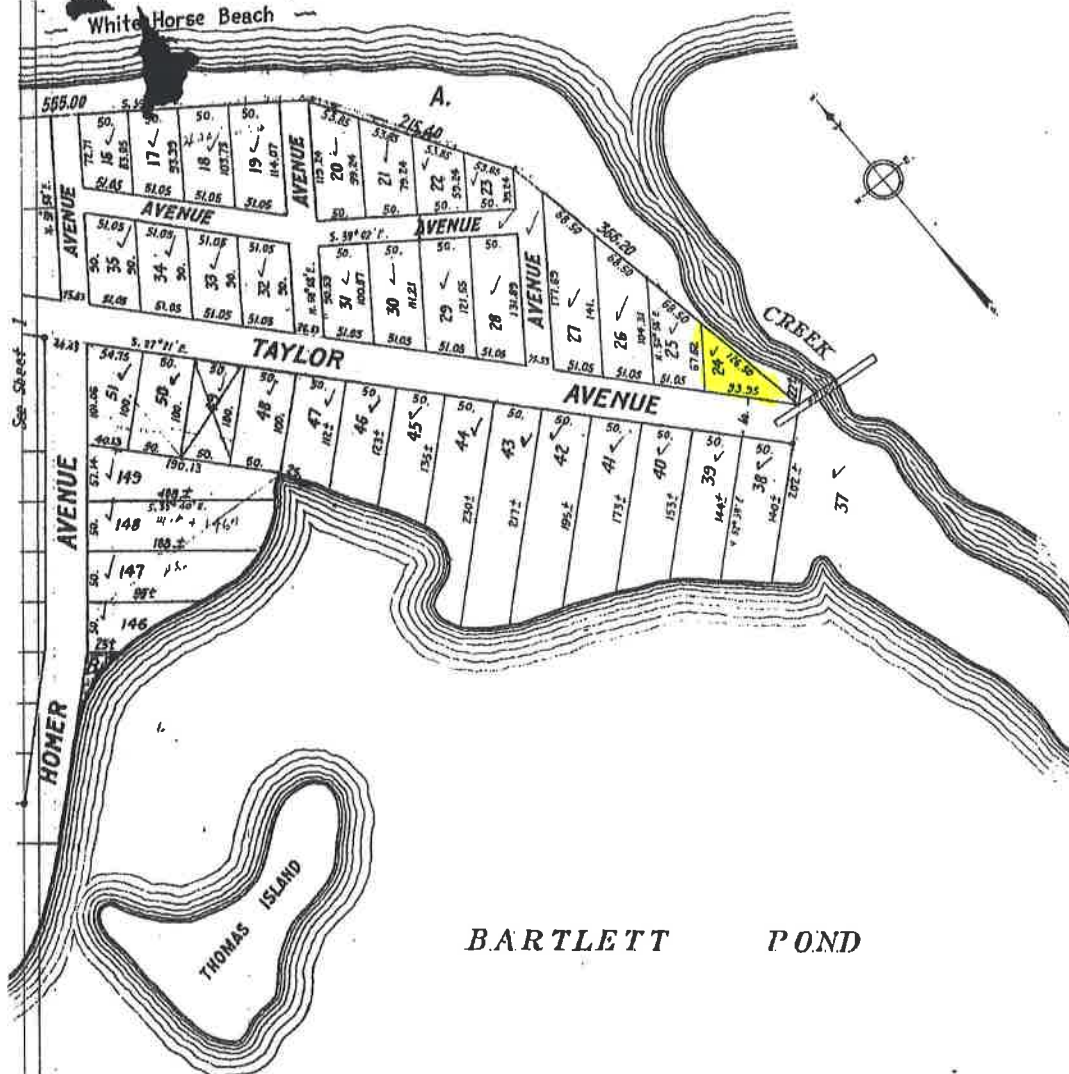
W. Archer Torrey, Surveyor.

10020 A

Sheet 2:

PLYMOUTH BAY

White Horse Beach



BARTLETT POND

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C.B. Humphrey, Engineer for Court ✓