CAPE COD COMMISSION

Saquatucket and Wychmere Harbor Baseline Study and Conceptual Plan

January 2011

Saquatucket Harbor

Wychmere Harbor *(photos: Panromio.com, City-data.com)*

COUNTY OF BARNSTABLE MASSACHUSETTS

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Saquatucket and Wychmere Harbor Baseline Study and Conceptual Plan

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PURPOSE OF THE STUDY

Saquatucket and Wychmere Harbors comprise two of the three active harbors in Harwich, and are important economic assets for the town. Economic development has been identified as a primary goal for the town and its beaches and harbors are seen as key economic drivers. The harbors currently accommodate a variety of recreational and commercial maritime uses although infrastructure upgrades are needed in order to fully capitalize on the true economic potential of the harbors.

The Town of Harwich requested technical assistance from the Cape Cod Commission under the state-funded local technical assistance program (DLTA) to complete a preliminary economic development study for Saquatucket Harbor in Harwich Port. The town's interest in acquiring the 2-acre Downey property next to the Saquatucket Marina and determining how it can be integrated with the marina is a critical component of the study. Wychmere Harbor was added to the study area due to its close proximity and its shared use and management with Saquatucket Harbor.

The primary elements of the study include the following:

- Review of existing conditions at both harbors, including existing uses and infrastructure, use constraints, etc.
- Identify priority land-based and water-based harbor uses
- Identify potential uses and site constraints associated with the Downey property
- Research current and future commercial boating trends and better understand use of the harbors by local commercial fishermen
- Facilitate harbor task force meetings to identify and prioritize the most important uses of the harbor and to formulate a harbor vision
- Develop conceptual plans for Saquatucket Harbor (with and without the Downey property) based on visioning elements

The existing conditions data concerning the harbors summarized in the sections below is largely based on interviews with town officials, with additional input from commercial boat operators, Harwich Harbor task force members, the harbormaster's website, Mass GIS data, and articles in the local media. Staff from the Cape Cod Commercial Hook Fishermen's Association provided information concerning Harwich's commercial fishing fleet.

STUDY AREA LOCATION AND DESCRIPTION

Saquatucket Harbor (SH) and Wychmere Harbor (WH) are twin harbors located within a half-mile of each another on the south shore of Harwich, Massachusetts (Cape Cod) (Figs. 1, 3 and 4). The harbors are similar in size, with SH approximately 8.5 acres in area and WH about 14.5 acres. Both harbors provide safe anchorage for commercial and recreational boats, and provide slips or moorings, parking, boat launching, and other harbor amenities for users. Saquatucket Marina, owned by the town of Harwich, encompasses much of the land at the head of SH. The town owns and manages a pier and small parking lot on the east side of WH. Nantucket Sound is easily accessed from either harbor.

Saquatucket Harbor June 2010

Route 28, a busy, secondary roadway that extends the length of Cape Cod's southern shore, is located immediately north of the harbors and provides vehicle access to both locations. The village of Harwich Port is located on Rte. 28 about a half-mile west of the harbors, and Harwich

center is about 1.5 miles north of the harbors at the intersection of Routes 124 and 39. The land bordering Rte. 28 in the vicinity of SH is commercially zoned (Fig. 2). Land elsewhere around SH is zoned residential and consists mostly of residential homes on moderate to large-sized lots. Commercial development surrounding SH includes Brax Restaurant, BackOffice Associates (a global software and services company), Snow Inn Corporation, and abandoned service station and pizza shop buildings on the 2-acre Downey property that borders Saquatucket Marina. Myacomet at Harwich Port (condominium complex) is located north of SH, across Rte. 28.

Private residences surround most of WH. The Harwich Port Boat Yard and Stone House Yacht Club (including a private beach just east of the harbor entrance) are located just south of WH. Larson Park, a 1.1-acre town-owned property, borders the north side of the harbor and provides a scenic view of WH from Rte. 28. Wychmere Harbor Beach Club occupies much of the coastal property immediately west of the harbor entrance, and its buildings are the most visually dominant feature of the harbor. Thompson's Clam Bar, a former tourist destination, once occupied the site of this now private club.

Wychmere Harbor 2010

The tidal range in the vicinity of the study area is 3-4 feet. The 100-year coastal floodplain extends to approximately elevation 11 ft. in the harbors

and to elevation 10 ft. on the Downey property. Sea-level rise around Cape Cod has been about 1 ft. (30 cm) over the last century (3 mm/yr).[1]

HARBOR HISTORY

WH was originally a coastal pond (known as the Mere) until 1887 when fifty men dug a channel by hand from the pond to Nantucket Sound.[2] The town pier is located on a half-acre of land off Harbor Road that was given to the town in 1927 by the Gray family. Just east of WH, two small, freshwater streams known as Carding Mill Brook and Cold Brook drained into a tidal inlet formerly known as Andrews River that was bordered by salt marshes. The tidal inlet was dredged in 1968 to create SH and to accommodate the Town's new marina. The dredging of this new harbor was a cooperative effort between U.S. Army Corps of Engineers, the Coast Guard, the Commonwealth of Massachusetts, and the Town of Harwich.[3]

Historic Wychmere Harbor c. 1933 (Smyser & Hall)

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[1] Oldale, Robert, 2001 (revised). Cape Cod, Martha's Vineyard & Nantucket: The Geologic Story. On Cape Publications.
[2] Wychmere Harbor Town Dock website (http://threeharbors.com/wychpier.html)
[3] Saquatucket Harbor photo and narrative (http://www.vsv.cape.com/~harharb/photosaq.html)

Figure 1: Existing Conditions

Saquatucket and Wychmere Harbors

Piped Stream
Downey Property
Town-owned Parcels
Streams
Wetlands

0 100 200 300 400 Feet

N W E S

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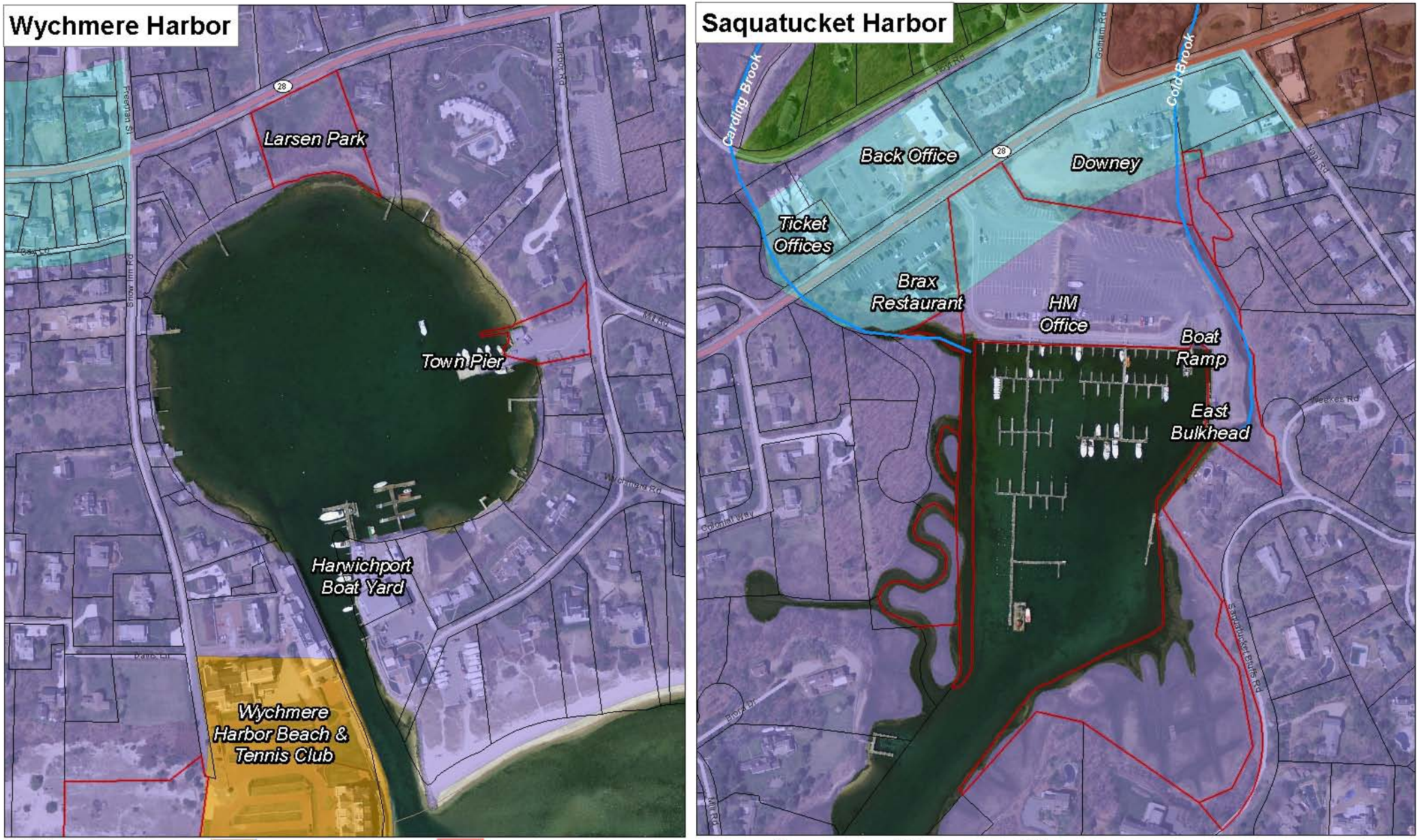

Zoning

- Commercial - Highway
- Commercial - Village
- Residential - High Density
- Residential - Low Density
- Residential - Rural Estate
- Town-owned Parcels

0 300 600 Feet

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Figure 2: Zoning Map

Wetlands

Town-owned Parcels

Piped Stream

Downey Property Boundary

Remediation Areas (approximate)

0 150 300 Feet

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Figure 3: Saquatucket Existing Conditions Map

Town-owned Parcels

Wetlands

0 150 300 Feet

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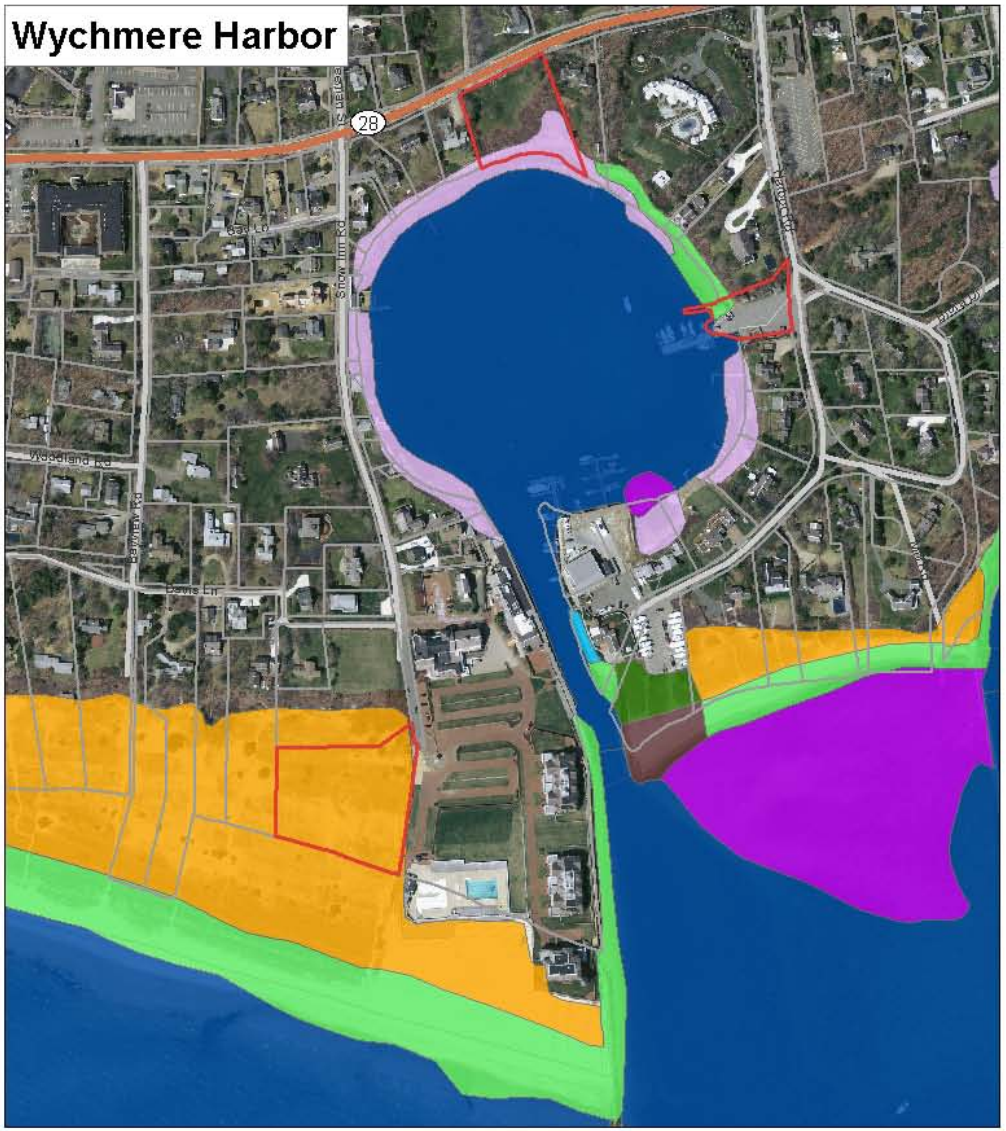
Figure 4 : Wychmere Existing Conditions Map

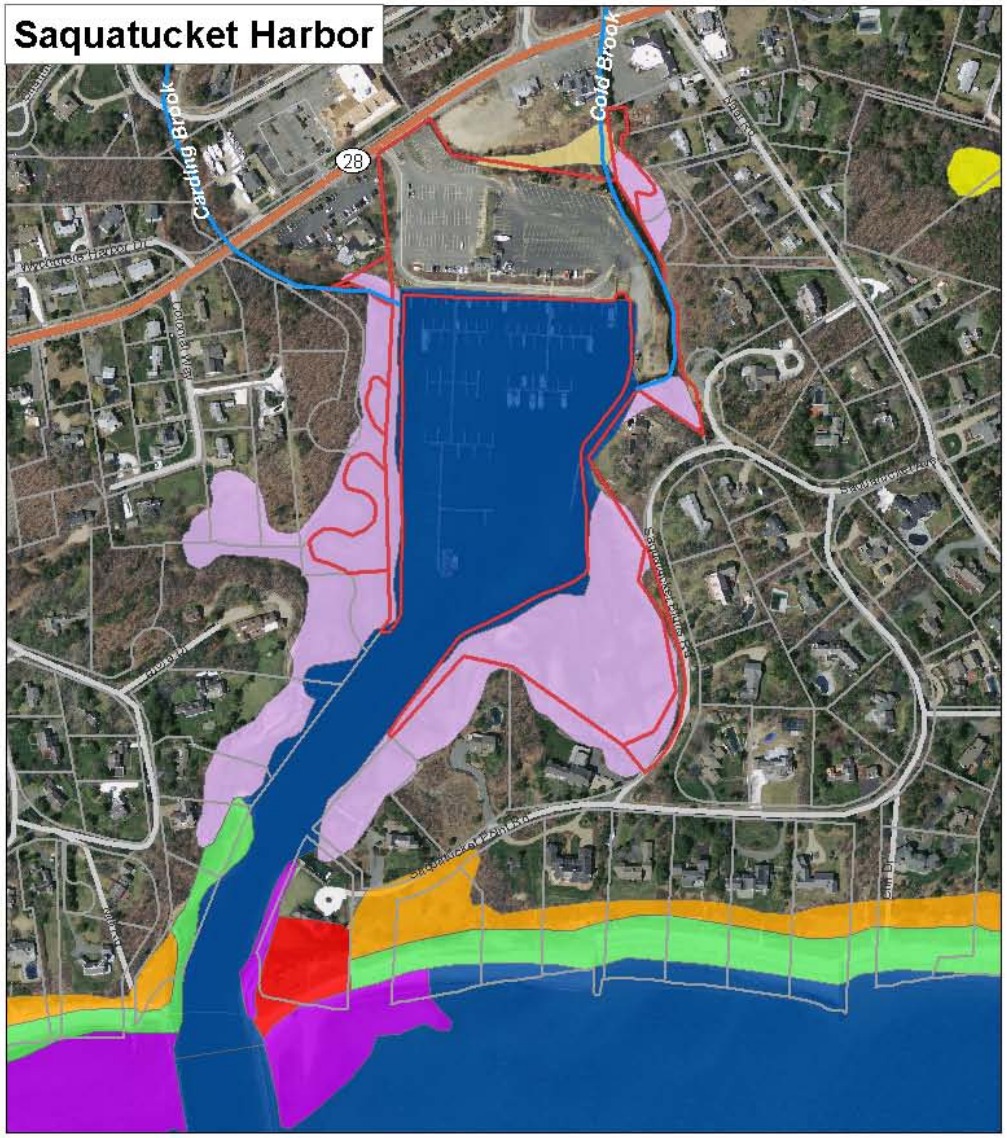
NATURAL RESOURCES

The harbors contain several important natural resources despite past modifications to enhance their maritime uses (Fig. 5). Although salt marsh was dredged to create SH, a significant amount of this important habitat remains within the harbor. A lesser amount of salt marsh occurs around WH. Beaches and/or dunes occur at the mouth of both harbors, and eelgrass beds exist just offshore of the harbor entrance. Quahogs, oysters, and soft-shell clams occur in or near the harbors and are harvested both commercially and recreationally (WH is currently closed to shellfishing). Freshwater and coastal wetlands border the small streams located at the head of SH (Cold Brook and Carding Brook), including salt marsh and a shrub swamp located just north of the Saquatucket Marina parking lot. Activities proposed in or within 100 feet of inland and/or coastal wetland resource areas are regulated by the Massachusetts Wetlands Protection Act and its Regulations (Fig. 6). Harwich's Wetlands Protection Bylaw requires the maintenance of a 50-foot "no-disturb zone" landward from the edge of any protected wetland resource, including vegetated wetlands. Priority rare species habitat occurs both inside and outside of the harbors. Projects within rare species habitat require review under the Massachusetts Endangered Species Act.

The water quality in both harbors is affected by stormwater runoff from surrounding land uses and boat traffic. Stormwater from Harwich Port flows into WH via a culvert that discharges to the west side of the harbor. Commercial and recreational boat maintenance and repair also contributes contaminants (e.g., paint scrapings, dust, etc.) that are eventually washed into the harbor. Efforts have been made to mitigate this pollution source including a wash pad at Harwich Port boat yard and the prohibition of boat storage at SH (except commercial boats).

A StormTreat system was installed in 1995 in the WH parking lot to remediate stormwater prior to its discharge into the harbor. However, siting of the system within the tidal zone impaired its function, and it will be removed to allow for additional parking space. The water quality of the harbors is routinely tested for coliform, as well as for nitrates, phosphates, chlorophyll, dissolved oxygen, and pH. Both SH and WH were designated as Federal No Discharge Areas in 1998, which means that boaters can no longer discharge either treated or untreated wastewater inside the harbors or in Nantucket Sound within 400 ft. of the shore.





Streams

Town-owned Parcels

Wetland Resources

- BARRIER BEACH SYSTEM
- BARRIER BEACH-COASTAL BEACH
- BARRIER BEACH-COASTAL DUNE
- COASTAL BANK BLUFF OR SEA CLIFF
- COASTAL BEACH
- COASTAL DUNE
- OPEN WATER
- SALT MARSH
- SHRUB SWAMP
- TIDAL FLAT
- WOODED SWAMP DECIDUOUS

0 500 1,000 Feet

N W E S

Created by: SP with ArcGIS 9.3.1 on 7/14/10. This map is produced by the Cape Cod Commission, a division of Barnstable County. The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. It should not substitute for actual on-site survey, or supersede deed research.

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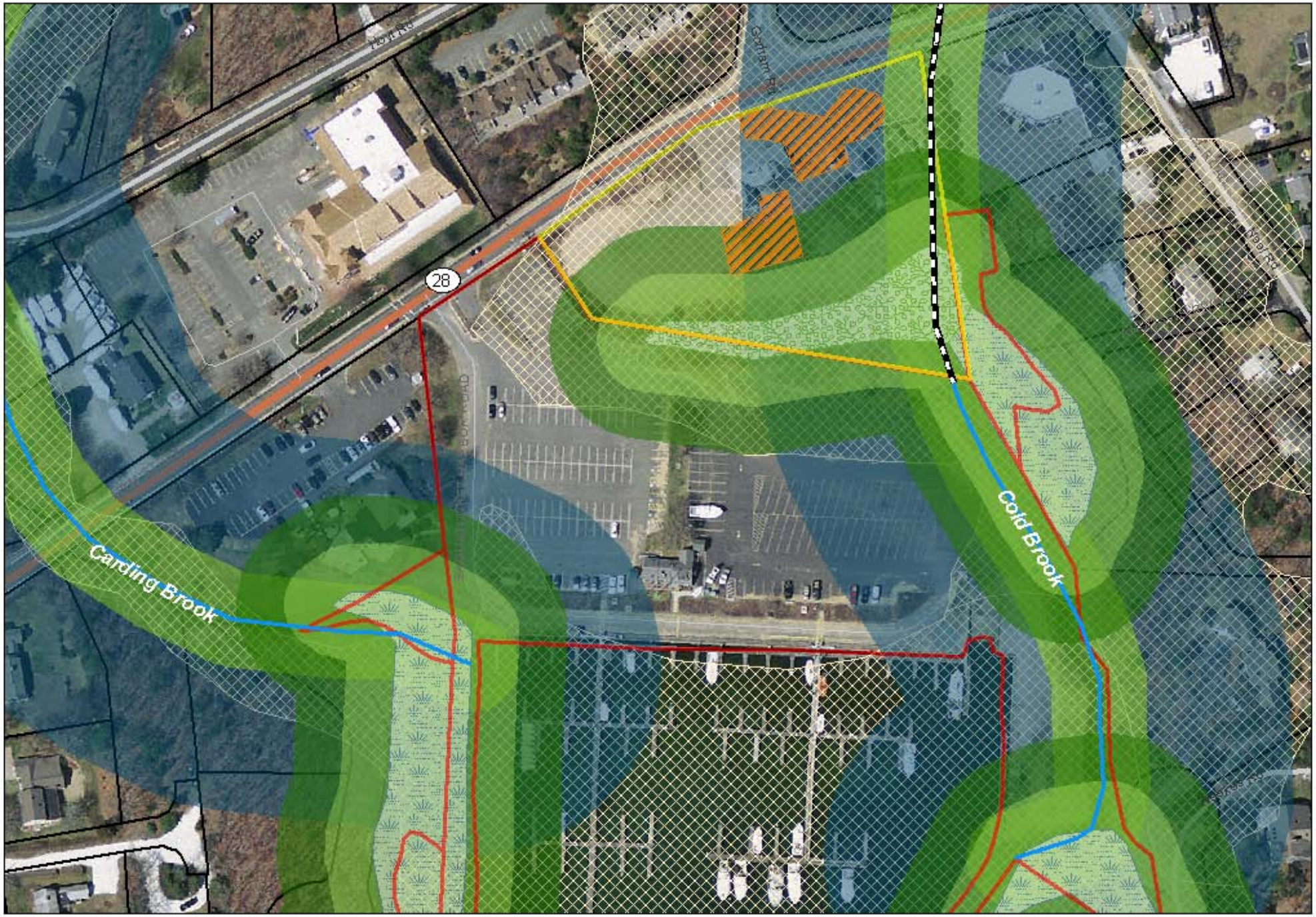
Figure 5 : Natural Resources



Wetlands
- Salt Marsh
- Shrub Swamp
- 50 foot No Disturb Zone (Bylaw)
- 100 foot Wetland Buffer

- Streams
- Piped Stream
- Riverfront Area - 200 feet
- FEMA 100-year Flood Zone

- Town-owned Parcels
- Downey Property
- Remediation Areas (approximate)

0 100 200 Feet

Figure 6 : Saquatucket Harbor Site Constraints Map

EXISTING HARBOR USES AND INFRASTRUCTURE

SH and WH accommodate recreational and commercial vessels, and provide various services for users. However, infrastructure serving the two harbors is quite different. Floating docks and slips at SH accommodate recreational and commercial boats, while at WH, recreational boats are moored in the harbor and a small number of commercial boats tie up at the town pier. The town derives a small profit from mooring and slip fees, fuel delivery, and use of the town pier. Commercial and recreational slip space is at a premium at both harbors since there are few good harbors on the south side of the Cape (waiting list at SH is about 12-15 years).

Coastal Engineering Co., Inc. (CEC) completed a waterfront infrastructure survey for the town in 2009 to assess the integrity of existing harbor structures and to prioritize construction/rehabilitation work at each harbor over the coming decade.[4] CEC identified damage to the bulkhead wall at SH between the boat ramp and former fuel dock, likely due to heavy trucks operating in close proximity to the bulkhead wall. Based on CEC's assessment, this section of bulkhead should be replaced in 2012. Also recommended is replacement of the remaining portion of the concrete bulkhead at SH in 2016 and replacement of the floating docks in 2017. The CEC report also concluded that the town pier in WH had reached the end of its serviceable life due to deterioration of concrete

Wychmere Harbor Town Pier 2010

[4] Coastal Engineering Co., Inc., 2009. Town of Harwich Harbors & Marine Facilities Analysis Report.

beams. CEC believes the pier is beyond repair and should be replaced by 2012. CEC also recommended replacing the comfort station at WH in 2012, replacing the timber and steel bulkhead in 2013, and refurbishing the parking and drainage in 2018. In 2006, the town replaced over 60 degraded steel and wood pilings at SH and WH with fiberglass pilings that can better withstand sideward forces. The Town's draft 6-year Capital Plan (2012-2018) includes substantial funding for waterways/harbors infrastructure. However, inclusion of projects in a plan does not guarantee that the projects will be funded during the plan period. Other projects, such as the comfort stations at Wychmere Harbor, were on a previous town warrant that did not pass at town meeting. Replacement of the comfort stations continues to be a need and will be reintroduced at a later time.

The entrances to both harbors are sheltered by a 1,100 ft. long breakwater and stabilized by jetties and other hard structures, all of which are in good condition. However, shoaling is a chronic problem in the harbors and entrance channels. SH's entrance channel is a designated federal channel maintained by the Army Corps of Engineers. Federal monies have not been available in recent years, leaving the town to rely on the County dredge for spot dredging. The town received a Chapter 91 permit from the Massachusetts DEP for dredging and beach nourishment projects, including dredging of the entrance channels to SH and WH. Harbor and channel dredging is a critical need to allow larger boats to operate in the harbor.

SAQUATUCKET HARBOR

Saquatucket Harbor Users - Saquatucket Marina accommodates motorboats, sailboats, charter fishing boats, a passenger ferry, and a small commercial fishing fleet (Fig. 3). The marina is open to recreational vessels from May 1st through November 15th. The harbor is heavily used during the summer, mainly by recreational boaters and fishermen. Fewer sailboats are now berthed at the harbor, presumably reflecting a change in boating interest (at least locally).[5] Sport fishing boats (mostly tuna boats)

[5] The Cape Cod Commission's study did not include a survey of recreational boating trends in the harbors.

increase in number in the fall (up to 20-50 boats at a time) when recreational boats begin to vacate the harbor. There are also numerous slips available for transient boaters during the busy summer season.

Yankee at Saquatucket Harbor 2010

SH currently supports a commercial fishing fleet of seven boats including: two sea scallopers, three quahog draggers, a jigger, and a gill-netter. Commercial fishermen rely on use of the east bulkhead for offloading fish and supplies. There are currently four commercial boat licenses issued for SH, including a passenger ferry, a tour boat, and two party fishing boats. The passenger ferry (Freedom Cruise Line, Inc.) boards from the dock and makes runs to Nantucket three times daily during the summer (once daily in spring and fall). The *Perseverance*, a 43 ft. catamaran that operates as Monomoy Island Excursions, offers seal and seabird cruises around Monomoy Island. Two party fishing boats, the *Yankee* and *Cap'n Kids Fishing Adventures* also operate out of SH. One sailboat charter and at least six other charter fishing companies also operate out of the harbor (but are not home-ported here). These commercial enterprises each draw many visitors to the harbor during the summer season, contributing to the local economy. Other users include boaters, kayakers, sightseers, and Brax Restaurant customers who visit the harbor.

Fishing Boat at Saquatucket Harbor 2010

Saquatucket Harbor Infrastructure - Harbor infrastructure at the Saquatucket Marina includes floating docks and slips, a vehicle-accessible (but unpaved) loading area on the east side of the harbor (i.e., east bulkhead), a two-lane boat ramp, self-service pump-out facilities, and vehicle and trailer parking (Fig. 3). The Harbormaster's headquarters is centrally located adjacent to the waterfront. The marina also has handicapped-accessible bathrooms, showers, and laundry facilities.

The marina currently has 190 slips for boats of various sizes, with most of the slips serving boats 20 ft. to 30 ft. in length. While most slips are for recreational boats, about 20 slips are reserved for commercial operators (e.g., home-ported and transient fishing boats, party boats, ferry, etc.). Water and 20-30 amp electrical power are available at each slip. The number of commercial and recreational boats in the harbors is fixed and assigned from a waiting list. Because of the shortage of slip space on the mid to upper Cape, demand currently outstrips availability by 700%. The unstable condition of the floating docks (i.e., for customer safety) and the assigned location of commercial boats are a concern among some commercial operators in the harbor.

Commercial boats use the east bulkhead for offloading their catch, supplies, and for repair, etc. Local fishermen typically offload shellfish (lobster, quahogs) at the east bulkhead and use the town pier at WH for offloading groundfish since its lower elevation makes offloading easier. The harbormaster, tuna fishermen, and other boaters also use the east bulkhead to unload supplies. Trucks and other vehicles can easily access the loading area next to the bulkhead, although this use has likely caused damage to the integrity of the bulkhead. The SH fuel dock formerly located on the east bulkhead was closed in 2006, leaving Harwich Port boat yard as the closest refueling location (refueling from portable containers is prohibited anywhere at the marina). Commercial fishing boats refuel at the bulkhead from a tanker truck. A pump-out facility (2,500 gal capacity) is buried in the grassy ridge behind the former fuel shed on the east bulkhead.

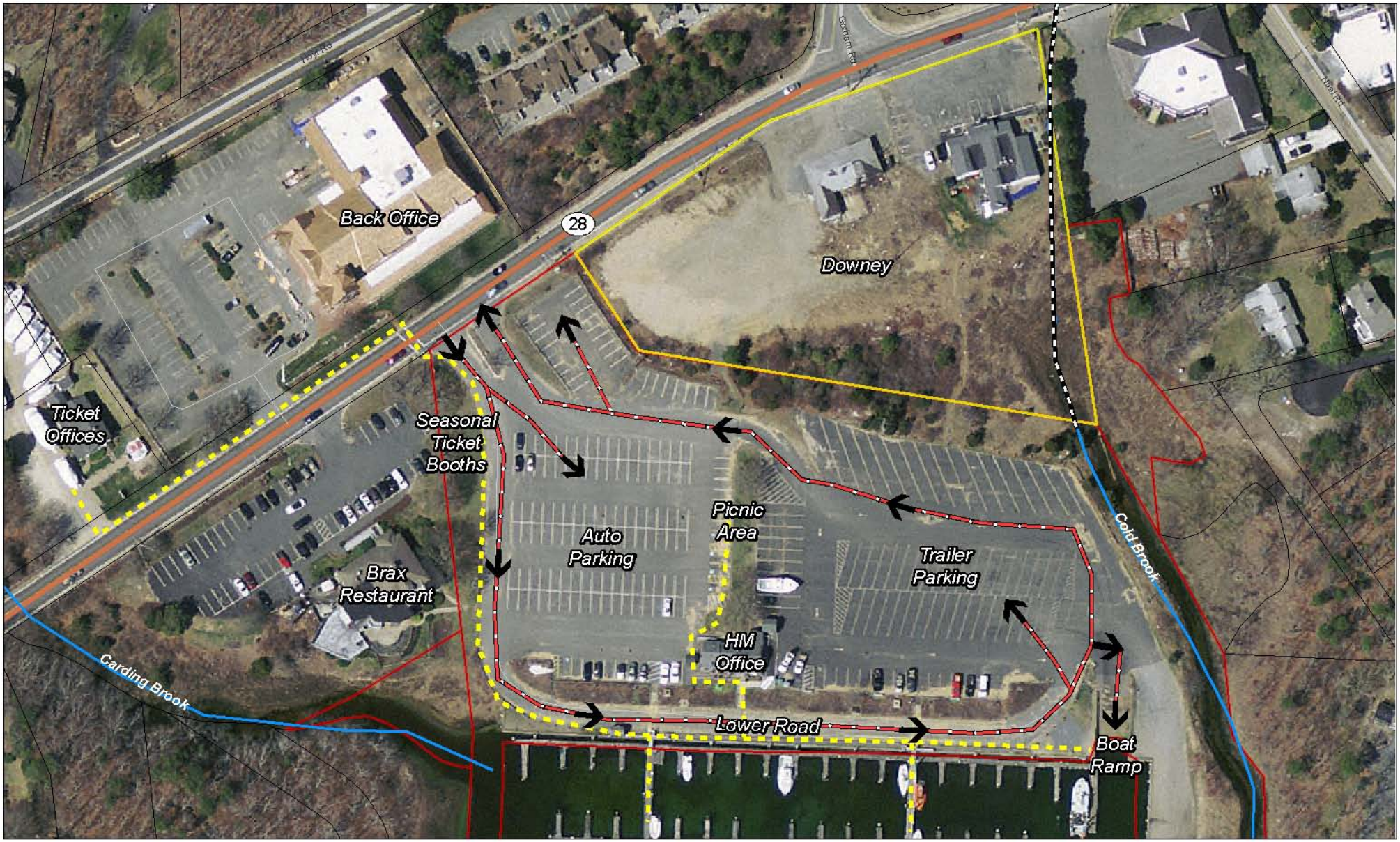
Boat Ramp, Saquatucket Harbor 2010

The public boat ramp and associated parking area on the east side of the marina was reconstructed in 1983 with funding from the Massachusetts Department of Fish & Game's Public Access Board. A provision of the funding agreement with the Commonwealth requires that the parking facility only be used for public access (unless otherwise permitted by the Commonwealth).

The marina accommodates approximately 166 spaces for autos and 61 spaces for trailers in two, large paved parking lots (east and west lots).[6] The west day parking area provides parking for autos (151 spaces). The east lot accommodates both vehicle and trailer parking (61 spaces) and parking for vehicles without trailers (15 spaces). Vehicular circulation at the marina is generally counterclockwise (Fig. 7). Staff and handicapped parking are also provided. Vehicles entering the marina either directly access the west day parking area or continue to the waterfront via the "Lower Road" to load/unload boat supplies or to access the boat ramp. Fees are charged only for parking boat trailers and for use of the boat ramp (seasonal or day passes). The marina parking lots reportedly often fill up during the height of the season or during special events (e.g., Bass Day). Some restaurant, ferry and party boat customers who park in the marina lot compete with other harbor users seeking a parking space.

Saquatucket Harbor, Lower Road in Summer

[6] This total number of parking spaces is based on a count of parking spaces on an aerial photo, and varies slightly from the number provided by the harbormaster.



Auto/Trailer Circulation
Pedestrian Circulation
Piped Stream
Town-owned Parcels
Downey Property Boundary

0 100 200 Feet

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Figure 7 : Saquatucket Circulation Map

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Downey Property - The 2.2-acre Downey property, located between Rte. 28 and the Saquatucket marina parking lot, is currently on the market and the town has been considering its purchase and potential uses (Fig. 3). The site was formerly occupied by a Mobil service station between the 1930s and 1980 and by a pizza shop (Harwich Port House of Pizza) up until 2010. Boats have periodically been stored on the west half of the property.

The property's redevelopment potential is complicated by soil and groundwater contamination from leaky underground gasoline storage tanks formerly located at the service station (Fig. 3). Groundwater & Environmental Services, Inc. (GES) was retained by ExxonMobil to facilitate remediation of the Downey property, a process that is expected to continue for the next few years.[7] Several areas of the property have been impacted by petroleum contamination including: the area north and east of the Mobil station from an former underground storage tank; the area south of the former Mobil station from the release of used oil, and polyaromatic hydrocarbon impacts to groundwater north of the former pizza shop. Biosparge and soil vapor extraction treatments are/have been used to remediate contamination near the former service station and pizza shop, and will need to remain in place until concentrations are reduced. Most of the contaminated soil behind the former service station was removed in 2009, but additional work is needed to confirm this. According to GES, Inc., remediation is estimated to continue until the end of 2011 or 2012.

Downey Property

[7] GES, Inc., 364 Littleton Rd, Suite 4, Westford, MA 01886, Phone: 800-221-6119, Fax: 978-392-8583

Although site contamination will influence future activities and uses allowed on the site, certain legal restrictions in the Massachusetts Contingency Plan (310 CMR 40.00) can be applied to limit future exposure to contaminants on the site.[8] For example, an Activity and Use Limitation (AUL) on a property will alert future owners that the property they will be occupying has residual concentrations of contaminants and that certain restrictions have been placed on the property to reduce the potential for exposure.

Future development of the Downey property will also be constrained by the presence of wetlands, seasonally high groundwater (peat layers occur beneath the ground surface), and the site's location within a coastal floodplain (Fig. 6). Wetland resource areas present on the site are within jurisdiction of the Massachusetts Wetlands Protection Act (MGL c. 131, s. 40), and include Bordering Vegetated Wetland, Land Under Water, Bank, Land Subject to Coastal Storm Flowage, Riverfront Area, and a 100-foot buffer zone. The vegetated wetlands border Cold Brook, which is currently piped along the eastern edge of the property.

WYCHMERE HARBOR

Wychmere Harbor Users - WH accommodates approximately 140 recreational boaters (both motorboats and sailboats) and seven commercial fishermen whose boats are tied up at the town pier (Fig. 4). Many more commercial fishing boats use the pier to offload fish. No commercial tour boats are home-ported in the harbor. Tourists and others stop to view the harbor from the town pier although the small parking area limits the number of visitors that can use the harbor (since commercial fishermen also use this lot). More often, visitors see the harbor from the overlook along Rte. 28 (Larson Park). However, the 30 minute parking allowance for 5-6 cars along the roadside limits the amount of time visitors can enjoy this area. There are many private docks in WH, a private marina with a boat launch (Harwich Port Boat Yard), and Stonehorse Yacht Club, a private sailing club.

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[8] The Massachusetts Oil and Hazardous Materials Release, Prevention and Response Act (M.G.L. c.21E) and the Massachusetts Contingency Plan contain the requirements and timeframes for completing the cleanup of hazardous material releases.

Recreational Fishing on Wychmere Town Pier

Wychmere Harbor Infrastructure - WH accommodates 140 recreational boats on moorings during the summer. The moorings are maintained by the Harwich Port Boat Yard, but the town holds permits for use of the moorings. There has been some debate about whether additional moorings could be sited in the harbor. The town pier, located on the east side of the harbor, was built in 1978 to replace the original town dock (Fig 4). The pier is coupled to a timber bulkhead constructed in the 1930's, and a steel bulkhead that supports the town parking lot. WH is known for tub-trawlers which haul large quantities of fish that are offloaded at the town pier, since the height of the Saquatucket bulkhead makes offloading difficult. Periodic flooding of the pier by seawater has weakened the concrete, making its use by large trucks unsafe (refer to CEC's 2009 report). The town prohibited its use by trucks over ¾ ton in size in late 2009, which prevents fishing boats from re-fueling or offloading fish from the pier. Under the current restrictions, boats now must pull closer to the parking lot to offload or refuel. In addition to the pier, the CEC report recommended that the bulkhead supporting the lower end of the town parking area be replaced in the near future.

WH has considerably less available parking than SH, only 29 spaces including two handicapped spaces. Removal of the "Stormtreat" units would provide a small amount of additional parking space. A small building next to the parking lot houses restrooms, and a pump-out boat and pump-out carts are used to handle wastewater from boats. The shellfish propagation facility at WH (next the town pier) is the largest municipal upwelling system in the state and rears millions of little neck

and oyster spat that are broadcast to bays and harbors in Harwich. Several small shanties formerly used as bait shacks for the hook and line fishery are now located adjacent to the parking lot (on or near town land). Local hook fishermen continue to use the shanties for storage. Future licensing of these buildings is currently being explored by the town.

Wychmere Shanties

COMMERCIAL FISHING

SH and WH are home to a number of local fishermen who ply the waters of Nantucket Sound and Georges Bank (east of Cape Cod) to provide fresh-caught local seafood like cod, haddock, scallops, lobster, quahogs and more. Using shellfish dredges, clam rakes, longlines, gillnets, rod-and-reels, and lobster traps, these fishermen work to maintain a way of life known to Cape Codders for centuries. The commercial fishing community also supports important jobs and infrastructure for fish processers, marine suppliers, fuel companies, and numerous other industries. Tourism, a crucial component of the local and regional economy, also benefits from the presence of the harbors' commercial fishing fleet. The appeal of visiting Harwich and watching a local fisherman offload a day's catch is felt far and wide, and can be witnessed on almost any afternoon during the summer and well into the fall. For tourists brave enough to face the winter elements, quahogs, scallops, and haddock can be seen coming off the boats when the weather allows these small vessels to sail.

The town has traditionally supported the local commercial fishing fleet by investing in infrastructure at SH and WH, such as the town pier, east bulkhead, parking, etc. to accommodate fishermen. Local commercial fishermen use both SH and WH for dockage and offloading. In SH, commercial boats typically use the east bulkhead for offloading lobster and quahogs either by hand (in bags and crates) or by using a hoist on the back of a refrigerated truck. Offloads occur similarly in WH; however, given the town pier's lower elevation, most groundfish are offloaded by hand here. Closure of the town pier in 2009 to large vehicles has imposed an added hardship on commercial fishermen who can no longer offload directly to refrigerated trucks nor obtain fuel in an efficient manner. Refueling and offloading must now be scheduled with the tides.

Fishermen cite increased fees and taxes as an impediment to maintaining the existing commercial fishing fleet in WH and SH, and a barrier to a viable fishing future. Additionally, fishermen note that the lack of offloading infrastructure (specifically, a bucket-and-hoist system) requires local fishermen to offload their catch by hand or to travel to Chatham (Stage Harbor) to offload their catch. Paving of the east bulkhead in SH and consistent dredging to ensure navigable channels are other identified concerns.

Regulatory pressures, declines in fish stocks, and ongoing changes in the ocean environment are impacting commercial fishermen in New England, including the local fishermen in Harwich. Many local fishermen are members of the Cape Cod Commercial Hook Fishermen's Association, a local non-profit that works with fishermen and regulators to align protection of the oceans with the present and future interests of our historic fishing community. CCCHFA has spearheaded a novel management concept that allows fishermen to work together in groups called "sectors" to collectively manage annual allocations of fish. This management strategy has increased flexibility and profit for Harwich fishing businesses, encouraged sustainable fishing methods, and made it easier for fishermen to stay within annual limits. Harwich fishermen have been strong advocates of the sector concept since the early 1990s. In addition, CCCHFA has developed a relationship with the Community Development Partnership to cultivate the "Cape Cod Fisheries Trust." This program works to protect the future of the Cape's fishing industry by purchasing commercial permits in order to secure additional fishing opportunities for the struggling local fleet. Self-employed Cape Cod fishermen then lease these opportunities from the Trust and agree to

harvest the catch with small boats and traditional gear. CCCHFA's Community Supported Fishery program, a pilot program that is similar to the Community Supported Agriculture program, ran for five weeks during the Fall of 2010 with the intent to increase efforts in 2011. CCCHFA is working with Harwich fishermen to develop a local brand of seafood which, coupled with the CSF, could be an important showcase for local seafood products and could foster substantial economic development for the fishermen and the community.

Cape Cod harbors with commercial fishing fleets, such as Chatham and Provincetown, have invested significant capital to upgrade infrastructure in order to support commercial fishermen. Provincetown reconstructed its town pier (MacMillan Pier) at a cost of $18 million, and made other improvements for commercial fishermen (offloading cranes, ice delivery system, offloading dock). Chatham also invested millions of dollars in harbor infrastructure to support its commercial fleet by re-building the Chatham Fish Pier in 2006 and making other infrastructure improvements. However, these harbors support considerably larger commercial fishing fleets than Harwich. Harbors serving smaller fleets, such as Hyannis Inner Harbor and Woods Hole, have also upgraded town facilities for local fishermen. The town pier in Woods Hole was re-built about 7 years ago. Most of Hyannis' commercial fleet ties up at the Ocean Street docks (also known as Bismore Park), which was recently upgraded, though not solely for the benefit of the commercial fishing fleet.

ACCESSING THE HARBORS

A variety of public access options are available to reach the harbors by land or water, including auto, public transportation, bicycle, pedestrian, or boat. As mentioned above, public parking is available at both SH and WH, but can be limited during the summer. The Cape Cod Regional Transit Authority's Hyannis to Orleans (H2O) bus service passes the harbors hourly Monday through Friday (a signed RTA bus stop is located at the SH entrance). Bicyclists on the Cape Cod Rail Trail (just over a mile north of SH) can reach the harbors via Long Road, Oliver Snow Road, and Gorham Road. The lack of sidewalks between Harwich Port and the harbors poses a safety concern for any pedestrians and bicyclists traveling along busy Route 28.

Saquatucket Harbor Entrance Sign

In 2010, the Cape Cod Commission conducted a study of transportation alternatives and routes to encourage pedestrian and bicycle use between Harwich Port and Harwich Center and the town's beaches and harbors, including SH and WH.[9] The study recommends installing sidewalks and wayfinding signage along Rte. 28 to allow safe pedestrian and bicycle access between Harwich Port and the harbors, increasing visibility of the harbors, and extending the Cape Cod Rail Trail in the direction of SH. Economic development opportunities at both SH and WH depend in part on promoting pedestrian, bicycle and auto travel to the waterfront. Parking areas currently create a barrier to pedestrian circulation through each harbor, where users must compete with the flow of traffic to reach the waterfront.

Visitors can also reach the harbors by private boat. Several slips are available for transient boaters that can be reserved up to two weeks during the busy summer season.

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[9] Cape Cod Commission, 2010. A Plan for Improved Pedestrian, Bike, and Shuttle Bus Service in Harwich.

SUMMARY OF COMMERCIAL BOATING TRENDS

Cape Cod Commission staff conducted limited research during the summer of 2010 to determine the current and projected future demand for commercial boating services on Cape Cod. Sixteen commercial operators were contacted including: charter fishing (4), fishing party boats (4), sail boat charters (2), tour boats (1), passenger and freight ferries (4), and dinner cruises (1). Commercial boat operators were also asked about barriers to future growth and suggested actions municipalities could take to improve conditions for commercial boating interests. Ridership trends for large passenger ferry services (Steamship Authority) was determined based on information collected directly from the Steamship officials and internet sources. Appendix D summarizes the findings of the commercial boating trends research.

CHARTER AND PARTY BOATS, FERRIES, AND OTHER COMMERCIAL BOAT OPERATORS

Half of the respondents (not including the large passenger ferries) indicated that demand is "high," "good," or that they were "busy." Charter fishing companies responded most positively with most reporting strong demand. Cap'n Kids Fishing Adventures, a party boat berthed in SH, has also enjoyed high demand and regularly turn people away for lack of capacity. Roughly 30% of the respondents stated that their business was steady. Each of the smaller ferry companies contacted (Island Queen, Falmouth-Edgartown ferry, Freedom Cruise Lines, and Patriot Water Taxi) reported at least steady demand. Freedom Cruise Lines, also based in SH, meets their licensed capacity in August and sometimes needs to turn people away. The only dinner cruise boat contacted (Lobster Roll Cruises, Dennis) reported that business is generally good although they generally are not at capacity. Two party fishing companies indicated that business had fallen, and one charter fishing company had gone out of business. Most businesses indicated that they were not at capacity.

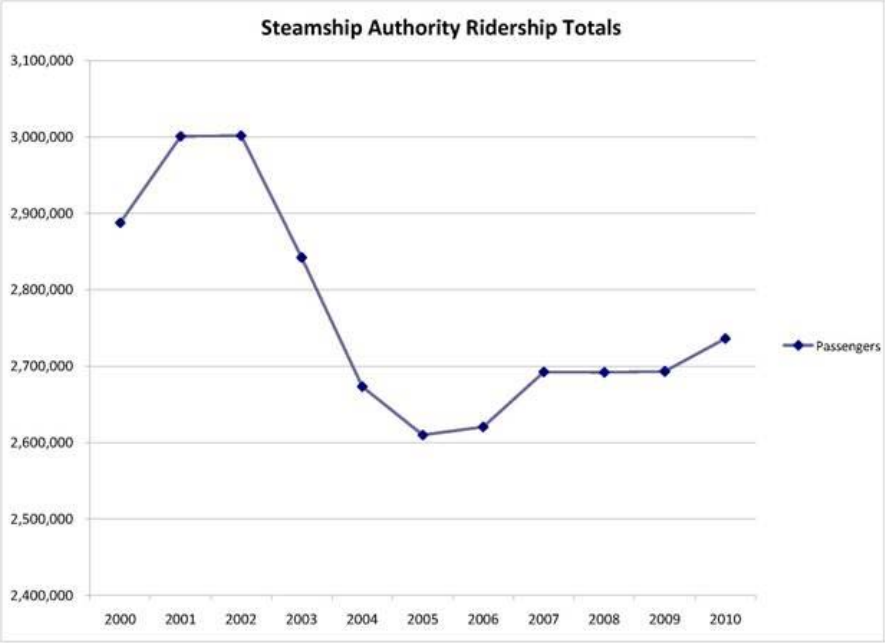
Freedom Ferry at Saquatucket Harbor

Half of the respondents indicated that they expect future growth in their business, with almost all charter fishing companies and Cap'n Kids Fishing Adventures optimistic with respect to growth prospects. The other half of the respondents projected steady growth into the future. Barriers to future growth differed depending on the service. Charter fishing proprietors identified fishing regulations as the primary restriction, and several commercial operators mentioned weather, the economy, and fuel costs as limiting their growth. Competition was cited as a concern by only a few operators (several more indicated competition was not a concern). Freedom Cruise Lines identified license restrictions on the number of passengers they can carry as a constraint in growing their business. Commercial boat operators suggested numerous actions that towns could take to improve business, including improved parking for customers and being more business friendly by reducing fueling and loading fees. Freedom Cruise Lines identified maintenance dredging as an important need.

STEAMSHIP AUTHORITY

The Steamship Authority (SSA) is a regulatory body created by the Massachusetts legislature to provide transportation to and from the islands of Nantucket and Martha's Vineyard. Private ferry operators are licensed by the SSA to provide passenger service between New Bedford and Oak Bluffs (seasonal), New Bedford and Vineyard Haven (year-round), Falmouth and Edgartown (seasonal), Hyannis and Oak Bluffs (seasonal), Hyannis and Nantucket (seasonal and year-round), and Harwichport and Nantucket (seasonal).

The SSA total ridership numbers from 2000 to 2009 reflect an overall decline (see graph below). However, the 10-year passenger ridership numbers include the operation of the New Bedford/Martha's Vineyard Schamonchi service from 2001 through 2003 as well as the cessation of that service when a private carrier acquired the route in 2003. SSA peak ridership occurred in 2002 with a total of 3,001,799 passengers and 2005 saw the least amount of passengers with 2,609,835.



During the period from 2000 to 2009, there has been a decline in total ridership for SSA Nantucket service. The passenger count totaled 604,025 in 2001, while that figure was only 513,611 in 2009. The SSA Martha's Vineyard numbers from 2000 to 2009 reflect peak ridership of 2,401, 286 passengers in 2002; in 2009, the total passenger count was 2,098,037.

2010 brought an increase of SSA passenger traffic for both Nantucket and Martha's Vineyard. When compared to 2009, the numbers for 2010 indicate an increase of 1.7% for SSA Nantucket total ridership (including an increase of 5.2% for ridership on the Nantucket fast ferry *Iyanough* and a decrease of 0.6% for the regular ferry ridership). When compared to 2009, the numbers for 2010 indicate an increase of 1.6% for SSA Martha's Vineyard passenger ridership.

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SUMMARY OF TASK FORCE MEETINGS AND DESIGN CHARRETTES

As part of this study, the Cape Cod Commission facilitated six meetings with the Saquatucket and Wychmere Harbors Task Force from July to December 2010. The Task Force consists of members and alternates representing the town, the local chamber of commerce, commercial fishermen, tour operators, recreational boating, and local residents. The purpose of the meetings was to identify and prioritize the most important uses of the harbor, better understand the needs of primary harbor users, formulate a vision for the harbors, and develop conceptual plans for Saquatucket Harbor based on visioning elements. Conceptual planning included the potential use of the Downey property. The purpose of each Task Force meeting is summarized below (see Appendix A for a more detailed summary of the meetings).

June 1, 2010: Commission staff met town officials and other stakeholders to discuss the project scope. The group identified current harbor uses, future use trends, environmental concerns, and the Downey property.

July 19, 2010: Commission staff provided an overview of the project scope, followed by a participatory planning exercise to prioritize land-based and water-based harbor uses from high to low priority (and no priority). The Commission staff described methods to develop a vision statement for the harbors.

August 16, 2010: Commission staff summarized the results of the participatory planning exercise to rank harbor uses. A vision statement, crafted by a subcommittee, was adopted by the group; Eric Brazer of the Cape Cod Hook Fishermen's Association gave a presentation on commercial fishing in Harwich; Commission staff presented research on current and projected future demand for commercial boat services (including ferries). Potential use of the harbors as a transportation base for the Cape Wind project was also discussed.

September 15, 2010: Commission staff gave a presentation summarizing the primary harbor issues and facilitated a design charrette to help conceptualize harbor uses within three use categories (boating, environmental, and public access). The results of the charrette were presented to the group for discussion (maps summarizing the recommendations of each group are located in Appendix B).

October 13, 2010: Commission staff presented an overview of the concept plans developed at the design charrette. In addition, the Commission, the town planner, and the Harbormaster each presented their own plan, which integrated ideas and concepts generated during the design workshop.

December 1, 2010: Commission staff presented final conceptual site plans for Saquatucket Harbor, both with the Downey property and without the Downey property. The group offered several comments on the plans (Appendix E). The task force voted to endorse the overall concept of the site plan and to present the plan to the Board of Selectmen. The task force also voted to pursue acquisition of the Downey property.

FINAL CONCEPTUAL SITE PLAN FOR SAQUATUCKET HARBOR

The Commission developed final conceptual site plans for Saquatucket Harbor, both with and without the Downey property (Fig. 8). The final concept plans were based on the following sources of information:

- Harbor baseline data collection
- GIS overlay analysis of harbor conditions to identify areas of opportunity and constraint
- Ground-truthing through multiple site visits
- Vision statement developed and endorsed by the task force
- Priority use rankings of land and water-based uses at Saquatucket and Wychmere Harbor (i.e., the participatory planning exercise)
- Design charrette
- Conceptual site plans based on themes developed at the design charrette

The Harbor Vision Statement (Appendix C) developed by a subcommittee of the Harbor Task Force identifies the town's desire to manage its harbors in a way that allows it to continue as a "prime destination, a robust maritime center, and a thriving, economically strong community." By upgrading and modernizing the harbor facilities, the town will maximize economic and recreational opportunities while respecting its history, neighborhood character, and environmental quality. The harbor vision identifies a strong desire to make the harbors accessible to a

SAQUATUCKET HARBOR
CONCEPTUAL PLAN INTEGRATING DOWNEY PROPERTY

This plan for Saquatucket Harbor emphasizes the goals set forth by the harbor vision statement "to maximize economic and recreational opportunities... with respect for our history, the character of our neighborhoods, and our environmental responsibilities" and creating "accessible harbors, connected by roads, sidewalks and bikeways."

Economic Development/Recreation: To accomplish the goal of maximizing economic opportunity and recreation keeping a historic seaside character, this plan proposes a harbor village development mix of street-fronting and sea shanty buildings which could be utilized for ticket booths, artist kiosks, fish/produce markets, educational or retail establishments. Decked overlooks create passive recreation spaces for viewing and relaxation, and a harbor facing sloped lawn provides a prime picnic space.

Environment: In keeping with the goal of environmental protection, this plan restores degraded wetland and adjacent brownfield sites and weaves nature trails into restored riparian areas to create multiple accessibility options. Low Impact Development (LID) techniques including a porous parking lot, frequent bioswales and rain gardens are integrated into the plan to minimize stormwater runoff.

Accessibility: A bus turnout and RTA shelter, as well as sidewalk connections, wayfinding, bike racks, showers and restrooms make getting to the site easier by foot or by bicycle. Once on the site, comfortable promenades, boardwalks and pathways make accessing the waterfront enjoyable and easy.

Safety: The proposed plan separates the existing lot into two main areas: a west side emphasizing day recreational use (with pay parking kiosks) and a southeast area for boat trailers and commercial fishing uses, including overnight parking for fishermen. Design elements such as comfortable turning radii, limited access areas and traffic re-direction were considered to minimize points of conflict.

Parking Totals: *Auto only: 175 | Trailer: 29 | Oversize Trailer: 16*

Saquatucket Plan Without Downey Property

This plan for Saquatucket harbor does not utilize the Downey site. The entrance and bus accommodations are moved on the site, and parking reconfigured, with little difference from the primary concept plan.

Parking Spaces (Auto only): 96
Parking Spaces (Trailer): 29
Parking Spaces (Oversize Trailer): 16

Building envelopes to define street edge with possible uses:
- Ticket Booths
- Environmental/Interpretive Center
- LID Restrooms/Showers

Wayfinding Banners at Street edge to define character of entrances

RTA Bus Shelter/Bus Turnout with bench and bike racks

Low Impact Development (LID) Parking Area with bio-filtration swales and porous pavement in parking spaces.
71 Parking spaces

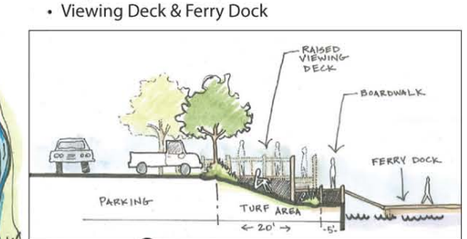
Restored Wetland with meandering stream and trail system.
No development in the 50' buffer.

10' Harborway Promenade
Flanked by wayfinding banners, seating

Typical view from B

East Trailer Parking Area
29 Trailer spaces
16 Oversize Trailer spaces
13 Auto spaces
(Permitted overnight only)

Eastern Waterfront (from mid to left)
- 4-5' Pedestrian Boardwalk at waterfront
- LID planting and biofiltration area
- Sloped Turf Area for picnics
- Viewing Deck & Ferry Dock



View looking east from A

Commercial Fishing Area
- Hardscape Improvements
- Commercial Fishing facility upgrades

Negotiate with adjacent property owners to expand parking lot, move entrance, and propose offsite parking and storage

West Day Parking Area
Paid parking kiosks (*)
91 Total Parking Spaces

10' Pedestrian Walkway
& Potential decked area for a 'Brax Bistro' or similar casual outdoor eating establishment.

Western Waterfront
- Large Decking Overlook with shanty buildings (Tickets, Vendors, Artists); Coin-op binoculars; Benches
- Landscape improvements on slope (Native & drought-tolerant)
- Screening amenities for trash
- 4-5' Pedestrian boardwalk area
- One way auto traffic/Striped loading area

CURRENT PROPOSED

0 25' 75' 175'
SCALE: 1" = 50'-0"

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Fig 8: Saquatucket Harbor Concept Plan

broader base of people by connecting them to villages, roads, sidewalks and bikeways. The conceptual plans developed by the Commission attempt to meet these lofty goals to the extent possible.

The major features of the final concept plans are summarized on the following page.

SAQUATUCKET MARINA AND DOWNEY PROPERTY

- Vehicle circulation
  - Central ingress and egress leads day use visitors to parking in the West Day Parking Area and the Downey parking lot, and vehicles with boat trailers to the East Trailer Parking Area and to the boat ramp.
  - One-way Lower Road is accessed from the West Day Parking Area and links back to the central drive. Striped offloading lane for boaters transporting supplies to the berthing area.
  - Central drive provides truck access to the East Bulkhead.
  - Brax parking lot is linked to the West Day Parking Area.
  - A bus turnout and RTA shelter promote alternative modes of transportation.

- Pedestrian circulation
  - Pedestrians access the waterfront via a 10-ft. wide promenade in the central portion of the marina that extends from Rte. 28 to the waterfront.
  - Pedestrians arriving from offsite parking access the waterfront via a 10-ft. pedestrian walkway along the west side of the marina. The walkway links to a 4-5 ft. boardwalk that extends the length of the waterfront and connects to the docks.
  - Trail leading from the Downey parking area to a viewing deck at the East Bulkhead.

- Parking
  - Parking design considers Low Impact Development (LID) techniques to address stormwater onsite, and includes an increased amount of tree canopy cover for natural cooling.
  - Turn radii, lane widths, and potential points of conflict were analyzed for their potential level of service; user safety is emphasized over quantity of spaces.

- Parking areas have been segregated to minimize conflict. The west lot is designated as recreational and auto use with potential pay parking kiosks. The east lot recommends a limitation to trailer and commercial use.
- Downey lot has 71 vehicle spaces with kiosks for fee parking.
- Total spaces: 175 auto parking spaces, 29 standard size vehicle/trailer spaces, and 16 oversize vehicle/trailer spaces.
- Opportunity to negotiate additional offsite parking with neighboring landowners.

- Visitor amenities
  - Building envelopes along street edge and in Downey lot to house future interpretive displays, ticketing, restrooms/showers, storage space for Harbormaster or commercial fishermen, etc.
  - Continuous waterfront pathways linking a large viewing deck with benches, coin operated binoculars, and artist shanties for vendors, artists, ticketing, etc. is cantilevered on the slope above the Lower Road and adjacent to the Harbormaster's building.
  - Large viewing deck next to boat ramp for viewing fishing boats, offloading of fish, and may be used as a staging area for charter/tour boats and ferry customers.
  - Deck near Brax restaurant for "Brax Bistro" or similar casual outdoor eating establishment.
  - Wayfinding banners at street edge to define the marina entrance and placed along the central promenade.
  - RTA bus turnout and shelter, bench, and bike racks between Rte. 28 and the Downey lot.

- Harbor infrastructure
  - Re-configured dock/slip layout to more efficiently manage commercial and recreational uses.
  - Re-locate charter fishing, party fishing, and tour boats adjacent to waterfront boardwalk for easy customer access and better viewing by visitors.
  - Re-locate ferry to waterfront near boat ramp for easier customer access.
  - Consolidate commercial fishing fleet in central location with easy access to the east bulkhead for loading and offloading.
  - Consolidate private, recreational boats on west side of harbor and in other areas not designated for commercial boats.

- Commercial fishing
  - Hardscaping work area at the east bulkhead.
  - Facility upgrades to improve use of the east bulkhead by commercial fishermen (e.g., offloading crane, ice machine, etc.).

- Environmental
  - Low Impact Design (LID) features (bio-filtration swales and porous parking) on the Downey lot and near the harbor for stormwater mitigation.
  - Vegetative plantings including enhanced tree canopy to reduce the climatic heating effect of asphalt parking areas and native, drought-resistant plantings on the existing slope above the Lower Road.
  - Cold Brook "day-lighted" by removing culvert up to Rte. 28 and re-establish riparian buffer.
  - Existing shrub wetlands/marsh restored (remove invasive Phragmites) and 50-ft. vegetated buffer restored where possible.

The proposed plan for Saquatucket Marina and the Downey property contains design elements reflecting the town's stated goals for the harbors, including upgrading and modernizing harbor facilities, maximizing economic and recreational opportunities, and increasing accessibility while protecting the area's environment, neighborhood character, and maritime history.

Upgrading and Modernizing Harbor Facilities: The plan separates the existing marina into three main areas: 1) the West Day Parking Area for day use parking; 2) the East Trailer Parking Area for boat trailer parking and parking for commercial fishermen, and 3) a re-designed Downey property with additional parking and multi-use facilities serving pedestrians and bicyclists. The plan provides for a total of 175 parking spaces for autos and 45 trailer spaces. Improving vehicular circulation and flow at the marina while increasing pedestrian safety is a key feature of the plan. Parking design emphasizes comfortable turning radii, designation of limited access areas, and re-direction of traffic flows to minimize points of conflict and increase the level of service. Exploring offsite parking (and alternative transportation to the harbor) to supplement on-site capacity is an important goal of the plan. Each of these design elements will allow safer, more efficient use of the marina.

Economic Development and Recreation Opportunities: The plan proposes a harbor village concept consisting of a mix of street-fronting and sea shanty buildings which will contribute toward increasing the economic development potential of the harbor. The buildings could be utilized for ticket booths, artist kiosks, fish/produce markets, educational or retail establishments. Establishing a "Brax Bistro" along the Westside walkway links local business with the marina. Passive recreational use of the marina is enhanced by large viewing decks and a sloped lawn area offer opportunities for visitors to relax while viewing the harbor. The plan also creates safe pedestrian access from the Downey property to the waterfront via a footpath along the edge of the wetland. Incorporating these design elements will increase the harbor's destination value, a key goal of the harbor vision.

Accessibility: A bus turnout and RTA shelter, as well as sidewalk connections, wayfinding, bike racks, showers and restrooms make getting to the site easier by foot or by bicycle. Encouraging alternative transportation to the harbor is an important goal of the plan. Once on the site, easily accessed and well-defined promenades, boardwalks and pathways make reaching the waterfront enjoyable and easy.

Environment: Restoration of the degraded wetland, the stream, and adjacent brownfield site on the Downey property, as well as additional tree plantings will improve the environmental quality of the marina. Low Impact Development (LID) features, including a porous parking lot, bioswales, and rain gardens, are integrated into the plan to minimize stormwater runoff and improve water quality.

Harbor Users: Recreational and commercial boats in the harbor are arranged to maximize user safety and access, increase visibility of tour and charter boats for tourists, and to benefit commercial fishermen who depend on easy access to harbor infrastructure. Consolidating harbor users will increase the efficiency, use, and capacity of the harbor.

SAQUATUCKET MARINA WITHOUT DOWNEY PROPERTY

- Vehicle circulation – same vehicle circulation pattern as provided by above concept plan (Saquatucket Marina with the Downey property). The entrance at Rte. 28 is shifted west to avoid the Downey property.

- Pedestrian circulation – same pedestrian circulation pattern as provided by above concept plan except that the trail from Downey is eliminated.

- Parking – similar parking arrangement as the above concept plan except that West Day Parking Area has 78 parking spaces (13 fewer than above plan), and no additional parking at Downey. The total number of auto parking spaces is 96 and 45 vehicle/trailer spaces.

- Visitor amenities – similar visitor amenities as the above concept plan except for fewer building envelopes and RTA bus turnout is located in front of the Brax parking lot.

- Harbor infrastructure – same layout as the above concept plan.

- Commercial fishing – same upgrades as identified in above concept plan.

- Environmental – similar amenities as shown in the above concept plan except that wetland and stream restoration on the Downey property is not proposed.

The concept plan for Saquatucket Marina without the Downey property also achieves the goals of the harbor vision. The plan provides the same traffic flow pattern and benefits of the above described plan, and provides many of the same visitor amenities (viewing decks, waterfront boardwalk, central promenade, etc.) to improve passive recreational opportunities at the marina. Street front buildings (though at a reduced number), artist shanties and the "Brax Bistro" are retained to enhance the economic potential of the marina. The entrance and bus accommodations are moved on the site and parking is reconfigured, with a total of 96 auto parking spaces and 45 trailer spaces. The numerous amenities of this plan will require additional offsite parking and encourage alternative means of harbor access. Environmental quality and aesthetics are improved with additional vegetation plantings. The reconfiguration of commercial and recreational boats in the harbor will enhance user safety, tour and charter boat visibility, and use of the harbor by the commercial fishing fleet.

RECOMMENDATIONS

The conceptual site plans identify site redevelopment options for Saquatucket Harbor with or without the Downey property that will stimulate the value of the harbor as a potential economic driver for the town. Based on analysis of existing harbor conditions and input from the Harwich Harbors Task Force, the Cape Cod Commission recommends that the town pursue the following actions:

1. Pursue acquisition of the Downey parcel.

2. Implement elements of the Saquatucket Harbor Conceptual Plan (with the Downey property) using a phased approach. In order to create greater public awareness that the harbor is in the process of upgrading, simple low-cost improvements can be put into place to promote citizen stewardship. These improvements instill the public with the confidence that change is being made for the better. Some low cost improvements that could be completed in the near-term include:

    a. Wayfinding signage at the street edge and leading into the proposed promenade space and Downey property
    b. Potted planters at targeted locations
    c. Striping on the lower road.

    Additional, more significant improvements can be phased in as funding becomes available:

    a. Pave the area adjacent to the East bulkhead (this work may need to be deferred until bulkhead repairs are made).
    b. Construct the central entrance roadway, Harborway promenade, and modified "Lower Road." Close and re-grade the east half of the existing Lower Road and install LID features, tree plantings and grass. Install wayfinding banners at the harbor entrance and along the Harborway promenade.
    c. Construct the reconfigured West Day Parking Area and East Trailer Parking Area, and install the remaining tree plantings and pay station kiosks (this may be subject to further study by the town).
    d. Construct the parking lot on the Downey property and install tree plantings. Install the bus turnout and shelter.
    e. Install the Westside walkway, Western waterfront boardwalk, and viewing decks next to the Harbormaster's

building and the boat ramp. Install artist shanties on large viewing deck next to Harbormaster's building and other amenities.

f. Construct street-side buildings.
g. Investigate options for restoring the tidal stream and bordering wetlands by removing the existing pipe.

Implementation of the Saquatucket Harbor Conceptual Plan without the Downey property would involve the same sequence of steps outlined above without "d." The location of the entrance roadway and street-side buildings would need to be shifted to keep new development off the Downey property, and parking reconfigured. The bus accommodations would be moved onto the marina site.

3. Extend overlay zoning to allow frontage buildings along Rte. 28 (on Downey property).

4. Conduct a watersheet study of Saquatucket Harbor to identify design elements needed to improve management of recreational commercial boaters, including the commercial fishing fleet. The feasibility of concept plans generated to date should be reviewed as well as other alternatives.

5. Conduct an engineering assessment of the town pier at Wychmere Harbor for a "second opinion" on the current pier condition and to determine restoration or replacement options.

6. Relocate the tour and charter boat ticket booths onto town property to minimize road crossings for visitors.

7. Implement the recommendations pertinent to Saquatucket and Wychmere Harbors contained in the Cape Cod Commission's *A plan for improved pedestrian, bicycle, and shuttle bus service in Harwich* (October 2010) to encourage transportation alternatives to and from the harbors.

8. Study the feasibility of establishing a fee for use of the West Day Parking Lot to increase revenue for the town.

9. Research offsite parking options to supplement parking capacity at the harbors.

Appendices

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APPENDIX A - SUMMARY OF PRELIMINARY AND TASK FORCE MEETINGS

June 1, 2010: Commission staff met with a group of stakeholders including town officials, abutters, and local residents. Commission staff provided an overview of the project scope and how the project overlaps with the Commission's Coastal Use Templates project, a part of the Comprehensive Economic Development Strategy initiative. A group discussion ensued to identify current harbor uses, future trends in harbor use, how to better address user needs, environmental concerns, and if and how the Downey property should be integrated into management and use of the marina. Twenty-two attendees, including 9 town staff or board members, 3 business representatives, 2 non-profit representatives, 5 residents, and 3 Commission staff participated in the meeting.

July 19, 2010: Commission staff gave a PowerPoint presentation summarizing the project scope and baseline data collection and mapping, including identifying the major harbor users, threats/concerns, potential site opportunities, and some preliminary information concerning the Downey property. Commission staff led the group in a participatory planning exercise that allowed the group to rate a variety of land-based and water-based harbor uses from high to low priority (and no priority). The meeting concluded with Commission staff describing the importance and methods for creating a vision statement. A subcommittee of the task force was identified to complete a draft vision statement. Twenty-two attendees, including 12 task force members, 3 community members, the town planner and harbormaster, and 5 Commission staff participated in the meeting.

August 16, 2010: Commission staff summarized the results of the participatory planning exercise to rank harbor uses. Uses prioritized included (in descending order of priority): offloading fish,

pedestrian/bicycle connectivity, commercial fishing, eating establishments, dredging, boat ramp, ticket booths, ferry, arts and culture, tour boats, and parking. Questions arose about items that may not have been included on the prioritization list and whether the results may have been skewed by some participants placing more than one sticker on a single item.

The visioning subcommittee presented a draft of the vision statement, which following some discussion was adopted by the group with a unanimous vote (5-0). Matt McCaffery stated the need to quantify the amount of land on the Downey property that can be developed in order to know the property's worth to the town. Eric Brazer, Sector Manager for the Cape Cod Hook Fishermen's Association, gave a presentation on commercial fishing in Harwich. Commission staff presented information on trends of passenger ferry use on Nantucket Sound and the results of a phone survey of commercial boat operators regarding demand for their services. Matt Hart discussed the potential use of the harbors as a base for transporting workers to/from the Cape Wind site in Nantucket Sound. Thirty-two attendees, including 6 task force members, the town planner and harbormaster, 18 community members, 2 representatives of the Cape Cod Hook Fishermen's Association, and four Commission staff participated in the meeting.

September 15, 2010: Commission staff gave a powerpoint presentation summarizing the primary harbor issues and the design charrette process. A design charrette followed with participants divided into three groups in order to address three issue areas: boating uses, public access, and environmental/neighborhood awareness. Ideas were conceptualized and recorded by each group on a base map and a summary was presented to the entire group.

Boating group summary:

- Recognize that both harbors are needed for commercial uses including fishing, and that both harbors have areas in need of renovation. There was considerable debate about how the harbors should serve the needs of commercial fishermen.
- Explore options for restoring or replacing the town pier at WH to allow offloading of fish.

- Move the ferry at SH to the east bulkhead and combine its use with fish offloading. Consider the need to expand into the existing green area and the need to make this area more attractive.
- Use the existing footprints of both buildings on the Downey property. The former pizza shop should become a single-story Harbormaster shop replacing the existing one on Bank Street. The former service station could be used for ticket booths, arts/crafts, etc. Encourage ferry/tour customers to use the Downey property for parking, and provide a connecting walkway to the harbor. Provide rest rooms in this area.
- Establish a walkway connection on the west side of the stream (Cold River) to the area east of the boat ramp where a waiting and observation area could be sited.
- Do not add structures along the waterfront.
- Work with the Conservation Commission to provide nature paths.

Public access group summary:

- A sidewalk is needed along Route 28 to Julian Road, with sidewalks on both sides of Route 28 in the immediate vicinity of the harbor.
- There should be at least two crosswalks, with one of the crosswalks at Gorham Road to connect to a new bike route.
- Move the main harbor access/egress easterly.
- Provide a pedestrian walk along the water's edge in combination with a drive serving minimal car traffic and unloading. This item was subject to considerable debate.
- Site artist shanties on Downey property.
- Move ticket booths to the south side of Route 28, but spread them out to avoid congestion.
- Provide green space close to the water's edge for sitting/viewing areas.
- Provide greater definition for uses in the area east of the boat ramp.
- Provide a bus depot on the Route 28 frontage of the Downey property.
- Separate parking lots with a green belt, though it may be narrower than existing.

Environmental/neighborhood awareness summary:

- Encourage more pedestrian use throughout the site.
- Build a sidewalk along Route 28 from Harwich Port to Julian Road.

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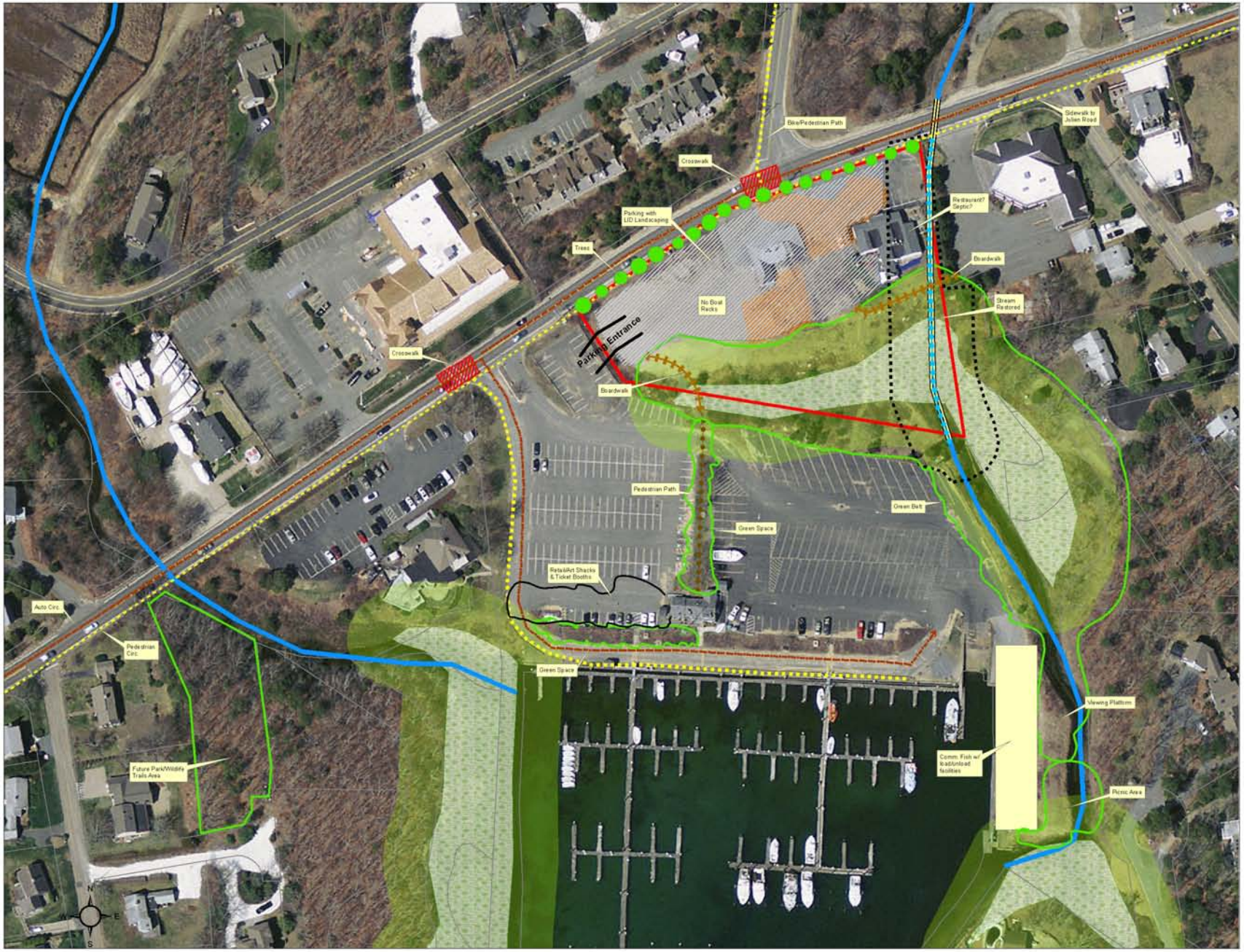
- Accommodate a bike route from Gorham Road to Saquatucket Harbor.
- Build artist shacks along the waterfront.
- Include a lot of green space with public areas (picnic tables, etc.) co-existing with conservation goals.
- Use the east bulkhead for commercial fishing loading and offloading, and include a public viewing area.
- Use the Downey property for parking. Do not re-use buildings, with the possible exception of the former pizza shop. Boat storage racks would not be allowed.
- Restore the stream next to the Downey property.
- Keep the existing SH entrance and connect internally to parking on the Downey property.
- Include generous amounts of landscaping.
- Consolidate ticket booths south of Route 28. Increase the number of tour operators supported by shuttle parking.

Twenty-three attendees, including 9 task force members, 8 community members, the town planner, and 5 Commission staff participated in the meeting.

October 13, 2010: Commission staff presented an overview of the concept plans developed at the design charrette in September. Three additional plans were introduced that considered the ideas and concepts generated during the design workshop. The Commission's presented a conceptual plan of the on-land section of the marina and the Downey property; David Spitz (town planner) presented a second conceptual on-land plan for the marina and Downey, and Tom Leach (harbormaster) presented a third plan depicting a suggested conceptual layout both for the on-land area and in the harbor itself. Tom Leach's plan identified specific ideas for accommodating recreational and commercial boaters, including moving the charter boats to the waterfront (front row of slips) and moving the ferry to the south end of the bulkhead. Issues were raised about the Commission's plan included the maneuverability of vehicles and trailers in the east trailer lot and the re-location of ticket booths to the marina entrance. Twenty attendees, including 9 task force members, 6 community members, the town planner and harbormaster, and 3 Commission staff participated in the meeting.

December 1, 2010: Commission staff presented final conceptual site plans for Saquatucket Harbor, both with the Downey property and without the Downey property. Comments received by Commission staff regarding site plan details are incorporated into the recommendations section of the report. The task force voted to endorse the overall concept of the site plan and to present the plan to the Board of Selectmen. The task force also voted to recommend that the Selectmen pursue acquisition of the Downey property. Twenty-six attendees, including 11 task force members/alternates, 9 community members, the town planner and harbormaster, and 4 Commission staff participated in the meeting.

Appendix B: Design Charrette Maps



Saquatucket Harbor Design Workshop

Environmental Group

- Streams
- Piped Stream
- Potential Stream Restoration Area
- Wetlands
- Wetlands Buffer - 50 feet
- Downey Property
- Remediation Areas (approximate)

0 50 100 150 200 Feet

1 inch = 50 feet

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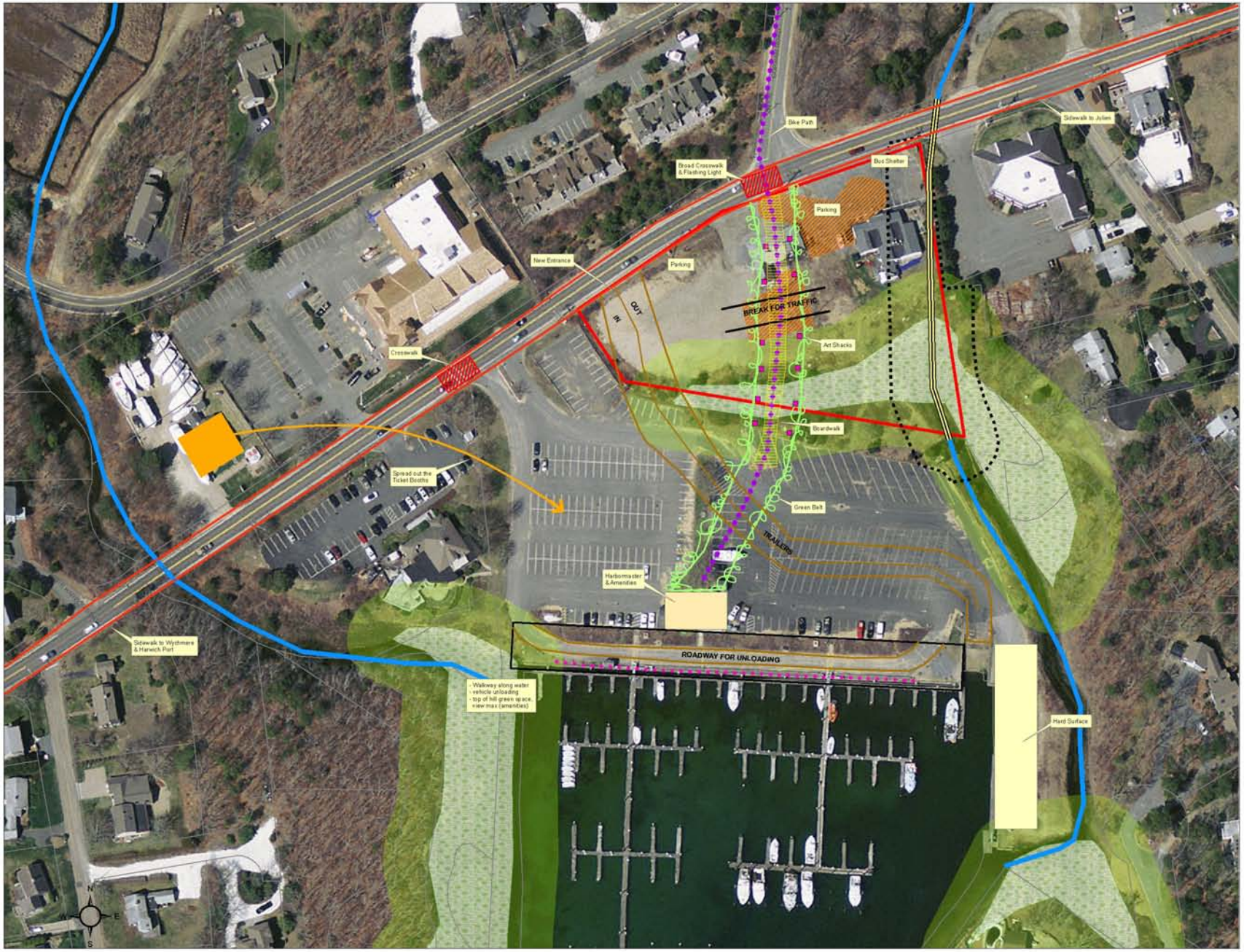
Appendix B: Design Charrette Maps



Saquatucket Harbor Visioning

Public Access Group

- Streams
- Piped Stream
- Potential Stream Restoration Area
- Wetlands
- Wetlands Buffer - 50 feet
- Downey Property
- Remediation Areas (approximate)

0 50 100 150 200 Feet

1 inch = 50 feet

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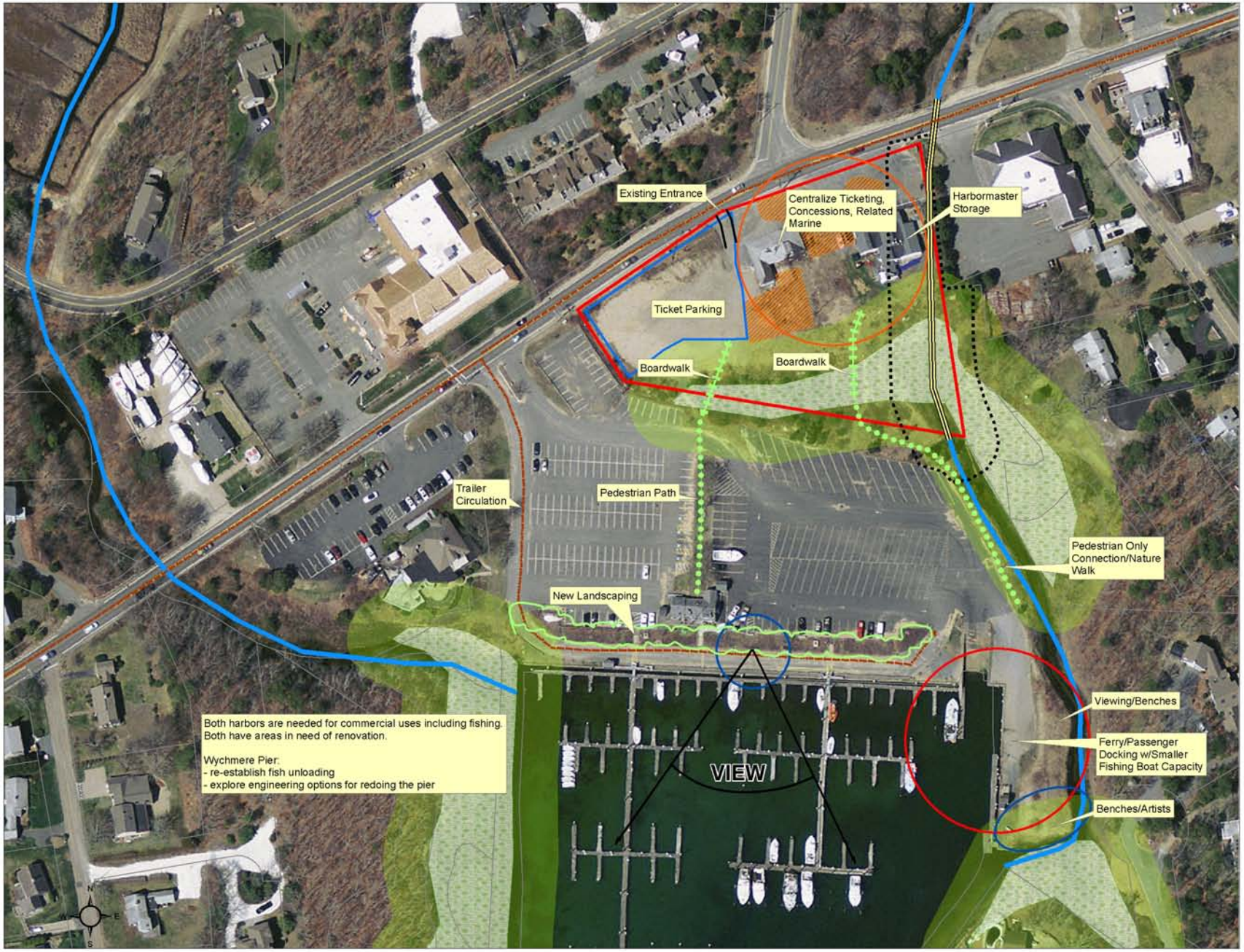
Appendix B: Design Charrette Maps



Saquatucket Harbor Design Workshop

Boating Uses

- Streams
- Piped Stream
- Potential Stream Restoration Area
- Wetlands
- Wetlands Buffer - 50 feet
- Downey Property
- Remediation Areas (approximate)

0 50 100 150 200 Feet

1 inch = 50 feet

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APPENDIX C – HARBOR VISION STATEMENT

"Those who are lucky enough to live by the Sea are lucky enough."

- unknown

Harwich, our town, is blessed with several beautiful harbors. They echo with the rich maritime heritage of New England and of Cape Cod. Now, as before, they make Harwich a gateway to the natural wonders of Nantucket Sound and beyond. They keep safe our work boats and pleasure craft. They inspire artistic imaginations and grace the days of residents, guests, boaters, pedestrians and working watermen with moments that are treasured forever.

Our harbors and the opportunities that they offer will allow Harwich to continue as a prime destination, a robust maritime center, and a thriving, economically strong community. Changing times will require flexibility. We will pursue the means to upgrade and modernize our harbor facilities efficiently. We will seek to maximize economic and recreational opportunities; and we will do so with respect for our history, the character of our neighborhoods, and our environmental responsibilities.

Our efforts, throughout, must bring the harbors and the wonders of Nantucket Sound closer to a broader base of people. Accessible harbors, connected by roads, sidewalks and bikeways to beaches and villages, will strengthen the entire town. By improving the harbors, we will ensure that Harwich retains its prominence as a premier destination for our visitors and a wonderful place to live year round.

Our vision is to make the most of our "luck" in a productive and responsible way.

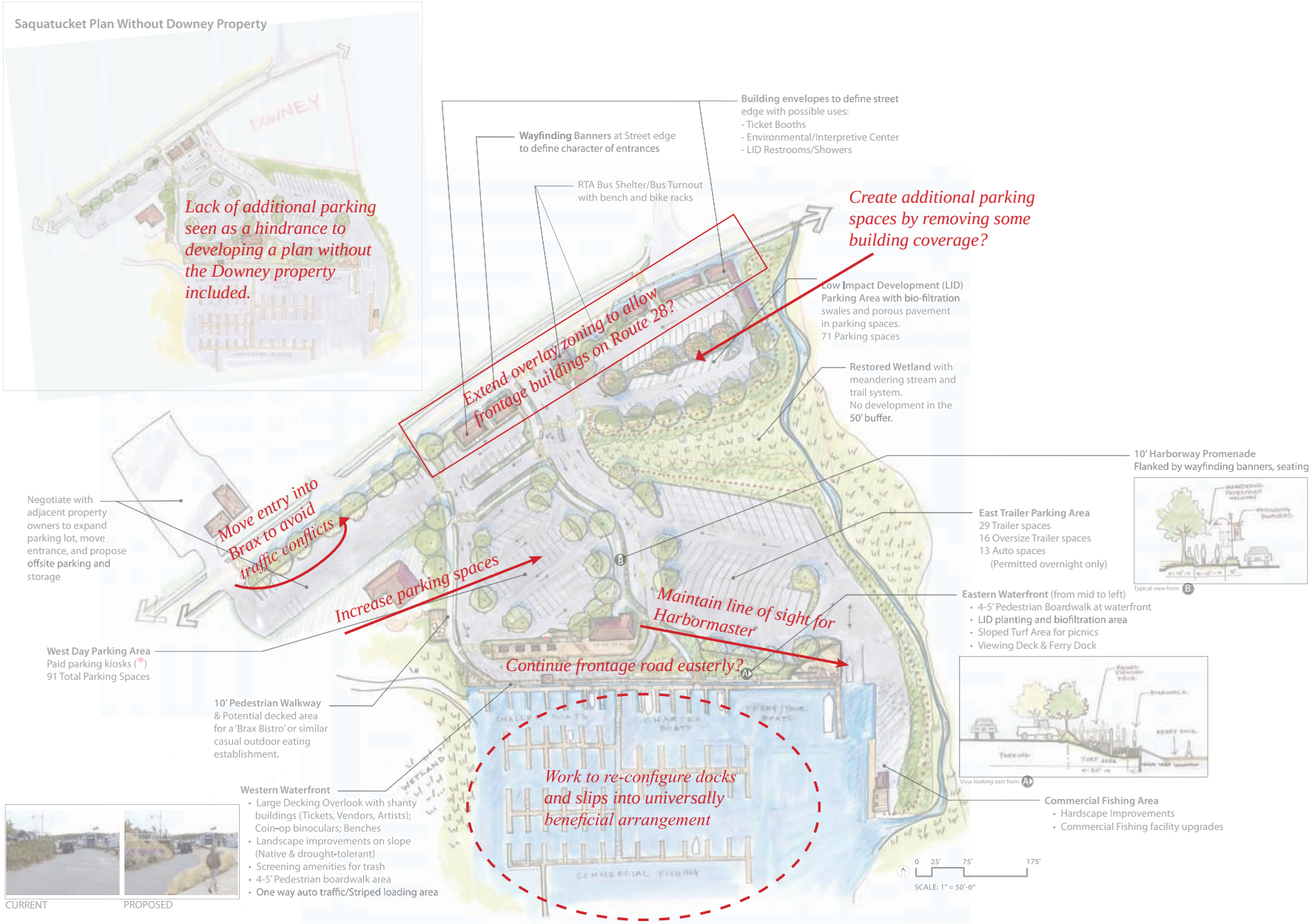
APPENDIX D – SUMMARY OF COMMERCIAL BOATING TRENDS RESEARCH

Commercial Operator Type	Company/Location	Current Demand	Project Future Demand	Barriers to Future Growth	Town Actions Needed
Charter Fishing	Predatuna Sportfishing Charters, Hyannis	demand used to be higher, but reliably busy	project 10% increase per year	NMFS regulations (lowering quotas and # days to fish); NMFS trying to put fishing charters out of business	currently uses a private dock. Town generally not supporting charter fishermen (e.g., fees)
	Helen H, Hyannis	numbers are up this year, but could absorb more customers	expect to grow in numbers	NMFS regulations (control how much they can catch), competition not really a factor except for off-Cape competitors	Town could have better directions to the harbor for tourists, and an info booth for charter and party boats; town could be more pro-business by not charging fees for loading or fueling at the town dock, and could add amenities for the charter companies and allow fishing from the dock at the boat ramp
	Monomoy Outfitters, Chatham	good; has grown since company was established six years ago	expected to grow	weather, access to harbor, competition not really a problem if a reliable client base	Saquatucket Harbor is poorly managed; would like to see rack storage; company would grow but on Saquatucket waiting list for 10 years. Fees too high (e.g., $500 tuna offloading fee)
	Fair Tide Charters, South Yarmouth	no longer in business			
Party Fishing	Patriot Party Fishing, Falmouth Inner Harbor, Falmouth	steady over the years, has two fishing boats	steady	weather	
	Cape Light Charters, Cotuit	greatly reduced over last 3 years and now working part time; said Cap'n Kids put him out of business	not indicated	many barriers including: cost of fishing permit and fuel, liability insurance, advertising, boat maintenance, homeland security fee, etc.	town could provide more public parking to help small business people
	Cap'n Kids Fishing Adventures, Saquatucket Harbor, Harwich	high, regularly turning people away; has been good from establishment 3 yrs ago	expect to grow in numbers but can only accommodate more customers if they purchase another boat	if they don't expand (with another boat) then inviting competition. Weather also a factor; regs not really a problem	has offsite parking near old Harwich House of Pizza (0.1 mi) and customers have to walk Rte. 28. Other problem is customers wandering from ticket booth to boat across parking area
	Albatross Fishing, Sesuit Harbor, Dennis	numbers are down this year (economy), much better in years past; has been in business for 5 years	hard to say	economy, weather; competition is not a problem; only "head boat" in Sesuit	more parking

Commercial Operator Type	Company	Current Demand	Project Future Demand	Barriers to Future Growth	Town Actions Needed
Sailboat Charter	Catboat Rides, Inc., Hyannis	steady, but not at capacity; has one boat	probably similar to current demand	weather is the biggest factor; competition is not a problem and can be a benefit by bringing more potential customers to the harbor	uses a town-owned dock; town generally cooperative but harbor revenue goes to general fund and not necessarily invested back into harbor; need more lights, park benches, cleaner sidewalks, etc.
	Liberte, The Schooner, Falmouth Inner Harbor, Falmouth	currently very good (good weather), increasing every year; in business for 25 years; has one boat	project increase in business	weather, competition not a problem	uses a private dock, no problems with town management of the harbor
Tour Boat	Bay Spirit Tours, Hyannis	demand has been high since business was established in 2009; could take more customers during most cruises; occassionally has to turn people away for sunset cruises	expects to grow	parking is a problem for customers; competition only with HyLine Prudence that does Kennedy Compound tours by boat, weather	on a town dock, town could offer discounted parking
Ferry	Island Queen, Falmouth	demand is not overwhelming, but up slightly over last year (poor season); seasonal business	project increase in demand, but still not at late 1990s ridership levels, but working towards that peak	weather, fuel cost, competition not really a problem since IQ has a loyal following	would like town to use embarkation tax to re-invest into increasing hotel, restaurant use (since ferry use tied to hotel/restaurant use)
	Falmouth-Edgartown Ferry, Falmouth	steady demand, but not at capacity except on weekends; more expensive than Isl Queen due to longer trip and smaller boat	future demand will probably be steady but hard to say	weather is a factor; can't run if wind is over 30 knots; also fuel costs	currently uses a private dock, Falmouth Marine owns the ferry
	Freedom Cruise Lines, Saquatucket Harbor, Harwich	meets licensed capacity of the ferry in August (sometimes turns people away), less than capacity during other summer months	would like to grow but constraints with Steamship Authority (licensed for 80 passengers) and town with respect to parking (has to provide own parking).	Steamship Authority licenses them for only 80 passengers; USCG has approved boat for 100 passengers. Parking is a problem (Freedom is required to provide parking for customers in its own lot). Most customers park in the Freedom lot, but overflow in town marina lot.	Dredging of the harbor entrance channel; would be good if the town could provide some parking for ferry customers at the marina. Would like to load passengers at the east bulkhead.

Commercial Operator Type	Company	Current Demand	Project Future Demand	Barriers to Future Growth	Town Actions Needed
Ferry/Freight	Patriot Water Taxi and Freight Service (ferry part of business), Falmouth Inner Harbor, Falmouth	demand is steady but ups and downs (lost one business), over half of the business is hand freight (newspapers, auto parts, marine supplies, passengers including construction workers, teachers, etc.). Carries 40 passengers, would need license from S.A. to carry more. Ferry has loyal following	future demand will probably be steady (can't grow)	rent from town	would need bigger boat to carry more passengers, but limited by slip size; also license or change to enabling act that protects S.A.
Dinner Cruises	Lobster Roll Cruises, Sesuit Harbor, Dennis	demand is generally good, in 4th year of business; occasionally turns people away in August; other summer months are not as busy	future demand will probably be the same unless business picks up during shoulder seasons; business can't grow since they won't buy bigger boat	weather	town does good job

APPENDIX E - COMMENT PLAN



The information depicted on this plan is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. It should not substitute for actual on-site survey, or supersede deed research. Hand drawn by: TH | Modified with CS4 | Created 11/30/10

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SAQUATUCKET HARBOR | *Conceptual Plan: Comments from Taskforce Meeting Dec 1, 2010*

Points of Concern from Public:

Blocking the line of sight from the Harbormaster building to the boatramp could be problematic. The plan currently calls out an elevated viewing area and line of trees which might do this. Perhaps extend the decking rather than adding trees and turf.

Ferry customers need a place to form a line/ congregate at the waterfront. Perhaps this could be accomplished through the concept shown with some reconfiguration of design elements.

On the layout of the docks and slips: prevailing SW wind impacts small boats ability to dock and maneuver in the western harbor. Access should be made through main gangway, eliminate gangways on west side. Some thought to keeping the existing dock/slip configuration, which might be more preferable.

Buildings on the road edge: Some desire to capitalize on the waterfront views by placing tall buildings at the waterfront, rather than road edge and perhaps moving parking underneath. Concern about reaching economic goals.

Downey parking: concern about the amount of parking being gained by developing Downey. Is it worth it?

Concern that with the amount of buildings added, parking would be an issue.

In the commercial fishing area would like to see water and electric hookups.

Two entrances would be favorable. Some concern about the relocation of the Brax parking entry, the visibility on Route 28 at that point could be problematic for vehicles.

Points seen as a benefit:

Dividing the use areas with the middle access road.

Buildings at the street edge and wayfinding draw people into harbor, provide visual cues.

Greenspace, pedestrian walkways and shanties a good addition to the harbor.

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APPENDIX F – REFERENCES

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