



Town of Mashpee

Planning Board

16 Great Neck Road North
Mashpee, Massachusetts 02649

Meeting of the Mashpee Planning Board

Wednesday, August 3 2022

Waquoit Meeting Room

Mashpee Town Hall

16 Great Neck Road North

Mashpee, MA 02649

7:00 PM

(amended 8/1/2022 2:00 PM)

Broadcast Live on Local Channel 18

Streamed Live on the Town of Mashpee Website: <https://www.mashpeema.gov/channel-18>

Call Meeting to Order

- Pledge of Allegiance

Approval of Minutes

- Review of Meeting Minutes from July 20, 2022

New Business

- Vote to nominate a representative to the Harbor Management Committee at the request of the Department of Natural Resources.
- Request for Covenant Release at the Subdivision known as Casper Circle – Steven and Joyce Hynds
- Report on request for tree removal at Windchime Condominiums – Vice-chair Faulkner

Old Business

- Discussion of issues at the Ockway Highlands subdivision and conditions of the special permit relative to traffic.
- Meeting with EDIC July 26th regarding redevelopment opportunities in Mashpee
- Local Comprehensive Plan Updates with Weston and Sampson
 - Planning Board Comments on Existing Conditions
 - Natural Resources
 - Land Use and Growth Management
 - Open Space and Recreation
 - Assessments of 1998 Chapters on Human Services and Solid and Hazardous Waste Management
 - Draft Survey
 - Workshops and Focus Groups
 - August 3, 2022 Business Coffee Hour
 - August 7 2 PM Mashpee Wampanoag Tribal Council
 - Virtual Workshops
- Affordable and Workforce Housing
 - ADU Workshop
- Clean Water Initiative

MASHPEE TOWN CLERK

AUG 01 2022

RECEIVED BY:

dk 2:05pm



Town of Mashpee

16 Great Neck Road North
Mashpee, Massachusetts 02649

Chairman's Report

Town Planner Report

Board Member Committee Reports

- Cape Cod Commission, Community Preservation Committee, Design Review, Plan Review, Environmental Oversight Committee, Historic District Commission

Public Comment

Correspondence

- Town of Falmouth Notices
- Town of Sandwich Notices
- Town of Barnstable Notices
- June 2022 Discharge Monitoring Report for South Cape Village – N = 5.3
- May 2022 Discharge Monitoring Report for South Cape Village – N = 9.3
- April 2022 Discharge Monitoring Report for South Cape Village – N = 6.0

Additional Topics (not reasonably anticipated by Chair)

Adjournment

MASHPEE TOWN CLERK

AUG 01 2022

RECEIVED BY: DK 2:05 pm



TOWN OF MASHPEE
DEPARTMENT OF NATURAL RESOURCES
Mashpee Town Hall
16 Great Neck Road North
Mashpee, Massachusetts 02649
Telephone – (508) 539-1410



July 19, 2022

To: Planning Board, Waterways Commission, and Shellfish Commission

From: Department of Natural Resources – Ashley Fisher

Description: *The Department of Natural Resources recently submitted for a grant to the Economic Seaport council for the intent of funding a Harbor Management plan for the Town of Mashpee. This grant was subsidized by in part by the voters of the town of Mashpee (\$50,000) and the award of the Seaport Economic Council (\$150,000). Total budget for first round of funding is \$200,000. One of the Benchmarks for this program is to form a Harbor Management Committee consisting of the following;*

One person from:

The Planning Board

Waterways Commission

Shellfish Commission

Two persons from:

Commercial Waterways Interests

Recreational Waterways Interests

Interested parties need to submit a letter of intent no later than July 29th.

Background:

Harbor Management Plan for the Town of Mashpee:

1.) Document existing coastal conditions in both Waquoit and Popponesset Bay

- Fisheries
- Boater Access- Dredging, Moorings, Town Marina, Town Boat Launches
- Waterfront infrastructure and economic value

- 2.) *Clarify the vision of its waterways and waterfront for the future generations:*
 - *Identify user conflicts and remedies*
 - *Ensure the longevity of public access points*
 - *Establish new public access points – Historic Ways to Water*
 - *Mashpee's cultural significance – Mashpee Wampanoag Tribe (the people of the First Light).*
 - *Tribal Rights- access to historic fishing grounds*
 - *High value residential areas and aquaculture*
- 3.) *Identify goals, objectives, and recommendations to achieve that vision*
- 4.) *Consider the town's interest in coastal economic development and natural resource management.*
- 5.) *Development of Barrier Beach Nourishment Plan*
- 6.) *Development of a Master Dredge Plan*
- 7.) *Reconfiguration of Mooring Areas and Dockage Regulations*
8. *ACEC re-evaluation and incorporation into Mooring Regulations – Gear Restrictions etc.*
- 9.) *Flood Zone Infrastructure Needs*
- 10.) *Area of Town Marina Feasibility to reduce town wide Moorings.*

The Department of Natural Resources looks forward to your quick response with interested candidates to help preserve the Town of Mashpee's natural resources for our future.

Respectfully Submitted,

Christopher J. Avis

Natural Resource Officer


Town of Mashpee

Request for release of covenant

Joyce Hynds <[REDACTED]>

Mon 7/18/2022 2:36 PM

To: Evan Lehrer <ELehrer@mashpeema.gov>

WARNING! EXTERNAL EMAIL: : This message originated outside the Town of Mashpee mail system and could be harmful . PLEASE DO NOT CLICK ON LINKS OR ATTACHMENTS unless you are absolutely certain the content is safe.

Hello Evan

We are prepared to request the release of the covenant securing the building lots along Casper Circle. We request an appearance before the Planning Board on their next available agenda so that a value for a performance guarantee can be established by vote of the Board. We have been working with the Boards engineer throughout construction and have remaining to be completed the top coat of pavement, road monuments, and loam and seed at the road shoulders. We estimate these costs will total \$39,000.

Thank you,
Steve and Joyce Hynds

Sent from my iPhone



Report to Planning Board July 27, 2022 Windchime Point Tree Inspection and Decisions

Vice-chair Faulkner and Town Planner Evan Lehrer, at the request of Ms. Karen Kingsley, Board Member of the Windchime Point Condominium Association, inspected a number of trees proposed for removal at Windchime Point behind the unit addressed as 56 Gold Leaf Lane due to safety concerns.

The inspection took place beginning at 9:00 AM on Wednesday, July 27, 2022. The Vice-Chair and Town Planner were accompanied by Ms. Kingsley, Mr. Ed Ledwith (owner of 56 Gold Leaf Lane), and other residents/board members of Windchime.

Mr. Ledwith, along with an arborist, had marked a number of trees for discussion generally located behind his unit at 56 Gold Leaf Lane. None of the trees appeared to be dead or diseased or otherwise in poor health however Mr. Ledwith noted that over the winter in a severe storm event large limbs from one of the identified trees fell and severely damaged the deck. This tree shown as Photo 1 attached to this report is a mature scrub pine or oak that looms in close proximity to 56 Gold Leaf Lane.

It was determined by the Vice-Chair that this tree constituted an obvious threat to the safety of residents or of serious damage to structures and that it may be removed on the condition that it be replaced by a relatively mature native species in a location to be determined by the arborist where it can be expected to thrive. The Town Planner noted to Mr. Ledwith that large native shrubs could be considered to replace the tree in the general vicinity of its removal. The Planner requested that the species selected and the planting site be identified in writing and submitted to the Planning Office. A list of suitable native tree species was provided.

Additionally the Vice-chair determined that another tree marked by Mr. Ledwith and arborist could be removed due to the potential threat to safety and serious damage to structures. This tree is shown in Photo 2 of the attached. This was a relatively healthy and mature tree growing towards the sun and thus leaning out over the condominium unit and attached deck. The vice-chair authorized its removal under the same conditions as above: must be replaced by a suitable native species in a location determined by an arborist where the tree will thrive.



Town of Mashpee

16 Great Neck Road North
Mashpee, Massachusetts 02649

Photo 1:





Town of Mashpee

16 Great Neck Road North
Mashpee, Massachusetts 02649

Photo 2:



Proposed Priority Redevelopment Sites

Santuit Inn

6 Falmouth Road

Map 55 Block 7

2.1 acres

Note: Motel currently proposed as seasonal workforce housing for Willowbend Staff

The Barn/Polar Cave

18-30C Falmouth Road

Map 55 Parcels 24 and 8

1.7 acres

General Offices

6-17 Cape Drive

Map 55 Blocks 19-23

Percy's Place

52 Falmouth Road

Map 55 Block 15

1.16 acres

Wendy's / Cape Mart (formerly Honey Dew)

44 Falmouth Road

Map 55 Block 18

0.74 acres

Dinos, General Office, Sherwin Williams, Andy's Market, Pizza Guys, Gas Station/convenience, Landscape, Laura's Kitchen, Kitchen/Bath Remodel

387-451 Nathan Ellis Highway

Map 72 Blocks 57A, 116, 57, 117, 56A, 85, 118, 56, 86, 23, 87, 1

16.11 acres

Crane Herb Co

745 Falmouth Road

Map 81 Block 34

3.4 acres

Riverbend Motel (Zachary's Pub)

100 Great Neck Road N

Map 45 Block 3

6.2 acres

Solar Rising

348 Main Street

Map 36 Block 51

3.60 acres

La Plaza Del Sol

72 Main Street

Map 47 Block 59

0.98 acres

Legend

- Redevelopment Sites

ZONING

- C1
- C2
- C3
- I1
- R3
- R5

Quashnet Woods Drive

Wags Road

Falmouth Road (Rt 28)

Redevelopment Sites

 C1

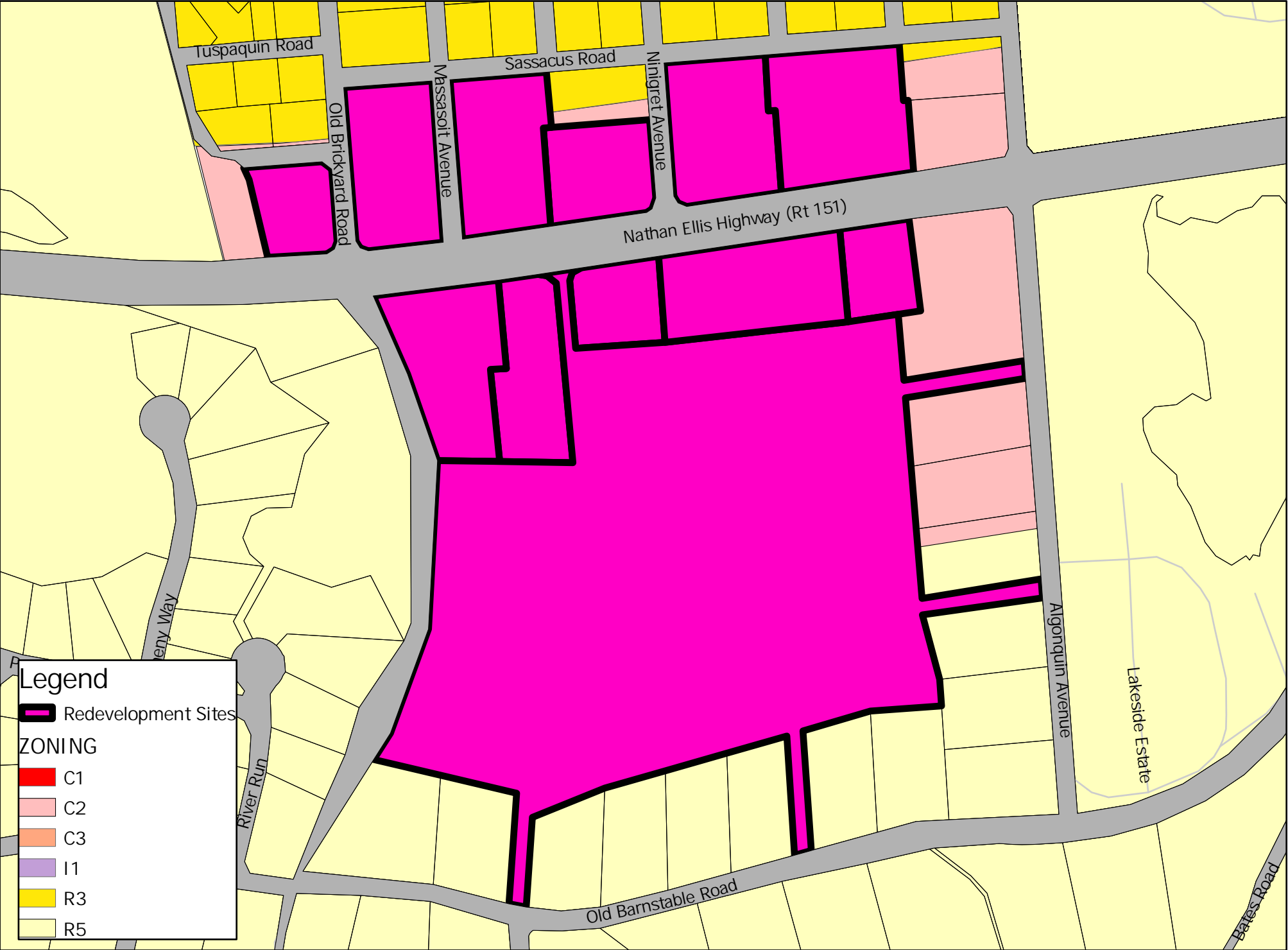
 C2

11

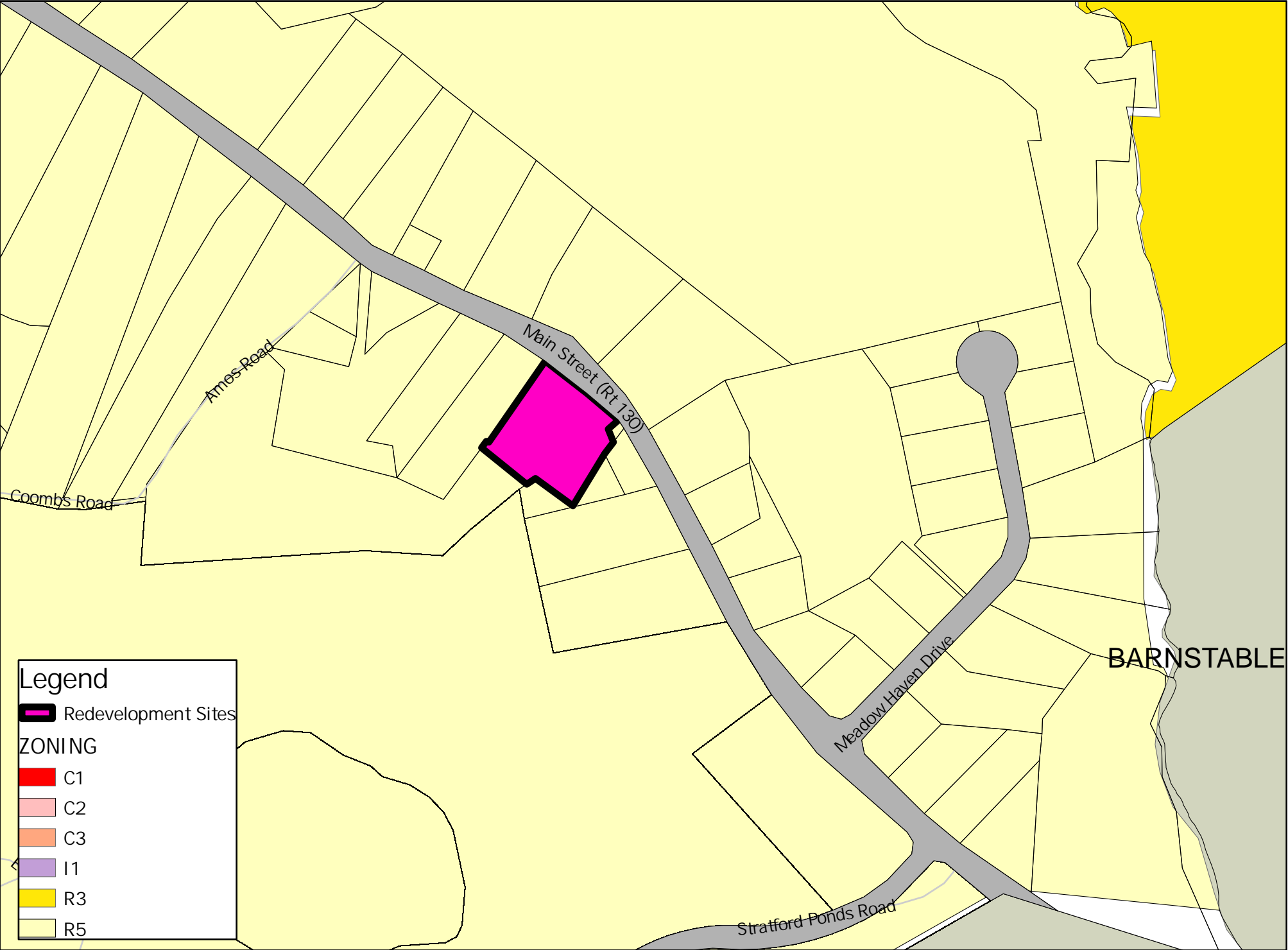
D3

R5

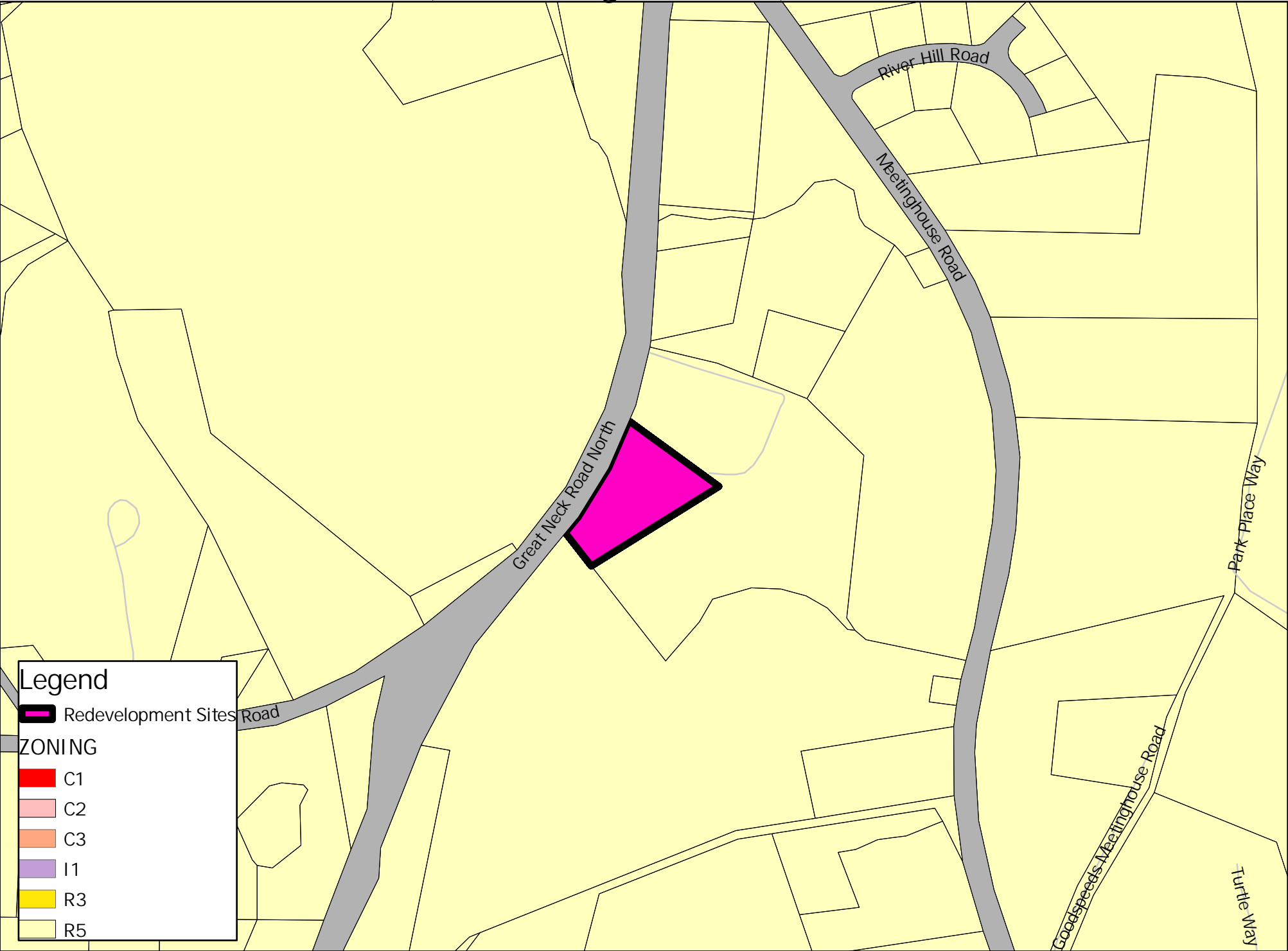
Dino's, General Offices, Et al



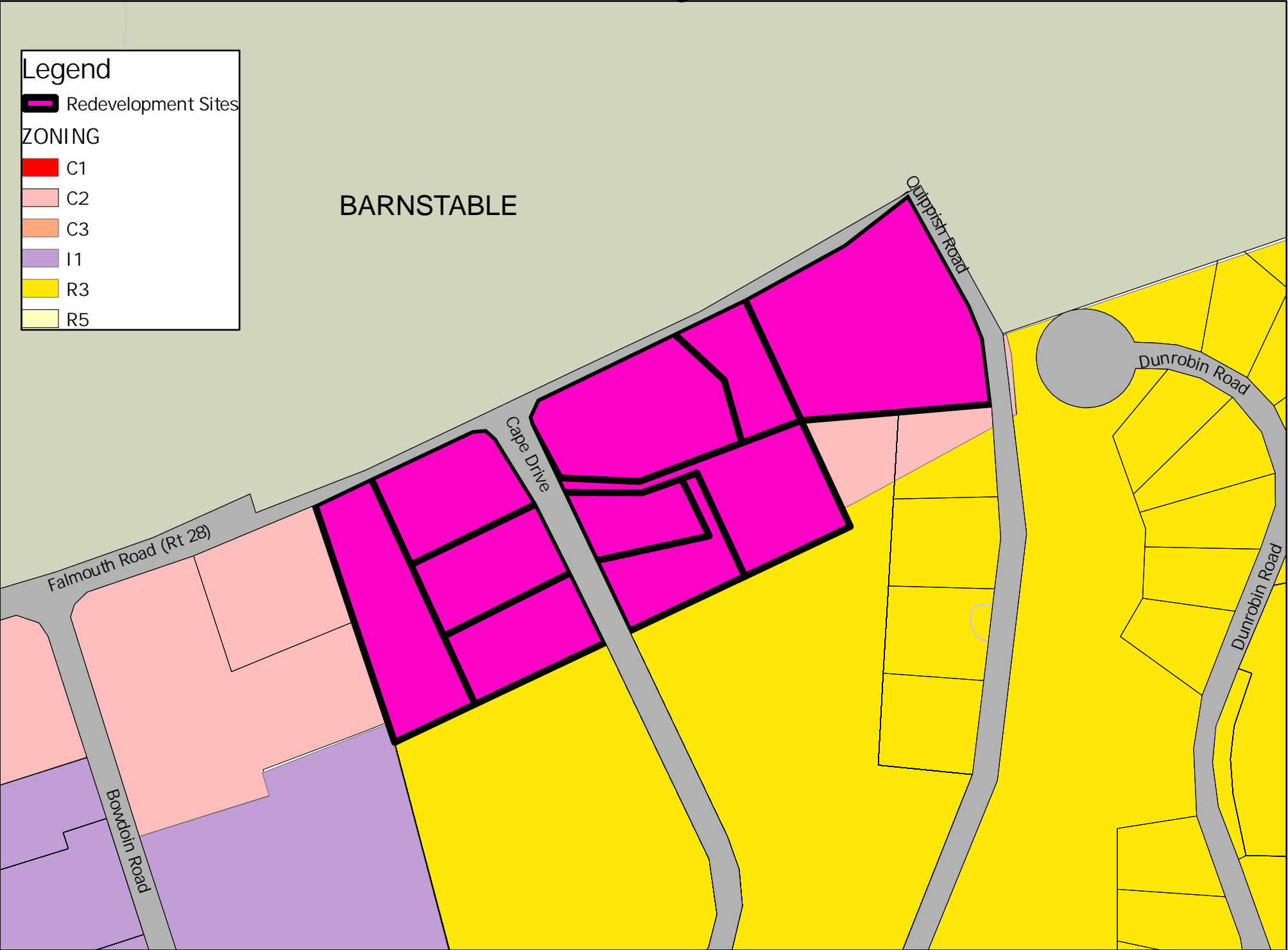
La Plaza Del Sol



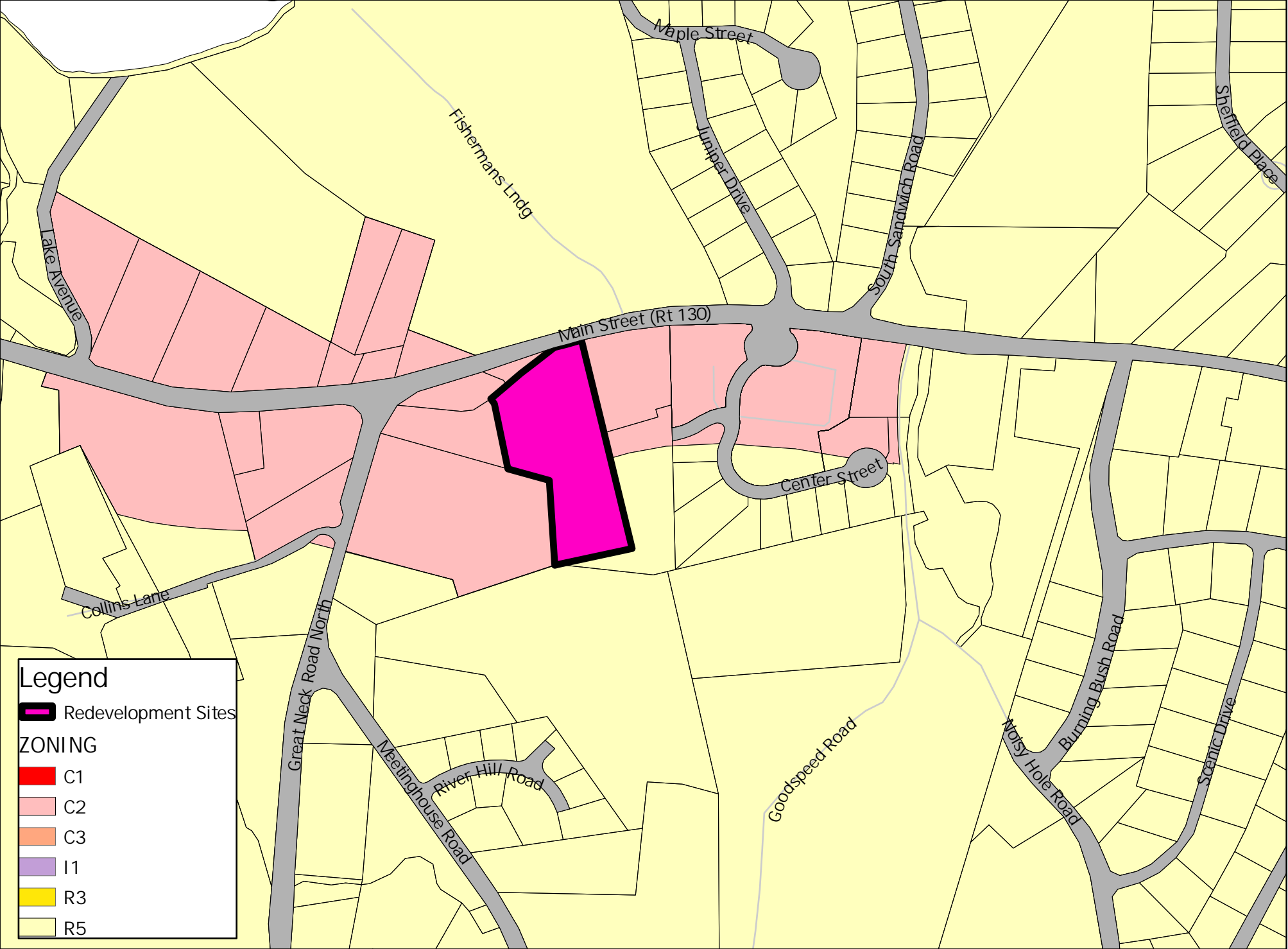
Riverbend Motel (Zachary's Pub)



Santuit Inn, Polar Cave, Wendy's, General Offices, Et al



Solar Rising



LAND USE

DISCLAIMER: This is a working draft and will continue to be updated as the Comprehensive Plan process evolves. Additional information will be added as stakeholder and public input is gathered. These blue boxes throughout the draft chapters represent areas of further consideration and study and will be updated with additional information as it is collected.

5.1 Vision

To be developed with Town.

5.2 Introduction

The Land Use element's purpose within Mashpee's Comprehensive Plan is to establish a plan for land use in Mashpee over the next 20 years. This involves updating current, as well as proposing new land use controls and regulations designed to implement this plan. As defined by the Guidebook to Massachusetts Land Use 2021 by the American Planning Association, a land use plan shall be designed to provide a basis for decision making for the long-term future of the community and internally consistent in its policies, forecasts, and standards (Mitchell & Ritchie, 2021).

The Land Use Chapter is the centerpiece of comprehensive planning, connecting all other elements of the plan and serving as a guide for thoughtful municipal decision-making on how to best manage land in Mashpee. This element discusses the existing conditions in town, including land use and zoning development.

5.3 Existing Conditions

To establish a plan and propose new land use controls and regulations, an updated inventory of existing land use conditions is required. This section includes an overview of existing land use conditions and current zoning in Mashpee.

5.3.1 Existing Land Use

Mashpee is home to the federally recognized Mashpee Wampanoag Tribe whose people have been living in Mashpee and the surrounding region for more than 12,000 years. Approximately 150 acres of land in Mashpee represents the Tribe's initial reservation where the Tribe can exercise its full tribal sovereignty (Mashpee Wampanoag Tribe, n.d.), including the right to hunt, fish, and gather hold critical importance to the survival of the traditions, lifeways, and culture of the Wampanoag Tribe (Mashpee Wampanoag Tribe). The Mashpee Wampanoag Tribe regulates Tribal member hunting, fishing, and gathering rights through traditional and codified Tribal law (Mashpee Wampanoag Tribe).

Mashpee has a rural resort character, consisting mainly of residential areas, active recreational facilities, forests, and wetlands (MassGIS, 2009). There are many sites, structures, rural landscapes, and significant archaeological sites that are threatened by suburban pressures from Falmouth and Barnstable (Massachusetts Historical Commission, 1984). have remaining (Massachusetts Historical Commission, 1984). Further information on the protection and preservation of important historic, cultural, and archaeological features of the town is discussed in the Heritage and Preservation Chapter. Land use changes that have occurred between 1951-2005 are summarized in Table 5-1.

Table 5-1 Land Use Over Time

Class of Land Use	1951	1971	1985	1999	2005	Change 1951-2005
Agriculture Land	503.07	337.99	238.02	190.80	112.48	-390.59
Forest	12588.24	11391.26	10135.37	8143.03	8667.46	-3920.78
Recreation & Public Space	181.81	495.99	639.35	886.45	868.76	686.95
Residential	480.05	1303.28	2351.66	3965.32	3198.95	2718.9
Commercial	15.64	59.81	128.20	208.10	153.24	137.6
Water	1455.16	1462.46	1462.46	1447.11	1526.69	71.53
Wetlands	470.70	503.12	566.26	574.46	874.56	403.86
Other	621.28	762.02	794.63	895.36	982.64	361.36

Source: MassGIS Land Use (1971-1999), MassGIS Land Use (2005)

Note:

a. MassGIS 2016 land cover/land use dataset does not conform to the classification schemes of previous land use data from MassGIS (1971-1999; 2005) and therefore not included for comparison purposes in Table 5-1.

b. The Historical Land Use dataset (1971-1999) uses a different methodology from the 2005 land use data and therefore not strictly comparable.

Table 5-2 below provides a breakdown of land cover based on Massachusetts Geographic Information System (MassGIS) 2005 Land Use data. This data set documents land area covered by forests, wetlands, impervious surfaces, agriculture, and other land and water classifications.

Table 5-2 Existing Land Use 2005

Land Use	Mass GIS Land Use Description (2005)	Mashpee Land Area (Acres)
Agriculture	Cranberry Bog: Both active and recently inactive cranberry bogs and the sandy areas adjacent to the bogs are used in the growing process. Impervious features associated with cranberry bogs such as parking lots and machinery are included.	108.32
	Pasture: Fields and associated facilities (barns and other outbuildings) are used for animal grazing and the growing of grasses for hay.	2.54
	Cropland: Generally, tilled land is used to grow row crops. Boundaries follow the shape of the fields and include associated buildings (e.g., barns). This category also includes turf farms that grow sod.	0.04
	Nursery: Greenhouses and associated buildings as well as any surrounding maintained lawn. Christmas tree (small conifer) farms are also classified as Nurseries.	1.58

Table 5-2 Existing Land Use 2005		
Land Use	Mass GIS Land Use Description (2005)	Mashpee Land Area (Acres)
	Total Agriculture	112.48
Recreation & Public Space	Urban Public/ Institutional: Lands comprising schools, churches, colleges, hospitals, museums, prisons, town halls or courthouses, police and fire stations, including parking lots, dormitories, and university housing. Also, may include public open green spaces like town commons.	117.19
	Water-Based Recreation: Swimming pools, water parks, developed freshwater and saltwater sandy beach areas, and associated parking lots.	12.70
	Participation Recreation: Recreation Facilities are used by the public for active recreation. Includes ball fields, tennis courts, basketball courts, athletic tracks, ski areas, playgrounds, and bike paths plus associated parking lots. Primary and secondary school recreational facilities are in this category, but university stadiums and arenas are considered Spectator Recreation.	223.54
	Golf Course: Includes the greenways, sand traps, water bodies within the course, associated buildings, and parking lots.	383.76
	Saltwater Sandy Beach	131.56
	Total Recreation & Public Space	868.76
Residential	Very Low-Density Residential: Housing on > 1 acre lots and very remote, rural housing.	146.45
	Low-Density Residential: Housing on 1/2 - 1 acre lots.	723.33
	Medium Density Residential: Housing on 1/4 - 1/2 acre lots.	1,345.86
	High-Density Residential: Housing on smaller than 1/4 acre lots.	559.72
	Multi-Family Residential: Duplexes (usually with two front doors, two entrance pathways, and sometimes two driveways), apartment buildings, condominium complexes, including buildings, and maintained lawns.	423.59
	Total Residential	3,198.95
Commercial	Malls, shopping centers, and larger strip commercial areas, plus neighborhood stores and medical offices (not hospitals).	153.24
Industrial	Light and heavy industry, including buildings, equipment, and parking areas.	77.59
Undeveloped	Forest: Areas where tree canopy covers at least 50% of the land. Both coniferous and deciduous forests belong to this class.	8,667.46
	Open Land: Vacant land, idle agriculture, rock outcrops, and barren areas.	119.79
	Transitional: Open areas in the process of being developed from one land use to another (if the future land use is at all uncertain).	36.81

Table 5-2 Existing Land Use 2005		
Land Use	Mass GIS Land Use Description (2005)	Mashpee Land Area (Acres)
	Brushland/Successional: Predominantly (> 25%) shrub cover, and some immature trees not large or dense enough to be classified as forest.	21.47
	Mining: Includes sand and gravel pits, mines, and quarries. The boundaries extend to the edges of the site's activities, including on-site machinery, parking lots, roads, and buildings.	26.96
	Waste Disposal: Landfills, dumps, and water and sewage treatment facilities such as pump houses, and associated parking lots.	14.26
	Total Undeveloped	8,886.74
Transportation and Utility	Transportation: Airports (including landing strips, hangars, parking areas, and related facilities), railroads and rail stations, and divided highways (related facilities would include rest areas, highway maintenance areas, storage areas, and on/off ramps).	611.49
	Marina: Include parking lots and associated facilities but not docks	6.86
	Powerline/Utility: Powerline and other maintained public utility corridors and associated facilities, including power plants and their parking areas.	62.18
	Total Transportation and Utility	680.53
Cemeteries	Includes the gravestones, monuments, parking lots, road networks, and associated buildings.	5.23
Wetlands	Forested Wetland: DEP Wetlands (1:12,000) WETCODEs 14, 15, 16, 24, 25 and 26.	218.50
	Non-Forested Wetland: DEP Wetlands (1:12,000) WETCODEs 4, 7, 8, 12, 23, 18, 20, and 21.	351.18
	Saltwater Wetland	304.88
	Total Wetlands	874.56
Water	DEP Wetlands	1,526.69
Total		16,384.78

Source: MassGIS Land Use (2005)

Mashpee encompasses approximately 16,384.78 acres of land. Of the total land, 65.6% is constrained by ecologically sensitive habitats and dense canopy including forest (52.9%), forested wetlands (1.3%), non-forested wetlands (2.1%), and water (9.3%).

Table 5-3 Existing Land Use 2016		
MassGIS Land Use Code (2016)	Mass GIS Land Use Name (2016)	Mashpee Land Area (Acres)
7	Agriculture	40.60
3	Commercial	1,000.18
4	Industrial	121.72
10	Mixed use, primarily residential	56.17

Table 5-3 Existing Land Use 2016

2	Open Land	5,030.94
8	Recreation	176.69
12	Residential – multi-family	947.99
13	Residential - other	44.39
11	Residential – single-family	3,253.21
55	Right-of-way	974.74
9	Tax exempt	3,167.01
0	Unknown	54.86
88	Water	1,516.44
Total		16,384.94

Source: MassGIS Land Cover/Land Use (2016)

Note:

a. MassGIS 2016 land cover/land use dataset does not conform to the classification schemes of previous land use data from MassGIS (1971-1999; 2005). The 2016 Mass GIS land use/land cover information for Mashpee is provided for informational purposes.

Land Use 2005 and 2016 maps are needed in this section. We will map this information through MassGIS Data: Land Use (2005) and 2016 Land Cover/Land Use.

5.3.2 Existing Zoning Districts

The allowable use of land is determined by the designation of a zoning district, which is established in the Zoning Bylaw. The Zoning Bylaw is responsible for establishing the zoning districts in town and determining which uses are allowed in each district. The town is divided into six underlying zoning districts (Town of Mashpee, 2015). Underlying zoning districts and their minimum lot size requirements are detailed in Table 5-4.

Table 5-4 Minimum Lot Size for Zoning Districts

Zoning District	Minimum Lot Size (square feet)	Minimum Lot Frontage (square feet)
Residential Districts		
R-3	40,000	150
R-5	80,000	150
Commercial Districts		
C-1	40,000	200
C-2	40,000	200
C-3	40,000	200
Industrial Districts		
I-1	40,000	200

Source: Zoning Bylaw of the Town of Mashpee 2020

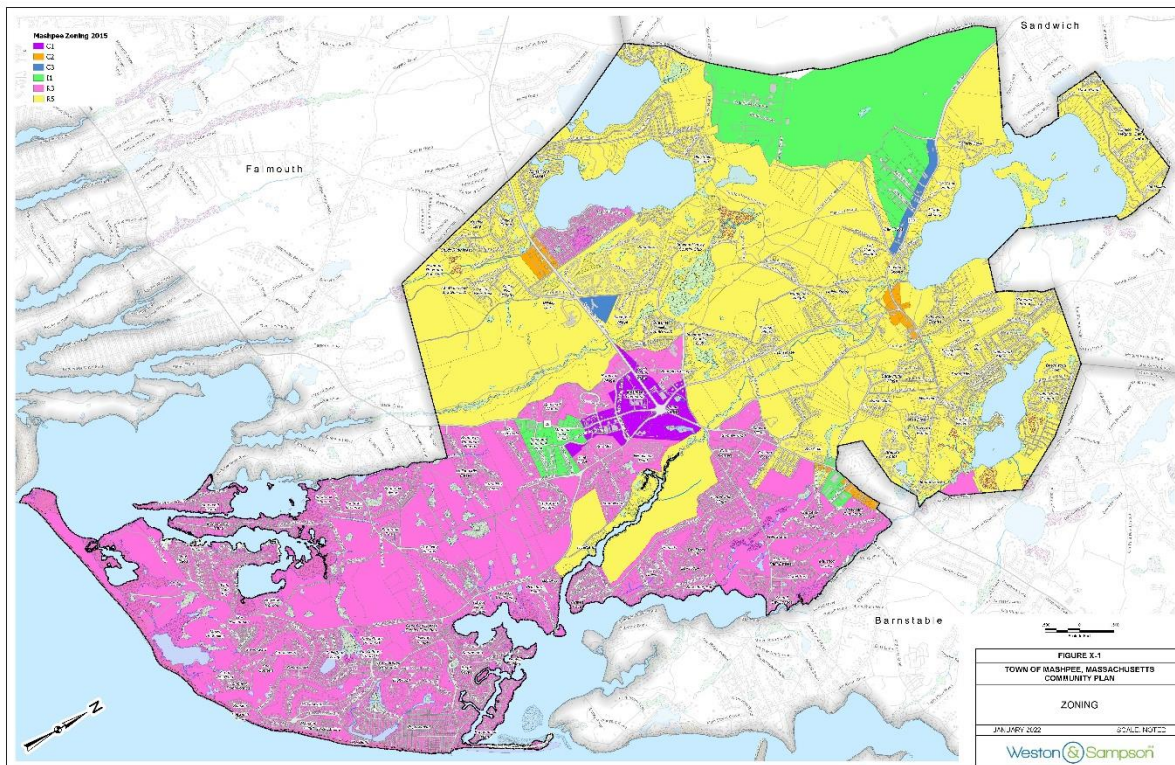


Figure 2 Zoning

Source: Town GIS

Overlay Districts

In addition to the underlying zoning districts described above, the Town applies seven overlay districts. An overlay district is a specific type of zoning district that floats on top of an underlying zoning district and brings an additional layer of standards to all areas within the defined overlay boundary, regardless of the underlying base zoning district. Overlay districts can serve multiple purposes, such as encouraging denser development or discouraging development in natural resource areas.

The Town Bylaw does not provide a purpose and criteria for most overlay districts in Mashpee. Below is an explanation of the purpose or criteria for overlay districts provided in the Zoning Bylaw:

Groundwater Protection District:

The purpose of Article XIII in the Zoning Bylaw is to protect public health from the contamination of existing and potential public and private water supplies and to protect the general welfare by preserving limited water supplies for present and future use.

Popponesset Overlay District:

The overlay allows for small lot sizes (6,000 square feet) and greater lot coverage.

Wireless Facility Overlay District:

The area within the two hundred ten (210') foot wide Commonwealth Electric Company transmission line easement running generally east-west between the Falmouth Town line and the Barnstable Town line,

except that portion within the boundaries of the Otis A.N.G.B. Accident Prevention Zone; All other lands in the Town which are not located within the boundaries of the Mashpee National Wildlife Refuge, within one thousand (1000') feet of the mean high water line of a Great Pond or a tidal water body, within historic districts, within one thousand (1000') feet of a historic district or of structures or places listed in the Massachusetts State Register of Historic Places, within the Otis A.N.G.B. Accident Prevention Zone, within the R-3 or R-5 Zoning Districts or within three hundred (300') feet of the right of way of any designated scenic roadway.

Mashpee Center Overlay District:

The Mashpee Center Overlay District shall include those parcels shown on the 1998 Mashpee Assessors' Maps as Map 27, Block 46, Map 28, Blocks 3 through 12, Map 35, Blocks 30 and 31, and Map 36, Blocks 1 through 20, 5A, 5B, 41 through 45, 47 and 49 through 52. The Mashpee Historic District is located within the Mashpee Center Overlay District.

Historic District:

Section 110-1 of the Mashpee General Bylaw states that the purpose of the Historic District is to aid in the preservation and protection of the distinctive characteristics and architecture of buildings and places significant in the history of the town, the maintenance, and improvement of their settings and the encouragement of new building designs compatible with the existing architecture.

Otis A.N.G. B. Accident Prevention Zone:

The Otis A.N.G.B. Accident Prevention Zone is shown on a map entitled "Otis A.N.G. B. Accident Prevention Zone" dated January 1987 on file in the office of the Town Clerk. It is considered part of the Zoning Bylaw. No new school, hospital, theater, or place of public assembly shall be erected or permitted within this zone. In addition, no portion of any structure located within the said zone may exceed thirty-five (35') feet in height, measured from the highest natural grade of the site at the foundation line.

Light Industrial Overlay District:

The Light Industrial Overlay District includes all parcels shown as within the I-1 and C-3 Zoning Districts on the Official Zoning Map.

Further information is needed in this section regarding the purpose of the Wireless Facility Overlay District and the Otis A.N.G. B. Accident Prevention Zone. We will gather this information through the Town.

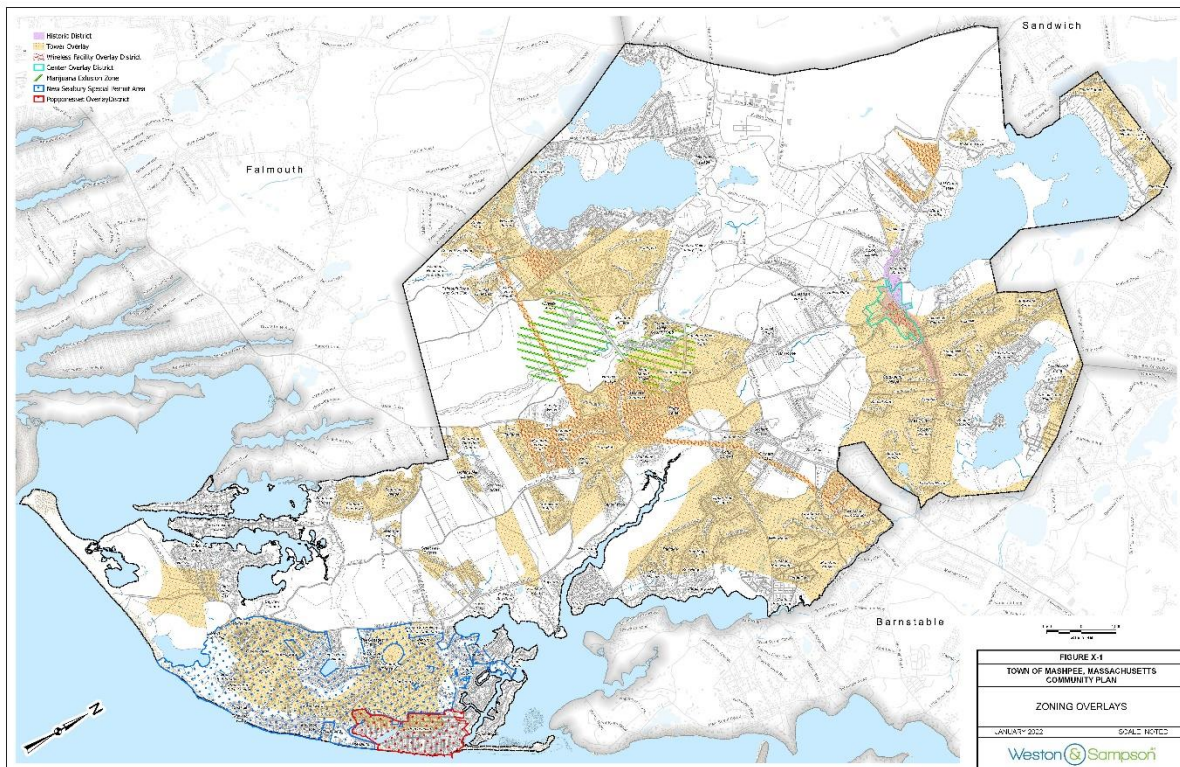


Figure 3 Zoning Overlays

Source: Town GIS

The Zoning Overlay map will be updated to include the Groundwater Protection District, Popponesset Overlay District, Wireless Facility District, Mashpee Center Overlay, Historic District, Otis A.N.G.B Accident Prevention Zone, and the Light Industrial Overlay District.

Areas of Critical Environmental Concern (ACEC):

The purpose of Article XIV in the Zoning Bylaw is the protection of Areas of Critical Environmental Concern, areas of significance for flood control or the prevention of storm damage, waters containing shellfish and fisheries, and other public interests identified by the Wetlands Protection Act (MGL C. 131, §40 and 40A) and the Town's Wetlands Protection Bylaw.

The Floodplain District:

Article XI in the Zoning Bylaw covers the Floodplain District, which includes all Special Flood Hazard Areas within the Town Designated as Zone EA or VE on the Barnstable County Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA) for the administration of the National Flood Insurance Program.

Marijuana Exclusion Zone:

The purpose of the Marijuana Exclusion Zone is to show areas where marijuana establishments are not permitted to operate within the town.

New Seabury Special Permit Zones:

Further information is needed in this section regarding the purpose of the New Seabury Special Permit Zone. We will gather this information through the Town.

A Map titled Exclusion and Special Permit Zones will be added to include the Marijuana Exclusion Zone and the New Seabury Special Permit Zones.

The Open Space Incentive Plan

Mashpee and Quashnet River Protective Districts:

The purpose of this Article XII in the Zoning Bylaw is the preservation of the Mashpee River and Quashnet River and the protection of wildlife resources. The Mashpee and Quashnet River Protective Districts Areas are shown on the Open Space Incentive Plan.

Primary and Secondary Conservation Areas:

The Primary and Secondary Conservation Areas are shown on the Open Space Incentive Plan.

Further information is needed in this section regarding Open Space Incentive Plan. We will gather this information through the Town.

Table 5-5 below summarizes the total land area by zoning categories.

Table 5-5 Land Area by Zoning Category				
Zoning Category	Acres	Percentage of Total Land Area	Regulatory Authority	Provisions
Residential Districts			Town of Mashpee	Zoning Bylaw, §174-4
R3	6084.1	37.1%		
R5	497.8	3.0%		
Commercial Districts			Town of Mashpee	Zoning Bylaw, §174-4
C1	250.7	1.5%		
C2	99.9	0.6%		
C3	74.49	0.5%		
Industrial Districts			Town of Mashpee	Zoning Bylaw, §174-4
I1	1273.35	7.8%		
Groundwater Protection District	5571.64	34.0%	Commonwealth of Massachusetts, Town of Mashpee	Massachusetts General Laws, Chapter 41A Zoning Bylaw, §174-79
Popponesset Overlay District	164.68	1.0%	Town of Mashpee	Zoning Bylaw, §174-4
Wireless Facility Overlay District	608.50	3.7%	Town of Mashpee	Zoning Bylaw, §174-4
Mashpee Center Overlay District	62.65	0.4%	Town of Mashpee	Zoning Bylaw, §174-4

Table 5-5 Land Area by Zoning Category				
Zoning Category	Acres	Percentage of Total Land Area	Regulatory Authority	Provisions
Light Industrial Overlay District	1347.84	8.2%	Town of Mashpee	Zoning Bylaw, §174-4
Otis A.N.G. B. Accident Prevention Zone			Town of Mashpee	Zoning Bylaw, §174-4
Mashpee Flood Insurance Rate Map	3862.38	23.6%	Federal Emergency Management Agency (FEMA)	Zoning Bylaw, §174-4
Areas of Environmental Concern	881.37	5.4%	Secretary of Energy and Environmental Affairs (EEA)	Massachusetts General Laws, Chapter 131, §40 and 40A
Historic District	91.29	0.6%	Mashpee Historic District Commission	Mashpee General Bylaw, §110-1
Mashpee and Quashnet River Protective Districts			Commonwealth of Massachusetts Town of Mashpee, Open Space Incentive Plan (1998)	Massachusetts General Laws, Chapter 131, §40 Zoning Bylaw, §174-4
Primary and Secondary Conservation Areas			Town of Mashpee, Open Space Incentive Plan (1998)	Zoning Bylaw, §174-4
Marijuana Exclusion Zone	436.13	2.7%	Commonwealth of Massachusetts	Massachusetts General Laws, Chapter 94G § 3(a)(2)(ii)
Seabury Special Permit Zones	1014.00	6.2%	Town of Mashpee	

Source: Mashpee GIS

Land Area by Zoning Category needs to be updated in this section. We will add this information through Town GIS data.

5.3.3 Development Trends

Further information is needed in this section regarding development trends. We will gather this information through stakeholder interviews.

5.3.4 Threats

Further information is needed in this section regarding threats. We will gather this information through stakeholder interviews.

5.3.5 *Current Measures*

Further information is needed in this section regarding current measures. We will gather this information through stakeholder interviews.

5.4 **Community Engagement**

Further information is needed in this section regarding community engagement. We will gather this information through stakeholder interviews and community engagement.

Goals & Policies

Further information is needed in this section regarding goals and policies. We will gather this information through stakeholder interviews and community engagement.

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NATURAL RESOURCES

DISCLAIMER: This is a working draft and will continue to be updated as the Comprehensive Plan process evolves. Additional information will be added as stakeholder and public input is gathered. These blue boxes throughout the draft chapters represent areas of further consideration and study and will be updated with additional information as it is collected.

4.1 Introduction

Mashpee is located along the southern coast of the Cape Cod peninsula. With over five miles of coastline along Nantucket Sound and Vineyard Sound, the Town of Mashpee manages large coastal embayments and four of the largest freshwater ponds on the Cape. Mashpee is also rich in cultural and historical resources and is home to the federally recognized Mashpee Wampanoag Tribe, whose people have been living in Mashpee and the surrounding region for more than 12,000 years.

Mashpee's natural resources have played a defining role in the town's development, settlement pattern, and character. Mashpee enjoys a variety of important natural features and open space resources, including the Mashpee National Wildlife Refuge and upland forests that support regional water resources and habitat. These natural resources in Mashpee play a role in tourism, recreation, economic health, and the scenic value of the town. As described in the Cape Cod Regional Policy Plan:

Natural Areas are generally the region's least developed and most sensitive areas. The vision for these areas is to minimize adverse development impacts to sensitive resource areas, to preserve lands that define Cape Cod's natural landscape and contribute to its scenic character, and to improve the Cape's resilience to severe storms and the effects of climate change. (Cape Cod Commission, 2018)

For all of these reasons, natural resource management is a critical component of this Comprehensive Plan and plays an important role in planning for Mashpee's future. Because natural resources span so many topic areas, this common theme must be reflected in other elements of this plan. As an example, land use and water supply are inextricably linked to natural resources, making them vital components of all focus areas of comprehensive planning.

4.2 Existing Conditions

To establish effective policies to protect the town's natural resources, a thorough inventory of the town's natural resources is required. This section includes existing conditions of Mashpee's natural resources under the following categories:

- Landscape and Scenic Resources
- Shoreline
- Flood Zones
- Wetlands
- Surficial Geology
- Soils and Vegetation
- Wetlands
- Wildlife Habitat

- Surface Water
- Groundwater

In addition, this chapter identifies threats to natural resources for the Town of Mashpee to consider future actions to mitigate and protect these important assets.

4.2.1 *Landscape and Scenic Resources*

Mashpee has many scenic resources which include water views and conservation areas such as the Mashpee River, the Popponesset Spit, and Nantucket Sound (Mashpee Environmental Coalition, n.d.). Other areas of interest include:

- Jehu Pond Park
- Lopez Conservation Area
- Lowell Holly Reservation
- Mashpee River Woodlands
- South Mashpee Pine Barrens
- South Cape Beach Area
- Santuit Preserve

Mashpee also has numerous trails that provide opportunities for scenic viewing and is a significant resource of ecological assets (Mashpee Environmental Coalition, n.d.). The Waquoit Bay is designated as an Area of Critical Environmental Concern by the Massachusetts Secretary of Energy and Environmental Affairs (EEA) for having the quality, uniqueness, and significance of natural and cultural resources (MassGIS, 2009).

Further information is needed in this section regarding landscape and scenic resources. We will gather this information through stakeholder interviews.

4.2.2 *Shoreline*

Mashpee has over five miles of coastline along Nantucket Sound and Vineyard Sound. The town's shoreline is farmed by large coastal embayments: Waquoit Bay to the west and Popponesset Bay to the east. Waquoit Bay and Popponesset Bay include several small rivers, brooks, and small ponds in the area. The majority of Mashpee's shoreline has been claimed by development, including houses, Town beaches, and summer camps. Information regarding development by the Popponesset Corporation and the New Seabury Resort is detailed in the Land Use Chapter. The Mashpee River Reservation, which empties into Popponesset Bay, remains in good quality (The Trustees of Reservations). Further information on water quality is detailed under the Surface Water section of this chapter.

4.2.3 *Flood Zones*

Flood zones are those areas subject to temporary inundation during storm events or seasonal increases in rainfall or snowmelt. Flood zones are defined as areas with a 1% chance of flooding in any given year. These zones play an important role in naturally protecting a community from flood damage. Flood zones are commonly associated with water bodies and are designated and mapped by the Federal Emergency Management Agency (FEMA) by category. Flooding in Mashpee is the result of coastal storms, nor'easters, heavy rains, tropical storms, and hurricanes. Approximately 2,816.43 acres of land in

Mashpee is classified by FEMA as a High-Risk Coastal Area (VE), a Regulatory Floodway (AE), or a 0.2% annual chance flood areas (X) within the town (MassGIS, 2017).

Article XI in the Zoning Bylaw covers the Floodplain District, which includes all Special Flood Hazard Areas (SFHAs) within the town designated as Zone EA or VE on the Barnstable County Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA) for the administration of the National Flood Insurance Program (Town of Mashpee, 2021). These are locations where the NFIP's floodplain management regulations must be enforced because they are within the land area covered by the floodwaters of the base or 100-year flood (Federal Emergency Management Agency).

Flood Map is needed in this section. We will map this information through MassGIS Data: FEMA National Flood Hazard Layer.

Parcels and buildings vulnerable to flooding were identified in the 2017 Hazard Mitigation Plan Draft. The plan identified 19% of the parcels in the A zone and 4.6% of the parcels in the V zone (Cape Cod Commission, 2017). Infrastructure that is vulnerable to the impacts of flooding was also identified in the 2017 Hazard Mitigation Plan. These areas include several culverts, parts of Great Neck Road South and Great Oak Road, Route 28 east of the rotary, and the School Street Bridge (Cape Cod Commission, 2017). Additionally, the Municipal Vulnerability Preparedness (MVP) Planning process identified existing development in vulnerable floodplains, as well as coastal and stormwater flooding of low-lying roads and culverts, including Brook Road crossing Red Brook and Great Oak Road adjacent to Jehu Pond (Woods Hole Group, 2020).

4.2.4 *Surficial Geology*

The landscape of Barnstable County consists of glacial landforms from the last ice age. The moving ice scraped bedrock from southern New England and deposited it as glacial sediment in Cape Cod (General Geology of Barnstable County, Massachusetts). Kettle holes were formed from blocks of ice left behind by retreating glaciers (Town of Mashpee, 2008). As a result, steep slopes began to collapse around their edges and formed a more gentle grade (Town of Mashpee, 2008). Sea level rise, resulting from the ice gradually melting, resulted in freshwater reaching the ground into porous outwash sediments (Town of Mashpee, 2008). Mashpee consists of gravelly pebble to cobble-sized gravel typical of outwash plain (Town of Mashpee, 2008). In addition to sand and gravel, the New Seabury and Popponesset Beach areas consist of boulders and larger stones. (Town of Mashpee, 2008).

4.2.5 *Soils and Vegetation*

The town is surrounded by pines and oaks indigenous to the area. In addition to the pine trees and scrub oak, the Mashpee Pine Barrens, the Mashpee River Woodlands, and the Besse Bog consist of rare plant species. These areas are further detailed in the Open Space and Recreation chapter of this Comprehensive Plan. The Mashpee Pine Barrens have pockets of Atlantic white cedar swamps that grow in sandy glacial deposits with standing water (Town of Mashpee, n.d.). The Mashpee River Woodlands include pine and oak forest, an understory of huckleberry, inkberry, and sheep laurel (Town of Mashpee, n.d.). The eastern white pines are the most common trees found in this conservation area (Town of Mashpee, n.d.). The Besse Bog is home to the rare pink lady's slipper, which is found on acidic soils, and made up of mixed forest and freshwater wetlands. (Town of Mashpee, n.d.).

4.2.6 Wetlands

Wetlands generally occur in transitional areas between dry land and open water and they support vital natural functions. They are typically areas of poor drainage and standing water, either on a seasonal or year-round basis. Approximately 2,624.59 acres of the town are wetlands, this includes barrier beach system, coastal and beach dunes, cranberry bogs, deep, shallow and salt marsh, shrub and wooded swamp, wooded swamp coniferous, deciduous, and mixed trees, tidal flat, and open water (MassGIS, 2017). Massachusetts Department of Environmental Protection (DEP) wetlands are summarized by the description in table 4-1 below.

Table 4-1 DEP Wetlands in Mashpee	
Wetland Description	Acres
Barrier Beach System	29.0
Barrier Beach-Coastal Beach	32.86
Barrier Beach-Coastal Dune	19.77
Bog	7.23
Coastal Bank Bluff or Sea Cliff	10.49
Coastal Beach	29.14
Coastal Dune	11.66
Cranberry Bog	82.36
Deep Marsh	44.05
Open Water	1524.34
Salt Marsh	307.02
Shallow Marsh Meadow Or Fen	104.51
Shrub Swamp	199.38
Tidal Flat	0.22
Wooded Swamp Coniferous	40.03
Wooded Swamp Deciduous	116.19
Wooded Swamp Mixed Trees	66.34
Total	2624.59

Source: MassDEP Wetlands

Mashpee's Conservation Department and Commission are responsible for permitting and enforcement of the Massachusetts Wetlands Protection Act and the more protective Town of Mashpee Wetland Bylaw, Chapter 172 (Town of Mashpee). The purpose of the Mashpee Wetlands Protection Bylaw is to protect the wetlands, related water resources, and adjoining land areas in town by prior review and control of activities deemed by the Conservation Commission likely to have a significant or cumulative effect upon resource area values, including but not limited to the following: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention, including coastal storm flowage, water quality, water pollution control, fisheries, shellfish, wildlife habitat and biodiversity, rare species habitat, including rare plant species, recreation, agriculture, and aquaculture values. Article XIV in the Zoning Bylaw protects public interests identified by the Wetlands Protection Act (MGL C. 131, §40 and 40A) and the Town's Wetlands Protection Bylaw.

4.2.7 Wildlife Habitat

The open waters, wetlands, rivers, and forests in the town provide habitat for a variety of waterfowl and wildlife, while also supporting tourism, clean water, and outdoor activities. This section provides an overview of various wildlife habitats found within Mashpee.

Vernal Pools

Vernal pools, also called vernal ponds or ephemeral pools, are unique, ecologically significant seasonal pools of water that provide habitat for distinctive plants and animals. They are a specific type of wetland usually devoid of fish and thus allow the safe development of natal amphibian and insect species unable to withstand competition or predation by fish. According to the Natural Heritage and Endangered Species office (NHESP), Mashpee currently has 39 certified vernal pools which are mostly located on private land that is not protected from development. Additionally, 38 “potential vernal pools” are also located in the town.

Wildlife Habitat Map is needed in this section. We will map this information through MassGIS Data: NHESP Potential Vernal Pools.

As noted on the Massachusetts Department of Environmental Protection (DEP) website, Massachusetts is unique in its efforts to protect vernal pools. In 1988, the MA Wetlands Protection Act was amended to include wildlife habitat as a reason to protect wetlands, and in recognition of the value of vernal pools to wildlife, they were defined and included in the regulation.

Wildlife Corridor and Habitat

BioMap2 is a framework offered by the MassWildlife's Natural Heritage & Endangered Species Program and Division of Fisheries and Wildlife for protection and stewardship of lands and waters that are most important for conserving biological diversity in Massachusetts. Mashpee contains a Critical Natural Landscape identified by BioMap2. Critical Natural Landscape identifies large natural landscape blocks that are minimally impacted by development, as well as buffers around some Core Habitats to enhance resilience (UMass Center for Agriculture, Food, and the Environment). BioMap2 is the preferred information source for conservation planning and action (UMass Center for Agriculture, Food, and the Environment). Mashpee has 9,642 acres of Critical Natural Landscape area (Massachusetts Division of Fisheries & Wildlife, 2012).

BioMap Critical Natural Landscape Map is needed in this section. We will map this information through MassGIS Data: MassGIS: BioMap2

The Mashpee National Wildlife Refuge has a unique partnership with federal, state, and private conservation groups to preserve waterfowl and wildlife (U.S. Fish & Wildlife Service). The Mashpee National Wildlife Refuge was established in 1995 to protect and preserve natural resources associated with the Waquoit Bay area (U.S. Fish & Wildlife Service). Waquoit Bay supports one of the most diverse estuarine fish communities in the state (Waquoit Bay National Estuarine Research Reserve).

The wetlands, rivers, marshes, and upland forests in the town provide habitat for regionally significant or rare birds, fish, reptiles/amphibians, and flora. The upland forests provide benefits to wildlife species, including marbled and Jefferson salamanders (U.S. Fish & Wildlife Service). The Mashpee River is in great quality and notable for the rare sea-run brook trout (The Trustees of Reservations). The Quashnet River flows through mostly undeveloped land into Waquoit Bay (Division of Fisheries & Wildlife). The river has been the focus of several habitat improvement projects to improve trout habitat (Division of Fisheries & Wildlife). The town also supports bird species of high conservation priority including the Eastern Towhee in the Mashpee National Wildlife Refuge (Avibase - The World Bird Database).

Species of Concern

The Natural Heritage & Endangered Species Program (NHESP) Office lists species that are scarce in Massachusetts and considered to be endangered, threatened, or of special concern. This list includes several animals and plant species in Mashpee, which cover 3,992.75 acres of land within the town (MassGIS, 2021). The Massachusetts Endangered Species Act (MESA) and its regulations protect rare species and their habitats (MassWildlife's Natural Heritage & Endangered Species Program). NHESP Priority Habitat areas determine whether or not a proposed project or activity must be reviewed by the NHESP for compliance with the (MESA) and its implementing regulations (MassGIS, 2021). Documented MESA-listed species observations are summarized in Table 4-2 below.

Common Name	Taxonomic Group	MESA Status	Most Recent Observation
American bittern	Bird	Endangered	2006
American brook lamprey	Fish	Threatened	2014
Barn owl	Bird	Special Concern	1991
Buck moth	Butterfly/Moth	Special Concern	2013
Coastal heathland cutworm	Butterfly/Moth	Special Concern	2019
Common tern	Bird	Special Concern	2008
Commons' rosette-grass	Vascular Plant	Special Concern	1968
Dune sympistis	Butterfly/Moth	Special Concern	2019
Dwarf bulrush	Vascular Plant	Threatened	1990
Eastern box turtle	Reptile	Special Concern	2019
Eastern meadowlark	Bird	Special Concern	2019
Eastern pondmussel	Mussel	Special Concern	2014
Eastern whip-poor-will	Bird	Special Concern	2013
Grasshopper sparrow	Bird	Threatened	2017
Inundated beaksedge	Vascular Plant	Threatened	1926
Least tern	Bird	Special Concern	2017
Little brown bat	Mammal	Endangered	2018
Mattamuskeet rosette-grass	Vascular Plant	Endangered	2007
Northern diamond-backed terrapin	Reptile	Threatened	1971
Northern harrier	Bird	Threatened	2003
Northern long-eared bat	Mammal	Endangered	2016
Northern parula	Bird	Threatened	2011
Pine barrens bluet	Dragonfly/Damselfly	Threatened	1996
Piping plover	Bird	Threatened	2019
Pondshore smartweed	Vascular Plant	Special Concern	2003
Redroot	Vascular Plant	Special Concern	2021
Roseate tern	Bird	Endangered	2005
Scarlet bluet	Dragonfly/Damselfly	Threatened	1999
Slender bladderwort	Vascular Plant	Special Concern	1931
Terete arrowhead	Vascular Plant	Special Concern	1997
Tidewater mucket	Mussel	Special Concern	2015
Upland sandpiper	Bird	Endangered	2019
Vesper sparrow	Bird	Threatened	2018
Water-willow borer moth	Butterfly/Moth	Threatened	2015

Table 4-2 MESA-listed Species Observations

Wright's rosette-grass	Vascular Plant	Special Concern	1926
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Source: MassWildlife's Natural Heritage & Endangered Species Program Rare Species Viewer

NHESP Estimated Habitat of Rare Wildlife Map is needed in this section. We will map this information through MassGIS Data: NHESP Estimated Habitats of Rare Wildlife.

Additionally, contaminants, dams, and turbines of hydropower plants affect eels during migration, which no longer have access to their historical habitat (U.S. Fish and Wildlife Service). High amounts of phytoplankton are adding to oxygen depletion and loss of fish, shellfish, and bottom-dwelling animals and organisms (University of Massachusetts Dartmouth, 2021). New England cottontails have faced an extreme decline in Massachusetts and are being tracked on Cape Cod (Town of Mashpee). Prescribed burns have been carried out on conservation land to remove mature trees and allow regrowth of low shrubs, which are preferred by cottontails to hide in (Town of Mashpee). The town also supports bird species of high conservation priority, including the endangered saltmarsh sparrow, and several near-threatened species in the Mashpee National Wildlife Refuge (Avibase - The World Bird Database).

4.2.8 Surface Water

Surface water is any body of water above ground, including oceans, streams, rivers, lakes, wetlands, reservoirs, and creeks (National Geographic Resource Library, 2021). Surface water plays a vitally important role as it is relied on for many human uses. It is an important source of drinking water and is used for the irrigation of farmland. A watershed is a land area that channels rainfall and snowmelt to these surface water bodies. The health and quality of a watershed are directly linked to the health and quality of its receiving surface water bodies. Mashpee is part of the Cape Cod watershed.

Mashpee is bordered by Waquoit Bay to the west and Popponesset Bay to the east and includes several small rivers, brooks, and small ponds in the area. Waquoit Bay contains open waters, salt, fresh marshes, barrier beaches, dunes, rivers, mixed pine and oak forests, and sandplain grasslands that are important to commercial and recreational shellfish and finfish fisheries (Waquoit Bay National Estuarine Research Reserve). The Town manages four of the largest freshwater ponds on the Cape, including Ashumet Pond, Johns Pond, Mashpee-Wakeby Pond, and the Santuit Pond (Town of Mashpee).

The Mashpee River, which begins at Mashpee/Wakeby Pond and empties into Popponesset Bay, has excellent water quality (The Trustees of Reservations). The Waquoit Bay, Santuit Pond, Ashumet Pond, and Popponesset Creek require a total maximum daily load (TMDL) according to the U.S. Clean Water Act. A TMDL is a regulatory term describing a plan for restoring impaired waters that identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. All water quality impairments are summarized in Table 4-3 below.

Table 4-3 Receiving Waters and Impairments

Water Body	Impairment
Mashpee River	Category 2: Unimpaired for some uses and not assessed for others.
Quashnet River	Category 2: Unimpaired for some uses and not assessed for others.
Santuit River	Category 2: Unimpaired for some uses and not assessed for others.
Childs River	Category 2: Unimpaired for some uses and not assessed for others.
Red Brook	Category 2: Unimpaired for some uses and not assessed for others.

Table 4-3 Receiving Waters and Impairments

Hamblin Pond	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Jehu Pond	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Great River	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Little River	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Waquoit Bay	Category 5: Impaired for one or more uses and requiring a TMDL (impairment due to pollutant(s) such as nutrients, metals, pesticides, solids, and pathogens).
Wakeby Pond	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Mashpee Pond	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Santuit Pond	Category 5: Impaired for one or more uses and requiring a TMDL (impairment due to pollutant(s) such as nutrients, metals, pesticides, solids, and pathogens).
Ashumet Pond	Category 5: Impaired for one or more uses and requiring a TMDL (impairment due to pollutant(s) such as nutrients, metals, pesticides, solids, and pathogens).
Peters Pond	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Popponesset Creek	Category 5: Impaired for one or more uses and requiring a TMDL (impairment due to pollutant(s) such as nutrients, metals, pesticides, solids, and pathogens).
Shoestring Bay	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Mashpee River	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Popponesset Bay	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Johns Pond	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.
Santuit River	Category 4A: Impaired for one or more designated uses but does not require the development of a TMDL: TMDL has been completed.

Source: MassGIS 2016 Integrated List of Waters (305(b)/303(d))

Impaired Water Bodies are needed in this section. We will map this information through MassGIS Data: MassDEP 2016 Integrated List of Waters (305(b)/303(d)).

Mashpee Refuge projects include several efforts and restoration projects to improve water quality in Mashpee, including Upper Quashnet River Restoration, Waquoit Bay Watershed River Restoration Plan, Childs River Restoration Project, and the Abigail Brook Restoration Project (Friends of Mashpee National Wildlife Refuge).

4.2.9 Groundwater

Between 1980 and 2000, Mashpee experienced rapid growth of single-family housing which contributed to many of the land use policies in place today and ongoing challenges for municipal planning. Housing construction stressed natural systems and presented challenges to municipal services, such as water and wastewater.

The Mashpee Clean Water Plan includes plans for wastewater facilities to restore water quality in Mashpee (Town of Mashpee, n.d.). A 2021 University of Massachusetts Dartmouth study concluded that the upper regions of Waquoit Bay and Popponesset Bay estuaries show the greatest level of nutrient-related water quality decline (University of Massachusetts Dartmouth, 2021). Degraded estuarine habitat is primarily restored through nitrogen management. The Town is utilizing shellfish seeding as a remedial action for estuaries approaching their nitrogen targets (Town of Mashpee, 2018).

The MassDEP Public Water Supply lists public water, community surface, groundwater, and public non-community supply sources (MassGIS, 2021). Supply sources, locations of proposed wells, and sources with a defined DEP-approved wellhead protection area (Zone II) are summarized in Table 4-4 below.

Table 4-4 Public Water Supply			
PWS Identification Number	Site Name	Type of Public Water Supply	Zone II Number
4172014	Cape Cod Camp Corporation	Transient Non-Community	0
4172039	Holland Mills Well No. 5	Proposed Well	665
4172039	Proposed Site #P-1	Proposed Well	31
4172014	Cape Cod Camp Corporation	Transient Non-Community	0
4172039	Rock Landing Well 3	Community Groundwater Well	665
4172039	Turner Road Well 2	Community Groundwater Well	659
4172033	Well 2	Community Groundwater Well	0
4172035	Well 1	Community Groundwater Well	0
4172039	Belcher Well 7	Community Groundwater Well	632
4172035	Well 2	Community Groundwater Well	0
4172033	Well 1	Community Groundwater Well	0
4172043	Sea Mist Resort	Transient Non-Community	0
4172014	Cape Cod Camp Corporation	Transient Non-Community	0
4172048	Fit Company For Women	Transient Non-Community	0
4172039	Mashpee Village Well 6	Community Groundwater Well	633
4172001	Well #2 And Well #3 Manifolded	Community Groundwater Well	0
4172043	Sea Mist Resort	Transient Non-Community	0
4172039	Quaker Run Well 4	Community Groundwater Well	655
4172039	Site P-11/Tw #1-90	Proposed Well	565
4172039	Rock Landing Well 2	Community Groundwater Well	665
4172039	Turner Road Well 5	Community Groundwater Well	659

Source: MassGIS Public Water Supplies

Zone I is used to designate the protective radius required around a public water supply well or wellfield. Mashpee has 23 Wellhead Protection Areas designated in Zone I (MassGIS, 2021). DEP Zone II and public water supply (PWS) data are closely linked. Wellhead Protection Areas are important for protecting recharge areas around public water supply groundwater resources (MassGIS, 2021). Mashpee has 12 Wellhead Protection Areas designated in Zone II (See Map – X.X) (MassGIS, 2021). In the absence of an approved Zone II, DEP has adopted the Interim Wellhead Protection Area (IWPA) as the primary, protected recharge area for PWS groundwater sources (MassGIS, 2021). Mashpee has 11 Interim Wellhead Protection Areas (See Map – X.X) (MassGIS, 2021).

Water Resource Risk and Protection Zones Map is needed in this section. We will map this information through MassGIS Data.

Further information is needed in this section regarding Groundwater. We will gather this information through stakeholder interviews and GIS analysis.

4.2.10 Threats

A variety of land uses, and human activities pose a threat to the town's natural resources. This section presents the most notable threats to the natural resources in Mashpee.

Unmanaged Stormwater Runoff

Stormwater is rainwater or melted snow that runs off streets, roofs, pavement, and other impervious surfaces as well as lawns, woodlands, and other more pervious areas as they become saturated. As the water flows over these surfaces, it can collect pollutants and sediment that can contaminate water bodies. Stormwater is addressed by federal, state, and local regulations. The United States Environmental Protection Agency (USEPA) has determined that municipal separate storm sewer systems (MS4s), a drainage system in an urbanized area, are a major pathway for the introduction of pollutants to waterways and are a leading cause of the impairment of ambient water quality, for both fresh and coastal waters (United States Environmental Protection Agency). Through the National Pollutant Discharge Elimination System (NPDES) under Section 319 of the Clean Water Act, the U.S. EPA regulates stormwater from MS4s. The Massachusetts Department of Environmental Protection (MassDEP) is delegated by USEPA to administer the program in Massachusetts. In 2016, EPA issued a final NPDES general permit for discharges of stormwater from small MS4s in Massachusetts (the MA MS4 Permit) (United States Environmental Protection Agency).

Mashpee is currently subject to MS4 jurisdiction in Massachusetts. Under this law, MassDEP requires subject communities to develop stormwater management program plans (SWMPPs) to address six minimum control measures. The six minimum control measures required in the SWMPP are addressed in Mashpee's Stormwater Management Program (Tighe&Bond, 2019):

- Public Education and Outreach
- Public Participation
- Illicit Discharge Detection and Elimination
- Management of Construction Site Runoff

- Management of Post Construction Site Runoff
- Good Housekeeping in Municipal Operations

Mashpee has established a Stormwater Management Task Force to develop and implement a Townwide Stormwater Management Plan (SWMP) to fully comply with the new National Pollution Discharge Elimination System (NPDES) permit and to continue to mitigate the impacts of stormwater runoff with the town (Town of Mashpee).

Uncontrolled Erosion and Sediment

Land development, when not properly managed, can have a detrimental effect on surrounding infrastructure and the function of the natural environment. When proper site preparation and maintenance do not occur during development, excessive quantities of soil can erode from the site. This situation can result in costly repairs and damage to the environment. The sediment can clog stormwater infrastructure, muddy streams, and leave deposits of silt in ponds and reservoirs and is considered a major water pollutant. Improperly managed construction projects can negatively impact aquatic habitat through erosion and sedimentation from construction sites (Town of Mashpee). The Erosion and Sedimentation Control section in the Town Bylaw ensures the prevention or reduction of soil erosion and sedimentation before, during, and after development or redevelopment of a site by requiring an Erosion and Sedimentation Control Plan to be submitted to the Town for approval before any construction takes place, except for some activities which are exempt from the requirement (Town of Mashpee, 2019). To help prevent soil erosion, Chapter 82 – Earth Removal under §82-3 Sand and Gravel Pits of the Town General Bylaw requires sand and gravel pit owners to replant trees or shrubs in areas larger than 5,000 square feet.

Nitrogen Control

Nutrient-related water quality decline is a serious threat to coastal waters and freshwater ponds in southeastern Massachusetts. The Massachusetts Estuaries Project (MEP) technical report indicated that the Waquoit Bay and the Popponesset Bay system are in impaired water quality as they exceed their critical threshold for nitrogen (Cape Cod Commission, 2017). The Comprehensive Watershed Nitrogen Management Plan is the culmination of multiple documents examining the needs and coordinating efforts of the Massachusetts Estuaries Project (MEP) (Town of Mashpee, 2019). The Mashpee Sewer Commission is exploring the expansion of Phase 2 of the Town's Comprehensive Watershed Nitrogen Management Plan to include lakes and ponds (Jung, 2021).

Nitrogen is detrimental to the water quality of Mashpee's ponds, streams, and bay area. Excess nitrogen can also cause algae blooms, which lower oxygen levels and lead to long-term damage to the ecosystem (Town of Mashpee, 2021). The Nitrogen Control section in the Town Bylaw aims to conserve valuable waterways and other resources that increase property values, protect the unique environment vital to the local economy, and reduce the financial burden on taxpayers and property owners by regulating the outdoor application of nitrogen and phosphorous on turf (Town of Mashpee, 2019). The regulation of fertilizer applications will reduce the overall amount of excess nitrogen and phosphorous entering resource areas as defined in the Mashpee Wetlands Protection Bylaw (Town of Mashpee, 2019). The Town also seeds shellfish as a remedial action for estuaries approaching their nitrogen targets (Town of Mashpee, 2018).

Hazardous and Landfill Areas

Landfills and hazardous waste can pollute water and air. Landfills also release methane gas, which is a potent greenhouse gas that contributes to climate change. Mashpee has a capped sanitary landfill located at Ashers Path (Town of Mashpee). The operation and maintenance of the landfill are overseen by the Board of Health (Town of Mashpee).

Diesel fuel and other chemicals are stored at local businesses. These chemicals are considered dangerous and require proper storage and disposal to avoid contamination of groundwater supplies. MCP/Chapter 21E Tier Classification sites are approximate locations of oil and/or hazardous material disposal sites that have been (1) reported and (2) Tier Classified under M.G.L. Chapter 21E and the Massachusetts Contingency Plan (MCP) (MassGIS, 2021). All MCP/Chapter 21E Tier Classification sites in Mashpee are summarized in table 4-5 below.

Table 4-5 MCP/Chapter 21E Tier Classification		
Site Name	Address	Tier Classification
Otis Air National Guard Base at South Outer Road	South Outer Road	Tier 1D
Mashpee Shell Station	Mashpee Shell Station	Tier I
Augat Inc.	Falmouth Road	Tier II
Lakeside Estates	300 Nathan Ellis Highway	Tier 1D

Source: MassGIS MassDEP Tier Classified Oil and/or Hazardous Material Sites

Invasive Species

Invasive species can alter habitat and threaten or eradicate native plants and animals. A variety of invasive, non-native plant species occurs in Mashpee. These include koi fish, variable milfoil, oriental bittersweet, autumn olive, morrow honeysuckle, Japanese knotweed, and multiflora rose (Spencer, 2021) (Houghton, Invasive Fish Spotted In Johns Pond, 2016) (Houghton, Prescribed Burning in Mashpee, MA, To Improve New England Cottontail Habitat, 2018) (Town of Mashpee). Monitoring for new invasives can help ensure early control measures to forestall major impacts on the environment.

Surface Water and Groundwater Resources and Protection Map is needed in this section. We will map this information through MassGIS Data.

4.2.11 Current Measures

Further information is needed in this section regarding current measures. We will gather this information through stakeholder interviews.

4.3 Community Engagement

Further information is needed in this section regarding community engagement. We will gather this information through community engagement.

4.4 Goals and Policies

Further information is needed in this section regarding goals and policies. We will gather this information through stakeholder interviews and community engagement.

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OPEN SPACE AND RECREATION

DISCLAIMER: This is a working draft and will continue to be updated as the Comprehensive Plan process evolves. Additional information will be added as stakeholder and public input is gathered. These blue boxes throughout the draft chapters represent areas of further consideration and study and will be updated with additional information as it is collected.

7.1 Vision

To be developed with Town.

7.2 Introduction

Open space and recreation areas and facilities are vital to a community's health, economy, and quality of life. The town's outdoor recreation spaces and amenities serve a variety of purposes: youth and adult sports, fitness and wellness programs, seasonal and community events, and others. These recreation resources are an asset to Mashpee residents of all ages, as well as residents in neighboring towns and throughout the state. They create a sense of community and provide enjoyment of the outdoors for a wide variety of individuals. Recreational opportunities play an important role in people's daily lives and contribute to quality of life within a community. Open space areas serve an equally important purpose within a community. They provide habitat, protect environmentally sensitive areas, contribute to the character of the community, and offer passive recreation opportunities. Many areas of town set aside for recreation and open space overlap and serve a dual purpose. Many properties considered as open spaces also provide opportunities for passive recreation such as hiking and bird watching. The purpose of the Open Space and Recreation Element is to define Town goals and actions to promote recreation and conservation of open space in Mashpee.

7.3 Existing Conditions

An important function of this Element is to inventory a community's existing open space and recreational resources. Section 7.3.1 provides an overview of the types of recreation facilities in town and Section 7.3.4 describes the types of open space in town along with their location and purpose.

7.3.1 Recreation Facilities Inventory

The Town of Mashpee offers a variety of outdoor recreation opportunities administered by the Mashpee Recreation Department. These amenities include sports, fitness, and wellness programs, childcare/preschool programs, and youth leisure programs (Town of Mashpee, n.d.). Table 7-1 below provides an overview of the different indoor and outdoor recreational facilities in Town.

This table will be updated further after discussions with the Recreation Department and Recreation Commission.

Table 7-1 Recreational Facilities Inventory			
Facility	Outdoor Amenities	Indoor Amenities	Address
Attaquin Park - Mashpee/Wakeby Lake	Attaquin Park Playground, Beach		Lake Avenue

Table 7-1 Recreational Facilities Inventory

Facility	Outdoor Amenities	Indoor Amenities	Address
Heritage Park	Softball/Baseball Fields, Playground, Soccer/Multi-Purpose Field, Basketball Court, Splash Pad, Tiger Long Playground		520 Main Street
John's Pond	Beach, Volleyball Court, Swing Sets, State Boat Ramp		Back Road
Mashpee Barnstable Fitness Center		Swimming Pool	168 Industrial Drive
Mashpee Senior Center			26 Frank Hicks Drive
Quashnet Elementary School and KC Coombs Elementary School	K.C. Coombs School Therapeutic Playground, Softball Field, Baseball Field, Soccer/Football Field	Gymnasium	150 Old Barnstable Rd and 152 Old Barnstable Road
Kids Klub Child Care Center	Kids Klub Pre-school Playground		Great Neck Road, North
Mashpee Middle-High School	Track, Basketball Courts, Baseball Fields, Softball Fields, Soccer/Field Hockey Field, Football Field, Tennis Court	Basketball Court, Training Rooms, Gymnasium	Route 151 and Old Barnstable Road
Maushop Equestrian Center	Horse Stables		31 Quashnet Road
Quashnet Valley Country Club	Golf Course, Tennis Courts		309 Old Barnstable Road
Mashpee Community Park/Veterans Garden	Outdoor Stage		Main Street Route 130
Ryder Conservation Area	Town Beach		Off South Sandwich Road
Sea Mist Resort	Outdoor Pool, Miniature Golf Course, Tennis Court	Swimming Pool	Great Neck Road South
Seconsett Island	Boat Ramps		Meadow Neck Road
Mashpee Pickleball Courts	Pickleball Courts		162 Ashumet Road
Willowbend Country Club	Golf Course, Swimming Pool, Tennis Court, Basketball Court		100 Willowbend Drive
The Country Club at New Seabury	Tennis, Golf Course, Swimming Pool		95 Shore Drive W,
Camp Farley	Horse Stables,		615 MA-130
Great River Boat Ramp	Boat Landing		Hooppole Road
Mashpee/Wakeby State Boat Ramp	State Boat Ramp		Main Street
Edward A. Baker Boat Ramp at Pirate's Cove	Boat Landing		End of Mashpee Neck Road
Ockway Bay	Boat Landing		Off Great Neck Road South
South Cape Resort and Club		Swimming Pool, Tennis Courts	
South Cape State Beach	Beach		500 Great Oak Road

Table 7-1 Recreational Facilities Inventory

Facility	Outdoor Amenities	Indoor Amenities	Address
Popponesset Beach	Beach, Ball Field		
Santuit Pond Estates Common Open Space	Tennis Court, Basketball Court, Ball Field, Beach, Boat Landing		48 Cranberry Lane and Timberland Drive

Source: Town of Mashpee, MassGIS Protected and Recreational Open Space 2021

7.3.2 Recreation Department

The Recreation Department is located at 520 Main Street and has five staff members, including a Recreation Director, an Assistant Recreation Director, an Administrative Secretary, an Administrative Assistant Kids Klub Preschool, and an Administrative Clerk (Town of Mashpee, n.d.). The Department of Public Works (DPW) is responsible for maintaining recreational facilities including Heritage Park, Town beaches, and other Town-owned properties (Town of Mashpee, n.d.). The DPW also maintains **LIST OF EQUIPMENT**

Additional information will be added to this section as interviews with Town staff are conducted.

7.3.3 Recreation Programs

The Recreation Department strives to provide a variety of opportunities and activities for the public to participate in. Several programs are reoccurring, and some are changing based on seasons and public demand. The Recreation Department offers a variety of programs from youth sports programs to coding for kids (Town of Mashpee, n.d.) (Town of Mass Recreation Department, 2021). Current programs are listed below but are subject to change based on staffing, funding, and attendance.

Kids Klub Preschool and Childcare Center

Kids Klub Childcare Center

The Childcare Center provides a safe, fun, affordable, not-for-profit preschool and daycare program for the benefit of the community.

Special Events

Camp Sessions

Camp sessions for Voyager Camp, Adventure Camp, and Explorer Camp are available for grades 1-7. Voyager Camp is available for grades 1-3, Adventure Camp is available for grades 4 and 5 and Explorer Camp is available for grades 6 and 7.

Youth Fishing Derby

Youth Fishing Derby is held at John's Pond Town Beach and is available for children ages 5-14.

Youth Programs

Instructional Tee Ball

Instructional Tee Ball is available for youth ages 3-6 and teaches fundamentals like hitting, catching, throwing, and gameplay.

After School Soccer

After School Soccer is open to youth in grades K-2 to refine key soccer skills in areas such as dribbling, passing, receiving, shooting, and gameplay.

Tiny Tykes Soccer

Tiny Tykes Soccer is open to youth 3-6 years that teaches basic soccer skills while focusing on motor skill development, balance, coordination listening skills, and teamwork.

Youth Track and Field

Youth Track and Field is open for children in grades 1-6 and focuses on elements of running such as warm-up, cool-down, and stretching.

Tennis

Tennis lessons are open to grades K-12 and available for youngsters to build strokes into muscle memory, develop footwork that cross-trains for all sports, and finely tunes hand/eye coordination.

Coding for Kids

Code Wiz aligns its curriculum with the K-12 Computer Science Framework and represents a vision in which all students engage in concepts and practices of Computer Science. Students critically engage in computer science issues; approach problems in innovative ways; create computational artifacts with a practical, personal or social intent.

Everyday Science!

A hands-on after-school program that explores science as we interact with it every day.

Adult Programs

Pickleball

Pickleball is available as open play, a predetermined time where pickleball players show up at the courts/gym to play. All classes are held at the Mashpee Pickleball Courts at 162 Ashumet Road.

Adult Tennis

Intense instruction of volley, forehand, backhand, and serving techniques at the Mashpee Middle-High School Tennis Courts. Participants learn how to play, score, and play in singles and double matches.

Golf

Pitch, Putt, and Swing Camp on Paul Harney Golf Course. Teaches full swing instruction, short game instruction, and full swing and short game review and play.

Adult Sailing

Designed for adults who have little or no knowledge about sailing. The four-week is taught at the John's Pond Town Beach.

Basketball

The Basketball program is open to adults aged 30 and older at the Quashnet Elementary School.

All Age Groups

Karate

Isshinryu karate is an Okinawan-based karate system formally created in 1956 by its founder Tatsuo Shimabuku. Karate is taught at Heritage Park.

Qi Gong

A six-week zoom class teaches the benefits of the ancient and gentle movement practice which began in China over 3,000 years ago.

Futsal Soccer

Futsal is a modified form of soccer that is played with five players per team, and it is typically played indoors. Futsal is played with a smaller, harder, lower-bounce ball than soccer.

Additional information will be added to this section as interviews with Town staff are conducted.

7.3.4 Private Recreation Programs

The Mashpee Youth Baseball/Softball and Soccer is run by parent volunteers and not affiliated with Mashpee Recreation Department.

Mashpee Youth Sports Leagues

Youth Baseball

Baseball is open to sixth to twelfth grades and focuses on pitching, catching, and hitting.

Youth Soccer

The Mashpee Youth Soccer is run by parent volunteers and not affiliated with Mashpee Recreation Department.

7.3.5 Open Space Inventory

Mashpee's natural habitat, water, and abundant open spaces draw tourists to the town for recreation. Mashpee has a variety of types of open space and conservation lands that provide activities such as hiking and biking. This section will focus on inventorying those resources to aid the community in policy decisions regarding opportunities for additional open space and conservation land acquisition.

The total land area in Mashpee is 16,384.94 acres. Of the town's area, 5,356.33 acres (32.69%) is open space (MassGIS, 2021). Table 7-2 below provides an overview of all open spaces and their primary purposes. Table 7-3 provides an overview of the largest open space properties (180 acres and above) and their landowners. As detailed in Table 7-3, these come in the form of federally, state, and privately owned to those managed by the Town of Mashpee.

Table 7-2 Existing Open Space				
Open Space Primary Purpose	Open Space Description	Parcels	Open Space and Recreation Area (Acres)	% of Open Space and Recreation Area
Recreation	activities are facility-based	314	929.10	17.35%
Conservation	activities are non-facility based	63	3,568.91	66.63%

Table 7-2 Existing Open Space

Recreation and Conservation	Recreation and Conservation	26	637.58	11.90%
Historic/Cultural	Historical/Cultural	3	2.64	0.05%
Agriculture	Country Farm Estates Inc	1	Less than one acre	-
Water Supply Protection	Water Supply Protection	9	199.85	3.73%
Other	Cape Cod Land Bank Acquisition	6	18.28	0.34%
Total			5,356.33	100%

Source: MassGIS Protected and Recreational Open Space 2021

A Recreation and Open Space map is needed in this section. We will map this information through MassGIS Data: Protected and Recreational OpenSpace.

Table 7-3 Largest Open Space Properties and Landowners (180 acres and above)

Name	Landowner	Ownership	Primary Purpose	Area in Mashpee (Acres)
South Cape Beach State Park	DCR - Division of State Parks and Recreation	State	Conservation and Recreation	447.59
Quashnet Woods State Reservation & WMA	DCR - Division of State Parks and Recreation / Department of Fish and Game	State	Conservation	395.98
Mashpee River and Woodlands Conservation Area	Town of Mashpee	Town	Conservation	314.54
Mashpee National Wildlife Refuge	United States Department of the Interior	Federal	Conservation	276.93
John's Pond Park Conservation Area	Town of Mashpee	Town	Conservation	261.57
South Mashpee Pine Barrens Conservation Area	Town of Mashpee	Town	Conservation	259.68
Mashpee River Reservation	The Trustees of Reservation	Private	Conservation	253.30
Willowbend Country Club	Willowbend Development Corporation	Private	Recreation	211.25
Mashpee Pine Barrens WMA	Department of Fish and Game	State	Conservation	211.69
The Country Club at New Seabury	New Seabury Properties	Private	Recreation	209.66

Table 7-3 Largest Open Space Properties and Landowners (180 acres and above)

Quashnet Valley Country Club	Lacava Anthony J TR	Private	Recreation	190.95
Santuit Pond WCE	Town of Mashpee	Town	Conservation	190.95
Quashnet Woodlands	Town of Mashpee	Town	Conservation	181.29

Source: MassGIS Protected and Recreational Open Space 2021

Several recreation activities can be experienced throughout the town's open space areas including hiking, cross country skiing, golfing, fishing, canoeing/kayaking, bird watching, and walking trails (Town of Mashpee, n.d.). Table 7-4 provides an overview of public trails on Town of Mashpee properties, all of which are located on the Mashpee Wildlife Refuge (ArcGIS).

Table 7-4 Public Trails on Town Property

Name	Length of Public Trail
Mashpee River Woodlands: Fitch Property	1.2 Miles
Mashpee River Woodlands: John Johansen	0.6 Miles
Mashpee River Woodlands: DesRosier	0.24 Miles
Pickrel Cove	1.8 Miles
Noisy Hole	2.5 Miles
Pine Barrens	3.4 Miles
Santuit Pond Landbank	0.6 Miles
Johns Pond	4 Miles
Jehu Pond	3.9 Miles
Childs River	1.2 Miles
Besse Bog	0.75 Miles

Source: Town of Mashpee,

In addition to the trails mentioned above, the Mashpee Wildlife Refuge consists of the Flat Pond Trail, Lowell Holly Trail (2.2 miles), Santuit Pond Preserve (3 miles), and Quashnet Woodlands Trails (4.4 miles) (ArcGIS). The town also has walking trails located at the Reserve Headquarters, the Quashnet River area, South Cape Beach State Park, Abigail's Brook, and Washburn Island on the Waquoit Bay National Estuarine Research Reserve (Waquoit Bay National Estuarine Research Reserve).

Levels of Protection

In Perpetuity: Legally protected in perpetuity and recorded as such in a deed or other official document. The land is considered protected in perpetuity if it is owned by the Town's conservation commission or, sometimes, by the water department; if a Town has a conservation restriction on the property in perpetuity; if it is owned by one of the state's conservation agencies (thereby covered by article 97); if it is owned by a non-profit land trust; or if the Town received federal or state assistance for the purchase or improvement of the property.

Private land is considered protected if it has a deed restriction in perpetuity if an Agriculture Preservation Restriction has been placed on it, or a Conservation Restriction has been placed on it.

Limited: Protected by legal mechanisms other than those above or protected through functional or traditional use.

These lands might be protected by a requirement of a majority municipal vote for any change in status. This designation also includes lands that are likely to remain open space for other reasons (e.g., cemeteries and municipal golf courses).

Source: MassGIS

The total open space in Mashpee is 5,356.33 acres, of which 4,621.72 acres (86.29%) is protected. 4,469.20 acres (83.44%) is considered protected "in perpetuity," and 152.52 acres (2.85%) is considered to have a "limited" level of protection (MassGIS, 2021). Several enterprises hold legal interests in land including the Town of Mashpee, the state's conservation agencies (thereby covered by Article 97 of the Amendments to the Massachusetts Constitution), and nonprofit land trusts. Conservation and Recreation areas protected under Article 97 of the Massachusetts Constitution include 3,653.74 acres (68.21%) of the Town's open space (MassGIS, 2021). Land that is protected under Article 97 requires a 2/3 vote of the Legislature with regards to the disposition of any protected open space (Executive Office of Energy and Environmental Affairs). Table 7-5 provides an overview of Mashpee's largest open space lands (180 acres and above) protected in perpetuity.

Table 7-5 Large Protected Open Space Properties (180 acres and above)			
Protected Open Space	Fee Owner	Article 97	Area in Mashpee (Acres)
South Cape Beach State Park	DCR - Division of State Parks and Recreation	Yes	447.59
Quashnet Woods State Reservation & WMA	DCR - Division of State Parks and Recreation / Department of Fish and Game	Yes	395.98
Mashpee River and Woodlands Conservation Area	Town of Mashpee	Yes	314.54
Mashpee National Wildlife Refuge	United States Department of the Interior	No	276.93
John's Pond Park Conservation Area	Town of Mashpee	Yes	261.57
South Mashpee Pine Barrens Conservation Area	Town of Mashpee	Yes	259.68
Mashpee River Reservation	The Trustees of Reservation	Some Properties	235.30
Mashpee Pine Barrens WMA	Department of Fish and Game	Yes	211.69
Santuit Pond WCE	Town of Mashpee	Yes	190.95
Quashnet Woodlands	Town of Mashpee	Yes	181.29

Source: MassGIS Protected and Recreational Open Space 2021

Land trusts that serve Mashpee include Native

Land Conservancy, Orenda Wildlife Land Trust, The Compact of Cape Cod Conservation Trusts, The Trustees of Reservations, and The 300 Committee Land Trust (MassLand, n.d.), (MassGIS, 2021). Table 7-6 provides an overview of open space properties that are managed by land trusts in Mashpee.

Table 7-6 Open Space Properties Managed by Land Trusts				
Open Space	Fee Owner	Primary Purpose	Article 97	Area (Acres)
Ashumet Pond Sanctuary	Orenda Wildlife Land Trust	Conservation	No	35.20

Table 7-6 Open Space Properties Managed by Land Trusts

Dawson Sanctuary	Orenda Wildlife Land Trust	Conservation and Recreation	No	3.53
East Way Conservation Area	Orenda Wildlife Land Trust	Conservation	No	0.70
Great Oak Road Conservation Area	Orenda Wildlife Land Trust	Conservation	No	25.52
Lowell Holly Reservation	The Trustees of Reservations	Conservation	No	63.17
Makepeace Reservation	Orenda Wildlife Land Trust	Conservation and Recreation	Yes	13.93
Makepeace Sanctuary	Orenda Wildlife Land Trust	Conservation	No	87.05
Mashpee River Reservation	The Trustees of Reservations	Conservation	Some Properties	235.30
Mercy Lowe Sanctuary	Orenda Wildlife Land Trust	Conservation	No	43.81
North Ockway Road Conservation Area	The 300 Committee Land Trust	Conservation	No	8.17
Quashnet River WCE	Orenda Wildlife Land Trust	Conservation and Recreation	Yes	14.23
Wood Road Conservation Area	Orenda Wildlife Land Trust	Conservation	No	0.74

Source: MassGIS Protected and Recreational Open Space 2021

Mashpee's Conservation Department is responsible for permitting and enforcing the Massachusetts Wetlands Protection Act (Town of Mashpee, n.d.). Under the Conservation Commission Act, they are involved with open space acquisition and the management of conservation lands, including advocacy, maintenance, and improvement projects (Town of Mashpee, n.d.). Many of the open space properties identified in this chapter serve as natural resource and habitat protection areas. These areas are further detailed in the Natural Resources Chapter.

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Mashpee LCP Survey Questions

Question Types:

MC = Multiple Choice

RT = Rating

L = Likert (do you agree or disagree)

RK = Ranking

M = Matrix

O = Open-Ended Question. No preset answer – requires respondent to type.

IC = Image choice. Used for visual preferences.

CM = Click map. A picture is shown, and respondents click what is most appealing to them.

(98) = Legacy question carried over from the 1998 plan.

BRANCH = A question that only pops up if people submit a certain answer. It is a follow up question.

NOTE: although questions in this survey are generally organized by topic, they will be mixed in online and paper versions.

General (these will be at the end of the survey)

#	QUESTION	Type	Choices	Rationale for Question
1	How long have you lived in Mashpee?	MC	Less than 1 year, 1-5 years, 6-10 years, 11-20 years, 21+, NA	General.
2	Are you a year-round resident or seasonal resident? (seasonal is anyone who resides in the town for less than 12 months per year)	MC (g8)	Year Round, Seasonal	Helps understand the perceptions and experience of the respondent.
3	BRANCH – if you are a seasonal resident, do you plan to make Mashpee your full-time residence in the next ten years?	MC (g8)	Yes, No, Not Sure	Follow up to question 2. Do we need this question?
4	Demographics (if desired) What is your age?	MC (g8)	Under 18, 18-20, 21-29, 30-39, 40-49, 50-59, 60 and up	Helps understand age-related pressures.
5	What type is your Mashpee residence?	MC (g8)	Single-family, apartment, condo, mobile home, other (specify)	Provide valuable information on the respondent in terms of their housing type.
6	Where is your property located?	O (g8)	"Please write the name of the subdivision, condominium project, mobile home park, street, or neighborhood, etc."	Can help to understand how the respondent perceives or experiences the Town.
7	If employed, where is your primary place of employment? (check one)	MC (g8)	Mashpee, Barnstable, Falmouth, Elsewhere on Cape Cod, Off Cape	Helps to understand if people work in Mashpee or outside.

QUALITY OF LIFE

#	QUESTION	Type	Choices	Rationale for Question
1	Quality of life is defined as the standard of health, comfort, and happiness experienced by an individual or group. How would you rate the quality of life that you experience in Mashpee?	RK (g8)	very good, good, somewhat good, neutral, somewhat bad, bad, very bad	Offers an overall picture of how people feel about the quality of life in town.

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2	<p><u>Do you take care of school age children at your home (children, grandchildren/family, friends)?</u></p> <p><u>BRANCH – are these children currently living with you?</u></p> <p><u>In your experience has your quality of life in Mashpee improved, stayed the same, or gotten worse?</u></p> <p><u>BRANCH – In a few words can you tell us why you answered the way that you did?</u></p>	MC	Yes, No Yes, No	Similar to 1998 question.
3	<p>Indicate how <u>important</u> the following factors <u>are /were</u> <u>impact your quality of life in Mashpee, positively or negatively</u> <u>in your decision to live or buy property in Mashpee.</u></p> <ul style="list-style-type: none"> • <u>Town Character</u> • <u>Taxes</u> • <u>Investment Opportunities</u> • <u>Attainable/Affordable</u> Housing choices • Cost of living • Small town lifestyle • Quality of public services <u>(Police, Fire, Schools, Senior Center, Harbor Master, Human Services)</u> • Good place for children • <u>Job opportunities</u> • <u>Mashpee is my ancestral homeland</u> • <u>Near friends, and/or family</u> • <u>I grew up here</u> • <u>Natural Beauty</u> • Open Space • Air and water quality • Beaches and ponds • Recreational facilities • Tranquility • Shopping • Restaurants • Golf courses • Boating 	M (adapted from 1998)	Very positive impact, positive impact, somewhat positive impact, neutral, somewhat negative impact, negative impact, very negative impact	Provides an assessment of what features/characteristics positively or negatively contribute to quality of life

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	<ul style="list-style-type: none"> Fishing Access to healthcare<u>Native American history</u> Other (please specify) 			
4	<p>Which of the following are the most serious problems facing Mashpee today?</p> <ul style="list-style-type: none"> Population growth<u>changes</u> Economic opportunity<u>y</u> Traffic congestion<u>flow</u> Town services (<u>Police, Fire, Schools, Senior Center, Harbor Master, Human Services</u>) Job opportunities Property taxes<u>Taxes</u> Loss of small <u>Evolving</u> town character Loss of open land Climate change <u>and related impacts (flooding, erosion)</u> Cost of living Quality of schools Lack of public<u>Public</u> transportation Quality of Open Waters, groundwater, drinking water<u>Pollution of groundwater</u> Inadequate <u>Access to</u> medical services Lack of attainable housing<u>Attainable housing</u> Pollution of bays and ponds Residential <u>sprawl development</u> <u>Commercial Development</u> Lack of historic preservation Pedestrian and bicycle safety <u>Solid waste/trash management</u> 	RK (adapted from 1998)	1 through 5 with 1 indicating the "most serious" or "other, please specify"	Provides a snapshot of what the issues are facing Mashpee.

Commented [EL1]: Does economic opportunity cover both?

Commented [EL2]: Don't agree with this one from the Planning Board. Since we ask about population growth and we aren't asking about Sprawl I think we should remove these options altogether. ,

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Housing

#	QUESTION	Type	Choices	Rationale for Question
1	Do you believe that Mashpee has a need for more attainable <u>affordable and workforce housing</u> and affordable housing ?	MC	Yes, No, Not Sure	Provides a gauge of perception
2	What types sort of housing do you think Mashpee needs?	MC	Single family, duplex, multi-family, live/work, communal/co-housing, other (please specify)	Provides an assessment of opinion
3	<u>In future land use decisions, do you think the creation of low-moderate income housing should get greater priority, equal priority, or less priority than the protection of additional open space?</u>	MC	<u>much greater priority, greater priority, equal priority, lower priority, much lower priority, , , ,</u>	<u>Provides a snapshot on opinion</u>
4	Below is a list of examples of housing types that involve greater density. To what extent would you support or oppose each of these in order to create housing that more affordable to the average household? <ul style="list-style-type: none"> • small houses • duplexes (2 units) • triplexes (3 units) • quadplexes (4 units) • condos • single-story apartment complex (5 to 10 units) • multi-story apartment complex (more than 10 units) 	M	<ul style="list-style-type: none"> • Top row: Strongly Support, Support, Somewhat Support Neutral, Somewhat Oppose, Oppose, Strongly Oppose 	Provides an assessment of what would be supported.
5	Do you believe that all new residential developments should contain a mix of housing prices?	MC	Yes, No, Not Sure	Provides a gauge of opinion
6	To what extent do you support or oppose each of the following? <ul style="list-style-type: none"> • <u>Donation of Town-owned lands to non-profit organizations for the construction of affordable housing projects</u> • <u>All new residential developments should contain a mix of housing prices.</u> • <u>Allow multi-family housing where residential uses are permitted</u> housing in all residential districts town-wide • <u>Allow multifamily housing in only some residential districts in Town.</u> 	M (adapted from 1998)	<ul style="list-style-type: none"> • Top row: Strongly Support, Support, Somewhat Support, Neutral, Somewhat Oppose, Oppose, Strongly Oppose 	Provides an assessment of what would be supported.

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	<ul style="list-style-type: none"> • <u>Redevelopment of existing buildings/properties into housing</u> • <u>Require developers of new housing units to dedicate a portion of those units to low/moderate income households.</u> • <u>Town subsidy or financial incentive to create housing affordable to low/moderate income households.</u> • <u>Town program to encourage more accessory apartments/ADUs.</u> • Provide expedited permitting for projects that include a specified percentage of affordable housing units • A town bond for the creation of senior affordable housing • A town bond for the creation of family affordable housing • The town purchase of existing housing for sale or rental as affordable workforce housing • Local financial incentive program for the creation of accessory dwelling units • Financial incentives to private developers for the creation of affordable housing units 			
7	Would you support the reuse or conversion of existing buildings and single family homes into multi family housing?	M	<ul style="list-style-type: none"> • Top row: Strongly Support, Support, Somewhat Support, Neutral, Somewhat Oppose, Oppose, Strongly Oppose • Comment box 	Provides an assessment of what would be supported.

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Economic Development

#	QUESTION	Type	Choices	Why
1	To what extent do you feel the following economic development initiatives are desirable or undesirable? <ul style="list-style-type: none"> technology/science culture and tourism cultural and nature-based tourism Hotels/motels/full service resorts blue economy (marine related) agricultural businesses retail services light industry/craft/ makerspace luxury housing restaurants 	M	<ul style="list-style-type: none"> Very Desirable, Somewhat Desirable, Desirable, Neutral, Somewhat Undesirable, Very Undesirable 	Provides an assessment of what would be supported.
1a	BRANCH of these choices, rank your top three	RK	1 through 3	Provides a prioritization
2	Would you support or oppose an increase in the property tax rate investments to pay for each of the following purposes? <ul style="list-style-type: none"> A community center Acquiring additional open space Enhance Town supported services Create affordable housing Create workforce housing Create a revolving fund to support historic preservation and cultural projects Enhance recreation programs Expand Town childcare programs 	M	<ul style="list-style-type: none"> Top row: Strongly Support, Support, Somewhat Support, Neutral, Somewhat Oppose, Oppose, Strongly Oppose 	Provides an assessment of what would be supported.
3	In the area of the Mashpee Rotary, what types of development would you support?	MC (adapted from 1998)	<ul style="list-style-type: none"> Commercial Residential Office Medical Industrial Other (specify) 	Provides an assessment of what would be supported.

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Commented [EL3]: The Board wanted to insert a bunch of new options here but upon a second review I find all of the suggestions to be subsets of items already asked such as theaters and entertainment when we already ask about cultural tourism. I think incentivizing a performance space is an action to be defined if cultural tourism is something people would support.

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4	In the area East of the Rotary (Polar Cave area), what types of redevelopment would you support?	MC	<ul style="list-style-type: none"> • Commercial • Residential • Office • Medical • Industrial • Other (specify) 	Measure of support
5	In the area West of the Rotary (Andy's Market area) what types of redevelopment would you support?	MC	<ul style="list-style-type: none"> • Commercial • Residential • Office • Medical • Industrial • Other (specify) 	Measure of support
6	In the area of Town Center (Route 130) what types of redevelopment would you support?	MC	<ul style="list-style-type: none"> • Commercial • Residential • Office • Medical • Industrial • Other (specify) 	Measure of support
7	<p>Would you support or oppose financial incentives to encourage the following uses:</p> <ul style="list-style-type: none"> • Technology / research & development • Light manufacturing • Medical offices / clinics • Other professional offices • Neighborhood shopping and service centers • Large discount stores like Wal-Mart or BJ's • Artisan studios / galleries • Specialty retail • Contractors / landscapers • Assisted living facilities • Full service resorts / hotels / motels • Restaurants • Theatres / entertainment facilities • Shellfish / aquaculture 	M (Adapted from 1998)	<p>Top Row: Strongly Support, Support, Somewhat Support, Neutral, Somewhat Oppose, Oppose, Strongly Oppose</p>	Provides an assessment of support

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	• Other (please specify below) .			
8	<p>In which of the following locations do you purchase the majority of your goods and services?</p> <ul style="list-style-type: none"> • Gasoline • Groceries • Hardware / building supplies • Meals (dining out) • Prescriptions • Medical services • Dental • Hospital • Clothing / apparel • Banking • Auto service • Legal services • Nursery / garden supplies • Liquor • Recreational Marijuana • Appliances • Movies / entertainment 	<p>M (Adapted form 1998)</p>	<p>Top Row:</p> <ul style="list-style-type: none"> • Mashpee • Falmouth • Barnstable • Sandwich • Elsewhere • Online • N/A 	<p>Provides insight into where residents are getting goods and services.</p>

Sustainability – Sustainability is about meeting the needs of the present without compromising the needs of future generations.

#	QUESTION	Type	Choices	Why
1	How would you rate your understanding of 'sustainability' and 'sustainable development'?	RT	1 (Extremely Poor) – 10 (Extremely Good)	Provide insight into respondent's level of understanding.
2	How sustainable do you think our community is today?	RT	Top Row: Very Sustainable, Sustainable, Somewhat Sustainable, Neutral, Somewhat Unsustainable, Unsustainable, Very Unsustainable	Provides information related to people's perception of the Town.
3	What are your greatest sustainability concerns? How concerned are you about these sustainability issues? <ul style="list-style-type: none"> Climate change and related impacts such as severe storm events, flooding, erosion, etc Energy Efficiency Greenhouse gas emissions Waste reduction Water quality Air quality Soil health Deforestation Drought Heat Islands 	RT	Very concerned, Concerned, Somewhat Concerned, Neutral, Somewhat Not Concerned, Not Concerned	Provides a rating of concerns.
4	How important is each of the following sustainability measures to you? <ul style="list-style-type: none"> Ensure clean and reliable drinking water Reduce landfill waste while increasing reuse and recycling within the town Provide high quality parks, facilities and recreation programs Improve stormwater management and community watershed stewardship 	RT	Very Important, Important, Somewhat Important, Neutral, Somewhat Not Important, Not Important	Provides a measure of importance.

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	<ul style="list-style-type: none"> Reducing energy consumption Reducing costs for Mashpee residents and businesses Promoting/Increasing health of Mashpee's trees Support increased active transportation/living (biking, walking, etc.,) Promote compact, walkable and mixed-use neighborhoods Increase use of renewable energy by homes, businesses, and Mashpee Town government Promote alternative transportation options and reducing the costs associated with transportation for Mashpee residents and businesses Increase open space preservation Increase access to healthy, locally grown food Provide equitable access to public facilities and amenities Preparation for more intense and frequent storms Increase public education about sustainability and climate change 			
5	<p>How concerned are you about the possible impacts of climate change on the following?</p> <ul style="list-style-type: none"> Air quality impacts Water quality impacts Disease outbreak Habitat loss Flood damage Food system disruption Other impacts on human health Impacts on Town budgets Local infrastructure (roads, power lines, other utilities) Other economic impacts 	RT	Very Important, Important, Somewhat Important, Neutral, Somewhat Not Important, Not Important	Provides a measure of importance.
	Do you know of any individuals or groups of people areas in Mashpee who that may be particularly vulnerable to the impacts of climate change? If so, where?	OE	Yes (write in), No	Helps identify vulnerability

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Natural Resources

#	QUESTION	Type	Choices	Why
1	<p>To what extent would you support or oppose the following regulations in town to protect natural resources:</p> <ul style="list-style-type: none"> Landscaping requirements to encourage native landscapes Prohibitions on the use of pesticides and insecticides Prohibitions on the use of chemical fertilizers 		<ul style="list-style-type: none"> Top row: strongly support, support, neutral, oppose, Strongly oppose, , 	Provides a measure of support
2	<p>Which statement regarding the protection of natural resources do you agree with most:</p> <ul style="list-style-type: none"> Mashpee should continue to acquire land as a high priority to protect open space and the character of the town Mashpee should balance future open space acquisition/protection with other priorities, such as meeting housing needs and/or growing the tax base. The current open space, parks, and trail resources are generally adequate for the needs of residents. 	RK (98)	<ul style="list-style-type: none"> Respondents will move the statements boxes in order of their support, with the highest position being the most supported 	Ranks people's priorities
3	Would you support the town investing in a street tree program to plant and maintain street trees	RT	Strongly Support, Support, Somewhat Support, Neutral, Somewhat Oppose, Oppose, Strongly Oppose	Provides a measure of support
4	<u>Would you support the adoption of a town-wide tree bylaw that would serve to protect mature trees on residential and commercial lots and/or define standards for replacing those trees if removal is necessary?</u>			

Water Resources

#	QUESTION	Type	Choices	Why
1	Do you live on a waterfront property (saltwater or fresh)?	MC (adapted from 1998)	Yes, No	Provides context
2	Select the water-based activities that you utilize most	MC (adapted from 1998)	Fishing, shell fishing, boating, swimming, none of these, other (please specify)	Provides context
3	<p>What measures do you believe that the Town can take to address water quality in Mashpee?</p> <ul style="list-style-type: none"> Community education Financial support for sewerage Financial support for the installation of Innovative Alternative (IA) systems (loans or grants through a program) Limit or reduce development Require Low Impact Development to reduce impacts of stormwater on developments Purchase of environmentally sensitive land Increase density in locations of town with sewer and water in order to decrease density in environmentally sensitive areas Invest in green infrastructure retrofits for stormwater Address PFAS contamination 	MC (adapted from 1998)	Strongly Support, Support, Somewhat Support, Neutral, Somewhat Oppose, Oppose, Strongly Oppose	Provides an assessment of support
4	<p>Any additional public wastewater questions?</p> <p>Should an update to the Town's wastewater management plan include plans to sewer around the freshwater bodies to address the phosphorous loading?</p>			Evan to fill in
5	<p>What natural water resources are most important to you?</p> <ul style="list-style-type: none"> Freshwater ponds (Ashumet, Santuit, Mashpee Wakeby, and John's Ponds) Rivers (Mashpee, Santuit, Quashnet, and Childs River) Vernal pools (seasonal depressional wetlands) Salt marshes Coastal bays Shellfish beds Beaches 	MC (adapted from 1998)	Very Important, Important, Somewhat Important, Neutral, Somewhat Not Important, Not Important	Provides an understanding of issue importance.

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	<ul style="list-style-type: none"> • Freshwater wetlands • Forests • Groundwater for water supply • Other (please specify) 			
6	PFAS			

Heritage and Preservation

#	QUESTION	Type	Choices	Why
1	<p>Please indicate the extent to which you agree or disagree with each of the following statements:</p> <ul style="list-style-type: none"> • Historic and cultural resources are part of the distinctive character of Mashpee • Historic and cultural resources are worth preserving even at the expense of some development • Historic and cultural resources deserve support through tax incentives • The town should invest in cultural heritage tourism efforts • The town's current historic district helps to preserve historic character • 		Strongly Agree, Agree, Somewhat Agree, Neutral, Somewhat Disagree, Disagree, Strongly Disagree	Gauges support of resources
2	Which cultural, historic, and architectural resources do you feel are most important to the community?	MC	<ul style="list-style-type: none"> • Preservation of tribal Wampanoag heritage • Preservation of historic buildings • Public access to the water • Ancient ways • Archaeological sites/resources • Other (specify) 	Gauges importance

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3	Are there any historic or cultural resources in Mashpee TOWN that you feel are in danger of being lost or altered?	MC/O	<ul style="list-style-type: none"> • Ancient ways • Public access to water • Archeological sites/resources • Historically significant buildings (fill in blank) Other (specify)	Provides insight into people's concerns with H&C resources
4	Tribal Question (TBD) Can you specify which by filling in the blank below?			Evan to fill in
5	<u>The Mashpee Wampanoag Tribal Council and the Mashpee Select Board have recently re-convened regular meetings.</u> <u>What do you hope to see result from these meetings?</u>		<ul style="list-style-type: none"> • <u>Improved Communication</u> • <u>Improved Collaboration</u> • <u>Opportunities for community education on Wampanoag heritage and history</u> • <u>Unity</u> • <u>_____</u> • <u>_____</u> 	
6	<u>What matters would you wish to have the Tribal Council and Select Board discuss at these meetings?</u>		<ul style="list-style-type: none"> • <u>_____</u> 	

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Open Space and Recreation

#	QUESTION	Type	Choices	Why
1	<p>Do you feel that the following community facilities are currently adequate?<u>meet the needs and expectations of Mashpee residents?</u></p> <ul style="list-style-type: none"> • Playgrounds • Baseball fields • Softball fields • Soccer fields • Indoor basketball courts • Outdoor basketball courts tennis courts • Walking/hiking trails • Bicycle trails • Nature study/conservation areas • Ocean beaches and parks • Pond beaches and parks • Town boat landings • Public access to bays and ocean • • Pickle ball court 	MA (98)	Strongly Agree, Agree, Somewhat Agree, Neutral, Somewhat Disagree, Disagree, Strongly Disagree	Gauges public satisfaction with these services
2	<p>Of the following list of facilities and amenities that the town currently does not have, which would you be in support of establishing?</p> <ul style="list-style-type: none"> • Indoor swimming pool • Outdoor swimming pool • Indoor ice-skating rink • Outdoor ice-skating rink • Town marina • Town golf course • Designated picnic areas • Town campground • Town beach facilities (concession and restrooms) • Dog park • Skate park • Disc golf 		Very Supportive, Somewhat Supportive, Supportive, Neutral, Somewhat Unsupportive, Unsupportive, Very Unsupportive	Gauges interest/support in future facilities and services

	<ul style="list-style-type: none">Other (specify)			
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Municipal Buildings, Facilities, and Services

#	QUESTION	Type	Choices	Why
1	<p>How satisfied are you with the following Town services and facilities?</p> <ul style="list-style-type: none"> • Recreation programs • Library • Web site / information services • Fire protection • Ambulance service • Police protection • Road improvements / maintenance • Building permit and inspection services • Elder services • Town Clerk's services • Planning / zoning services • Conservation Department services • Town Transfer Station / Waste Disposal / recycling • Schools • Kids Klub (childcare) services • Board of Health services • Human / social services • Public housing (affordable housing serving low/moderate income households) • Harbormaster • Department of Natural Resource services including shellfish • Water access facilities (boat ramps, boat landings) • Trails and Trail Head Parking • Beaches and parking lots • other (please specify below) 	M (adapted from the 1998)	Very Satisfied, Somewhat Satisfied, Satisfied, Neutral, Somewhat Unsatisfied, Unsatisfied, Very unsatisfied, I don't use this service or facility (please explain why)	Gauges satisfaction with town services
2	<p>How do you learn about the budgets and needs of Town departments obtain new and general information about Town Government and Important matters of concern? (check all that apply)</p> <ul style="list-style-type: none"> • Online information Town website 	MC	<ul style="list-style-type: none"> • Online information Town website 	Provides insight on how people get their information

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			<ul style="list-style-type: none"> • Town <u>Social Media, emails, phone calls</u>budget • <u>Online and print</u> News • <u>External</u> Social media • <u>Word of Mouth</u> • I attend meetings • I watch on Mashpee TV • Word of mouth • Other (specify) 	
3	Do you visit the Town's website?	MC	Yes, No	Provides information on use of website
3a	BRANCH – Are you satisfied with the information provided and the ease of use of the Town's website? Please explain.	M	Very Satisfied, Somewhat Satisfied, Satisfied, Neutral, Somewhat Unsatisfied, Unsatisfied, Very Unsatisfied Write in option	Better understanding of website use
4	SHARED TRIBAL SERVICES QUESTION TBD <u>The Mashpee Select Board and Wampanoag Tribal Council have recently reconvened meetings. Are there any services or facilities that the Town and Tribe could share?</u>			Evan to fill in

Transportation

#	QUESTION	Type	Choices	Why
1	<p>How would you rank your satisfaction with the following elements of Mashpee's transportation system?</p> <ul style="list-style-type: none"> Traffic safety Road conditions Pedestrian and bicycle safety Street aesthetics (trees, landscaping, visual experience) Wayfinding (street and directional signage) Public parking at trail heads, beaches, and parks Traffic congestion between Memorial Day and Labor Day (June-September) Traffic Congestion off-season (September – May) 	M	<ul style="list-style-type: none"> Very Satisfied, Somewhat Satisfied, Satisfied, Neutral, Somewhat Unsatisfied, Unsatisfied, Very Unsatisfied 	Differentiate between summer/rest of year s
2	<p>How often do you use each of the following public transportation services?</p> <ul style="list-style-type: none"> Local Buses (Sealine, Bourne Run) Bus to Boston Train to Boston CCRTA's Dial-A-Ride Transportation (DART) Taxi and Rideshare (Uber, Lyft) 	MC (adapted from 1998)	Very Often, Often, Somewhat Often, Rarely, Never	Measure of public transit use
3	<p>If you rarely or never use public transportation, what is the reason?</p> <ul style="list-style-type: none"> 	MC (adapted from 1998)	Too expensive, infrequency of service, does not take me where I want to go, too slow, perception, lack of wayfinding information, prefer my car, other (please specify)	Provides further information on use
4	<p>Which of the following, if any, would you like to see more of in Mashpee? Mark all that apply</p> <ul style="list-style-type: none"> 	MC (adapted from 1998)	<ul style="list-style-type: none"> Sidewalks and connections Bike paths Bicycle shoulder lanes 	Gauges interest and/or support

Commented [SA6]: These two issues are going to be very different answers from summer to winter. Maybe a follow up?

Commented [EL7R6]: Yes definitely follow up

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			<ul style="list-style-type: none"> • Bicycle amenities (bike racks and storage) • Walking trails • Public transportation • Parking • Ride share hubs • Micromobility (scooters, ride share bikes) • Trolley • Traffic Calming methods • Street scaping (street trees, landscaping) • Wayfinding signage • Electric Vehicle Charging Stations • Beach shuttle <p>Includes a write-in "other" and a "none of the above" choice</p>	
5	Are there any locations in Mashpee that you feel are particularly dangerous for pedestrians or bicyclists?	OE or map	Write in or map pin	Identification of dangerous bike and ped areas
6	Please list specific intersections or sections of the road and what makes the area dangerous (traffic, traffic signals, lack of crosswalk, quality of the road surface, etc.)	OE	Write in	Identification of problematic intersections
7	What would you describe as the most important project or improvement that could be made to the transportation system in Mashpee?	OE	Write in	Open ended opportunity to identify improvements
8	What are the most pressing mobility/transportation issues in Mashpee? Select all that apply:	MC (98)	<ul style="list-style-type: none"> • Lack of sidewalks and crosswalks • Lack of bike lanes or trails • Lack of transportation options for teens • Lack of transportation options for seniors 	Assessment of issues

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			<ul style="list-style-type: none"> • Lack of commuter options • Lack of pedestrian safety • Lack of bicycle safety • Road congestion • Inadequate parking in commercial areas <p>Includes an "other"</p>	
9	Would you support or oppose the creation of a bicycle and pedestrian plan for Mashpee that would map out potential connections, and prioritize projects for future funding?	M	<ul style="list-style-type: none"> • Strongly Support, Support, Somewhat Support, Neutral, Somewhat Oppose, Oppose, Strongly Oppose 	Gauges support for bike and ped efforts

Commented [EL8]: Delete either 7 or 8. Same question. One more general one asking for a singular subjective answer. Whats best?



Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username: **EBELAIR**

Transaction ID: **1384704**

Document: **Groundwater Discharge Monitoring Report Forms**

Size of File: **1033.62K**

Status of Transaction: **Submitted**

Date and Time Created: **7/29/2022:11:27:01 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to "Download a Copy" from the Current Submittals page.



Groundwater Permit

DISCHARGE MONITORING REPORT

668
1. Permit Number
2. Tax identification Number
2022 JUN MONTHLY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Facility Information

1. Facility name, address:

SOUTH CAPE VILLAGE		
a. Name		
672 FALMOUTH ROAD/RTE. 28		
b. Street Address		
MASHPEE	MA	02649
c. City	d. State	e. Zip Code

2. Contact information:

MYLES OSTROFF	
a. Name of Facility Contact Person	
6174311097	myles@chartweb.com
b. Telephone Number	c. e-mail address

3. Sampling information:

6/1/2022	RI ANALYTICAL
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name
JONATHAN AUGUSTE	
c. Analysis Performed By (Name)	

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2022 Jun Monthly	▼
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☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.



Groundwater Permit
DISCHARGE MONITORING REPORT

668
1. Permit Number
2. Tax identification Number
2022 JUN MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	270	4.7	3.0
MG/L			
TSS	1200	8.0	2.0
MG/L			
TOTAL SOLIDS	1200		
MG/L			
AMMONIA-N	24		
MG/L			
NITRATE-N		2.4	0.050
MG/L			
TOTAL NITROGEN(NO3+NO2+TKN)		5.3	0.50
MG/L			
OIL & GREASE		0.99	0.50
MG/L			



Groundwater Permit

DAILY LOG SHEET

668
1. Permit Number
2. Tax identification Number
2022 JUN DAILY
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility name, address:

SOUTH CAPE VILLAGE

a. Name

672 FALMOUTH ROAD/RTE. 28

b. Street Address

MASHPEE

c. City

MA

d. State

02649

e. Zip Code

2. Contact information:

MYLES OSTROFF

a. Name of Facility Contact Person

6174311097

b. Telephone Number

myles@chartweb.com

c. e-mail address

3. Sampling information:

6/30/2022

a. Date Sampled (mm/dd/yyyy)

WHITEWATER

b. Laboratory Name

JAIME STEWART

c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2022 Jun Daily

☐

All forms for submittal have been completed.

☐

2. This is the last selection.

☐

3. Delete the selected form.



Groundwater Permit

DAILY LOG SHEET

668
1. Permit Number
2. Tax identification Number
2022 JUN DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	10194					7.6		
2	8216					7.6		
3	8899					7.6		
4	8899							
5	8899							
6	16623					7.6		
7	465					7.6		
8	10676					7.6		
9	10145					7.6		
10	8925					7.6		
11	8925							
12	8925							
13	10845					7.7		
14	8147					7.7		
15	8527					7.7		
16	14253					7.4		
17	8156					7.5		
18	8156							
19	8156							
20	2163					7.5		
21	10389					7.5		
22	8097					7.5		
23	11477					7.6		
24	10391					7.6		
25	10391							
26	10391							
27	10804					7.5		
28	8180					7.5		
29	10264					7.4		
30	9455					7.2		
31								



Groundwater Permit

MONITORING WELL DATA REPORT

668
1. Permit Number
[REDACTED]
2. Tax identification Number
2022 JUN MONTHLY
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility name, address:

SOUTH CAPE VILLAGE

a. Name

672 FALMOUTH ROAD/RTE. 28

b. Street Address

MASHPEE

c. City

MA

d. State

02649

e. Zip Code

2. Contact information:

MYLES OSTROFF

a. Name of Facility Contact Person

6174311097

b. Telephone Number

myles@chartweb.com

c. e-mail address

3. Sampling information:

6/22/2022

a. Date Sampled (mm/dd/yyyy)

WHITEWATER

b. Laboratory Name

JAIME STEWART

c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2022 Jun Monthly

☐

All forms for submittal have been completed.

☐

2. This is the last selection.

☐

3. Delete the selected form.



Groundwater Permit
MONITORING WELL DATA REPORT

668
1. Permit Number
2. Tax identification Number
2022 JUN MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

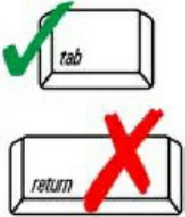
Parameter/Contaminant	P-1	P-2	P-4	P-6		
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	6.3	DRY	6.2	6.3		
S.U.						
STATIC WATER LEVEL	18.5	DRY	46.6	50.3		
FEET						
SPECIFIC CONDUCTANCE	625	DRY	303	975		
UMHOS/C						



Groundwater Permit

668
1. Permit Number
2. Tax identification Number

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.



Facility Information

SOUTH CAPE VILLAGE
a. Name
672 FALMOUTH ROAD/RTE. 28
b. Street Address
MASHPEE MA 02649
c. City d. State e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ELIZABETH BELAIR 7/27/2022
a. Signature b. Date (mm/dd/yyyy)

Reporting Package Comments

PLANT MET ALL DISCHARGE PERMIT REQUIREMENTS FOR JUNE 2022. PUMPED 11,000 GALLONS AS PART OF YEARLY TANK MAINTENANCE.