



Village Center Feasibility Assessment

Town of Boxborough

Spring 2023

Tighe&Bond



1. Introduction	
1.1 Study Area Characteristics/Existing Land Use	2
1.2 Boxborough Economic Development Study.....	3
2. Environmental Review	
2.1 Surface Water, Wetlands, and Floodplains.....	5
2.1.1 USFWS National Wetland Inventory	5
2.1.2 FEMA Flood Rate Insurance Map.....	5
2.2 Soils & Topography	6
2.2.1 USDA Web Soil Survey.....	6
2.2.2. USGS Topographic Survey	6
2.3 Historically Significant Resources	7
2.4 Rare Species	7
2.5 Water Supply and Wastewater.....	8
2.6 Hazardous Waste and Disposal Management	8
2.7 Transportation Infrastructure	8
3. Zoning Review	
3.1 Boxborough Zoning Requirements.....	1
3.2 Aesthetic Considerations.....	2
4. Permits and Approvals	
4.1 Town of Boxborough	3
4.1.1 Allowed Uses	3
4.1.2 Uses Allowed by Special Permit	4
4.1.3 Site Plan Review.....	4
4.1.4 Special Regulations.....	5
4.1.5 Boxborough Conservation Commission Regulations.....	8
4.1.6 Board of Health.....	8
5. Potential Alternatives	
6. Public Outreach and Stakeholder Meetings	
7. Final Concept Plan	
8. Zoning Recommendations	
8.1 Potential Changes to Use Regulations	15
Uses Potentially Unsuitable for the Town Center	15
8.2 Potential Changes to Dimensional Standards	16
8.3 Potential Changes to Parking Requirements.....	16
8.4 Potential Changes to Design Guidelines.....	17
8.5 Potential Options for Historic Structures.....	17

Recommendations from Other Planning Documents	18
9. Case Studies	

Appendices

- A 2019 – 2020 UMass Economic Development Study
- B Summary of Town-Wide Public Outreach & Stakeholder Group Presentation Information

Tighe&Bond

SECTION 1

1. Introduction

In 2019 – 2020, the Town of Boxborough made a significant commitment to preserving and enhancing its Business and Town Center zoning districts by preparing a Master Plan (Boxborough2030) and Economic Development Study by the Center for Economic Development at UMASS Amherst - School of Landscape Architecture and Regional Planning (LARP). Key strategies identified for the future of the Town Center and Business districts from these studies included the following:

- Preserve and reinforce the Town Center District as Boxborough's center for governance, municipal services, and town-wide events.
- Implement land use policies that support and encourage appropriately scaled and mixed-use developments in key areas of town.
- Conduct a thorough review of the Town's land use controls, including dimensional requirements and conservation bylaws on commercially zoned land, to identify barriers to growth for appropriately scaled development.
- Consider regulatory tools that can guide and encourage growth in appropriate areas.
- Catalyze private investment in key commercial districts.



The 2019 – 2020 UMass Economic Development Study included a market analysis under four development scenarios, including: Baseline / Current Course, Rural / Agricultural Heritage; Village Style Development; Comprehensive Approach, with a market analysis focused on regional supply and demand of commodity types and businesses. The analysis concluded that Village Style Development and Rural/Agricultural Heritage were highly rated by the majority of residents across a range of demographic profiles.

In 2022, the Town's Economic Development Committee was awarded a Massachusetts One Stop for Growth Community Planning Grant to complete an assessment of the capacity of the area's infrastructure for development, environmental resource and/or existing zoning constraints to accommodate village center development, and to develop conceptual plans depicting alternative development scenarios and case studies of best practices from other rural communities. The scope of the project also includes engaging the public in the

development of conceptual designs to invest townspeople in the project and incorporate public interests in the conceptual design, with consideration for Environmental Justice populations that comprise 100% of the Town. Additional details on the Town's initiative can be found here: [Village Center Revitalization Project | Boxborough, MA \(boxborough-ma.gov\)](https://boxborough-ma.gov).

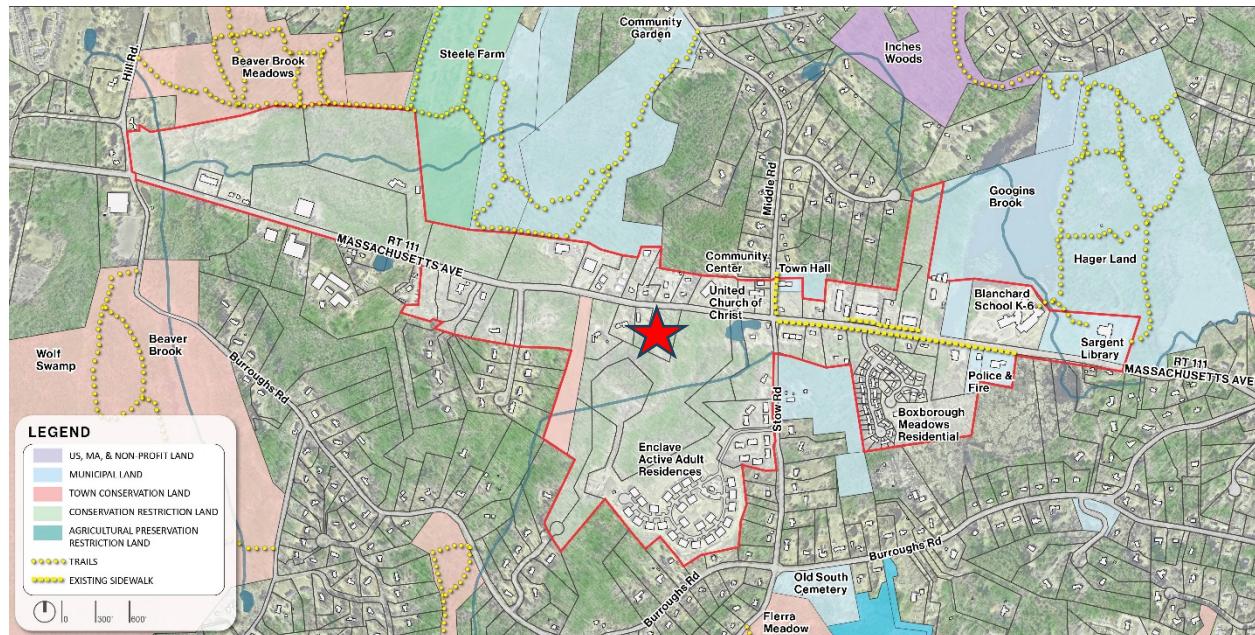
The limit of Boxborough's Town Center "Study Area", as designated by the Town's Assessing and Planning Department, is depicted in the figure below.

This report includes a summary of the four development scenarios and initial concept diagrams prepared as part of the 2019 – 2020 UMass Economic Development Study (UMass Scenarios #1-4, below). In addition, this report focuses on:

- Review of existing environmental and infrastructural constraints within the Town's designated Study Area.
- Review of existing zoning and permitting requirements under existing zoning.
- Proposed conceptual plan alternatives.
- Public outreach and stakeholder meeting feedback on proposed alternatives.
- Final conceptual plan and recommendations
- Case study examples illustrating best practices for village center development.

1.1 Study Area Characteristics/Existing Land Use

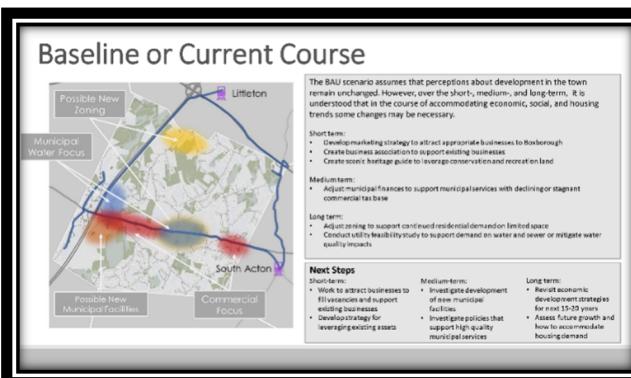
The Town Center (TC) and Business (B) zoning districts encompass approximately 265 acres or 0.4 square miles of both undeveloped and developed land, buildings, and infrastructure. The Study Area is located along Massachusetts Avenue (Route 111) that bisects the Town. The Study Area includes a mix of municipal, religious, and commercial uses, water features, deciduous forest areas, and wetlands. The following figure depicts general land use within the Study Area, including municipal land, conservation restricted land, agricultural preservation restriction land, existing trails, and other features in relation to the Study Area outlined in red.



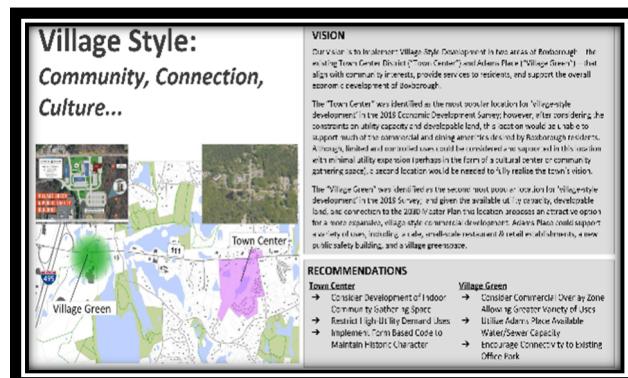
1.2 Boxborough Economic Development Study

The following section reviews the four development scenarios reviewed under the 2019 – 2020 UMass Economic Development Study. Phase 1 of this economic development study analyzed existing conditions and proposed four distinct scenarios. The Baseline and Current Course Scenario establishes a benchmark for future planning, assuming a business-as-usual approach with limited proactive measures. The Rural/Agricultural Heritage Scenario envisions Boxborough as a unique destination, emphasizing agricultural tourism and small-scale food production. The Village Style Scenario focuses on compact, walkable areas in existing town centers, aligning with Boxborough2030 goals. Lastly, the Comprehensive Approach Scenario seeks to diversify the economy, maximizing synergies between corporate campuses, major routes, and agricultural landscapes.

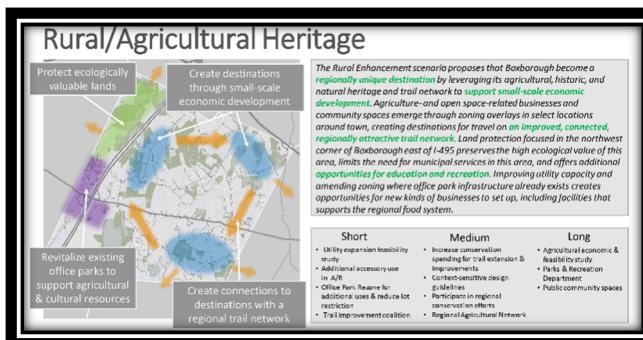
The four development scenarios are outlined herein.



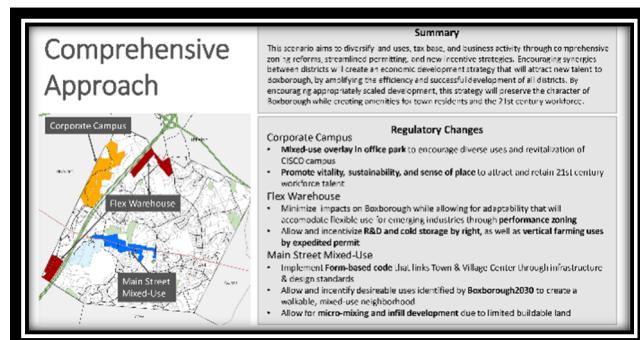
UMass Scenario #1



UMASS Scenario #3



UMass Scenario #2



UMass Scenario #4

Public engagement and feedback on these development scenarios indicated dissatisfaction with the current course, setting the stage for Phase 2. Phase 2, initiated in January 2020, delves deeper into the scenarios proposed in Phase 1. It involves summarizing survey results on citizen preferences, creating vignettes to explain scenarios, assessing market demand, and hosting community discussions. The citizen survey indicated a preference for village-style commercial development and agricultural-focused businesses, emphasizing a need for change. The market analysis identified opportunities in grocery, restaurants, entertainment, healthcare, and other retail categories. The 2020 market study concluded that village-style development was highly rated, catering to various resident demographics, while the current course received the least support.

Tighe&Bond

SECTION 2

2. Environmental Review

To evaluate the development potential of the Study Area, an initial desktop environmental analysis and a permitting evaluation was completed. As part of our evaluation, we have completed the following tasks to gain a better understanding of the Study Area:

- Desktop analysis of site and environmental constraints.
- Review of Town of Boxborough Zoning Bylaw, including the Town's applicable zoning definitions.
- Preparation and review of the following GIS-based zoning, land use, and resource maps:
 - Water Resources
 - Flood Zones
 - Land Use Cover
 - Natural Resources

Environmental factors considered as part of this analysis include the location of stream and wetland resources, rare and endangered species, regulated floodplain, drinking water resources, areas of critical environmental concern, protected open space, and environmental justice (EJ) areas. These factors were evaluated using an array of publicly available tools including the Massachusetts MassGIS MassMapper interactive tool, National Register of Historic Places and Massachusetts Cultural Resource Information System (MACRIS) mappers, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), and U.S. Fish & Wildlife Service National Wetlands Inventory (NWI) mapper. The following table outlines environmental resources documented within the Study Area.

TABLE 2-1
Existing Environmental Conditions

<u>Category Reviewed</u>	<u>Environmental Resource Present</u>	<u>Source</u>
Surface Water, Wetlands, and Floodplains	Yes	USFWS National Wetland Inventory; FEMA
National Register of Historic Places	Yes	National Parks Service U.S. Department of the Interior's National Register of Historic Places; MassMapper
Areas of Critical Environmental Concern (ACEC)	No	MassMapper
NHESP Estimated/Priority Habitats of Concern	Yes	MassMapper
Article 97 Openspace	No	MassMapper
Public Water Supply	No	MassMapper, Town of Boxborough
Municipal Sewer System	No	MassMapper, Town of Boxborough
Drinking Water Resources	Yes	MassMapper, Town of Boxborough

2.1 Surface Water, Wetlands, and Floodplains

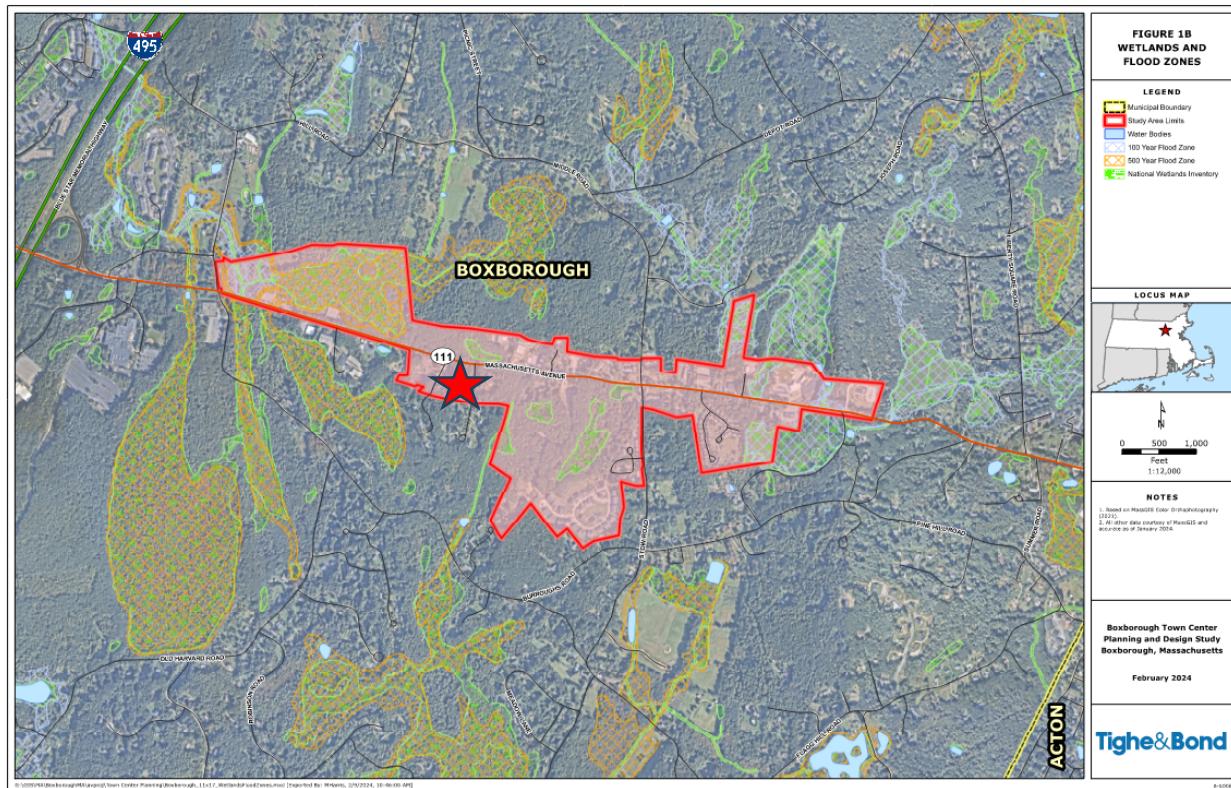
2.1.1 USFWS National Wetland Inventory

Based on initial desktop mapping via the U.S. Fish and Wildlife National Wetland Inventory (NWI) Mapper and FEMA Flood Insurance Rate Map (FIRM) data, numerous wetland resource areas and streams are identified within the Study Area including Beaver Brook and Inch Brook, as well as freshwater forested/shrub and freshwater emergent wetlands, freshwater ponds, streams, and riverine areas. Please note unmapped resources may also exist in the Study Area. Proposed plans for the Enclave residential development also indicate larger wetland resource areas than shown on the NWI Mapper.

2.1.2 FEMA Flood Rate Insurance Map

The FEMA FIRMs identified as Community-Panels Numbers 25017C331F, 25017C0332F, and 25017C351F (effective July 7, 2014) were consulted to evaluate the presence of FEMA flood zones within the Study Area. According to the FIRMs, portions of the Study Area are within the mapped limits of the 1% Annual Chance Flood, Regulatory Floodway, and 0.2% Annual Chance Flood. The limits of FEMA flood zones present within the Study Area are depicted on the figure below. It should be noted that wetland data received from FEMA FIRM or USFWS NWI mapping is not regarded as definitive regulatory maps and does not accurately depict the size, presence or absence of wetlands on any particular parcel. A field wetland delineation is recommended once proposed development areas are identified to confirm the location of jurisdictional wetland resources.

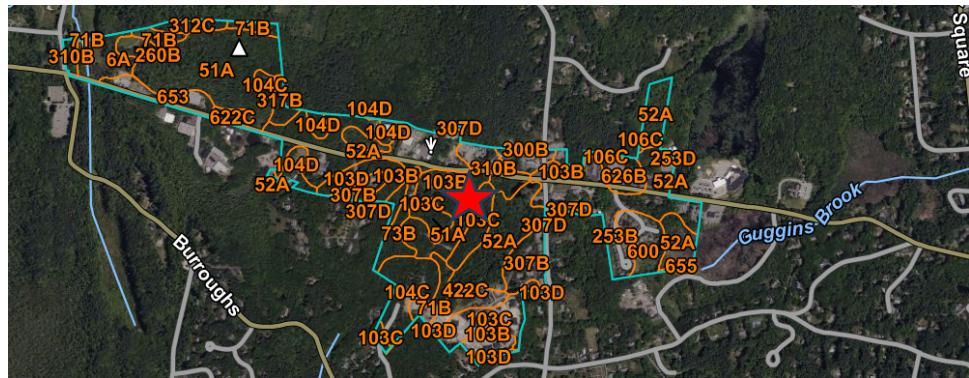
The following figure presents the Study Area in relation to wetlands and waterbodies, FEMA 100-year flood zones and 500-year flood zones, and National Wetland Inventory data.



2.2 Soils & Topography

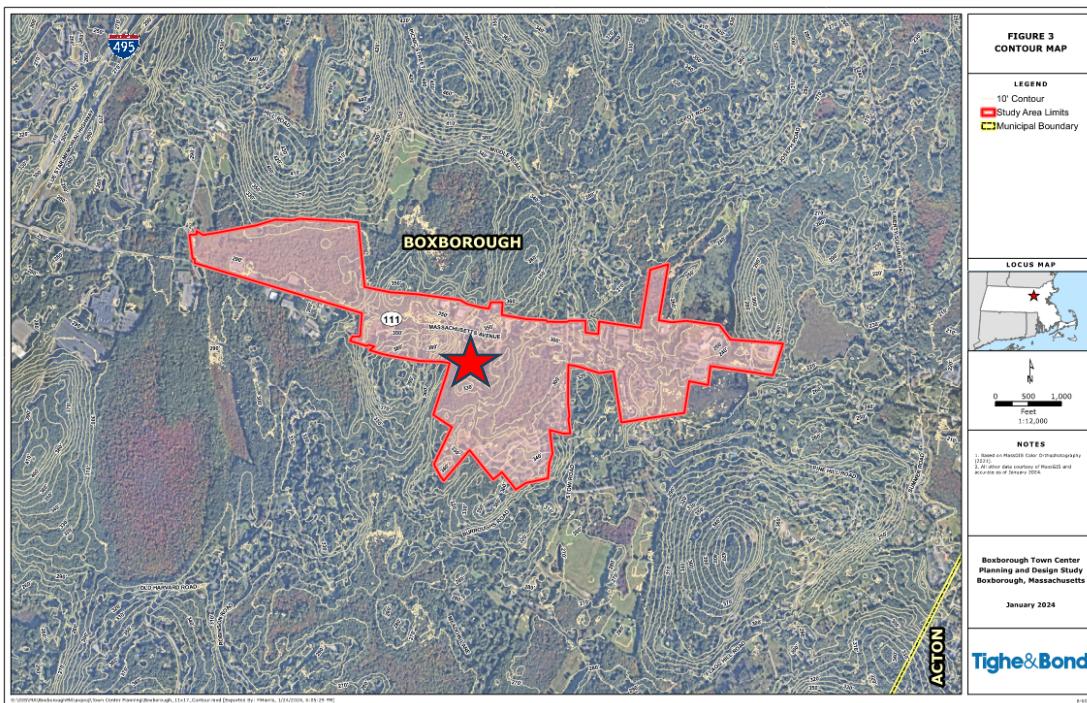
2.2.1 USDA Web Soil Survey

Based on review of the Study Area in the USDA Web Soil Survey Mapper, the majority of the Study Area (+/-80%) is classified as Not Prime Farmland, with the remaining 20% classified as Farmland of Statewide Importance, and Prime Farmland. Although approximately 20% of soils within the Study Area may be suitable soils for farming activities, there is limited to no agricultural activity within the Study Area. The figure below depicts mapped soil types in the Study Area.



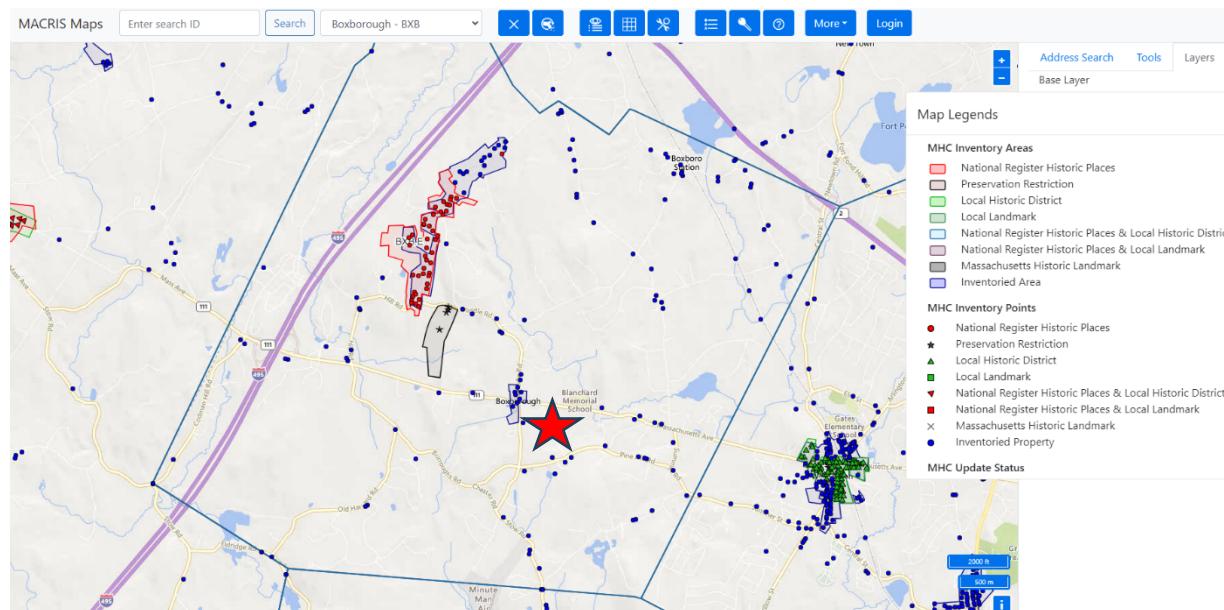
2.2.2. USGS Topographic Survey

The topography of the Study Area consists of gentle rolling hills with low to moderate slopes. The Study Area is easily navigable and does not contain areas that are difficult to traverse, with the exception of densely wooded and vegetated areas. The intersection of Route 111, Middle Road, and Stow Road located centrally in the Study Area, is relatively flat, and it is unlikely that major earthwork would be required for future development.



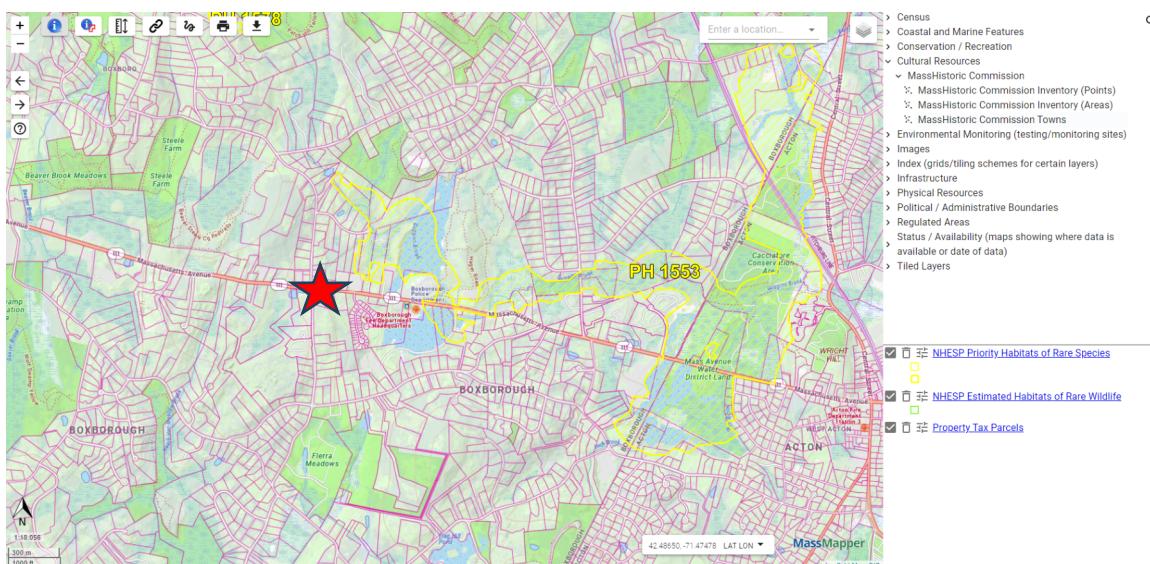
2.3 Historically Significant Resources

Based on information obtained from the latest edition of the National Parks Service U.S. Department of the Interior's National Register of Historic Places (NRHP) and the MA Cultural Resource Information System (MACRIS), Boxborough's village center at the intersection of Route 111 and Middle Road contains documented NRHS-inventoried properties including the Town Hall, Community Center, Town Center building, United Church of Christ Congregational Church, and select residential/converted commercial structures (parcels 14-005-000, 14-201-000, 14-164-000, 14-100-000).



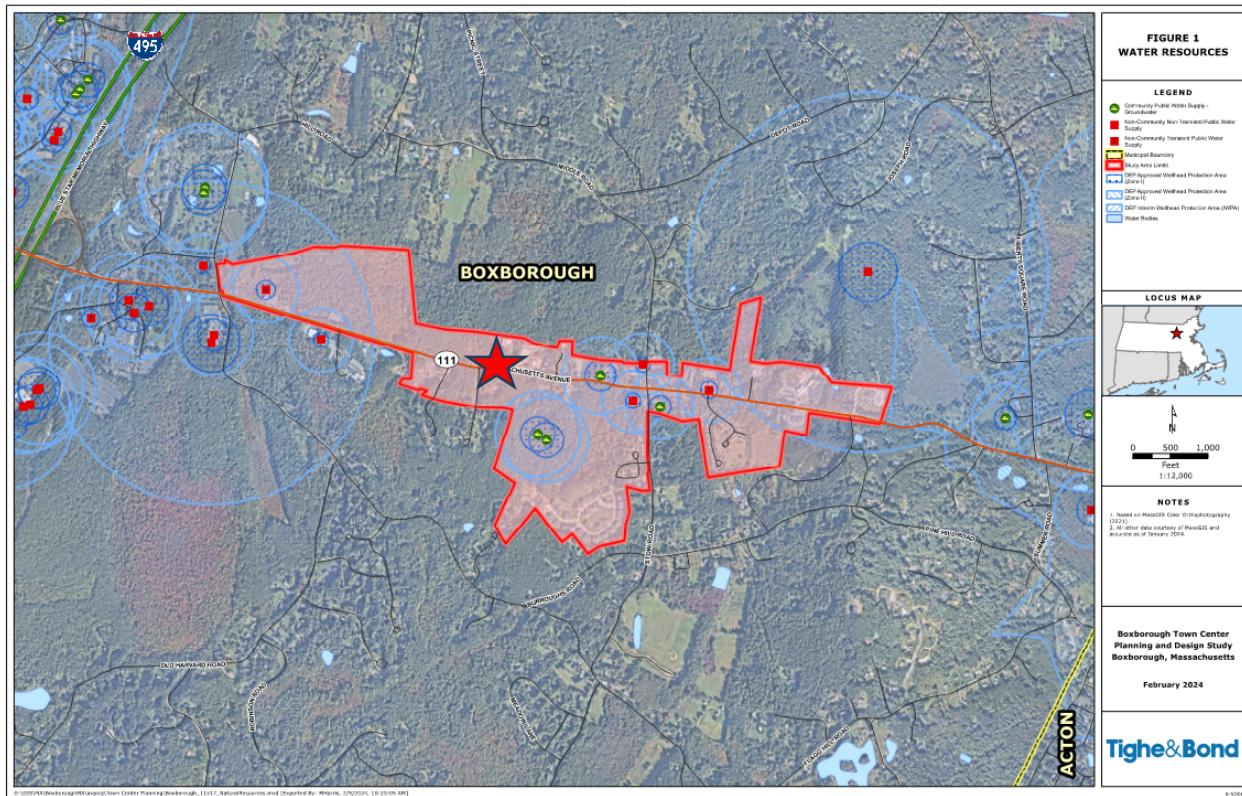
2.4 Rare Species

The Natural Heritage and Endangered Species Program (NHESP) Atlas, 15th edition, effective August 2021, and MassGIS online mapping data were consulted during the design and planning stages of this project. According to these sources, a NHESP *Priority Habitat of Rare Species* (PH 1553) is present within the northern portions of the Study Area.



2.5 Water Supply and Wastewater

The Study Area is within the MA DEP wellhead protection area (Zone I) and interim wellhead protection area (IWPA). North of the Study Area is a non-transient non-community water system and community water system. South of the Study Area, across Massachusetts Ave, are multiple non-transient non-community water systems wells and one community water system. Existing municipal water and sewer are not currently available for the Study Area. Private septic systems are currently used for wastewater disposal throughout the Town. Many residents rely on private wells as their source of drinking water.



2.6 Hazardous Waste and Disposal Management

Neither the Study Area nor any abutting properties are listed by the MADEP as a "Disposal Site." Facilities may have trash receptacles within the Study Area for storage of waste or refuse but these are not characterized as hazardous in nature as described in Zoning Bylaw Section 6.6.3.

2.7 Transportation Infrastructure

Massachusetts Avenue serves as the main roadway connecting Boxborough's Town Center to surrounding communities. Public transportation options within the Study Area are limited, with the Massachusetts Bay Transportation Authority (MBTA) Commuter Rail stations in Littleton and South Acton, both a few miles from the Town's north and east boundary lines respectively. The predominant mode of transportation is private vehicles. Additionally, the Study Area is positioned near major highways, including Interstate 495, a key north-south route, and Route 2, facilitating east-west travel.

Existing pedestrian and bicycle infrastructure within the Study Area is limited. There is a

sidewalk on the east side of Middle Road leading up to the Boxborough Town Hall. Additionally, a sidewalk runs along Massachusetts Ave on the south side of the street from Middle Road heading east, contributing to pedestrian mobility in this direction. There is no sidewalk along Massachusetts Ave from Middle Road heading west. The current road layout and conditions provide limited space for cyclists, and there are no marked bicycle lanes throughout the Study Area.



Tighe&Bond

SECTION 3

3. Zoning Review

3.1 Boxborough Zoning Requirements

Based on the Boxborough Zoning Map (amended June 2020), the Study Area is wholly within the Town Center (TC) and Business (B) zoning district in the Town. The Boxborough Zoning Bylaw (amended May 8, 2023) includes a Table of Use Regulations which govern how the existing and proposed uses will be regulated by the Town.

Under proposed conditions, the Study Area could be considered for a variety of land uses dependent upon which of the development scenarios or components may be chosen as part of the greater village center revitalization project. To determine the appropriate zoning and permitting pathway for proposed development scenarios, the Boxborough Zoning Bylaw's definitions will require review to determine what the proposed land use shall be considered within Boxborough. The Boxborough Zoning Bylaw contains dimensional controls based on the zoning district, outlined in Table 3-1, below.

Table 3-1- Dimensional Requirements

Dimensional Requirements	Business (B)	Town Center (TC)	Agricultural Residential (AR)	Residential-1 (R1)	Business-1 (B1)
Minimum Lot Area (sq ft x 1000)	40	40	60	80	40
Minimum upland lot area (sq ft x 1000)	20	20	20	20	20
Minimum upland lot area (% of total lot area)	--	--	--	--	--
Minimum lot frontage (ft) ⁹	100	100	150 ⁶	150	100 ⁸
Minimum lot width (ft) ⁷	100	100	100	125	100
Minimum Front Setback (ft)	50	25²	40	40	50 ⁸
Minimum side setback (ft)	30	20²	30	30	30 ⁸
Minimum rear setback (ft)	40	20²	40	40	40 ⁸
Maximum stories	3 stories	3 stories	3 stories	3 stories	3 stories
Maximum building height (ft)	45	45	45	45	30
Maximum lot coverage (%) by buildings, structures, and	50	35³	--	--	50

impervious surfaces					
Floor area ratio	--	-	--	--	--
Minimum Open Space (%)	--	65	--	--	--

3.2 Aesthetic Considerations

In addition to dimensional controls such as building height, setbacks and lot coverage, parking/off-street loading requirements, landscaping, lighting and signage also serve to establish the visual characteristics of an area. Article 6 of the Boxborough Zoning Bylaw contains Off-Street Parking Requirements based on the proposed use.

Landscaping requirements require maintenance of front yards; prohibition of parking within the front setback in the Business district (no closer than 10 feet to the lot line in the side and rear setbacks). The Business and Town Center districts allow for shared common driveways and parking areas; parking and some other uses must also be screened with either existing or proposed vegetation, walls or fences; however, the width of screening or a list of suitable plant materials is not specified in the Bylaw. Outdoor lighting including sign illumination is also specified in the Zoning Bylaw. Internally illuminated signs are discouraged in the Study Area Zoning Districts.

Tighe&Bond

SECTION 4

4. Permits and Approvals

Future development of the Study Area will entail unique permitting requirements as the Study Area contains wetlands and floodplains, historic structures, and water and wastewater limitations. Permitting requirements have been outlined below to provide a clear understanding of how development of the Study Area would be regulated.

4.1 Town of Boxborough

The Town of Boxborough's Zoning Bylaw, dated May 8, 2023, and Boxborough Rules & Regulations Governing the Subdivision of Land, dated March 26, 2012 were reviewed for applicable zoning and subdivision requirements pertaining to potential development of the Study Area. Potential use of the Study Area may require Subdivision Approval, Special Permit, Site Plan Approval, Design Review, and Board of Health Approval. These requirements are provided in more detail below.

4.1.1 Allowed Uses

4.1.1.1 As of Right Uses in Town Center and Business Districts

- The following uses are allowed as-of-right, in both Town Center and Business Districts, subject to Footnotes as listed below. Conversion of existing dwelling to two-family dwelling
- Exempted farm under G.L. c. 40A, Subsection 3
- Conservation area, public park
- Educational, governmental, philanthropic or religious use
- Convalescent, nursing, or rest home
- Day care center
- Professional or business office
- Veterinary
- Bank (TC: Footnote 4)
- Health Care Facility (Footnote 3)
- Service shops (TC: Footnote 6)
- Craft shop or art studio (TC: Footnote 7)
- Retail stores of less than 25,000 SF GFA (TC: Footnote 8)
- Specialty food shop with less than or equal to 3,000 SF GFA (B: Footnote 20 and TC: Footnote 21)
- Roof or building-mounted Solar Energy System (Footnote 24)

4.1.1.2 Business District

The following uses are allowed by-right in the Business District only:

- Conversion of existing dwelling to two-family dwelling
- Ski tow and accessory structures
- Riding school with less than 20 horses
- Private golf course (restrictions)
- Public Utility
- Public or private facility providing tennis, swimming, or skating
- Convalescent, nursing, or rest home
- Assisted living facility
- Hospital, Medical Center, sanatorium, funeral home (Footnote 3)
- Sports or athletic facility or full-sized public golf course

- Club
- Veterinary
- Research & Development (Footnote 3)
- Health Care Facility (Footnote 3)
- Laboratory (Footnote 3)
- Bank
- Hotel, motel, inn
- Service shops (salon, barber, dry cleaner)
- Craft shop or art studio
- Printing shop/ Copy shop/ Word processing center (Footnote 3)
- Retail less than 25,000 sf gross floor area
- Repair shop
- Specialty food shop less than or equal to 3,000 sf of gross floor area (Footnote 20)
- Wholesale operations (Footnote 9)
- Light Manufacturing (Footnotes 3 and 11)
- Landscaping services (Footnote 21)
- Medium-scale ground-mounted Solar Energy System

Single-family, two-family and multi-family residential uses are not allowed in either the Town Center or Business Zoning Districts.

4.1.2 Uses Allowed by Special Permit

A variety of uses are allowed by Special Permit in the Business District. Notable among special permit uses are repair garage, car sales (Footnote 19), specialty food shop greater than or equal to 3,000 sf of gross floor area, building trades, landscaping contractors. Single-family dwellings, two-family dwellings, and dwelling units incidental to a principal commercial use, bed and breakfast, public utilities, kennels, restaurants (Footnotes 5, 23), and specialty food shops containing more than 3,000 sf of gross floor area are allowed by Special Permit granted by the Zoning Board of Appeals in the Town Center District.

4.1.3 Site Plan Review

Article 2, Subsection 2.5 of the Boxborough Zoning Bylaw requires Site Plan Review for proposed actions including (1) the creation of any structure used for commercial, business, industrial, office, 6 multifamily, municipal, institutional, utility, or recreational purposes; (2) construction, exterior alteration, relocation, occupancy, or change in use of any building or lot that results in the substantial alteration of an existing building or lot; (3) extension or expansion of any existing use. Expansion shall include any increase in floor space of 25 percent or more within a ten-year period, or; (4) resumption of any use discontinued for more than two years.

Site plan review is not required for the construction or enlargement of any single-family dwelling or accessory building to the dwelling, customary home occupations, normal maintenance or repair of structures, or the construction, alteration or expansion of a building with a gross floor area of less than 500 sf where proposed expansion totals less than 10% of the existing gross floor area, including basements.

Use Regulations outlined in Article 4 of the Zoning Bylaw will be a critical factor in determining permitted uses in each zoning district.

4.1.4 Special Regulations

4.1.4.1 Open Space Commercial Development

The purpose of the Open Space Commercial Development special regulation is to encourage the preservation of open land for its scenic beauty, open space, forestry, and recreational use; to preserve historical and archeological resources; to protect the natural environment; to protect the value of real property; to promote more sensitive siting of buildings and improved overall Study Area planning; to perpetuate the appearance of Boxborough's traditional New England landscape; to allow landowners a reasonable return on their investment; and to facilitate the construction and maintenance of streets, utilities, and public services in a more economical and efficient manner.

A special permit may be issued for an Open Space Commercial Development on any tract of land containing 10 or more acres in the Office Park, Industrial-Commercial, or Business District. Pursuant to Section 7.5.2 of Article 7, the Planning Board shall be the Special Permitting Granting Authority for an Open Space Commercial Development. Should a tract of land proposed to be developed as an Open Space Commercial Development be owned in common with contiguous, residentially zoned land, the buildable area of the residentially zoned land may be included within the Open Space Commercial Development for the purposes of calculating the total square footage of commercial development, and for the purposes of meeting area, open space and FAR requirements. No part of the commercial development may be located on the residentially zoned portion of the tract, and the residentially zoned land shall be permanently protected as open space under Section 7.5.4.b.

4.1.4.2 Aquifer Protection Overlay/District

Article 8 of the Boxborough Zoning Bylaw established the Town's Aquifer Protection District Overlay District (APDOD). The purpose of the Town's APDOD is to promote the health, safety, and welfare of the community by protecting, preserving and maintaining the groundwater supply and groundwater recharge areas within the known aquifers of the Town; and preserving and protecting sources of water supply for the public health and safety; and protecting the groundwater and groundwater recharge areas of the Town from development or land use practices adverse to their future purity, viability, and accessibility for use. The APDOD is an overlay district superimposed on other Districts established by the Bylaw. Development within the APDOD is subject to use regulations and Special Permit requirements issued by the Board of Appeals. As noted in the Town's Open Space and Recreation Plan, "...Boxborough has no municipal water systems. Almost the entire town depends on bedrock wells for their water supply. The remaining residents draw their water from one of the town's sand and gravel aquifers. Major sand and gravel aquifers and their recharge areas were delineated by Interdisciplinary Environmental Planning in 1984. The aquifers and their recharge areas are shown in the map below. Aquifers that meet the following criteria could be used as a public water supply: a) surficial geologic deposits of proper size and sorting to produce high rates of water movement; b) sufficient saturated thickness of surficial deposits; c) sufficient area recharge; and d) acceptable water quality. Protection of aquifer areas is especially important as it is more economical to preserve water quality than it is to clean a contaminated water source." (Boxborough Open Space and Recreation Plan,

The Town of Boxborough includes the following aquifers:

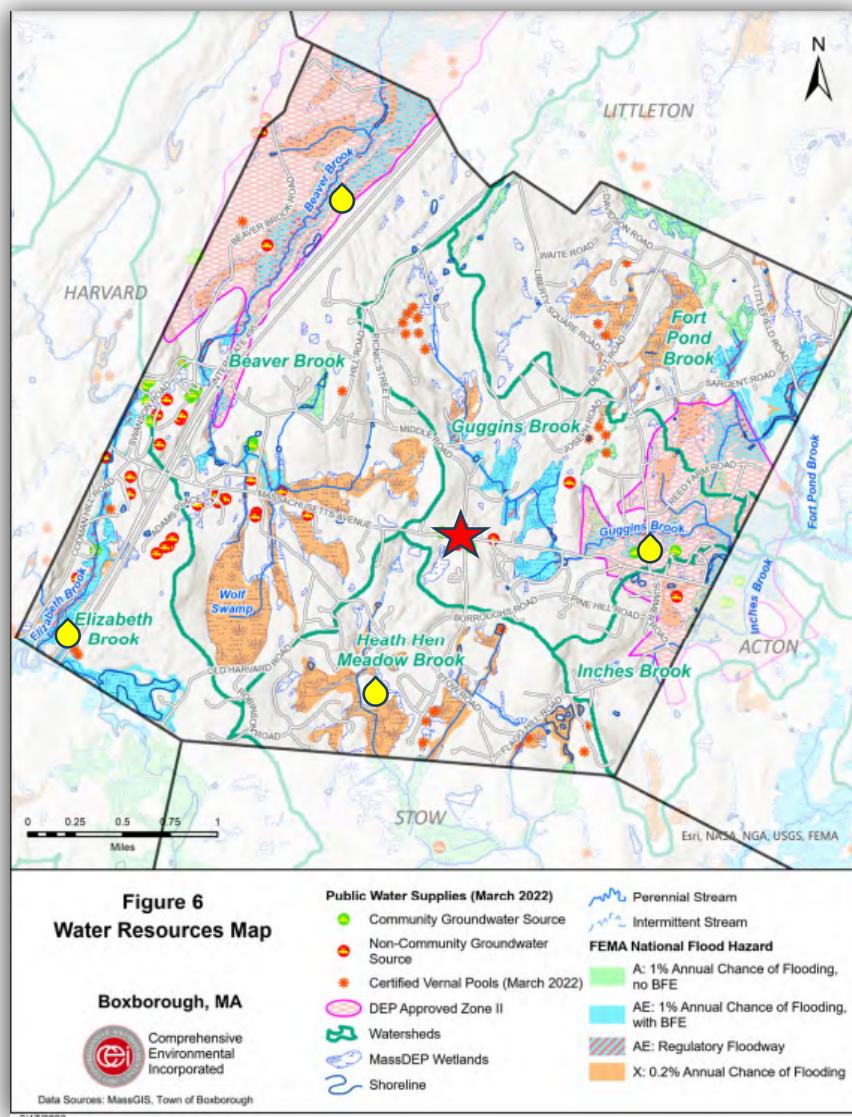
- Elizabeth Brook – 2.25 square miles, 0.79 million gallons per day recharge
- Beaver Brook – 3.4 square miles, 1.41 million gallons per day recharge

- Heath Hen Meadow Brook – 1.5 square miles, 0.49 million gallons per day recharge
- Guggins Brook – 4.29 square miles, 1.32 million gallons per day recharge

*Source: Geoscience

As noted in the Town's OSRP Water Resource Map below, the Guggins Brook Aquifer, or "DEP Approved Zone II" is just outside the Study Area. For uses which require a Special Permit or Site Plan Approval, applicable standards include: location of on-site disposal systems outside the District boundaries; recharge of all runoff on site; restrictions on vegetation removal; as well as adherence to State performance standards to protect groundwater quality.

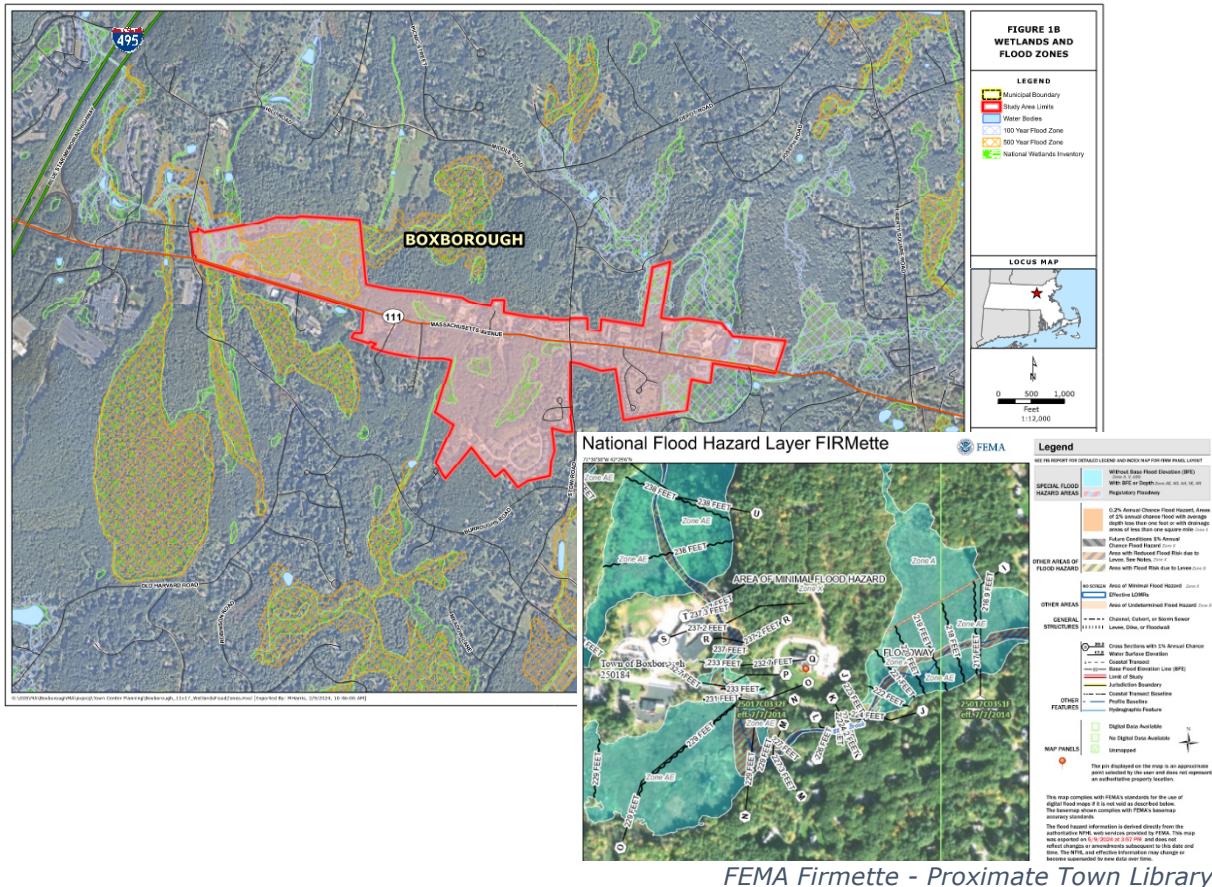
Town of Boxborough Water Resources Map
(Source: Comprehensive Environmental Incorporated)
Yellow dot = Town of Boxborough aquifer locations



4.1.4.3 Flood Plain Overlay/District

Minor portions of the eastern end of the Study Area are located within the Town's designated Flood Plain Overlay District. The Flood Plain District purposes are: to ensure public safety through reducing the threats to life and personal injury; to eliminate new hazards to emergency response officials; to prevent the occurrence of public emergencies resulting from water quality contamination and pollution due to flooding; to avoid the loss of utility services which if damaged by flooding would disrupt or shut down the utility network; to reduce costs associated with the response and cleanup of flooding conditions; and to reduce damage to public and private property. In accordance with this section of the Bylaw, all development including structural and nonstructural activities, whether permitted by right or by special permit, must comply with the following regulations:

- a) 780 CMR of the Massachusetts State Building Code (which address flood plain and coastal high hazard areas).
- b) 310 CMR 10.00 Wetlands protection, Department of Environmental Protection.
- c) 310 CMR 13.00, Adopting Inland Wetlands Orders.
- d) 310 CMR 15, Title 5, minimum requirements for the subsurface disposal of sanitary sewage, DEP.
- e) Any other applicable state regulations not listed herein.
- f) Any variances from the provisions and requirements of the above referenced state regulations may only be granted in accordance with the required variance procedures of these state regulations.



4.1.5 Boxborough Conservation Commission Regulations

Significant portions of the Study Area include wetlands and/or their buffers. As noted in the Boxborough Wetland Regulations, almost one-fifth of the land in Boxborough consists of bordering vegetated wetlands. The Wetland Bylaw sets forth a public review and decision making process to protect wetlands and adjoining land areas by controlling activities deemed likely to have a significant (or cumulative) impact on wetland values, including but not limited to the following:

- a) protection of public and private water supply
- b) protection of groundwater
- c) flood control
- d) erosion control
- e) storm damage control and prevention
- f) prevention of pollution
- g) protection of land containing wildlife (wildlife habitat)
- h) recreation
- i) protection of aesthetics (to be referred to collectively as "the interests" of the Bylaw and the "resource area values")

Areas Subject to Protection under the Bylaw include:

- a) freshwater wetlands
- b) marshes
- c) wet meadows
- d) bogs
- e) swamps
- f) lakes
- g) ponds
- h) rivers
- i) streams
- j) any land within 100 horizontal feet of the above resource areas (a through i).
(Hereto known as the Adjacent Land Resource Area; referred to in Section 2.2 of the Bylaw as Buffer Zone).

General performance standards apply to resource areas and adjacent land resource areas. Proposed development scenarios that would include development within resource areas or adjacent Land Resource Area would be subject to review Order of Conditions by the Boxborough Conservation Commission through an Order of Conditions

4.1.6 Board of Health

The Boxborough Board of Health regulates siting of certain uses and activities, private well construction, and stormwater discharge through Groundwater and Well Regulations, and the Town's Stormwater Bylaw. Proposed development would be subject to review and permitting by the Boxborough Board of Health.

SECTION 5

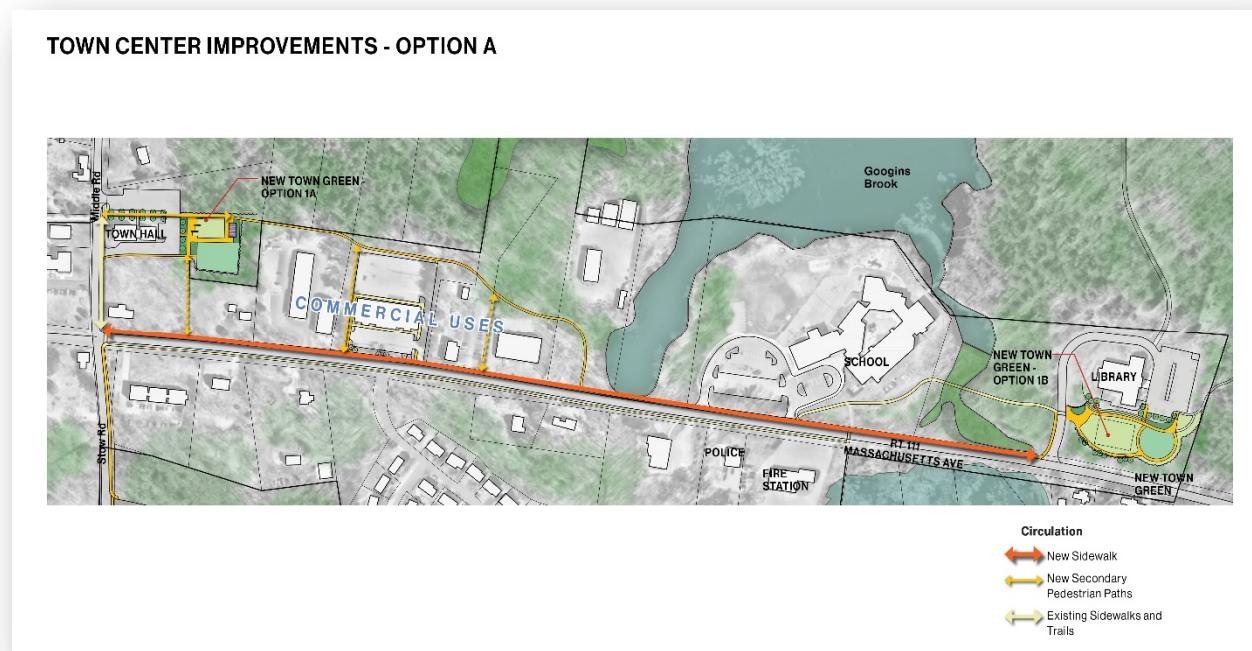
5. Potential Alternatives

In light of the analysis of existing environmental, historic, infrastructural, and governmental conditions within the Study Area, the following design alternatives were produced, reflecting possible or feasible areas for village center development.

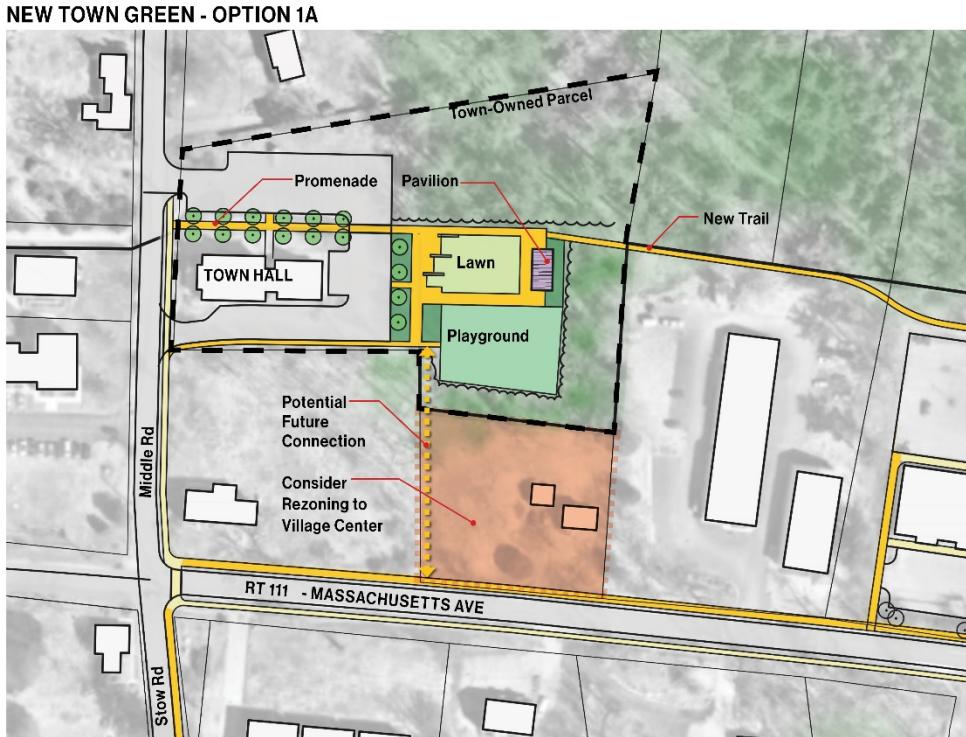
The proposed village center design concepts are specific to the Town of Boxborough, and highlight opportunities for the integration of new buildings, services, and open spaces within the bounds of existing municipal infrastructure.

The following figure, *Town Center Improvements – Option A* includes a high level view of possible improvements located near the Town Hall, near the Town Library, and along the Route 111 connecting the two. Alternative 1 ("1A") proposes the configuration of a town green or open park space in the area behind Town Hall (to the east). Existing sidewalks are located along Middle Road, and new secondary pedestrian paths (dirt trails, gravel sidewalks) are proposed as an interconnected system that would link to existing conservation areas and trails located in the forested areas north of the Project Area. Alternative 2 ("1B") proposes a new town green with park or recreational field space is proposed south of the Town Library, which could be accessed more easily by existing sidewalks and trails located north, west and south of the Town Library. A new sidewalk is proposed in both alternatives to allow safer accessibility for pedestrian crossings between the Town Hall and the Town Library.

The following figure depicts a high level view of these Option 1A and Operation 1B alternatives.



Option 1A can be viewed in finer detail here:



And, option 1B can be viewed in finer detail here:

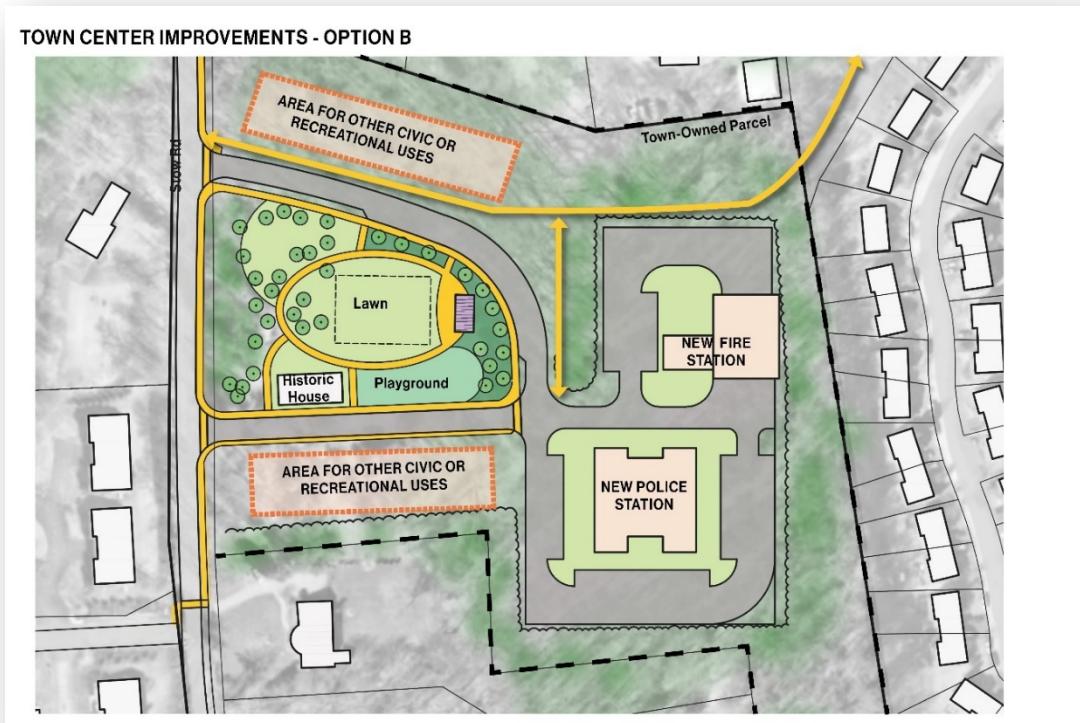


Alternatively, the following figures, *Town Center Improvements – Option B*, includes a high level view of possible improvements located along the municipally-owned land along Stow Road. Alternative 3 ("Option B") proposes the configuration of a new civic center on the municipal parcel, which would include a town green or open park area, playground, benches or seating, greenery, and a new Boxborough Fire and Police Station.

The following figure depicts a high level view of the proposed civic center in relation to the existing Fire and Police Station:



While the following figure depicts possible civic uses in finer detail:



SECTION 6

6. Public Outreach and Stakeholder Meetings

A Public Town Center Visioning Workshop was hosted by the Town of Boxborough on February 6, 2024 at Town Hall. Residents were asked a series of questions surrounding themes of existing conditions, opportunity areas and/or areas for improvement, preferred streetscapes, and preferred aesthetics for town center visioning.



Based on the feedback received, when asked "What do you like most about the central area in Town," residents highlighted the following:

- Historic buildings and historic character
- Pockets of natural beauty
- Path between library and school
- Ponds, wetlands
- Small-town character
- Easy access to highway
- School near conservation lands
- Community facilities (school, library, church, etc.)

When asked what could be improved in the central area, responses included:

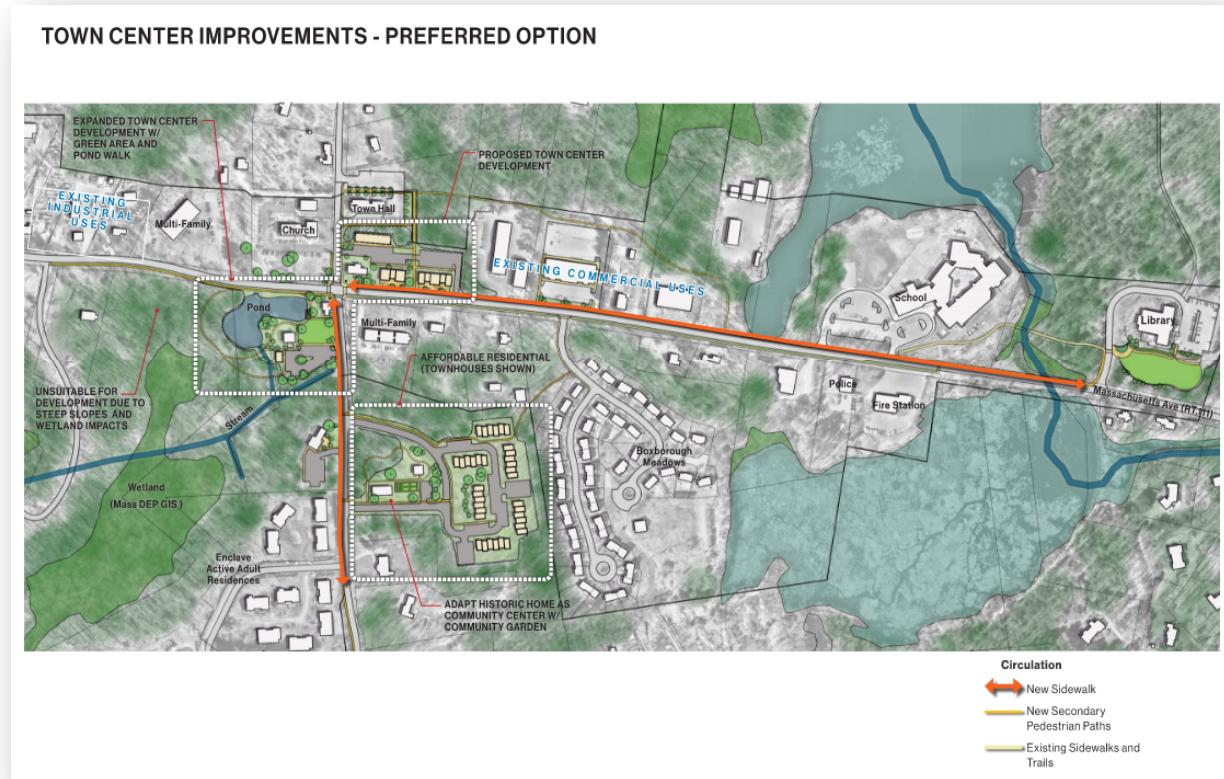
- Walkability/bike access – lack of connected sidewalks/crosswalks
- Consistency in architectural styles
- Design to better reflect village look
- Town sewer/water infrastructure
- More small-scale businesses
- Improvement of green space

In smaller sidebar conversations, residents discussed issues raised regarding:

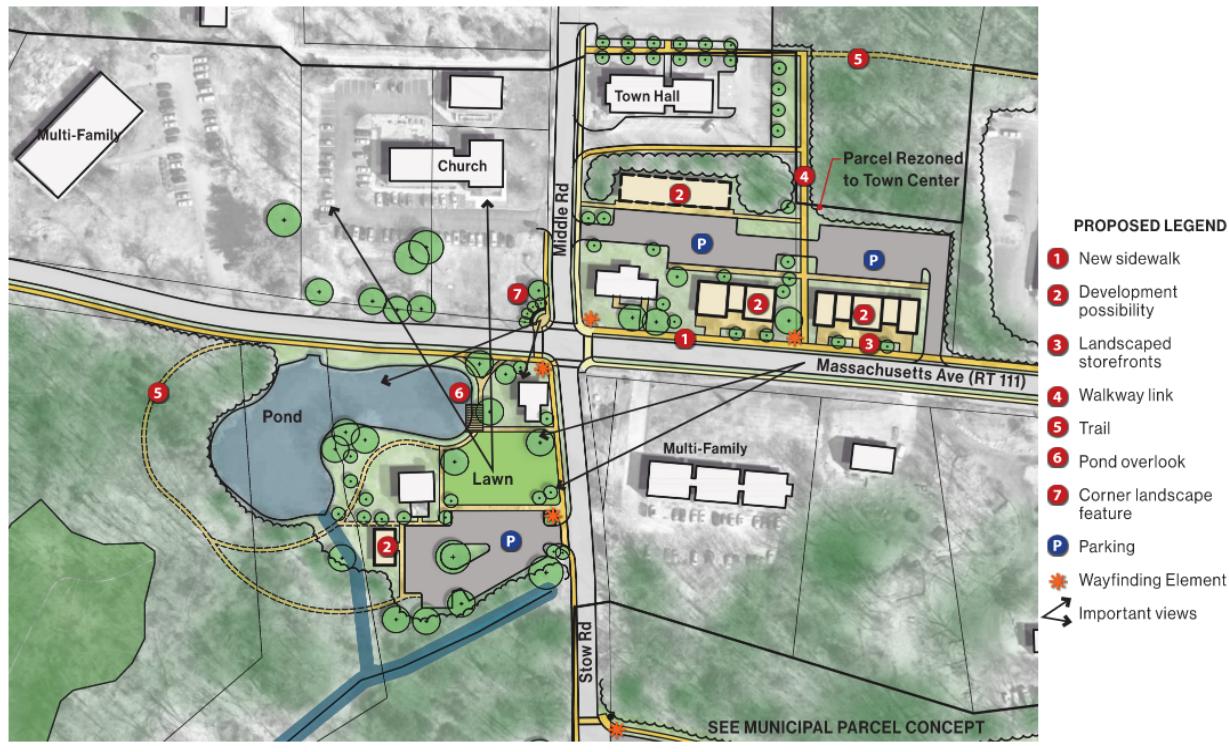
- Land ownership/lack of public lands
- Lack of public gathering space
- Need to drive to activities/lack of sidewalks
- Underutilized/vacant buildings

SECTION 7

7. Final Concept Plan



TOWN CENTER CONCEPT



MUNICIPAL PARCEL CONCEPT



Tighe&Bond

SECTION 8

8. Zoning Recommendations

Implementation of the proposed conceptual plan may require amendments to existing zoning. This section focuses on key considerations for future zoning amendments to facilitate development of the Town Center District concept.

8.1 Potential Changes to Use Regulations

The Town should consider the following key principles when reviewing its Use Regulations and permitting processes:

- Allow desired uses as-of-right to reduce the permitting burden.
- Use the Site Plan Approval process for as-of-right uses that need additional review.
- Use Special Permit for those uses that might have a greater impact on the Town Center. A common threshold is a development over a certain size.

This strategy may require the Town to change the approval process for certain uses and define the appropriate approval threshold. For example, a café that serves coffee, tea, and baked goods and has limited seating may be a candidate for Site Plan Approval while a full-service restaurant with twenty tables may require a Special Permit.

As the Town reviews its Use Regulations, the evaluation process should include current uses that are allowed in the Business district that are not suitable due to the area requirements. (see box below). The Town could address this (1) by extending the Town Center District to cover the parcels included in the plan in Section 8. Final Concept Plan; or (2) by splitting the Business District into at least two components and defining the uses and dimensional standards appropriate to the part of the District along the border with Acton separately from the portions of the Business District adjacent to the Town Center.

Uses Potentially Unsuitable for the Town Center

- Ski tow and accessory structures
- Riding school with less than 20 horses
- Private golf course (restrictions)
- Public or private facility providing tennis, swimming, or skating
- Assisted living facility
- Hospital, Medical Center, sanatorium, funeral home (Footnote 3)
- Sports or athletic facility or full-sized public golf course
- Club
- Research & Development (Footnote 3)
- Laboratory (Footnote 3)
- Printing shop/ Copy shop/ Word processing center (Footnote 3)
- Repair shop
- Wholesale operations (Footnote 9)
- Light Manufacturing (footnotes 3 and 11)
- Landscaping services (Footnote 21) Note that this use is already within the area of the Final Concept Plan; as allowable uses change, the owners of the business may wish to relocate the landscape business to take advantage of new opportunities for the property.

8.2 Potential Changes to Dimensional Standards

The minimum front setback for the Business District is 50 feet and for the Town Center District is 25 feet, except along Massachusetts Ave/Route 111, where it is 75 feet. This is deeper than is normally recommended for a walkable environment and tends to encourage placing cars at the front of the lot rather than behind buildings. The Town prohibits parking within the front yard for the Business and Town Center Districts. The Town should consider the following:

- Reducing the front setback (ideally to a 10- to 20-foot setback, depending on the activities proposed);
- Prohibiting cars from parking between the building and the public sidewalk where the building is setback further than the required front setback; and
- Encouraging uses of the front yard setback that promote a more active, pedestrian-friendly environment. Such uses could include outdoor seating; outdoor dining; retail display; and landscaping that provides shade during the summer and year-round interest.

The Town should also review the minimum Open Space requirements for the Town Center District. The current requirement is for 65% open space, which may include sidewalks but not parking or driveways. In town centers, the quality of open space is more important than the quantity. The Town should consider design guidelines that define specific criteria for open space, which could include the following:

- Connections to the public sidewalk, either the existing sidewalk or a requirement to connect to a future sidewalk;
- The use of pervious paving materials, rain gardens, bioswales, and other techniques to allow the infiltration of stormwater and capture run-off in major storms;
- Active use of the front yard setback as noted above;
- Unbuilt connections to and between protected land to provide wildlife corridors;
- Pathways between sidewalks on the property to existing trails or requirement to connect to future trails to promote off-street walkable areas; and
- Landscaping that includes native plants or non-invasive adapted plants. Species on the Massachusetts Invasive Plants List, as amended, should be prohibited.

The Town could provide flexibility on the open space requirement in the Site Plan Approval and Special Permit process in exchange for meeting the criteria above.

8.3 Potential Changes to Parking Requirements

The Town currently uses a mix of measurements to determine parking requirements. These include the number of rooms, employees, vehicles, amount of floor area, and other requirements. Some municipalities are moving towards calculating parking by gross or net square footage of a use. This avoids basing the requirement on the operations of a use (e.g., number of employees or vehicles) which are likely to change over time rather than the area of the building, which is less likely to change over time.

In a walkable environment, people are more likely to park once and walk between destinations. For municipalities that require each business on a site to provide the maximum amount of parking, this situation can result in an area that is overparked relative to its needs. Such overparking can have negative effects such as an increase in the heat island effect on the site or an increased need to manage stormwater run-off.

To address these two issues, the Town should consider the following:

- Revise the off-street parking requirements in Section 6.1.6 Parking Schedule to be based on the number of square feet used rather than the operations of the use; and
- Refine Section 6.1.3 to provide an incentive for Common Parking Areas and a defined method for calculating the reduction in the number of parking spaces required for shared use.

8.4 Potential Changes to Design Guidelines

The Town has established a set of Design Guidelines (2018) for both the Town Center District and the two Business Districts (B) and B-1). The Design Review process (Section 2.6 of the Zoning Bylaw) applies to the Town Center only, although other sections of the bylaw refer to this process (for example, Section 4.6 Special Permits for Residential Uses in the B1 District).

The images and requirements in the 2018 Design Guidelines do not fully reflect the desired characteristics of a mixed-use environment for portions of the Town Center, nor do they include the active pedestrian environment discussed in the Final Concept Plan above. The Town should consider the following actions:

- Add the Business District to the Design Review process, depending on whether the Town decides to expand the Town Center District or split the Business District;
- Revise the guidelines to include images and text more suited to a mixed-use village-style center, as described in the Final Concept Plan and supported by the recommendations of earlier planning documents (see box below);
- Consider splitting the design guidelines to add mandatory development standards to the zoning bylaw and less specific guiding text to the design guidelines. This split allows measurable, specific criteria to be required within the approval process. Architectural styles, materials, plantings, and other visual aspects of the design can be retained in the design guidelines; and
- Add development standards and design guidelines to address additions to historical buildings and infill development adjacent to or between historic buildings. This could include additional buildings on a site that includes a historic property.

8.5 Potential Options for Historic Structures

The Town should also consider strategies to support the preservation and adaptive reuse of historic buildings, which are significant contributors to the visual and cultural qualities of the Town Center. Such strategies could include the following:

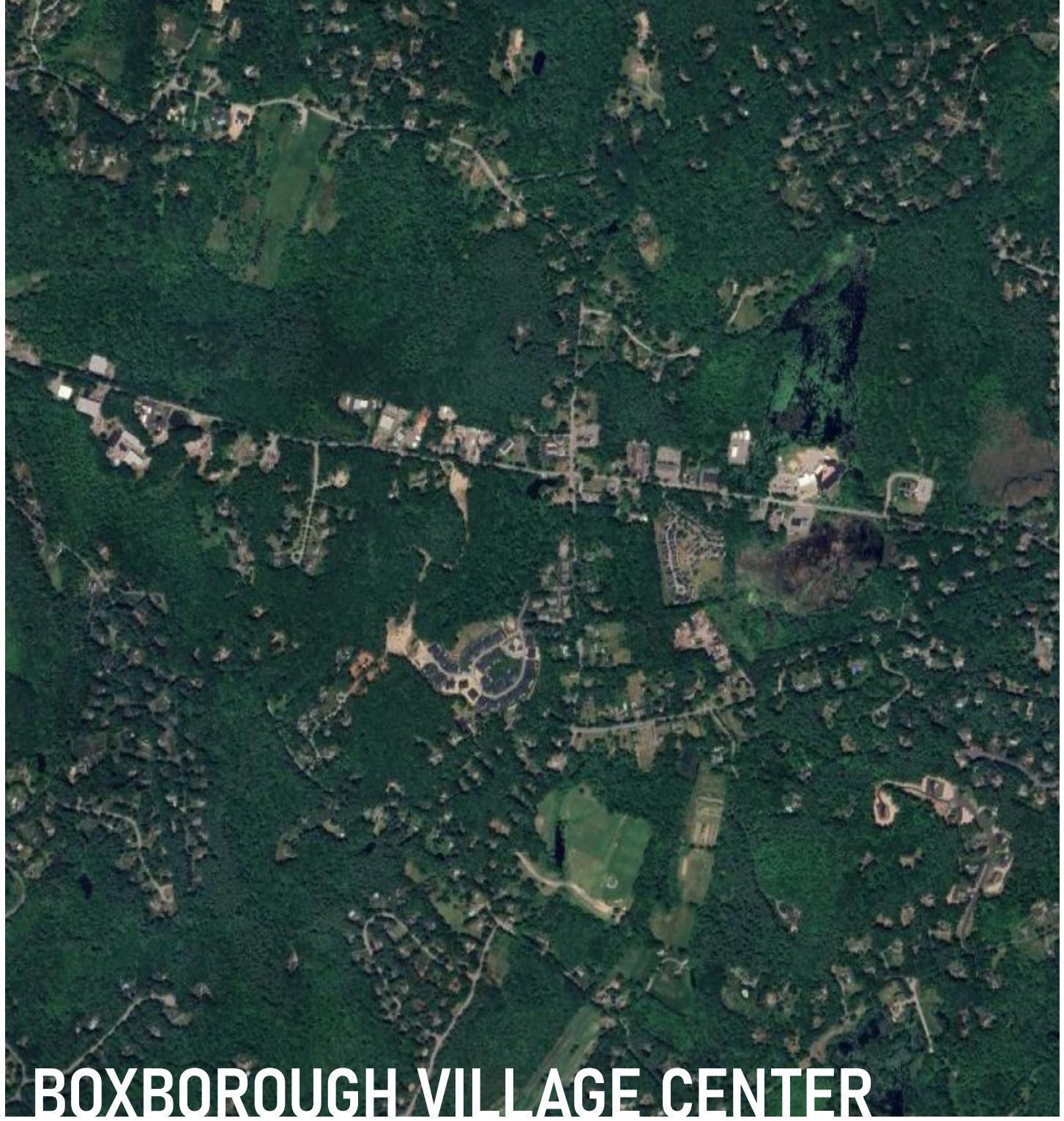
- Exempting historic buildings from the need to get a variance for any nonconforming dimensional standards;
- Allowing additional buildings on the lot in exchange for preserving the historic structure;
- Adding design guidelines and development standards to preserve the view of the historic structure from the public streets; and
- Reducing or eliminating parking requirements for the reuse of a rehabilitated historic structure.

Recommendations from Other Planning Documents

Previous planning documents made additional recommendations for zoning updates. Those that apply to the Final Concept Plan include the following:

- Consider offering density bonuses and/or other incentives to entice development consistent with the community's vision (Source: 2020 Boxborough Economic Development Study);
- Review Town Center against Village Zoning Districts in other communities and evaluate potential changes (Source: 2020 Boxborough Economic Development Study; Boxborough2030);
- Review existing Town Center zoning and design guidelines, making necessary amendments to preserve character and encourage appropriately scaled and designed developments (Source: Boxborough2030);
- Investigate potential zoning amendments to encourage and support appropriate development and utility support in a village business setting (Source: Boxborough2030);
- Consider regulatory tools that can guide and encourage growth in appropriate areas, such as incentive zoning overlays or floor area ratio (FAR) density bonuses for developments that incorporate affordable housing, or agricultural or open space management (Source: Boxborough2030);
- Review the Town's Zoning Bylaw land use controls, including quadrangle requirements, to better understand how this requirement affects the development potential of oddly shaped, but otherwise suitable land parcels (Source: Boxborough2030);
- Identify barriers to multi-family development, including use and intensity restrictions, in the Town's Zoning Bylaw as a means to support more housing options in Boxborough (Source: Boxborough2030); and
- Identify barriers to universal/ inclusive design in existing zoning bylaws and amend as necessary (Source: Boxborough2030).

9. Case Studies



BOXBOROUGH VILLAGE CENTER

CASE STUDY RESEARCH

ADAPTIVE REUSE

Marblehead, Massachusetts
Constructed in 1768 by the deputy postmaster of Marblehead. First floor converted to commercial in 1881.



Boxborough, Massachusetts
Late Georgian home constructed as a salt-box in 1782. It is now home to the Taylor School, a Montessori.





Egremont, Massachusetts

The Egremont Village Inn is a fusion of architectural styles reflective of its historical evolution. Originally erected in 1786 as a small single-room Cape style house, which now houses the kitchen, subsequent modifications introduced a Greek Revival addition, with a formal entrance. This structure accommodated two primary parlor rooms on the ground floor, supplemented by two additional bedrooms on the upper level. The property changed from a private residence to a guest house in the 1940s, and is now 11,965 sq. feet with 13 bedrooms, 12 full baths and 3 half baths on 9.6 acres. The barn is adjacent to the main structure (image below), repurposed as a live music venue, enhancing the inn's cultural appeal. This property relies on on-site septic systems, reflecting its rural context.

For more information on the property, read <https://www.theegremontvillageinn.com/>





West Stockbridge, Massachusetts
Example of first floor of a residential unit converted to a restaurant/cafe.



Egremont, Massachusetts
Example of first floor of a residential unit converted to a commercial store.

Marblehead, Massachusetts
Example of first floor of residential unit converted to a commercial store.



LIBRARY+ COMMERCIAL

The Red Leaf Cafe, which opened in 2009, is inside the Watertown Free Library, adjacent to the used-book store. It serves a small menu for the patrons of the library and is similar to the coffee stores within major chain book stores such as Barnes & Nobles. It also provides a wide variety of reading material and doubles up as a work space with an option to borrow laptops at the front desk.

For more information, <https://www.watertownlib.org/378/Cafe>



Other possibilities for commercial spaces could include partnerships with farmers market and co-working spaces.

To read more about the initiative of Petersburg Public Library, read <https://riverstreetmarket.com/pop-market/>



VILLAGE CENTERS

West Acton Villageworks West Acton, Massachusetts

Villageworks is a retail development on 2.8 acres in West Acton, which has a population of about 21,000.

Local planner Mathias Rosenfield (owner, New Habitat Partners, LLC: Developer for Villageworks) and his father Michael Rosenfield bought this property and renovated it in early 1980s as the office of OMR Architects (Planner & Architect for Villageworks). Subsequently they acquired properties along Massachusetts Avenue which are now part of the Villageworks.

This project's goal was to revitalize the area after the 2008 recession and the loss of the rail station.

The Town of Acton changed the zoning of these residential properties to allow for commercial uses. In 2009, with phased development, the project's estimated cost was between \$10-\$15 million.

This plan also included gaining control of 300ft of Massachusetts Avenue from the Highway Department to allow for on-street parking. Through strong community engagement and support Phase I was completed in 2011.

Today the Village Center serves Acton and Boxborough, the adjacent town.

The Town of Acton, with Greenman-Pedersen, Inc. is completing its West Acton Village Streetscape Plan.

For more information, visit <https://storymaps.arcgis.com/stories/b561a1b8fd5c45e293996b2dd896ef50>



The Village Green at The Pinehills

Plymouth, Massachusetts

The Village Green sits on one acre, serving the planned community of The Pinehills, approximately 7,000 people. The planning approach implemented at this town center could serve as a replicable model for rural Massachusetts.

This center is modelled after a typical New England town center and serves as the retail and mixed-use center of

The Pinehills. It houses a combination of retail and commercial spaces including a USPS.

This entire development is served by water & sewer lines (41 miles). It was planned as a 25-year plan in seven phases. The Village Green was included in the first phase, which began in 1998.





Harvard, Massachusetts

This was the first building in Harvard to be exclusively used as a store. The General Store was sold to Scott Hayward in 2012. Today it serves a population of 6,610 (2018). To serve the community better and understand its needs, Scott conducted a series of surveys including a beer and wine survey, but also preference for daily goods. He added fresh vegetables and fruits through partnerships with local sellers (Source: <https://www.wickedlocal.com/story/archive/2012/09/07/the-post-talks-to-scott/39348516007/>). The General Store also hosts open mic nights and soccer club socials. The goal is to become a town centered store. The Town proposed connecting the general store was to a low pressure sewer connection in 2008 (Source: <https://www.harvard.ma.us/sites/g/files/vyhlif676/f/uploads/map.pdf>) and the store is served by water line.

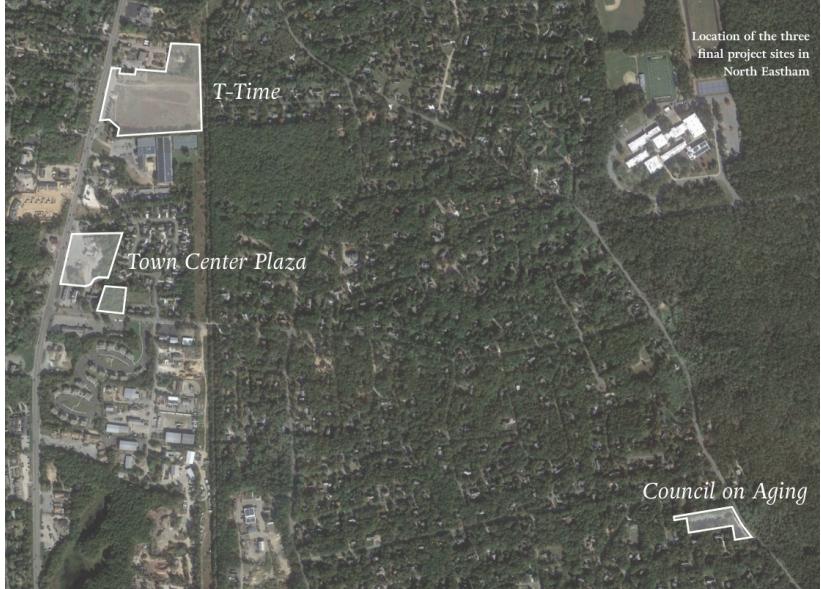


North Eastham Village Center North Eastham, Massachusetts

The Town plans to create a walkable, mixed-use village center in North Eastham with a vision and future for all three sites.

The T-Time property is a vacant 10.86 acres parcel located within Eastham's main business corridor. The vision for this property is a community building set amongst mixed-use buildings and housing providing a neighborhood feel with a formal green space.

The master plan was published in late 2022, with pre-pandemic numbers. With a much greater need for affordable and middle income housing the Town, as of 2024, is still at least two years away from hiring a developer for this project.



As the first priority for the master plan, the Town is currently working on zoning change to include a form-based code and a potential 40R Smart Growth Zoning Overlay. The Town also finalized its Watershed Management Plan in late 2023 and the new wastewater system is expected to be in design phase until 2025. The projected estimated cost of this master plan is \$64 million (March, 2023)

