



Zoning & Planning Committee Report

City of Newton In City Council

Monday, December 12, 2022

Present: Councilors Crossley (Chair), Albright, Danberg, Wright, Leary, Baker, Krintzman, and Ryan

Also Present: Councilors Lipof, Bowman, Kalis, Oliver, Laredo, Downs, Kelley, Greenberg, Lucas, Humphrey, Malakie

Planning & Development Board: Kelley Brown (Chair), Kevin McCormick, and Peter Doeringer

City Staff: Barney Heath, Director of Planning; Jennifer Caira, Deputy Director of Planning; Jonathan Yeo, Chief Operating Officer; Ann Berwick, Co-Director of Sustainability; and Jaclyn Norton, Committee Clerk

For more information regarding this meeting, a video recording can be found at the following link: [Zoning & Planning Committee December 12, 2022 \(newtv.org\)](https://www.newtv.org)

#489-22 Requesting amendments to zoning for animal service establishments
HER HONOR THE MAYOR requesting amendments to Chapter 30, Newton Zoning Ordinance, to amend the definition of “Animal Services” defined in Section 6.4.1.A, and to allow Animal Service uses in certain Business Use zones.
Action: **Zoning & Planning Approved 5-0 (Councilors Albright, Baker, and Danberg not voting)**

Note: Jen Caira Deputy Director of Planning was introduced and explained that under the current ordinance “animal service” is a commercial use allowed in some, but omitted in other business districts. The zoning ordinance defines three similar uses: animal service, personal service, and service establishment. The latter two are allowed by-right in BU1-BU4 zones, but animal service is not, likely due to an error of omission when the 2015 recodification was approved.

To rectify this error, staff proposes including animal service as of right in BU1 and BU2. Thus, making the six animal grooming businesses existing within village centers, compliant with zoning. Second is clarifying the definition of animal services. Ms. Caira then showed the redline text for the amended definition (attached).

The public hearing was opened but there were no speakers. A motion to close the hearing by

Councilor Krintzman carried unanimously.

Citing no concerns, Councilors voted 5-0 (Councilors Albright, Baker, and Danberg not voting) on a motion approve from Councilor Ryan. Later in the meeting, the Planning and Development Board voted 4-0 on a motion to approve made by Peter Doeringer, 2nd by Kevin McCormick.

Chair's note: *For the following item Sustainability Director Ann Berwick will compare the new MA Energy codes as applicable to both residential and commercial projects. Adopting the "Specialized code" requires a simple majority vote of the City Council; we will discuss whether and when to hold a public hearing, as was done when Newton adopted the first Stretch Code.*

#477-22 Request for discussion regarding new MA Building Energy Codes
COUNCILORS CROSSLEY, LEARY, ALBRIGHT, DANBERG, LIPOF, KELLEY, NORTON, LAREDO, BOWMAN, HUMPHREY, DOWNS, GREENBERG, WRIGHT, MALAKIE, MARKIEWICZ, AND GROSSMAN questing discussion with the Sustainability Team and Planning Department about the new MA Building Energy Codes (Base code, Stretch code and Specialized code) which become effective beginning January 2023, and in particular to understand the specifics of the MA "Specialized code" which is optional, what it regulates beyond the Stretch code, and to consider adopting the Specialized code for Newton.

Action: **Zoning & Planning Held 7-0 (Councilor Baker not voting)**

Note: Ann Berwick, Co-Director of Sustainability was introduced, and the Chair outlined that this meeting is to provide information on the key elements of the new MA Energy codes, to compare the updated Stretch code with the optional Specialized code, and to discuss a process for potential adoption of the Specialized Code. Newton is currently a Stretch Code community, having adopted the Stretch code in 2009. This means that the updated residential and commercial Stretch Codes will go into effect automatically in 2023.

Ms. Berwick presented the basic elements of the Stretch and Specialized codes (PowerPoint attached).

The Specialized Codes were developed to comply with recent State climate legislation and require a majority vote of the City Council for adoption. Ms. Berwick emphasized that these codes matter a great deal because in Massachusetts municipalities may not pass their own building codes. She noted that in Newton, buildings account for sixty-five percent (65%) of our greenhouse gas emissions.

Residential and Commercial Codes are separated. The Residential Code regulates detached one- and two-family dwellings and attached single-family dwellings, such as townhouses. The Commercial Code regulates all other buildings.

If communities elect to adopt the Specialized code, DOER recommends that it take effect on a January 1 or July 1st that is at least six (6) months after the Council vote on adoption. This is to be concurrent with how Mass Code amendments take effect, and to allow time for the industry to prepare to meet the requirements.

Ms. Berwick proceeded to summarize and compare the Stretch and Specialized codes for both residential and commercial applications, which are as well summarized in her memos (attached).

Discussion

The Chair stated that the Stretch Code will become more stringent over time. Ms. Berwick agreed and noted that in 2024 the Stretch code will be as stringent as the Specialized Code, except for homes heated by fossil fuels. For these homes the Specialized Code will be stricter. Multiple Councilors raised questions on whether and how much the cost of construction may be increasing as a result of the more stringent codes. There are substantial State and Federal subsidies to encourage high efficiency electric equipment and Passive House construction that will need to be factored in to cost analyses. The Chair noted that Councilors would want to hear from a range of building professionals on the topic of increased cost, and that many local building professionals are ready to participate in a public hearing. Ms. Berwick agreed to check with a colleague at DOER for more information about EV requirements. The Chair noted that adopting the Specialized Code would help provide increased energy efficiency for by-right construction that is required routinely in Council Orders for special permit projects.

The Chair then noted that although a public hearing is not required to adopt this code, that that one was held when the Stretch code was first proposed and adopted in 2009, and asked the Committee whether a public hearing should be held regarding this item. Multiple Councilors agreed, and one noted that dispersing this information to the public before the public hearing would also be useful. The Committee then discussed whether to continue this discussion during a regularly scheduled meeting or in a Committee of the Whole. Councilors voted 7-0 (Councilor Baker not voting) on a motion to hold a public hearing continue this discussion in a Committee of the Whole from Councilor Danberg. The Chair will work with President Albright to schedule the meeting. Committee members then voted 7-0 (Councilor Baker not voting) on a motion to hold from Councilor Leary.

Chair's Note: *For the following item staff and Utile will lead a discussion focusing on evaluating the metrics for and proposed mapping of the VC1 district in response to various conditions across the city.*

#38-22 Discussion and review relative to the draft Zoning Ordinance regarding village centers

ZONING & PLANNING COMMITTEE requesting review, discussion and possible ordinance amendments relative to Chapter 30 zoning ordinances pertaining to Mixed Use, business districts and village districts relative to the draft Zoning Ordinance. (formerly #88-20)

Action: Zoning & Planning Held 8-0

Note: The Chair noted the importance of VC1 as a transition zone, and the extensive feedback that has been received relating to the mapping and metrics of this zone. She noted that in the village center zoning sessions to date, there were many calls to extend this zone to provide opportunities for more multifamily housing close into T stops, as well as calls to remove commercial uses and concerns about the scale in certain locations.

Ms. Caira noted that tonight will be focused on some further analysis of VC1 including test fits, and outlining next steps. All graphics depicting this analysis are available in the attached presentation.

Ms. Caira began by reviewing the principal metrics the VC1 zone, reminding that at the previous meeting the committee considered eliminating commercial uses from VC1, and/or creating two VC1 districts, one of which might allow limited commercial uses by special permit only. She then showed examples of multi-family buildings that would comply with these dimensional controls. The Committee was then presented with drawings on actual sites to illustrate the minimum lot size needed for a four thousand (4,000) sf footprint, both when the lot abuts a residential district, and when abutting a non-residential district. The examples also depicted the lot size needed to accommodate underground vs surface parking. When asked, Ms. Caira noted that these graphics are done to scale with an assumed unit size of one thousand (1,000) sf. to determine the parking requirement, which is the unit size used in the MBTA Communities compliance model.

Test fits for lots over thirty thousand (30,000) sf were drawn using 714-724 Beacon St as the test site. Test fits for small lots were drawn using 1359-1365 Centre St. as the test site.

Ms. Caira noted that surface parking presents a significant limitation on building size and usable open space, that lots smaller than eight thousand (8,000) sf are not large enough to put parking underground, and the number of units that may be accommodated are reduced by the required surface parking.

Multiple Councilors posed questions related to the feasibility of underground parking. Ms. Caira noted that some developments have underground parking that goes beyond and between the buildings, and that the Planning Department is currently working with the Fire Department to figure out minimum stall and aisle dimensions. The Chair suggested getting opinions from developers on whether and how much, adding more units can help to cover the increased cost of underground parking.

A councilor asked whether a developer could change an address on a corner lot in order to get more advantageous setbacks, as can be done currently in residential districts. Ms. Caira noted that this is not possible given that the side and rear setbacks are the same in the draft zoning. A Councilor asked whether design guidelines (which are not mandatory, but used to evaluate design appropriateness before the Urban Design Commission, for example), have been successful in other communities. This question was laid on the table to afford staff time to

discover results. Committee members noted the many design requirements within the text and the Chair asked if these could be provided in a list to help people understand the level of control they provide. In response to concerns about having any historic properties or districts within a proposed zone, Ms. Caira also noted that any lot in the overlay district that is also within a historic district would have to comply with the guidelines of the historic district commission. In addition, it was noted that providing opportunities for reuse, but under the design review authority of an Historic Commission, may offer further protection for an historic building.

Ms. Caira outlined additional analyses that staff intend to undertake and share with the committee:

- Synthesize feedback from initial draft ordinance and maps
- Comparisons of VC1 to existing zoning
- Consider whether VC1 should be split into two districts
- Additional analysis of setbacks
- Consider a tiered approach to Special Permit threshold, open space, and façade length to better reflect residential nature of VC1
- Consider limiting half story to pitched roof in VC1
- Further analysis of ways to incentivize preservation of existing buildings
- Analysis of progress towards compliance with MBTA Communities

The Chair described that she and staff will be considering a more detailed calendar that will consider how to deliberate on the various elements of the draft over the first several months of the new year, which she will share with the committee as soon as possible.

The Committee voted 8-0 on a motion to hold from Councilor Danberg.

#544-22 Reappointment of Dan Brody to the Community Preservation Committee
HER HONOR THE MAYOR reappointing Dan Brody, 15 Brewster Road, Newton Highlands as a member of the Community Preservation Committee for a term of office to expire on February 1, 2026. (60 Days: 02/03/2023)

Action: Zoning & Planning Approved 8-0

Note: The Chair read the item into the record. Committee members expressed no concerns relative to the reappointments and voted 8-0 on a motion to approve from Councilor Krintzman.

The meeting adjourned at 9:28pm.

Respectfully Submitted,

Deborah J. Crossley, Chair

Zoning Regulation of 'Animal Service' Uses

Public Hearing before the Zoning & Planning Committee

December 12, 2022

CITY OF NEWTON
Planning & Development

Background

- In 2012, a zoning amendment created a definition of “animal service” as a commercial use but omitted the village centers of Newton where animal grooming firms have operated for decades.
- Updating the ordinance will expand the types of retail allowed in village centers and make existing businesses conforming

Current zoning

- The ordinance defines three similar uses: animal service, personal service, and service establishment.
- Personal service and service establishment uses are allowed by-right in BU1-BU4 zones. Animal service is not, likely due to an error of omission in a 2012 amendment.
- Note: Kennels and Veterinary Hospital are separate uses

Proposed 2-part solution

1. Enable “animal service” as-of-right in BU1 and BU2. This would bring regulation of this use in line with similar operations and make six existing animal grooming businesses compliant with zoning, and
2. Clarify the definition of “animal service” to provide better guidance to city staff making use determinations.

First, update the use table.

Enable “animal service” as-of-right in BU1 and BU2, which could be accomplished by updating two cells in the use table, as shown below.

Business, Mixed Use & Manufacturing Districts	BU1	BU2	BU3	BU4	BU5	MU1	MU2	MU3	MU4	M	LM
Animal service, excluding overnight boarding	P	P	--	--	--	SP	SP	P/SP	SP	--	--

Second, clarify the definition.

Chapter 30: Zoning Ordinance | City of Newton, Massachusetts.

Article 6. Use Regulations

Sec. 6.4. Commercial Uses

6.4.1. Animal Service

A. Defined. Animal Services, including but not limited to sales and grooming of household pets, ancillary retail sales and services, and incidental veterinary care services; excluding day care and overnight boarding. [Redlined]

6.4.1. Animal Service

A. Defined. Animal Services, including but not limited to sales and grooming of household pets, ancillary retail sales and services, and incidental veterinary care; excluding day care and overnight boarding. [Clean]

Massachusetts Building Code Updates for 2023

Ann Berwick, Co-Director of Sustainability

Presentation to Newton City
Council Zoning and Planning
Committee
December 12, 2022



Background



- **Current Stretch Codes**—Incorporated into the updated Base Codes; no longer a stretch.
- **Specialized Codes**—A new thing, required by recent State climate legislation.
- Why it matters:
 - Cities and towns **can't pass their own** building codes.
 - Buildings emit **65%** of Newton's greenhouse gas emissions.
- Adoption of updated residential and commercial Stretch Codes—**automatic** for "Green Communities."
- Residential and commercial **Specialized Codes**—**require a City Council vote.**



Introduction to Building Codes

- **Residential Codes:** detached one- and two-family dwellings and attached single-family dwellings, such as townhouses.
- **Commercial Codes:** all other buildings, including all mixed use and residential buildings.



Introduction to the Specialized Code

- The Specialized Stretch Codes must be **available for adoption by December 24, 2022.**
- DOER recommends that the requirements of the Specialized Code take effect beginning on the **January 1 or July 1 that is at least six months after** the City Council vote.



Updated Residential Stretch Code and Specialized Code

- **Specialized Code: preferences all-electric homes and homes < 4,000 sf.**
- **All-electric homes** of any size: Specialized Code = Stretch Code.
- **Fossil fuel homes:** If $\leq 4,000$ sf, Specialized Code is only **slightly more stringent** than the updated Stretch Code.
- **Fossil fuel homes:** If $> 4,000$ sf, Specialized Code is **significantly more stringent** than the updated Stretch Code (all-electric or HERS 0 with pre-wiring for electrification, onsite solar).
- The HERS numbers for larger alterations, additions, or changes of use are the same as the HERS numbers for the updated Stretch Code prior to July 1, 2024; smaller home changes continue to follow the Base Code.

Building Size	On-site fuel type	Updated Stretch Code Jan 1, 2023	Updated Stretch Code July 1, 2024	Specialized Code	Renewable generation: Updated Stretch Code	Renewable Generation: Specialized Code	Current Stretch Code (same as updated Base Code)
$\leq 4,000$ sf	All-electric	HERS 55	HERS 45 or Passive House	HERS 45 or Passive House	Panels optional/solar-ready required	Panels optional/solar-ready required	HERS 60
$\leq 4,000$ sf	Fossil fuels	HERS 52	HERS 42 or Passive House	HERS 42 or Passive House + pre-wiring (& sufficient service & space)	Panels optional/solar-ready required	Solar PV if HERS pathway (except shaded sites; Passive House required to be solar ready)	HERS 55
$> 4,000$ sf	All-electric	HERS 55	HERS 45 or Passive House	HERS 45 or Passive House	Panels optional/solar-ready required	Panels optional/solar-ready required	HERS 60
$> 4,000$ sf	Fossil fuels	HERS 52	HERS 42 or Passive House	HERS 0 or Phius Zero + pre-wiring (& sufficient service & space)	Panels optional/solar-ready required	Solar PV if HERS pathway, or other renewables	HERS 55



Updated Commercial Stretch Code Building Categories and Pathways

Specifies four categories of buildings, with various compliance pathways available to different categories:

- Offices, residential, schools over 20,000 sf, and certain types of adjacent buildings (must use TEDI or Passive House);
- High-ventilation buildings such as labs and hospitals, multi-family buildings;
- Small commercial buildings (any small building use except multi-family);
- Larger multi-family buildings.

Passive House pathway available as an option for all building types.

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Updated Commercial Stretch Code Efficiency, Electrification

- **Reduces demand for heating and cooling** relative to current Stretch Code, by focusing on:
 - Energy efficiency requirements
 - Full or partial electrification depending on compliance pathway chosen
- **Strengthened requirements** for:
 - Air leakage
 - Thermal bridges
 - Economizers
 - Ventilation energy requirements
- Full or partial **electrification of space heating**, depending on the compliance pathway chosen.
- Full electrification of space heating for highly glazed buildings.



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Updated Commercial Stretch Code Building Additions

- Unlike current Stretch Code, the updated Stretch Code **applies to building additions, alterations, and changes of use or occupancy**, not just new construction.
 - But continues to allow building additions that are <20,000 sf to follow the Base Code.
- **Eliminates an existing exception** in the Base Code, which allows exterior walls that have any amount of insulation to remain non-code compliant.

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Commercial Specialized Code Multi-family Buildings and Others



- Maintains **same energy efficiency requirements** as the updated Stretch Code for all building categories **except multi-family**.
- Multi-family buildings must:
 - Follow updated Stretch Code requirements;
 - Be electrification-ready;
 - Follow Passive House compliance pathway.

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Commercial Specialized Code

Buildings other than multi-family buildings have choice of three compliance pathways:

- **All-electric buildings:** only electric equipment meeting minimum efficiency standards.
- **Mixed-fuel buildings:** minimum efficiency requirements for space and water heating, solar PV if on-site solar potential, preparation for future electrification.
 - Not clear, but appears that large water heaters, commercial restaurant cooking, and commercial drying equipment used for manufacturing and process loads are excepted.
- **Zero Energy Buildings:** net-zero energy on an annual basis, except for energy required for back-up power and EV charging. Demonstrated only with on-site renewable generation; must meet minimum energy efficiency requirements prior to use of renewable offsets.

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Updated Building Codes: EV Requirements

	Updated Stretch Code	Specialized Code
Residential	One space per home pre-wired for charging	Same as updated Residential Stretch Code
Commercial	20% of new business and residential spaces pre-wired for charging for Groups R & B*, 10% for others	Same as updated Commercial Stretch Code

* See <https://codes.iccsafe.org/content/IBC2021P2/chapter-3-occupancy-classification-and-use> for long list of uses in Groups R & B, e.g., hotels, halfway houses, barber shops, print shops.

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To: Deb Crossley, Chair, Zoning and Planning Committee; members of Zoning and Planning Committee
From: Ann Berwick, Co-Director of Sustainability
Cc: Mayor Fuller; Jonathan Yeo, COO; Bill Ferguson, Co-Director of Sustainability
Re: COMPARISON OF UPDATED STRETCH CODE AND SPECIALIZED CODE FOR RESIDENTIAL LOW-RISE BUILDINGS
Date: December 8, 2022

COMPARISON OF UPDATED STRETCH CODE AND SPECIALIZED CODE FOR RESIDENTIAL LOW-RISE BUILDINGS

INTRODUCTION

In 2009, Newton was the first municipality to adopt the Massachusetts Stretch Code. Today Newton is one of 299 “Green Communities,” all of which will automatically be subject to the updated Stretch Code beginning Jan 1, 2023 (but note the phase-in period in the table below), without a City Council vote. The current Stretch Code is incorporated into the updated Base Code and is no longer a stretch.

Both the residential and the commercial Specialized Codes do require a City Council vote for adoption.

The residential Stretch Code and residential Specialized Code apply *only* to detached one- and two-family dwellings and attached single-family dwellings, such as townhouses. The commercial Stretch Code and commercial Specialized Code apply to all other buildings, including all mixed use and residential buildings. The Specialized Code requirements are in addition to those of the updated Stretch Code.

The Specialized Stretch Code for both residential and commercial buildings must be available for adoption by December 24, 2022. To run concurrently with effective dates of all other building code amendments, DOER recommends that the requirements of the Specialized Code take effect beginning on the January 1 or July 1 that is at least six months after the City Council vote.

To understand the energy codes, it is important to understand the Home Energy Rating Score, or HERS. Based on a score of 1-100, the more energy-efficient home is one that has the lower score. That is, all other things being equal, the one with a lower score will use less energy than one with a higher score. The new codes require lower HERs scores.

UPDATED RESIDENTIAL STRETCH CODE AND RESIDENTIAL SPECIALIZED CODE

The provisions for residential buildings are much less complicated than those for commercial buildings. The key differences, as shown by the table below, are between smaller and larger homes, and between homes that are all-electric as opposed to those that use some fossil fuels.

Here are the important take-aways regarding both the updated residential Stretch Code and the residential Specialized Code:

1. The updated Stretch Code lowers the maximum allowable Home Energy Rating Score (HERS) ratings as compared to the current Stretch Code. (Again, *lower* HERS numbers reflect *greater* energy efficiency.)
2. For all-electric homes of any size, the Specialized Code is the same as the updated Stretch Code (as of July 1, 2024).
3. For homes smaller than 4,000 sf that use fossil fuels, the Specialized Code is only slightly more stringent than the updated Stretch Code.
4. For homes larger than 4,000 sf that use fossil fuels, the Specialized Code is significantly more stringent than the updated Stretch Code.
5. Homes over 4,000 sf have the choice of being either all-electric or HERS 0 with pre-wiring for an all-electric future and with onsite solar sufficient to offset fossil fuels and electric loads, or as much as the site roof will allow. DOER adds that because of this requirement the use of fossil fuels will add significant cost.
6. The HERS numbers for larger alterations, additions, or changes of use are the same as the HERS numbers for the updated Stretch Code *prior to* July 1, 2024, while smaller changes continue to follow the Base Code.
7. The updated Stretch Code and Specialized Code both require that one space per home be pre-wired for EV charging (the same as the proposed updated Base Code).

See table on next page.

The table below compares the updated Stretch Code, Specialized Code, and current Stretch Code for residential buildings.

For the sake of simplicity, the table does not include the requirements for alterations, additions, or changes of use, or for wiring for electric vehicle (EV) charging.

New Low-Rise Residential Construction—Updated Stretch Code and Specialized Stretch Code

Building Size	On-site fuel type	Updated Stretch Code January 1, 2023	Updated stretch code July 1, 2024	Specialized Code	Renewable generation Updated Stretch Code	Renewable Generation Specialized Code	Current stretch code (same as updated Base Code)
Up to 4,000 sf	All-electric	HERS 55	HERS 45 or Passive House	HERS 45 or Passive House	Panels optional/solar-ready required	Panels optional/solar-ready required	HERS 60
Up to 4,000 sf	Fossil fuels	52	HERS 42 or Passive House	HERS 42 or Passive House plus pre-wiring (and sufficient service and space)	Panels optional/solar-ready required	Solar PV if HERS pathway (except shaded sites; Passive House required to be solar-ready)	HERS 55
>4,000 sf	All-electric	HERS 55	HERS 45 or Passive House	HERS 45 or Passive House	Panels optional/solar-ready required	Panels optional/solar-ready required	HERS 60
>4,000 sf	Fossil fuels	HERS 52	HERS 42 or Passive House	HERS 0 or Plus Zero plus pre-wiring (and sufficient service and space)	Panels optional/solar-ready required	Solar PV if HERS pathway, or other renewables	HERS 55

To: Deb Crossley, Chair, Zoning and Planning Committee; members of Zoning and Planning Committee
From: Ann Berwick, Co-Director of Sustainability
Cc: Mayor Fuller; Jonathan Yeo, COO; Bill Ferguson, Co-Director of Sustainability
Re: COMPARISON OF UPDATED STRETCH CODE AND SPECIALIZED CODE FOR COMMERCIAL BUILDINGS
Date: December 8, 2022

Recognizing that it's dangerous to try to provide a summary of the updated commercial Stretch Code and commercial Specialized Code, given their complexity, here's an attempt....

SUMMARY

Updated Commercial Stretch Code

The updated Stretch Code specifies four categories of buildings, with various compliance pathways available to different categories. The Passive House pathway is available as an option for all building types.

The updated Stretch Code significantly reduces the demand for heating and cooling relative to the current Stretch Code, by way of a focus on both energy efficiency requirements, and also full or partial electrification depending on the compliance pathway chosen.

Unlike the current Stretch Code, the updated Stretch Code applies to building additions, alterations, and changes of use or occupancy, and not just to new construction. However, the updated Stretch Code continues to allow building additions that are less than 20,000 sf to follow the Base Code. The updated Stretch Code eliminates an existing exception in the Base Code, which allows exterior walls that have any amount of insulation to remain non-code compliant.

Commercial Specialized Code

The Specialized Code maintains the same energy efficiency requirements as the updated Stretch Code for all building categories except multi-family buildings.

Multi-family buildings must follow updated Stretch Code requirements, be electrification-ready, and must follow the Passive House compliance pathway.

Buildings other than multi-family buildings have the choice of three compliance pathways: all-electric, mixed fuel, or zero energy. All-electric buildings must rely only on electric equipment, all of which must meet minimum efficiency standards. Mixed-fuel buildings must include minimum efficiency requirements for space and water heating, solar PV if there is on-site solar potential, and arrangements for future electrification. Zero Energy Buildings require net zero

energy on an annual basis. Zero energy may be demonstrated only with on-site renewable generation where feasible.

INTRODUCTION

The commercial Stretch Code and commercial Specialized Code apply to all buildings including all mixed use and residential buildings, except for detached one- and two-family dwellings and attached single-family dwellings, such as townhouses. The Specialized Code requirements are in addition to those of the updated Stretch Code.

Both the residential and the commercial Specialized Codes require a City Council vote for adoption. For Green Communities like Newton, the updated residential and commercial Stretch Codes do not.

The Specialized Stretch Code for both residential and commercial buildings must be available for adoption by December 24, 2022. To run concurrently with effective dates of all other building code amendments, DOER recommends that the requirements of the Specialized Codes take effect beginning on the January 1 or July 1 that is at least six months after the City Council vote.

All non-residential commercial buildings are subject to the updated Stretch Code as of July 1, 2023. Depending on their compliance pathway (e.g., Home Energy Rating System (HERS), Passive House), multi-family commercial buildings are subject to the updated Stretch Code as of July 1, 2023 or July 1, 2024.

To understand the energy codes, it is important to understand the Home Energy Rating Score, or HERS. Based on a score of 1-100, the more energy-efficient home is one that has the lower score. That is, all other things being equal, the one with a lower score will use less energy than one with a higher score. The new codes require lower HERS scores.

These codes are extraordinarily complicated, in part because they deal with such a wide variety of building types, many of which are not relevant to Newton, e.g., airports, large manufacturing facilities. For Newton, the commercial code is largely applicable to public facilities, office buildings, multi-family buildings, retail buildings, restaurants, labs, and hospitals. Those categories account for more than enough complexity.

UPDATED COMMERCIAL STRETCH CODE

Demand for heating and cooling is much reduced relative to the current Stretch Code, partly by way of energy efficiency requirements. These requirements, as well as electrification requirements, include (but are not limited to):

- Strengthened requirements relative to air leakage, thermal bridges, economizers, and ventilation energy requirements.

- Full or partial electrification of space heating, depending on the compliance pathway (see below) chosen;
- Full electrification of space heating for highly glazed buildings.

Building Categories and Compliance Pathways

The updated Stretch Code specifies four categories of buildings. The available compliance pathways include (but are not limited to) a new Thermal Energy Demand Intensity (TEDI)¹ pathway, HERS, and Passive House. The availability of each pathway differs with building category.

These are the building categories:

1. Offices, residential, schools over 20,000 sf, and certain types of adjacent buildings (must use TEDI or Passive House);
2. High-ventilation buildings such as labs and hospitals, multi-family buildings;
3. Small commercial buildings (any small building use except multi-family);
4. Multi-family buildings.

Passive House certification is available as an option for all building types.

Mixed-use buildings can use a combination of code pathways as appropriate for different portions of the building, or choose a whole-building approach using the TEDI or Passive House pathway.

EV Charging

The updated Stretch Code requires EV wiring for 20% of new business and residential spaces, and 10% for all other uses.

Alterations/Changes of Use or Occupancy/Additions

Unlike the current Stretch Code, the updated Stretch Code applies to building additions, alterations, and changes of use or occupancy, not just to new construction. However, the updated Stretch Code continues to allow building additions that are less than 20,000 sf to

¹ Heating TEDI: Total annual energy delivered to the building for space conditioning and conditioning of ventilation air, normalized by area (kBtu/sf-yr)
Cooling TEDI: Total annual energy removed from the building for space conditioning and conditioning of ventilation air, normalized by area (kBtu/sf-yr)

The updated Stretch Code sets forth specific TEDI limits by building type.

follow the Base Code. Additions greater than 20,000 sf are required to meet Stretch Code requirements for the applicable building category and size.

Although the updated Stretch Code applies to commercial building alterations and buildings that undergo a change of use or occupancy, it allows for a 10% reduced envelope requirement compared to new construction.

The updated Stretch Code eliminates an existing exception in the Base Code, which allows exterior walls that have any amount of insulation to remain non-code compliant. The updated Stretch Code requires that any altered walls be brought up to Stretch Code standards, although historic buildings remain exempt from this requirement.

COMMERCIAL SPECIALIZED CODE

Energy Efficiency Requirements

The Specialized Code maintains the same energy efficiency requirements as the updated Stretch Code for all building categories except multi-family buildings.

Multi-family buildings must follow the Passive House compliance pathway, plus updated Stretch Code requirements, and must also be electrification-ready. Passive House standards are phased in with reference to building size and date of permit application:

- As of January 2023, Passive House standards are required for buildings five stories or less, if over 12,000 sf. Taller buildings may choose other compliance options, including TEDI or HERS.
- As of January 2024, Passive House is required for multi-family buildings over 12,000 sf.

All-Electric Buildings

This is the simplest compliance pathway under the Specialized Code, with energy efficiency requirements the same as under the Stretch Code, and electric equipment all of which meets minimum efficiency standards. Back-up power generation is permissible.

Mixed-Fuel Buildings

This pathway establishes minimum requirements for new buildings with any fossil fuel use. The Specialized Stretch Code requires emissions mitigation (efficiency the same as the Stretch Code), including minimum efficiency requirements for space and water heating appliances, solar PV if there is on-site solar potential, and arrangements for future electrification. Although it is not absolutely clear, it appears that large water heaters, commercial restaurant cooking, and commercial drying equipment used for manufacturing and process loads are excepted.

Zero Energy Buildings

This is the most stringent of the three pathways in that it requires net zero energy on an annual basis. Zero energy may be demonstrated only with on-site renewable generation, except for the energy required for back-up power and EV charging, and all buildings must meet minimum energy efficiency requirements prior to the use of renewable offsets.

The option to show compliance using HERS 0 or Phius ZERO certification (among other things, Phius ZERO prohibits any use of fossil fuels on-site), also referenced in the residential Specialized Code, is available under the Zero Energy pathway for multi-family residential buildings.

Wellesley's table

Wellesley Climate Action and the Town's Sustainability Director created the table below, comparing the commercial Stretch and Specialized Codes. I'm including it in the hope that some will find this additional approach helpful.

Comparison of updated Stretch and Municipal Opt-in Specialized Energy Codes for New Commercial Buildings (1)								
Building Type	Fuel Type	Minimum Efficiency Pathway		Electrification		Minimum EV Wiring	Renewable Generation	
		Stretch Code	Specialized Opt-in Code	Stretch Code	Specialized Opt-in Code		Stretch Code	Specialized Opt-in Code
Offices and Schools >20,000 sf	All Electric	Thermal Energy Demand Intensity (TEDI) or Passive House pathways	Thermal Energy Dem and Intensity (TEDI) or Passive House pathways	Full	Full	20% of parking spaces for residential and business uses, 10% for other uses	Optional	Optional
Offices and Schools >20,000 sf	Mixed-fuels	TEDI or Passive House pathways	TEDI or Passive House pathways	Optional ¹	Pre-wiring required	20% of parking spaces for residential and business uses, 10% for other uses	Optional	On-site solar PV: Minimum of 1.5W/sf for each sq foot of the 3 largest floors ≥ 75% of Potential Solar Zone Area
High Ventilation (Hospitals, Labs, etc.)	All Electric	TEDI, 10% better than 2019 ASHRAE Appendix G, or Passive House pathways	TEDI, 10% better than 2019 ASHRAE Appendix G, or Passive House pathways	Full	Full	20% of parking spaces for residential and business uses, 10% for other uses	Optional	Optional
High Ventilation (Hospitals, Labs, etc.)	Mixed-fuels	TEDI, 10% better than 2019 ASHRAE Appendix G ¹ , or Passive House pathways	TEDI, 10% better than 2019 ASHRAE Appendix G ¹ , or Passive House pathways	Optional ¹⁰	Pre-wiring required	20% of parking spaces for residential and business uses, 10% for other uses	Optional	On-site solar PV: Minimum of 1.5W/sf for each sq foot of the 3 largest floors ≥ 75% of Potential Solar Zone Area
Multi-family >12,000 sf	All Electric	TEDI, HERS 45*, Passive House pathways, or (until July 1, 2024) 10% better than ASHRAE Appendix G	Passive House pathways or HERS 0 ⁸	Full	Full	20% of parking spaces	Optional	Optional
Multi-family >12,000 sf	Mixed-fuels	TEDI, HERS 42*, Passive House pathways, or (until July 1, 2024) 10% better than ASHRAE Appendix G	Passive House pathways or HERS 0 ⁸	Optional ¹	Pre-wiring required	20% of parking spaces	Optional	Optional
Small Commercial (<20,000 sf, except multi-family)	All Electric	Prescriptive pathway plus Stretch Code amendments	Prescriptive plus Stretch Code amendments	Full	Full	20% of parking spaces for residential and business uses, 10% for other uses	Optional	Optional
Small Commercial (<20,000 sf, except multi-family)	Mixed-fuels	Prescriptive pathway plus Stretch Code amendments	Prescriptive plus Stretch Code amendments	Optional ⁷	Pre-wiring required	20% of parking spaces for residential and business uses, 10% for other uses	Optional	On-site solar PV: Minimum of 1.5W/sf for each sq foot of the 3 largest floors ≥ 75% of Potential Solar Zone Area

City of Newton
Zoning & Planning Committee



Village Center Rezoning Phase 3: Draft Zoning

December 12, 2022

Agenda

1. VC1 Analysis

1. Next Steps

- a. Continued Public and City Council Feedback
- b. Analysis/Refinement of VC Zoning and Maps
- c. Look Ahead

VC1 Analysis

VC1 Version 1.0 Metrics Summary

Uses:

Residential development allowed; potential Limited Commercial development by Special Permit

- Stories, max. **2.5**
- Pitched Roof Height, max. **42'**
- Flat Roof Height, max. **36'**
- SF, max. footprint **4,000**

Setbacks:

Front (min. / max.)	
-	10' / 20' or Average
Side (min.)	
Abutting a non-R District	10'
Abutting an R District	15'
Rear (min.)	
Abutting a non-R District	10'
Abutting an R District	15'



VC1 Analysis

Residential Building Comparison for VC1



Multi-Family Residential:
Townhouse (with duplex)
674-680 Boylston St (Route 9)
Footprint: 4,400 sf



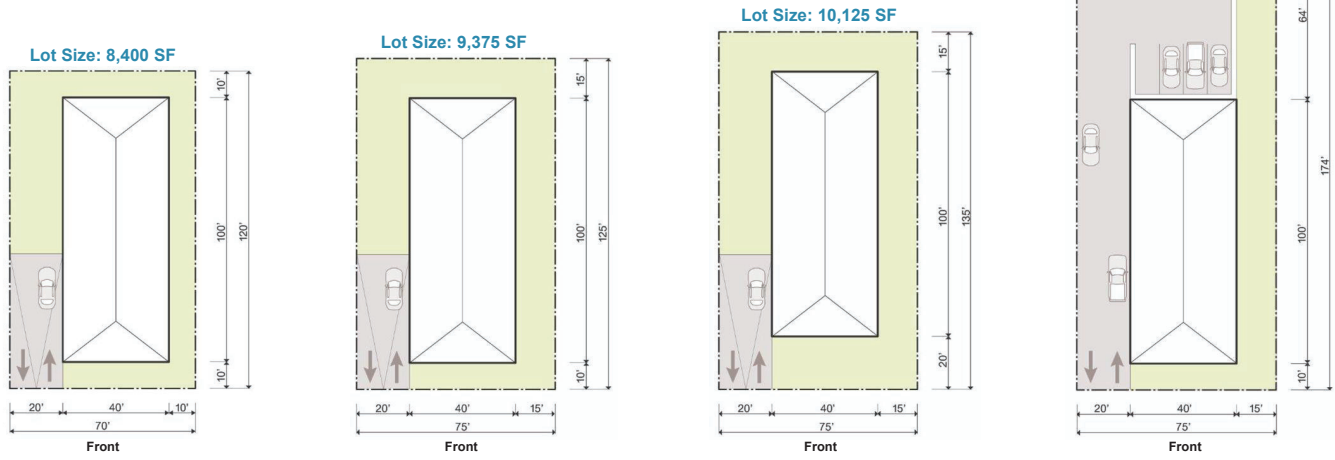
Multi-Family Residential:
6-unit converted Victorian
11 Washington St, Newton Corner
Footprint: 3,831 sf



Multi-Family Residential:
Garden Apartments
55-75 Wyman St, Waban
Footprint: 2,200 sf

VC1 Analysis

Min. Lot Size for 4,000 SF Building Footprint



Abutting Non-R District

- 1.Underground Parking**
Gross Floor Area: 10,670 SF
Unit Count:10
Usable Open Space: 40%

Abutting R District

- 2.Underground Parking**
Gross Floor Area: 10,670 SF
Unit Count:10
Usable Open Space: 47%

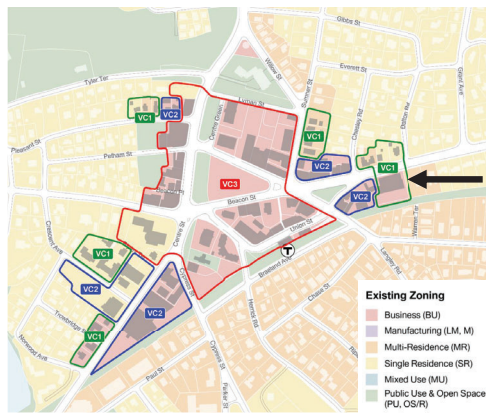
- 3.Underground Parking**
Gross Floor Area: 10,670 SF
Unit Count:10
Usable Open Space: 51%

- 4.Surface Parking Lot**
Gross Floor Area: 10,670 SF
Unit Count:10
Usable Open Space: 27%

*Gross Floor Area assumes 2.5 stories; Unit Size: 1,000 GSF

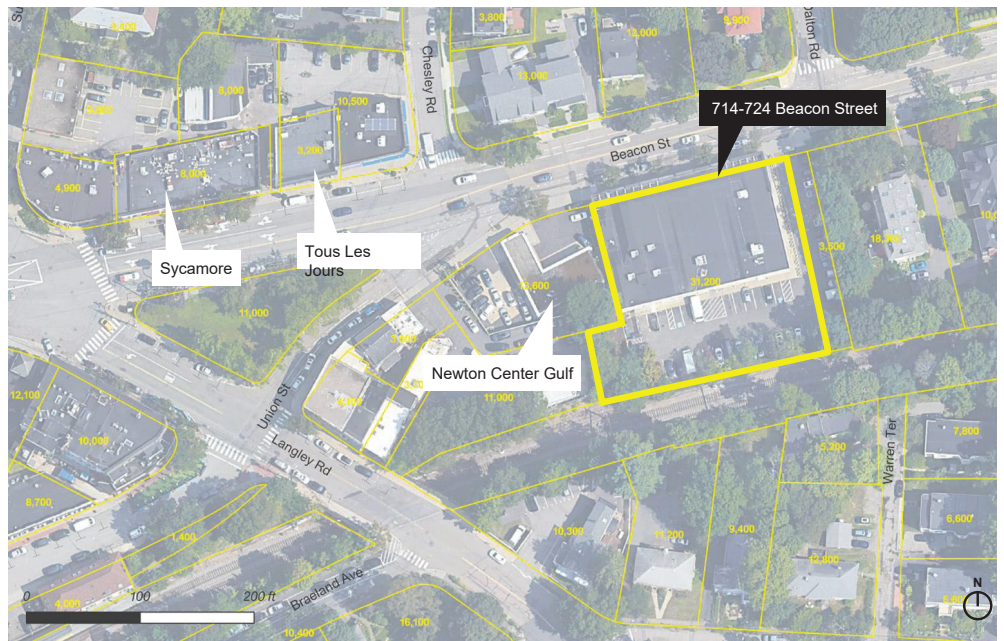
VC1 Analysis

Lot Size Greater than 30,000 SF



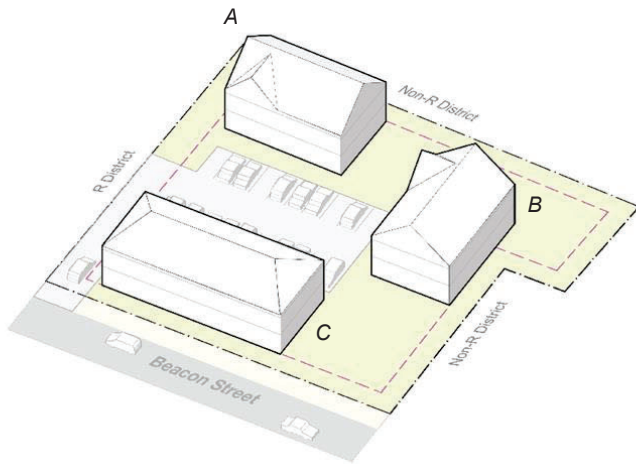
Newton Centre

Lot Size: 31,221 SF
Current Zoning: BU2
Land Use: The Village Bank, United States Post Office, Beth Israel Lahey Health Primary Care
Frontage: 160'



VC1 Analysis

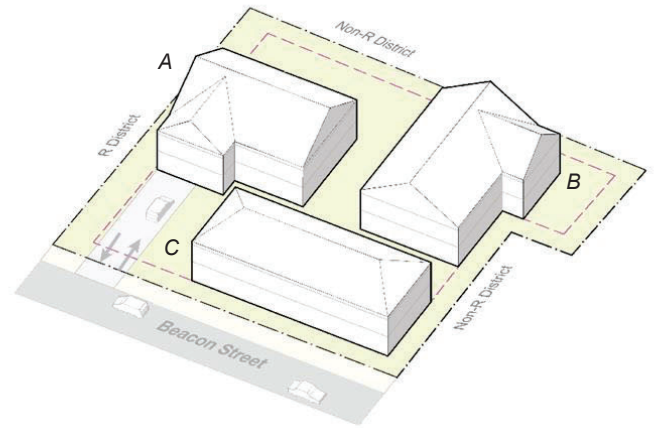
Lot Size Greater than 30,000 SF



Surface Parking

Gross Floor Area (SF): 22,530
 Building Footprint (SF): A: 2,400; B: 2,400; C: 3,650
 Unit Count: 22
 Usable Open Space: 51%

*Gross Floor Area assumes 2.5 stories; Unit Size: 1,000 GSF

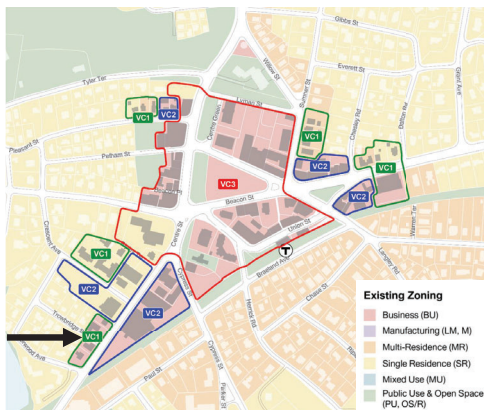


Underground Parking

Gross Floor Area (SF): 31,580
 Building Footprint (SF): A: 3,770; B: 4,000; C: 4,000
 Unit Count: 31
 Usable Open Space: 59%

VC1 Analysis

Combining Two Lots



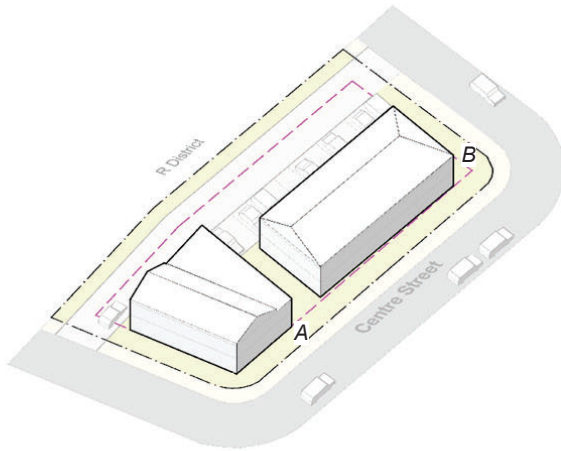
Newton Centre

Combined Lot Size: 17,710 SF
 Current Zoning: BU2
 Land Use: Insurance Office, Shell Gas Station
 Frontage: 175'



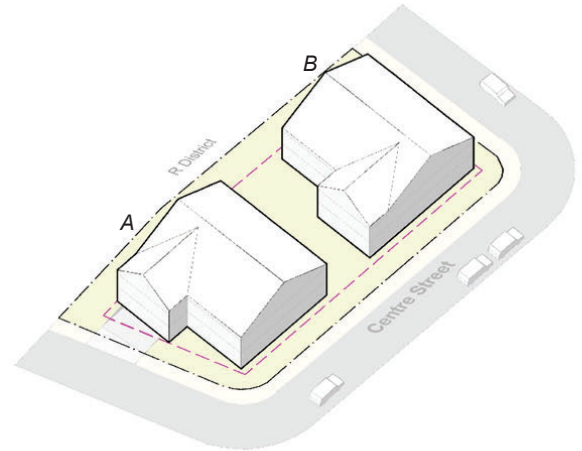
VC1 Analysis

Combining Two Lots



Surface Parking

Gross Floor Area (SF): 14,970
 Building Footprint (SF): A: 2,400; B: 3,230
 Unit Count: 15
 Usable Open Space: 35%



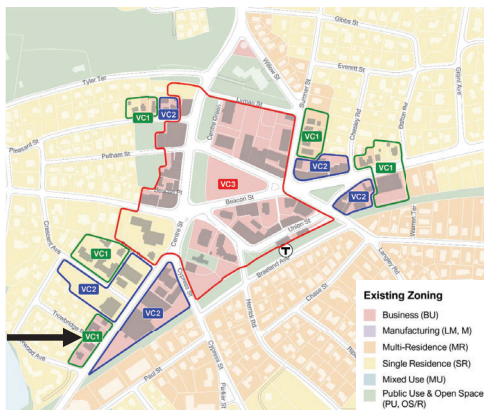
Underground Parking

Gross Floor Area (SF): 21,070
 Building Footprint (SF): A: 3,950; B: 3,950
 Unit Count: 21
 Usable Open Space: 53%

*Gross Floor Area assumes 2.5 stories; Unit Size: 1,000 GSF

VC1 Analysis

Small Lot



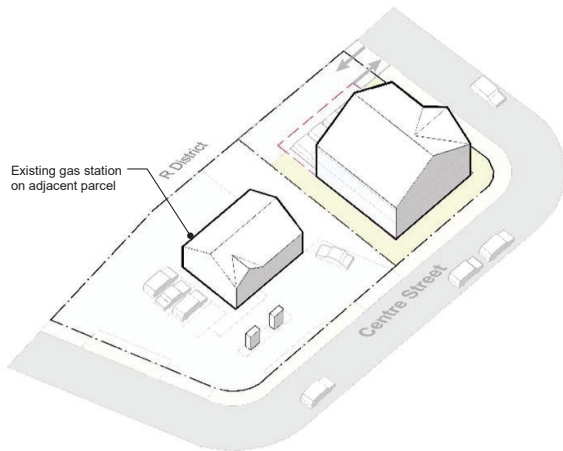
Newton Centre

Lot Size: 6,500 SF
 Current Zoning: BU2
 Land Use: Insurance Office
 Frontage: 65'



VC1 Analysis

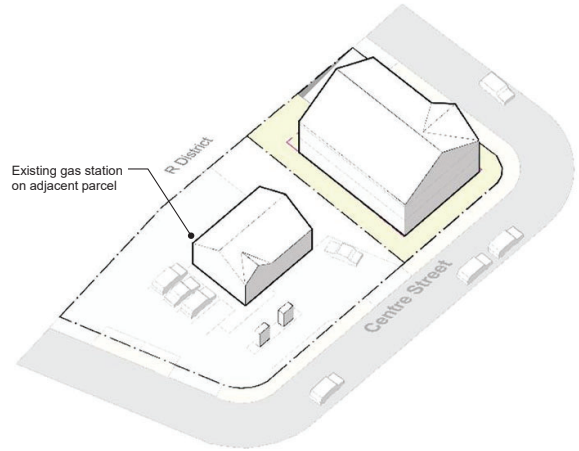
Small Lot



Surface Parking

Gross Floor Area (SF): 6,190
Building Footprint (SF): 2,320
Unit Count: 6
Usable Open Space: 32%

*Gross Floor Area assumes 2.5 stories; Unit Size: 1,000 GSF



Underground Parking

(less viable with this building size)

Gross Floor Area (SF): 8,350
Building Footprint (SF): 3,130
Unit Count: 8
Usable Open Space: 44%

VC1 Analysis

Lot Size and Open Space Conclusions

- Surface parking is the biggest limitation on building size and usable open space.
- Lots smaller than 8,000 SF are harder to develop because they cannot max out their building size and meet parking requirements.
- Larger lots result in greater opportunities for development and more usable open space.

Next Steps

- Synthesize feedback from initial draft ordinance and maps
- Comparison of VC1 to existing zoning
- Consider whether VC1 should be split into two districts
- Additional analysis of setbacks
- Consider a tiered approach to Special Permit threshold, open space, and facade length to better reflect residential nature of VC1
- Consider limiting half story to pitched roof in VC1
- Further analysis of ways to incentivize preservation of existing buildings
- Analysis of progress towards compliance with MBTA Communities

Look Ahead

Calendar

