

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 Phius Zero plus pre-wiring (and sufficient service and space) | Panels optional/solar-ready required | Solar PV if HERS pathway, or other renewables | HERS 55 |