

# MA Commercial Permit Application Checklist Stretch Code and Municipal Opt-In Specialized Code 2023



## PROJECT INFORMATION.....

Applicant Name: \_\_\_\_\_ Applicant Phone: \_\_\_\_\_

Project Address: \_\_\_\_\_ Date: \_\_\_\_\_

Project type:  New construction  Addition  Alteration  Changes of Occupancy or Use

## SELECT CODE VERSION.....

Base Code  Stretch Code  Municipal Opt-in Specialized Code

## SELECT COMPLIANCE PATH (C401.2).....

### **STRETCH ENERGY CODE PATHS (CMR 225)<sup>1</sup>**

#### **Prescriptive Path:**

Provide plans and specifications demonstrating compliance with all measures in Sections C401.3, C402 through C406, and C408.

#### **Targeted Performance Path:**

Provide plans and specifications demonstrating compliance with all measures in Sections C401.3, C402 through C406, C407.1, C408, and select sections of ANSI/ASHRAE/IESNA 90.1-2019 as described in Section C407.1.

#### **Relative Performance Path:**

Proposed plans and specifications demonstrating compliance with all measures in Sections C401.3, C402.1.5, C402.2.8, C402.3, C402.4, C402.5, C402.6, C402.7, C403.5, C403.7, C405.2.4, C405.13, C406, C407.2, C408, and ANSI/ASHRAE/IESNA 90.1-2019 using the Appendix G compliance pathway as modified in Section C407.2.

#### **Passive House Path:**

Proposed plans and specifications demonstrating compliance with all measures in Sections C401.3, C402.3, C405, C407.3, and C408.

##### **Select one option below:**

Option 1: Phius CORE 2021 or Phius ZERO 2021 Passive Building Standard

Option 2: Passive House Institute Certified Passive House Standard

#### **HERS Path:**

Proposed plans and specifications demonstrating compliance with all measures in Sections C401.3, C402.3, C405, C407.4, and C408.

### **MUNICIPAL OPT-IN SPECIALIZED CODE PATHS (CMR 225, APPENDIX CC)**

#### **Zero Energy Path:**

Proposed plans and specifications demonstrating compliance with all measures in CC101.4, CC101.5, CC103, and demonstrating that they are Zero Energy Buildings in accordance with Equation CC-1. Mixed Fuel Buildings with any capacity for on-site fossil fuel use shall be pre-wired for future electrification of all fuel uses in accordance with CC105.

#### **All-Electric Path:**

Proposed plans and specifications demonstrating compliance with all measures in CC101.4, CC101.5 and CC104.

#### **Mixed Fuel Path:**

Proposed plans and specifications demonstrating compliance with all measures in CC101.4, CC101.5, CC105 and CC106.

<sup>1</sup> For more information about which compliance path to follow, please see the accompanying flowchart for 225 CMR 23: Massachusetts Commercial Stretch Energy Code

**REQUIREMENTS FOR CHOSEN COMPLIANCE PATH.....**

**STRETCH ENERGY CODE PATHS**

**Stretch Code Compliance Path 1: Prescriptive Compliance**

<input type="checkbox"/> Meets C401.3, C402 through C406, and C408	<input type="checkbox"/> Attach COMcheck Envelope, Lighting, and Mechanical Compliance Certificates; and a Plan Review Inspection Checklist (Code = 2021 IECC)
Section C406 – Must achieve 15 credits in the following categories (# of credits for each category depends on occupancy type):	<input type="checkbox"/> C406.2 More Efficient HVAC Performance <input type="checkbox"/> C406.3 Reduced LPD <input type="checkbox"/> C406.4 Enhanced Lighting Controls <input type="checkbox"/> C406.5 On-site Supply of Renewable Energy <input type="checkbox"/> C406.6 DOAS <input type="checkbox"/> C406.7 High Efficiency Service Water Heating <input type="checkbox"/> C406.8 Enhanced Envelope Performance <input type="checkbox"/> C406.9 Reduced Air Infiltration <input type="checkbox"/> C406.10 Energy Monitoring System (when not required by C405.12) <input type="checkbox"/> C406.11 FDD System (when not required by C403.2.3) <input type="checkbox"/> C406.12 Efficient Kitchen Equipment <input type="checkbox"/> C406.13 Type IV Heavy Timber Construction

**Stretch Code Compliance Path 2: Targeted Performance (C407.1)**

<input type="checkbox"/> The building’s heating TEDI and cooling TEDI are less than or equal to the values in Table C407.1.1.5	<input type="checkbox"/> Meets C401.3, C402 through C406, C407.1, C408, and select sections of ANSI/ASHRAE/IESNA 90.1-2019 Appendix G as described in Section C407.1
<input type="checkbox"/> Attach COMcheck Envelope, Lighting, and Mechanical Compliance Certificates; and a Plan Review Inspection Checklist (Code = 2021 IECC)	<input type="checkbox"/> Performance Modeling Report with the items described in ANSI/ASHRAE/IESNA 90.1-2019 Appendix G Section G1.3.2 Parts b, g, h, i, j, k, l, n, o, and q, and Section G1.3.3
Section C406 – Must achieve 15 credits in the following categories (# of credits for each category depends on occupancy type):	<input type="checkbox"/> C406.2 More Efficient HVAC Performance <input type="checkbox"/> C406.3 Reduced LPD <input type="checkbox"/> C406.4 Enhanced Lighting Controls <input type="checkbox"/> C406.5 On-site Supply of Renewable Energy <input type="checkbox"/> C406.6 DOAS <input type="checkbox"/> C406.7 High Efficiency Service Water Heating <input type="checkbox"/> C406.8 Enhanced Envelope Performance <input type="checkbox"/> C406.9 Reduced Air Infiltration <input type="checkbox"/> C406.10 Energy Monitoring System (when not required by C405.12) <input type="checkbox"/> C406.11 FDD System (when not required by C403.2.3) <input type="checkbox"/> C406.12 Efficient Kitchen Equipment <input type="checkbox"/> C406.13 Type IV Heavy Timber Construction

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### Stretch Code Compliance Path 3: Relative Performance (C407.2)

- |  |   |
|--|---|
| <input type="checkbox"/> Meets C401.3, C402.1.5, C402.2.8, C402.3, C402.4, C402.5, C402.6, C402.7, C403.5, C403.7, C405, C406, C407.2, C408, and ANSI/ASHRAE/IESNA 90.1-2019 using the Appendix G compliance pathway as modified in Section C407.2 | <input type="checkbox"/> Submit mechanical equipment schedules for all air handling equipment with the total design outdoor airflow for each unit |
|--|---|

An airflow riser diagram with:

- The complete project boundary
- All supply, exhaust, and return air systems serving the space
- A summary of the total outdoor air supplied
- The total gross square footage served by the ventilation system
- The overall flow rate per area in cfm/ft<sup>2</sup>

Is the building a high glazed wall system (where more than 50% of the above grade wall area of the building thermal envelope is glazed)?

- |   |  |
|---|--|
| <input type="checkbox"/> If <b>Yes</b> : Requirements found in C402.1.5.2 must be met | <input type="checkbox"/> If <b>No</b> : Requirements found in C402.1.5.1 must be met |
|---|--|

Section C406 - Must achieve 15 credits in the following categories (# of credits for each category depends on occupancy type):

- C406.2 More Efficient HVAC Performance
- C406.3 Reduced LPD
- C406.4 Enhanced Lighting Controls
- C406.5 On-site Supply of Renewable Energy
- C406.6 DOAS
- C406.7 High Efficiency Service Water Heating
- C406.8 Enhanced Envelope Performance
- C406.9 Reduced Air Infiltration
- C406.10 Energy Monitoring System (when not required by C405.12)
- C406.11 FDD System (when not required by C403.2.3)
- C406.12 Efficient Kitchen Equipment
- C406.13 Type IV Heavy Timber Construction

### Stretch Code Compliance Path 4: Passive House Compliance (C407.3)

- Meets C401.3, C402.3, C405, C407.3 and C408

Phius or Passive House Institute (PHI) certification in accordance with C407.3

- A Phius 2021 (or newer) verification report or a PHPP compliance report which demonstrates project compliance with PHIUS 2021 or PHI performance requirements
- A statement from the Certified Passive House Consultant that the Phius 2021 verification report or PHPP results are "based on plans"
- Evidence of project registration from Phius or PHI or a design certification letter from Phius or from a Certified Passive House Certifier

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### Stretch Code Compliance Path 5: HERS Index for Multifamily Buildings (C407.4)

Meets C401.3, C402.3, C405, C407.4 and C408

HERS Index for Multifamily buildings in accordance with C407.4

- A HERS compliance report with a proposed HERS Index less than or equal to the appropriate value in Table C407.4
- A description of the unit's energy features
- A statement that the rating index score is "based on plans"
- Additional documentation requirements found in C407.4.2.1

### MUNICIPAL OPT-IN SPECIALIZED CODE COMPLIANCE PATHS

#### For New R-Use Buildings:

Dwelling units over 4,000 ft<sup>2</sup> in mixed fuel buildings

Meet the requirements of CC101.3(1) and CC103 OR RE Section RC102

Greater than 12,000 ft<sup>2</sup> in conditioned floor area

Meet the requirements outlined in Table CC101.2

Less than or equal to 12,000 ft<sup>2</sup> in conditioned floor area

Meet the requirements outlined in the Residential Appendix RC

#### Municipal Opt-In Specialized Code Compliance Path 1: Zero Energy (CC103)

\*Mixed Fuel Buildings using this path shall comply with CC105, in addition to requirements below

- |  |  |
|--|--|
| <input type="checkbox"/> Meets the requirements of C401.2.1 or C401.2.2, as well as the EV ready space requirements found in C405.13 | <input type="checkbox"/> Meets CC103 and demonstrates that they are Zero Energy Buildings in accordance with Equation CC-1 |
|--|--|

#### Municipal Opt-In Specialized Code Compliance Path 2: All-Electric (CC104)

- |  |  |
|--|--|
| <input type="checkbox"/> Meets the requirements of C401.2.1 or C401.2.2, as well as the EV ready space requirements found in C405.13 | <input type="checkbox"/> Meets CC104 (same as stretch code requirements) |
|--|--|

#### Municipal Opt-In Specialized Code Compliance Path 3: Mixed Fuel (CC105)

\*When not complying with the Zero Energy pathway

- |  |                                      |
|--|--------------------------------------|
| <input type="checkbox"/> Meets the requirements of C401.2.1 or C401.2.2, as well as the EV ready space requirements found in C405.13                                       | <input type="checkbox"/> Meets CC105 |
| <input type="checkbox"/> Meets CC106, which requires wiring for future electrification in water heating, cooking, clothes drying equipment, and other combustion equipment |                                      |

Construction documents showing electric HVAC retrofit design prepared by the HVAC engineer in accordance with CC106.1.6.1, including:

- Future replacement of combustion equipment-based HVAC system with an equivalent all electric system
- Combustion equipment to be replaced
- Future electric equipment
- Supporting electrical, structural, and architectural infrastructure to be installed during building construction
- Space allotments for future equipment

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**REQUIRED CONSTRUCTION DETAILS**.....

Indicate primary locations within the construction documentation of the following information:

	Drawing Page(s)	Specification(s)
<b>BUILDING THERMAL ENVELOPE</b>		
Cross section showing insulation R-values and materials for each building thermal envelope component		
Cross section showing air barrier/air sealing details		
Fenestration U-factors and solar heat gain coefficients (SHGCs)		
<b>MECHANICAL SYSTEMS</b>		
Design criteria		
Equipment types, sizes and efficiencies		
Controls description		
Pipe insulation		
Fan motor horsepower (hp) and controls		
Economizer description		
Duct sealing, insulation and location		
Service water heating systems		
Pipe insulation and location		
<b>LIGHTING</b>		
Lighting fixture schedule with wattage and control narrative		
Location of daylight zones of floor plans		
<b>OTHER COMPLIANCE ITEMS</b>		
Appendix CB or potential solar zone area in accordance with Appendix CC		
EV Ready Spaces locations in accordance with C405.13		
COMcheck Envelope, Lighting, and Mechanical Compliance Certificates; and a Plan Review Inspection Checklist		
<b>RELATIVE PERFORMANCE PATH</b>		
Mechanical equipment schedules		
An airflow riser diagram		
<b>MIXED FUEL BUILDINGS FOLLOWING APPENDIX CC</b>		
Electric HVAC retrofit design		

Commissioning Plan – Preliminary Commissioning Plan from commissioning agent

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