

CHARLES D. BAKER

KARYN E. POLITO LIEUTENANT GOVERNOR

MIKE KENNEALY SECRETARY OF HOUSING AND ECONOMIC DEVELOPMENT

### Commonwealth of Massachusetts Division of Professional Licensure Office of Public Safety and Inspections

1000 Washington Street, Suite 710 Boston, Massachusetts 02118 EDWARD A. PALLESCHI UNDERSECRETARY OF CONSUMER AFFAIRS AND BUSINESS REGULATION

DIANE M. SYMONDS COMMISSIONER, DIVISION OF PROFESSIONAL LICENSURE

### BOARD OF BUILDING REGULATIONS AND STANDARDS NOTICE OF MEETING

In accordance with the provisions of G.L. c. 30A § 20, notice is hereby given that the Board of Building Regulations and Standards (BBRS) will convene a regular monthly meeting and public hearing in accordance with G.L. c143 § 97 on:

May 7, 2019 @ 10:00 a.m. until approximately 1 p.m. 1000 Washington Street, Boston 02118 Conference Room 1D

Posted on May 1, 2019

It is anticipated that the topics shown below will be discussed at the aforementioned meeting:

### **AGENDA**

Roll	Call.	by	<b>BBRS</b>	Chair:

John Couture, Chair Kerry Dietz, Vice Chair Richard Crowley, Second Vice Chair Steve Frederickson Kevin Gallagher Cheryl Lavalley		present absent	Robert Anderson, or designee Peter Ostroskey, or designee Michael McDowell Susan Gleason Lisa Davey	present absent present absent present absent present absent present absent present absent
		Public Hear	ing Agenda	
•	Proposal Number 5-1- masonry parapets. Proponent: Corey Mat		vising Chapter 34, Section ociates, Inc.	302.6 pertaining to
•	•	ion C401.2.4 (as amer	ing the International Energy nded) pertaining to vertical for Famara Small	

**Proponent:** NAIOP of Massachusetts CEO, Tamara Small

**Proposal Number 5-3-2019** – Consider revising the International Energy Conservation Code (IECC) Chapter 13, Section C405.3.2 (as amended) pertaining to interior lighting allowances.

- Proposal Number 5-4-2019 Consider revising the International Energy Conservation Code (IECC) Chapter 13, Section C406.1 (as amended) pertaining to energy efficiency.
   Proponent: NAIOP of Massachusetts CEO, Tamara Small
- Proposal Number 5-5-2019 Consider revising the International Swimming Pool & Spa Code (ISPSC), Chapter 3, Section 305.1 concerning exemption to barrier requirements.
   Proponent: BBRS Chairman, John Couture.

### Regular Meeting Agenda

- 1. Review\Vote approval of April 2, 2019 BBRS draft meeting minutes.
- 2. **Review\Vote** approval of April 1, 2019 BOCC meeting minutes.
- 3. Discuss progress of tenth edition building code based on 2018 International Codes (I-Codes).
  - Damian Siebert to report on behalf of the Geotechnical Advisory Committee (GAC) regarding recommended changes to Chapter 18.
- 4. Discuss ICC PRONTO exams
- 5. Discuss progress of Manufactured Buildings Study Group.
- 6. Discuss new Construction Supervisor Licenses (CSLs) issued in the month of April, 2019.
- 7. **Discuss\Vote** CSL Average Passing Score\Medical\Military\Age or Continuing Education Requirements.

Average Passing Score: Dave Rice
 Medical: (None this month)
 Age: (None this month)

• Military: (None this month)

Other: (None this month)

- 8. **Discuss** other matters not reasonably anticipated 48 hours in advance of meeting.
- 9. Executive Session regarding Michael Humphrey CSL Continuing Education Request.



### The Commonwealth of Massachusetts

# Office of Public Safety & Inspections Board of Building Regulations and Standards One Ashburton Place - Room 1301 Boston, MA 02108

### 780 CMR - MASSACHUSETTS BUILDING CODE - AMENDMENT PROPOSAL FORM

Code (Indicate with an 'x')	<ul><li>Ninth Edition Base</li><li>Ninth Edition One- and Two-Family Dwellings</li></ul>		State Use Only		
Date: 12/20/2018			Date Received:		
Code Section:	780 CMR 34; Section 302.6 - Masonry Parapets		Code Change Number::	5-1-2019	
Name and company affiliation if any: Corey Matthews, P.E. Gale Associates, Inc.					
163 Libbey Parkway		781-335-6465			
Indicate with an 'x' the type of amendment proposed:					
x Change SectionAdd new sectionDelete section and substituteDelete section; no substitute			section; no substitute		
Other, Explain:					

Please type below the proposed amendment. If you propose to change a section, please copy the original text from the appropriate 2015 I-code and or Massachusetts amendment. Indicate with strike out the text you propose to delete and add new text in either *italic* or red font. Also you please provide justification of your proposal as a second page and include information on the Introduction and Background of your proposal, Pro and Con Reasons for Adoption of it, a summary of estimated Costs for Building Owners, and Life Safety Benefits for building occupants. Also, please indicate whether or not the proposal has been presented to the International Code Council (ICC) for consideration. If not, please explain why the proposal is unique to Massachusetts. When complete email this file to Cesar.Lastra@state.ma.us. Please use additional pages if necessary.

302.7 Structural Requirements Pertaining to Roofing Work.

1. Structural requirements of parapets of unreinforced masonry required bysections 403.5 and 707.3.1 of 780 CMR 34.00 shall only apply when the intended alteration requires a permit for reroofing and when roof covering is removed from the entire roof diaphragm and not by the 25% roof area trigger found in these sections.

### Introduction and Background:

It is my opinion that the changes made between the 8th Ed. 780 CMR 34 and the current 9th Ed. pertaining to unreinforced masonry parapets will decrease public safety and the board should consider amending as follows:

1. Structural requirements of parapets of unreinforced masonry required bysections 403.5 and 707.3.1 of 780 CMR 34.00 shall only apply when the intended alteration requires a permit for reroofing and when roof covering is removed from the entire roof diaphragm and not by the 25% roof area trigger found in these sections, include buildings assigned to Seismic Design Categories B and C.

### Pro and Cons Reason for Adoption

The majority of buildings throughout the metropolitan centers of Massachusetts are assigned to Seismic Design Category B or C. These areas also contain a higher concentration of aging unreinforced masonry structures more than 50yrs old. Just this past year there were several parapet collapses around the Boston area resulting from structural deterioration associated with water intrusion, subsequent freeze/thaw movement and related structural damage. The collapses were not associated with seismic activity or unusually high winds. Lateral displacement of parapets caused by localized building settlement, ice jacking, or other environmental factors is a slow process and when significant movement has occurred, is usually quite evident from street level or the roof however without local ordinances or building code enforcement, building owners are less likely to address the issues until accidents occur.

When re-roofing a building, it is a good opportunity to address structural concerns related to unreinforced masonry parapets. In most instances, roof flashing systems are extended vertically along and terminate into the back of parapet walls. When flashings are removed, a structural evaluation can be performed to confirm the quality of the masonry construction, exploratory holes can be made to verify reinforcement or structural anchorage, etc. If reinforcement is necessary, it can be installed and detailed to tie into the new roofing system while reducing the chance for damaging water intrusion.

It is our opinion that the current 780 CMR 34 provisions fall short of providing a reasonable level of public safety by only requiring an analysis of unreinforced masonry parapets when the building is assigned to Seismic Design Category D, E or F "and" when the roof covering is removed from the entire roof diaphragm.

### Cost for Building Owners

There will be increased costs for building owners to install additional structural supports if deemed structurally necessary, however, the risks associated with not doing the work could be significantly higher in the event of an accident.

### Life Safety Benefits

Refer to Pro and Con Reason for Adoption



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JOHN C. CHAPMAN UNDERSECRETARY OF CONSUMER AFFAIRS AND BUSINESS REGULATION

CHARLES BORSTEL COMMISSIONER, DIVISION OF PROFESSIONAL LICENSURE

MASSACHUSETTS STATE BUILDING CODE - CODE CHANGE PROPOSAL FORM

MASSACHU	SELIS STATE BUILDING CO.	DE - CODE CHA	NGE I KOI OJAL TOKM	
Impacted code:	X 9th Edition Base Code 9th Edition Residential Code		State Use Only	
Date Submitted:	April 26, 2019	Date Received:		
Code Section:	Chapter 13 -Section C401.2.4	Code Change Number:	5.2.2019	
Name of proponent:	Tamara Small, CEO, NAIOP Massachusetts			
Company / Organization represented, if any:	NAIOP Massachusetts - The Commercial Rea Estate Development Association			
Address (number, street, city, state, ZIP):	144 Gould Street, Suite 140, Needham, MA 02494			
Telephone number:	781-453-6900 ext. 5			
Email address:	small@naiopma.org			
text from either the relevan to delete. Please also indic the justification items reque Development and Manufac	POSED AMENDMENT BELOW. In the model code and/or MA amendme atternation new text in both italic and re-	f you propose to ch nt. Indicate, with a d font. Finally, for e Iment forms may be	ange a section, please copy the original strikethrough, the text that you propose each proposal submitted, please provide emailed to Dan Walsh, Director of Code	
Existing language: C401.2.4 Performance	e rating Method Baseline Build	ing Vertical Fene	estration.	
Add the following row Table G3.1.1-1 and add	to ASHRAE 90.1 Normative App Footnote b.	oendix G Performa	ance Rating Method, Section G	

Table G3.1.1-1 Baseline Buildings Vertical Fenestration Percentage of Gross Above-Grade-Wall Area

Building Area Types	Baseline Building Gross Above-Grade-Wall Area
Multifamily	24%

Note b: In both Baseline and Proposed buildings, above grade wall area shall not include wall area associated with mechanical enclosures above the primary roof assembly.

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### Proposed changes:

A Massachusetts amendment to IECC 2018 was adopted at the March 2019 BBRS meeting. The Maximum Fenestration Percentages proposed for multifamily projects in this section are not feasible. This new requirement should be eliminated since it is unworkable and would severely hinder the production of multifamily housing. The prior version of the energy code referenced ASHRAE 90.1-2013 as a compliance approach, which allows up to 40% glass when using the prescriptive path. In the energy code that was adopted in March 2019, for multifamily projects that use the energy modeling approach, the baseline building would now require 24% glass. The 9<sup>th</sup> edition language (prior language) should be retained.

### Background and rationale:

A window-to-wall ratio (WWR) for baseline multifamily residential buildings of 24% is a significant change, which would result in buildings with unusually small windows. This would not be of interest to tenants and would, therefore, be unmarketable. Furthermore, it would make it nearly impossible to achieve Stretch Energy Code compliance on large multifamily and residential projects.

### Pros of the proposed change:

In today's market there is significant demand for "well buildings" and "healthy work environments" that call for as much natural light as possible. Minimizing fenestration is counter to this effort. Since penthouses have no windows and are a significant percentage of the building envelope square footage, that square footage is needed to boost the opaque measurement of the building envelope. If the penthouse is not included and developers are required to lower the window to wall ratio, the impact to the building envelope is miniscule amounts of vision glass (i.e., buildings that could not be financed due to lack of demand).

### Cons of the proposed change:

n/a

### Estimated impact on life safety:

n/a

### **Estimated impact on cost:**

Since this new requirement could determine whether or not a project could be financed and developed, the cost is the feasibility of an entire multifamily project. This would appear to be in direct conflict with the Baker-Polito Administration's commitment to encouraging housing production.



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MASSACHUSETTS STATE BUILDING CODE - CODE CHANGE PROPOSAL FORM

MASSACIA	V	DE CODE CAME	110211010101121	
	X 9th Edition Base Code			
Impacted code:	9th Edition Residential Code		State Use Only	
Date Submitted:	April 26, 2019	Date Received:		
Code Section:	Chapter 13 -Section C405.3.2	Code Change Number:	5.3.2019	
Name of proponent:	Tamara Small, CEO, NAIOP Massachusetts			
Company / Organization represented, if any:	NAIOP Massachusetts - The Commercial Rea Estate Development Association  Check [ if representing self			
Address (number, street, city, state, ZIP):	144 Gould Street, Suite 140, Needham, MA 02494			
Telephone number:	781-453-6900 ext. 5			
Email address:	small@naiopma.org			
text from either the releva to delete. Please also indic the justification items requ	nt model code and/or MA amendme cate any new text in both <i>italic</i> and <mark>re</mark>	nt. Indicate, with a defent. Finally, for element forms may be	ange a section, please copy the original strikethrough, the text that you propose each proposal submitted, please provide emailed to Dan Walsh, Director of Code tach additional pages as necessary.	
Existing language:	or Lighting Power Allowances			
Proposed changes:				
The light power density			beyond IECC 2018. The LPD limits virgin language should be retained.	
Background and ration The proposed changes to	nale: o LPD limits are extreme and show	ald not be adopted	. As an example, the following is	

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proposed for Whole Building LPD limits under the MA amendments adopted in March:

http://www.mass.gov/dpl

- For Retail, IECC 2015 allows 1.26 W/sf and the previous Mass. Amendments (C406.1 Option 1) drop that 10% to 1.13 W/sf. IECC 2018 allows 1.06 W/sf, but the code adopted in March lowers that to 0.86 W/sf, and then C406.1 Option 1 drops that another 10% down to 0.77 W/sf. This represents a reduction in Retail LPD of 32% from 1.13 W/sf down to 0.77 W/sf.
- For Office, IECC 2015 allows 0.82 W/sf and the previous Mass. Amendments (C406.1 Option 1) dropped that 10% to 0.74 W/sf. IECC 2018 allows 0.79 W/sf, but the code adopted in March lowers that to 0.71 W/sf, and then C406.1 Option 1 drops that another 10% down to 0.64 W/sf. This represents a 14% reduction in Office LPD from 0.74 W/sf down to 0.64 W/sf.
- For Warehouse, IECC 2015 allows 0.66 W/sf and the previous Mass. Amendments (C406.1 Option 1) dropped that 10% to 0.59 W/sf. IECC 2018 allows 0.48 W/sf, but the code adopted in March lowers that to 0.45 W/sf, and then C406.1 Option 1 drops that another 10% down to 0.40 W/sf. This represents a 32% reduction in Warehouse LPD 32% from 0.59 W/sf down to 0.40 W/sf.

One problem with reducing LPDs even lower than IECC 2018 levels is that a one size fits all approach does not work. While some projects may be able to meet these levels, most projects can't – especially on the retail side where tenants have specific needs and requirements that vary from one project to another. Additionally, WELL has lighting level requirements for certain spaces, which could be affected by this.

### Pros of the proposed change:

The language adopted in March is extreme and will inhibit adequate lighting in some commercial properties. Massachusetts should not go beyond IECC 2018, the most energy efficient code in the nation. The IECC 2018 language will encourage energy efficiency while ensuring flexibility and predictability.

### Cons of the proposed change:

n/a

### Estimated impact on life safety:

n/a

### Estimated impact on cost:

Marketability of project.



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MASSACHUSETTS STATE BUILDING CODE - CODE CHANGE PROPOSAL FORM

MASSACITO	SELIS STATE DOILDING COL	DL - CODE CIII	TIGETHOI ODILD TORM
	X 9th Edition Base Code		
Impacted code:	9th Edition Residential Code		State Use Only
Date Submitted:	April 26, 2019	Date Received:	
Code Section:	Chapter 13 -Section C406.1	Code Change Number:	B.4.2019
Name of proponent:	Tamara Small, CEO, NAIOP Massachusetts		
Company / Organization represented, if any:	NAIOP Massachusetts - The Commercial Rea Estate Development Association  Check [ if representing self		
Address (number, street, city, state, ZIP):	144 Gould Street, Suite 140, Need	lham, MA 02494	
Telephone number:	781-453-6900 ext. 5		
Email address:	small@naiopma.org		
text from either the relevant to delete. Please also indicate	POSED AMENDMENT BELOW. It model code and/or MA amendme ate any new text in both italic and re	f you propose to ch nt. Indicate, with a d font. Finally, for	nange a section, please copy the original strikethrough, the text that you propose each proposal submitted, please provide
the justification items requested below. Completed code amendment forms may be emailed to Dan Walsh, Director of Code Development and Manufactured Buildings at <a href="mailto:Dan.P.Walsh@mass.gov">Dan.P.Walsh@mass.gov</a> . Please attach additional pages as necessary.			
Existing language:			
C406.1 Requirements. Buildings following either ASHRAE 90.1 or IECC shall comply with at least three of the following:			
	nguage, "C406.1 Requirements. I t three two of the following"	Buildings followin	ng either ASHRAE 90.1 or IECC
Background and rationale: The Massachusetts Amendment to Section C406.1 would require three additional energy efficiency requirements			

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(while IECC 2018 only requires two). This goes far beyond the statutory requirement to adopt IECC 2018 and

http://www.mass.gov/dpl

will significantly increase the cost of new construction in the Commonwealth. The requirement for owners to selected three additional efficiency measures will, in addition to forcing heating/cooling systems to be 10% more efficient than Code (Option 1) and interior light power density being 10% less than Code (Option 2), force the owner to either use Air Source Heat Pumps for all commercial building heating and cooling (Option 9) OR increase continuous insulation of the building thermal envelope so that the overall UA value (area-weighted heat flow) is 15% less than Code. Either choice will add significant capital costs to new construction.

It is also a significant hurdle in Appendix AA – Stretch Energy Code. Section AA103.2 states that "the additional Efficiency Package Options selected per C406.1 shall be included in calculating the baseline building performance value." In other words, the energy enhancements selected (high efficiency HVAC, reduced lighting power density, etc.) are then added to the baseline building. It artificially raises the baseline building performance above the statewide code, making the 10% improvement required by the stretch code all the more difficult, if not impossible, to achieve.

### Pros of the proposed change:

The language adopted in March 2019 is extreme and has been identified as cost-prohibitive by architects, engineers and building owners and developers. Massachusetts should not go beyond IECC 2018, the most energy efficient code in the nation. The IECC 2018 language will encourage energy efficiency while ensuring flexibility and predictability.

### Cons of the proposed change:

n/a

### **Estimated impact on life safety:**

n/a

### Estimated impact on cost:

The cost difference to adopt two measures vs. three measures is significant.



### Commonwealth of Massachusetts Division of Professional Licensure Office of Public Safety and Inspections

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MASSACHUSETTS STATE BUILDING CODE - CODE CHANGE PROPOSAL FORM

Impacted code:	☐ Base Code ☐ Residential Code		State Use Only
Date Submitted:	April 26, 2019	Date Received:	,
Code Section:	ISPSC	Code Change Number:	5.5.2019
Name of proponent:	John Couture		
Company / Organization represented, if any:			Check ⊠ if representing self
Address (number, street, city, state, ZIP):			
Telephone number:			
Email address:			
Change existing section	PLEASE CHECK √THE TYP on language		ROPOSED e existing section and substitute
□ Delete existing section	n, no substitute Other	, Explain:	
PLEASE TYPE THE PRO	POSED AMENDMENT BELO	W. If you propose to ch	ange a section, please copy the original

PLEASE TYPE THE PROPOSED AMENDMENT BELOW. If you propose to change a section, please copy the original text from either the relevant model code and/or MA amendment and indicate the code version (i.e. 9th Edition). Indicate, with a strikethrough, the text that you propose to delete. Please also indicate any new text in both *italic* and red font. Finally, for each proposal submitted, please provide the justification items requested below. Completed code amendment forms may be emailed to Dan Walsh, Director of Code Development and Manufactured Buildings at Dan.P.Walsh@mass.gov . Please attach additional pages as necessary.

### **Existing language:**

305.1 General. The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools and spas. Where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Sections 305.2 through 305.7.

### Proposed changes:

305.1 General. The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools and spas. Where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Sections 305.2 through 305.7.

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### Background and rationale:

Massachusetts has traditionally required barriers around in-ground swimming pools to prevent accidental death or injury, particularly among young children. 780 CMR established consistent barrier requirements circa 1998. Prior to that, most communities established barrier requirements via local by-laws and\or ordinances.

### Pros of the proposed change:

The 2015 ISPSC permits the installation of a lockable safety cover in lieu of barriers. Although pool covers, used appropriately, can certainly help prevent accidents, they are only effective when in-place and locked. A pool left unattended, without a cover in-place, even for a short period of time, is an attraction to young children and may lead to injury or worse. Barriers are permanently in place and, I believe, provide better, more consistent protection.

### Cons of the proposed change:

Massachusetts would not be in-line with current I-Code standards.

### **Estimated impact on life safety:**

According to Consumer Product Safety Commission statistics, about 350 children under the age of five drown in pools each year nationwide. The majority of the deaths occur in June, July and August; most in backyard pools.

### **Estimated impact on cost:**

Depending on pool size, locking covers, compliant with ASTM 1346, can range in cost from \$1,000 to well over \$10,000. Barrier costs would likely be a bit more expensive, depending on area coverage. However, since barrier requirements have been in existence for many years; since barriers are durable and long-lasting; and since most would-be pool owners are aware of established barrier requirements, costs differentials would seem modest.