

**Climate Resilience Zoning Task Force  
City of Cambridge, Massachusetts  
Meeting #16 Summary  
November 19, 2020**

## Task Force Members Present

1. Jason Alves, East Cambridge Business Association
2. Louis Bacci Jr, Laborers Local 151/East Cambridge/Planning Board
3. John Bolduc, Environmental Planner
4. Doug Brown, West Cambridge
5. Tom Chase, Energy & Resilience Consultant, New Ecology
6. Ted Cohen, North Cambridge/Planning Board
7. Nancy Donohue, Cambridge Chamber of Commerce
8. Brian Goldberg, MIT Office of Sustainability
9. Mark Johnson, Divco West
10. Tom Lucey, Harvard University
11. Rick Malmstrom, Alexandria
12. Margaret Moran, Cambridge Housing Authority
13. Mike Nakagawa, North Cambridge
14. Jim Newman, Resilience Consultant, Linnaean Solutions
15. Craig Nicholson, Just-a-Start
16. Mike Owu, MITIMCo
17. Kathy Watkins, City Engineer/Assistant Commissioner

## Project staff and facilitation team members present

1. Sarah Scott, Associate Zoning Planner, City of Cambridge
2. Elizabeth Cooper, Facilitator, Consensus Building Institute
3. Mariana Rivera-Torres, Facilitation team, Consensus Building Institute

## Next Steps

The next Task Force meeting will be held in early 2021, at a time to be scheduled. City staff will prepare revised proposed recommendations for Task Force review ahead of that meeting.

## Meeting Materials

For more details of the discussion summarized below, see the meeting materials available on the CRZTF webpage: <https://www.cambridgema.gov/CDD/Projects/Zoning/climateresiliencezoning>.

## Meeting Overview

The City of Cambridge's Climate Resilience Zoning Task Force (CRZTF) held its sixteenth meeting on November 19, 2020. Staff from the City's Community Development Department (CDD) reviewed the timeline and process for completing the Task Force's work. Then, CDD staff revisited the results of the survey that Task Force members completed, where they provided feedback on

various proposed zoning recommendations. Based on the survey, staff identified 10 recommendations with very few to no reservations, 7 recommendations with some reservations, and no recommendations with very strong reservations. During the meeting, Task Force members engaged in real-time polling and deeper discussion focused on surfacing remaining issues and questions on the recommendations with most reservations. The meeting ended with a public comment period and an overview of next steps.

This meeting was conducted via Zoom webinar as a result of Covid-19 restrictions on in-person meetings. Below is a summary of key themes and next steps discussed at the meeting. This summary is not intended to be a meeting transcript. Rather, it focuses on the main points covered during the Task Force's discussions.

## Meeting Summary

### Welcome and Housekeeping

Sarah Scott, Associate Zoning Planner at the City of Cambridge, welcomed Task Force members and public participants to the meeting and recapped the online public meeting guidelines. Elizabeth Cooper, lead facilitator from the Consensus Building Institute (CBI), reviewed the agenda and objectives. The group also reviewed the past two meeting summaries (Meeting 14 and 15), available on the CRZTF webpage. Both meeting summaries were approved and are now considered final.

### Review timeline and process for completing the Task Force's work

Elizabeth Cooper, CBI lead facilitator, reviewed the Task Force's role, final product, and the definition of consensus. After revisiting the key findings from the zoning recommendation survey that Task Force members had previously completed, Elizabeth Cooper explained that the meeting discussion would focus on the recommendations with most reservations, as well as any other recommendations Task Force members chose to address. The goal was to surface remaining issues and questions through live polling and in-depth discussion so City staff could begin drafting zoning recommendations. Please refer to the October 22, 2020 meeting presentation on the CRZTF webpage listed above for detailed survey results.

## Task Force Discussion

### General Reservations

Before discussing specific recommendations, a few Task Force members expressed some general reservations. A few members expressed concern that the recommendations remained too vague and they could not give their full support before reviewing the actual language. Some members also commented on the composition of the Task Force, noting that individuals represented different interests, with some promoting a more ambitious approach and others recommending a more incremental approach.

**Figure 1. Survey Results: Potential approaches for which few concerns were raised**

Level of support: Very few to no reservations

- 1A: **Flood Elevation Definitions**
- 1C: **Heat Resilient Definition**
- 2A: Exclude **open areas covered by shade canopy** from Gross Floor Area, yard (setback), and height limitations
- 2B: **Allow stairs/ramps** in front setbacks as-of-right for Flood Resilient buildings
- 2C: Exclude **Functional Green Roof Area** from Gross Floor Area and height limitations as-of-right in all cases
- 2D: Exclude **headhouses for accessing usable roof space** from height limitations
- 2F: Allow a **compensating building height increase** where the ground floor of the building is raised to meet Flood Resilience standards
- 3A: Require **Resilience Narrative** in Section 19.20 Project Review Special Permit Requirements
- 4A: Include **Flood Resilience Performance Requirement** (Section 19.50)
- 4B: Include **Heat Resilience Performance Requirement** (Section 19.50)

Members expressed some concerns regarding the following approaches, so these items were discussed during the meeting. The other items for which few to no reservations were expressed were left for staff to flesh out and present to the Task Force for review in the new year:

**(1A) Flood Elevation Definitions**

- Task Force members would like to maintain the ability to update or change the definition over time (note: FEMA maps update every 20 years). However, it would be important to delay enforcement for a defined “grace period” to provide some predictability and ensure there are no changes mid-review process.
- Another suggestion included the option to have a more detailed survey of property if property owners wanted to contest the Flood Viewer assessment of flood risk for the parcel.
- Outcome: Staff will include language to specify the standard will be updated on a regular basis, to make sure they are using the best available information. Staff will consider options to address the concern of avoiding changes mid-review, e.g. by offering a grace period.

**(2C) Exclude open areas covered by shade canopy from Gross Floor Area, yard (setback), and height limitations**

- A Task Force member asked about requirements for ground level green space, or whether this recommendation could be met with a green roof (especially in non-special permit projects). Sarah Scott, Associate Zoning Planner, stated that this question is more related to the Cool Factor and is less relevant to this strategy.

**(2D) Exclude headhouses for accessing usable roof space from height limitations**

- Task Force members asked if there were limitations to height. Sarah Scott clarified that the Task Force could determine what the limitations are and how they are applied. She noted that that will be the focus of the next meeting.

**(2F) Allow a compensating building height increase where the ground floor of the building is raised to meet Flood Resilience standards**

- In response to Task Force members' questions, Sarah Scott, clarified that the City recommends limiting the ground floor elevation to a maximum of four feet.

**(4A) Include Flood Resilience Performance Requirement (Section 19.50)**

- Task Force members were supportive as long as the standards and criteria are very clear.

**Figure 2. Survey Results: Potential approaches for which some concerns were raised**

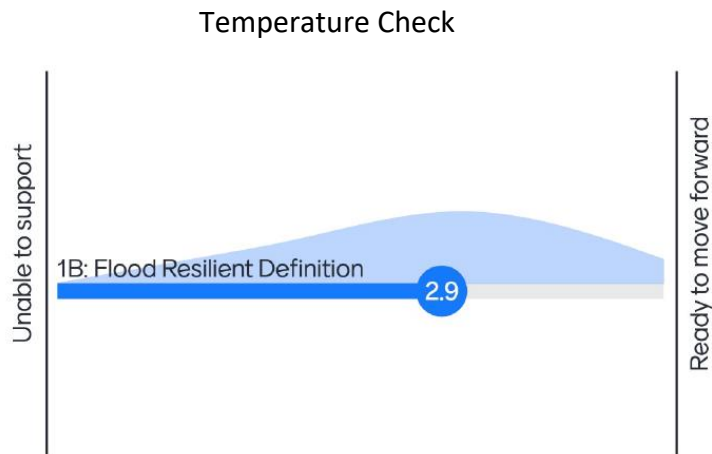
Level of support: Some Reservations

- 1B: **Flood Resilient Definition**
- 2E: Allow **basement exclusion** from Gross Floor Area limitations if the building is certified to be Flood Resilient
- 3B: Include **Resilience Objectives** in Section 19.30 Citywide Urban Design Objectives
- 4C: Include **Prescriptive Heat Resilience Requirements** (various options)
- 5A: Add **Flood Resilience Requirement** to Base Zoning (Article 5.000)
- 5B: Incorporate **Heat Resilience Performance Standards** (Cool Factor) in Base Zoning
- 5C: Incorporate **Heat Resilience Prescriptive Standards** in Base Zoning

These were the items regarding which members expressed some or significant reservations in the written survey.

Elizabeth Cooper, CBI facilitator, reviewed the process to delve into remaining issues and questions on the potential approaches with some reservations. For each item, first, staff reviewed the potential approaches and answered clarifying questions. Then, Task Force members engaged in real-time polling ("temperature checks") to express their level of support (1-Unable to support, 2-Warrants more Task Force discussion, 3-Needs minor revisions by staff, and 4-Ready to move forward). Lastly, the poll results were shared, followed by in-depth discussion.

## (1B) Flood Resilient Definition



### Discussion | Concerns & Outstanding Questions:

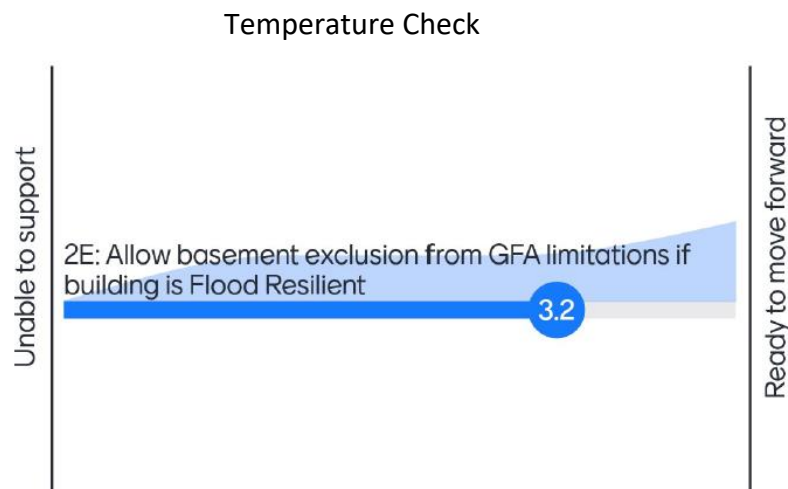
- *Ability to access:* Task Force members were concerned about “flood proofing” strategies’ impact on the ability to access and exit buildings in case of emergency. This may be an issue particularly for longer duration floods, so they suggested specifying how long and to what depth these strategies are appropriate. City staff shared that there is no easy answer, as there are factors outside of zoning that have an impact on flood levels. They noted that, regardless of the building construction, there will be barriers to access if the street is flooded. The goal is to keep people safe during flood events and be able to quickly recover after a 5-10-year storm. Task Force members highlighted that the standard needs to be accompanied by other City strategies.
- *Short-term vs. long-term thinking:* Task Force members highlighted the need to have short-term and long-term strategies in place. The 10% standard in particular seemed like a high change, even for a 1 or 2-day emergency. City staff highlighted that most of the flood events last less than 24 hours and they are not seeing multiple day duration storms.
- *“Habitable spaces”:* A Task Force member suggested revisiting the statement to include all “habitable” building spaces.
- *Large vs. small properties:* Others mentioned the importance of thinking about small and large properties, particularly when thinking about building up or protecting the structure. For larger buildings, the option will be ensuring there are adequate emergency exits. When barriers are in place, thinking about exit options, such as having a secondary egress at the second floor.
- *New vs. existing buildings:* The goal would be to push people towards building and protecting new properties, up to the Flood Viewer level; zoning is not retroactive so it would not apply to existing buildings unless they were being renovated. A Task Force member suggested that maybe different types of buildings could have different standards (e.g., schools, residential buildings, retail) There may be a need to use dry proofing for

retail establishments to protect renters and small businesses. Retailers may not wish to build up, so other options could be to ensure no glass at grade, etc.

- *Other outstanding questions/concerns:*
  - What happens when a property owner does not want to raise the building and instead opts for placing a flood barrier at the door and claiming safety. How can we think through which options are chosen and create incentives to choose the most resilient option available, in concert with other non-zoning strategies?
  - Concern that this may be too restrictive and may not encourage innovative solutions to address flooding. Also, some people may opt for living in areas that may be prone to flooding if that means the rent is lower.

**Outcome:** The Task Force would be comfortable with staff making modifications to address their concerns.

### **(2E) Allow basement exclusion from Gross Floor Area limitations if the building is certified to be Flood Resilient**



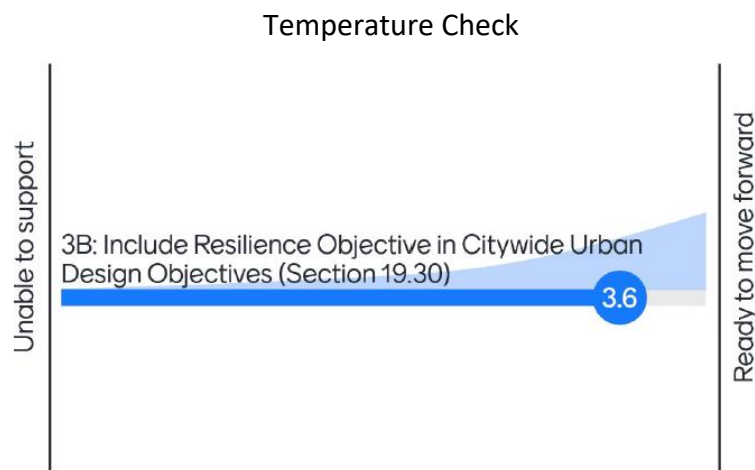
#### **Discussion | Concerns & Outstanding Questions:**

- Task Force members suggested considering adding an amendment to clarify restrictions in areas experiencing significant flooding. This is most important when allowing dwelling units in basements that are below flood level. These members believe that it is not a good idea to allow basement exclusion in flood zones. City staff clarified that this exclusion has already been granted, and this recommendation would be placing restrictions on it to limit basements vulnerable to flooding. Another Task Force member suggested applying a cap, limiting how much credit one can get. For example, making the whole basement resilient could allow some living space.
- Another Task Force member suggested distinguishing additional living space in a house (extra room for a family, with the ability to go upstairs) vs. creating a new, separate building space for rent. Sarah Scott, clarified that it now distinguishes between single family, multifamily, etc. Further, the flood resilience standard would not require a special permit, rather it would be an administrative process.

- Some members suggested that since many new spaces are being created in basements for bedrooms, living spaces, etc., having a standard that requires looking at flooding is very critical. Others suggested that restrictions generated a lot of substandard basement space, with “behind the scenes” arrangements. In addition, the various requirements may be a cost burden for small property owners and families.

**Outcomes:** Staff will revise and present two options in December: allowing it for all vs. only 1- to 2-family buildings. Note that this requirement will only be applicable and therefore relevant in flood zones as determined by the FloodViewer.

**3B: Include Resilience Objectives in Section 19.30 Citywide Urban Design Objectives**

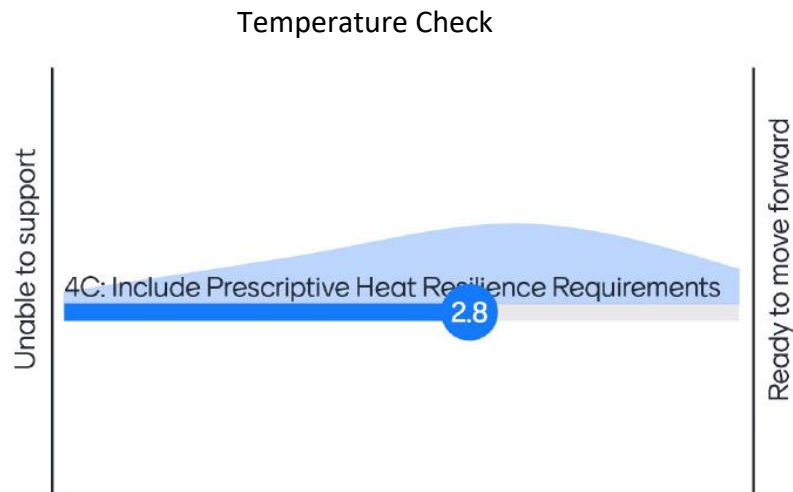


**Discussion | Concerns & Outstanding Questions:**

- A Task Force member expressed a minor concern related to emergency plans, since it is difficult to enforce and monitor. Staff stated that the best thing that zoning can do is require the plans upfront to encourage consideration and planning for how the building will work during emergencies.
- Another concern would be pressuring people to come up with the right language, since some of the terms are subjective. What is acceptable? Who is defining standards? Are the guidelines clear and crisp or left to the person bringing it forth? City staff suggested having model standards by building type.
- Another concern relates to the operation of a building vs. its design. Looking at other sections of urban design guidelines, how will the city reconcile when they contradict?

**Outcome:** The Task Force would be comfortable with staff proposing minor changes to address their concerns.

#### (4C) Include Prescriptive Heat Resilience Requirements (various options)



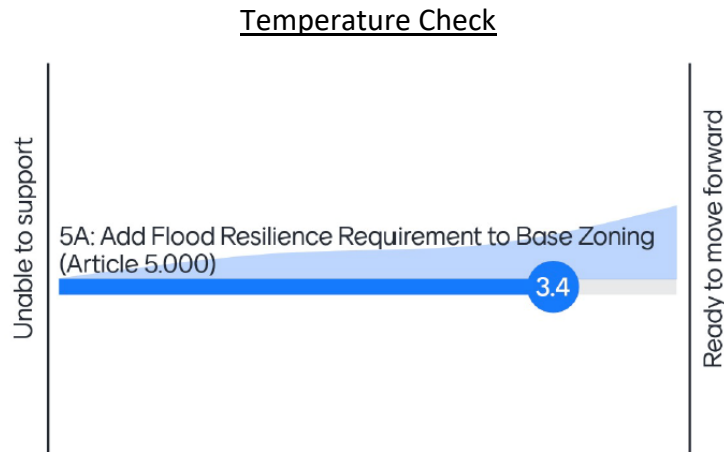
#### Discussion | Concerns & Outstanding Questions:

- Task Members were confused about the relationship between this strategy and the Cool Factor. Staff clarified that all of the heat resilience strategies are based on the same standards promoted in the Cool Factor. The Cool Factor is a performance-based strategy, while this is a prescriptive strategy. These two could coexist. Some Task Force members favored a performance-based approach since they argued that prescriptive approaches tend to have unintended consequences. Further, if the goal is cooling, prescriptive requirements could disincentivize more ambitious standards (green roofs, etc.). Others supported having minimum standards to ensure green space and canopy targets are met, with an option to except special cases. The minimum can be set as part of the Cool Factor, in order to prevent adding an unnecessary level of complexity. Some Task Force members commented that simple is better, as long as you are meeting the appropriate goals.
- Some Task Force Member suggestions for staff consideration include incentivizing shade canopies, while others cautioned not to allow unlimited constructed shade, and considering tree mortality and compliance.
- A Task Force Member asked whether this was intended to apply only to Article 19. Staff clarified it only applies to section 19.50. All of the strategies under Category 4 are related to building and site plan requirements. Article 19 has two sections with different review processes and standards:
  - 19.50 is generally for 25,000 square feet and more;
  - 19.20 is generally for 50,000 square feet and more.

**Outcome:** Staff need to make additional adjustments to the Cool Factor and consider ways to set minimum thresholds. This topic will be revisited.



**(5A) Add Flood Resilience Requirement to Base Zoning (Article 5.000)**

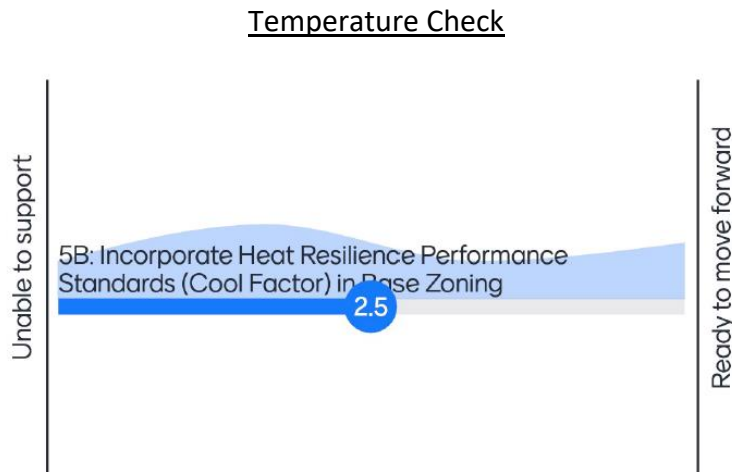


This builds on the definition of “flood resilience,” revising section 5.10 to require that all new constructions are flood resilient.

**Discussion | Concerns & Outstanding Questions:**

- *Overlay district vs. base zoning:* Task Force members were confused about overlay district versus base zoning requirement. This suggestion would be base zoning (using the FloodViewer), so it would apply to everyone in the city. After checking the FloodViewer, if the building is projected to flood, it would require either elevating the structure or adopting other measures. The Task Force preferred the option of writing the flood resilience requirement into base zoning, understanding that applicability of the requirement is based on whether a parcel is vulnerable to flooding according to the FloodViewer.

**(5C) Incorporate Heat Resilience Prescriptive Standards in Base Zoning**



### Discussion | Concerns & Outstanding Questions:

- A Task Force member asked how this relates to the Cool Factor. Staff shared that it could be a mix and match. This includes section 5.22 open space requirements for residential lots. All recommendations would be informed by the science driving Cool Factor.
- Another Task Force member expressed concern about meeting the Urban Forest Master Plan goals to achieve 30% tree canopy. They commented that this recommendation seems like an opportunity to achieve the tree canopy goal.
- Another member suggested making sure that people are not gaming the system and achieving the minimums with high-SRI paving.

**Outcome:** Staff will do more work on this and share examples with the Task Force to gain clarity.

### Public Comment

- A member of the public suggested uploading all of the meeting materials ahead of time. They encouraged the CRZTF to think more about what applies to small residential lots versus large projects. A simple minimum in base zoning for a residential lot will be easier to understand for residential owners and the commenter expressed concern with a disproportionate representation of large-site developers in the Task Force influencing the outcome. Lastly, they suggested a green factor, in addition to the Cool Factor, as well as aiming for what is effective, not just feasible.
- Another member of the public encouraged Task Force members to be bold not timid and prioritize the needs of residents and their families. They said that the timeframe for recommendations should consider the climate 10-20 years from now. They also stated that green roofs should not need to compete with trees. Lastly, they suggested submitting the Cool Factor for public comment.
- Another member of the public shared three key comments: (1) bigger projects should have more stringent requirements (larger available capital and impact); (2) it is key to remain flexible while maintaining a balance towards greening strategies by setting minimums for trees, plants, green roofs, etc.; and (3) aim to promote green strategies more than gray strategies whenever possible (at least 50-80%) in order to meet total cooling requirements, because of the co-benefits that green strategies offer.
- Another public participant was concerned that the Cool Factor was not on par with the green factor, due to the valuation of green space. They argued that built environment solutions should not be as incentivized as “green” approaches. They suggested following examples from other cities.
- Another member of the public suggested weighing greening strategies more heavily, due to their multiple benefits. Further, they argued that trees support one another and cannot be substituted by built heat resiliency solutions. Lastly, they stated that including a green factor should be prioritized.
- Another public participant encouraged requiring a calculation of the green factor, independent of the Cool Factor, possibly with different requirements. They commented that they are an active advocate for a livable climate for the next generation. They urged the Task Force to think about city-wide tree canopy and go for stronger goals. Lastly, they

encouraged incentivizing green roofs in scoring and promoting strategies that address food insecurity.

- The last member of the public to comment shared that they live in an area of the city experiencing extreme heat and flooding, where some people have been cutting down trees that were providing shade. They encouraged calculating a green factor independent of a cool factor, striving for challenging goals beyond what seems feasible, and thinking about residents and renters that do not have many options.

#### Next Steps

- Staff to share draft recommendations and Task Force to aim come to consensus in the next meeting.
- 2021 options:
  - Possible January or February meeting to finish discussing final draft of recommendations;
  - Staff to draft final report, then circulate for Task Force member input;
  - Eventual submission of final report from Task Force to City Manager.

The meeting was adjourned at 8:15 PM.