boston planning & development agency

Climate Change Resiliency and Preparedness Checklist
Public Comments Summary and Responses

The BPDA's Climate Change Resiliency and Preparedness policy was first enacted in 2013. The Policy and Checklist are now being updated to incorporate the work and recommendations of the Boston Research Advisory Group and the Climate Ready Boston reports. Stakeholders have been directly engaged in meetings and have submitted general and detailed comments. Feedback was also collected during a Public Comment Meeting on June 21, 2017 and a Developer Round Table on July 27, 2017.

The following is a summary of comments with corresponding responses:

Review process and timeline:	
Can the Policy include a clear review timeline that synchs with the Article 80 process?	Yes, a timeline will be added to the Guidance document. The CC Checklist will be reviewed in conjunction with the Article 37 filing within three weeks of a complete submission.
Is there an appeal process and, if so, a timeline?	**Corrected 10/6/2017** - The CC Checklist is an element of the Article 80 Project Review process. Staff assessments are provided as recommendations to the BPDA Director.
Should there be a different methodology or checklist for IMPs and PDAs?	The CC Checklist is applicable to IMP and PDA building projects. IMP's and PDA's without building projects will be scoped for the appropriate Climate Change preparedness strategies and actions.
There are difficulties to providing detailed project information (e.g. energy model) early on, could the level of detail required vary by the project planning phase (less initially, more later)?	The CC Checklist emphasizes practices such as integrated project planning that are essential for achieving more resilient buildings. Some of these practices are evolving and less familiar to practitioners. The CC Checklist and Guidance will acknowledge the preliminary nature of some early reporting items including preliminary energy modeling and conceptual energy analysis.
How will the collected data be used and monitored and will it be shared.	Article 80 filings are public records. The BPDA intends to use data to inform policy and improve practices.
Clarify what is meant by "the most appropriate" version of the Checklist that is to be submitted.	The Policy will be revised to "the current" which anticipates future modifications and updates of CC Checklist.
How will the updated CC Checklist be completed?	The next version of the CC Checklist will be an online fillable form. Completed CC Checklists will automatically upload to the BPDA and can be exported as a PDF for inclusion in filings.
How will the online mapping tool be used and how will flood depths be determined?	Proponents will be able to enter an address or parcel number to determine if the project is located in the 1% Annual Flood with 40" of SLR area and, if so, determine a forecasted top of water elevation.

Greenhouse gas emission goals:	
Concern that net zero carbon requirements cannot be achieved with existing technology and that some building uses are unavoidably energy intensive.	The challenge and current practice limits are understood. The Identification and limitations of potential solutions for achieving net zero carbon will assist in determining future policy and practices.
There needs to be an agreed upon methodology for calculating GHG emissions (eg MEPA methodology).	The BPDA and City will rely on the MEPA GHG methodology. References and related links will be added to the CC Checklist and Guidance.
Early reporting of annual GHG emissions is a concern; can there be some flexibility?	The preliminary nature of early reporting is understand and the Checklist and Guidance will be clarified and include some flexibility.
Climate change requirements:	
The threshold for projects that must complete the Checklist is too broad.	The majority of projects subject to the CC Checklist are over 50,000 SF. There are a few exceptions including projects subject to specific zoning such the Harbor Park district which reflects unique and vulnerable conditions.
Clearly outlined baseline requirements are preferred rather than a commitment to adapting a building and its technology over time.	The intent is to establish baseline conditions that are met or surpassed at the time of project construction. Where achieving baseline conditions is infeasible, projects should identify specific near-term adaptation strategies for meeting baseline conditions.
Clarify the targets for extreme heat and precipitation.	Heat: annual temperature increase to 56° (currently 46°), and annual days above 90° increase to 90 (currently 10). Precipitation: 10-Year, 24-Hour Design Storm precipitation level increase to 6” (currently 5.25").
Chronic flooding is not mentioned in the checklist and should also be considered.	This is under review. Preparation for episodic flooding is thought to encompass solutions for chronic flooding.
The explanation supporting the 3’ of SLR + Freeboard could be better (see BRAG Table 1-1 and Boston Harbor Now explanation).	The explanation will be expanded and clarified drawing more directly from the BRAG report.
The 1% Annual Flood with 36” of SLR map is based on a flood model that anticipates slightly higher SLR and land subsidence.	To more accurately reflect the Boston Flood Model the map will be re-titled “1% Annual Flood with 40” of SLR” and include a more detailed explanation.
Are larger-scale resiliency strategies under consideration? Could there be incentives for developers to contribute to large-scale solutions in the floodplain?	There are projects underway that look at sea level rise at the neighborhood scale. These include a study of gray and green infrastructure solutions, estimated costs, and possible funding mechanisms.
Preparing for SLR on a site-by-site basis creates edge conditions where a berm or floodwall might end. Can individual projects be linked?	This is an emerging strategy that is being studied. Projects should consider their surrounding context when planning for resilience including how adjacent projects can be connected.

Resources and Terminology:	
Make sure that developers are aware of discounts for higher freeboard levels.	Great idea! Information will be added to the Guidance document.
Are there resources that support better planning practices and building performance?	Our local utilities provide assistance for early building energy modeling and prefer to allocate energy efficiency rebates on a building modeled performance. There are significant funding resources for energy efficiency measures. We will work with area partners to increase the visibility of local utility programs and assistance.
Provide a summary of the BPDA's climate change preparedness goals and objectives, along with related resources.	The Climate Ready Boston and Boston Research Advisory Group Reports and the CC Checklist Guidance document constitute our goals.
Can the online mapping tool include information on extreme heat and precipitation, and can a user print a letter-sized report?	Yes. The BPDA will work to expand the online mapping tool to include both extreme heat and precipitation and support exporting and printing.
Provide a glossary that defines common terms and acronyms for the documents.	A glossary will be added to the Guidance document.
The development approval process should be used to support best practice sharing.	Agreed! The BPDA and City will work to make available information on best practices and supporting resources.

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Climate Change Resiliency and Preparedness Checklist UPDATE
Developer Round Table Summary of Comments with Responds

On July 27, 2017, the BPDA worked with representatives of NAIOP to convene a Roundtable local developers to discuss the proposed updates to the Climate Change Checklist. The following is an summary of meeting comments and corresponding responses:

C: There are significant costs associated with energy modeling so early in the process. This will also be a burden for smaller projects.
A: Early energy analysis is proving to be valuable and cost effective approach to supporting energy efficient project outcomes and employed by project teams to inform key design decisions including building orientation, form, and envelope systems. While common in practice the actual analysis tasks can vary and are often tailored to best serve the building type and scale and the goals of the owner. There are numerous energy modeling programs and providers that work with the CAD software used by architects that provide cost effective design feedback and generate energy reporting information. Our local utilities see early energy modeling as critical to better building performance and have been funding up to 50% of the energy modeling expense.

Q: MEPA's energy modeling occurs at a different stage of the process. Can the energy modeling be done at a later phase for the Checklist?
A: The goal is to ensure building energy performance is considered in early phases of project planning. Early energy analysis tools and providers can generate building performance information during the conceptual and schematic design phases that can used for PNF and MEPA filings and contribute to ongoing and later energy modeling and reporting.

Q: What is the criteria for the energy model, beyond meeting code?
A: The initial criteria is that the analysis or modeling inform early project design and planning decisions, identify energy efficiency measures, and establish project performance goals. These can result in fewer changes to the project at later phases, better project delivery, and potential cost savings. The criteria for later energy models include utility energy efficiency funding, demonstration of code compliance, and load calculations for utility services.

Q: Is the BPDA gathering information to give guidance on meeting the Checklist requirements? Is there a place we can go and see ideas for things like exterior shading?
A: We can share strategies and there are more and more resources available from building institutes and other organizations. We can share some of the tools used in other projects.

Q: Energy modeling is not a short process and changes will be made to a plan between the PNF and building permit stage. You don't want to add additional expense at a stage when that money will be wasted.
A: We were working along a similar thought process: making corrections and changes later and at the end of a project can be far more expensive.

Q: The predictability factor is important. If you comply with building codes and zoning codes, you expect to receive a building permit. If there are subjective reviews rather than clear minimum requirements, that makes the process difficult.
A: Understood. The Checklist UPDATE introduces clear minimum requirements while also recognizing existing conditions and other constraints may prohibit achieving minimum requirements at initial construction.

Q: I want a letter from the IGBC stating that they approved my project. If there are new best practices in a few months, I can't suddenly change my construction documents.
A: Approved projects will not be subjected to new requirements retroactively.

Q: What is the comment letter versus the approval?
A: The IGBC issues comments and approvals at each submission phase. Comment and or approval letters are typically issued in response to an Initial Filing. Subsequent filings comments and approvals are typically communicated by email with internal approvals made via the City's online building permitting system.

Q: Can the checklist become a metric? Each section could allocate a certain number of points and you could add up all of your accrued points at the end.
A: The Climate Change Checklist is more of a reporting format than a practice or evaluation checklist. The idea of being able to add up points may be a good idea for the future.

Q: Annual GHG emissions in tons is required in that first stage of the process. Will there be some flexibility there?
A: Yes there can be some flexibility with the Initial Filing. We will more carefully describe what is requested and differentiate early and later stage requests.

Q: For a Notice of Project Change: do we have to notify you for minor changes or after full approval from the BPDA?
A: As the nature and extent of NPCs vary, it is best to notify the IGBC of project changes at the time of the NPC filing. Minor changes should not impact a filing or prior approvals.

Bigger Picture Questions:
Q: Things can be done to prepare for sea level rise incrementally, building by building. But is there a plan for a bigger capital solution? Could a study of a bigger solution be funded?
A: We're looking at sea level rise in East Boston and Charlestown. These studies include gray and green infrastructure solutions, estimated costs, and possible funding mechanisms. We will conduct a similar exercise in South Boston. There are also strong arguments for redundant systems and multi-layered solutions.

Q: How do you fix existing infrastructure? Should projects in dry areas have to share the burden with projects in places at risk?
A: The state and City agencies have initiated studies focused infrastructure vulnerabilities and resiliency improvements including feasibility and financing.

Q: If you're building in Back Bay, could there be incentives to contribute to large-scale resiliency in the floodplain?
A: District scale approaches to resiliency offer additional and different solutions worth pursuing. Two district scale studies are underway, one in East Boston and one in Charlestown, and a third, focusing on the South Boston Seaport, will start soon.

Q: Would it be cheaper to build the flood barrier in Boston Harbor rather than elevating buildings one by one?
A: There is research underway that is exploring the feasibility and functionality of a Boston Harbor barrier scale solution. In all likelihood, long term resiliency will involve regional, district, and building scale solutions.

John Dalzell <john.dalzell@boston.gov>

Climate Change Checklist - Developer Round Table Summary

Tamara Small <small@naiopma.org> Thu, Sep 7, 2017 at 4:11 PM
To: John Dalzell <john.dalzell@boston.gov>

Hi John –

Thanks again for sending this. Based on the reaction at our committee meeting, followed by outreach on the conceptual energy analysis (CEA) to a number of consultants, etc., it appears that the CEA referenced in the document is not well known or used. Unless we have a bit more information/real world examples, our concerns about the value of doing something like that *in the conceptual stage* remain. I have attached our responses to some of the questions for your review. Overall, everything looks pretty good, so our concerns should be clear. Let me know what you think.

Thanks again!
Tamara

Tamara Small

Senior Vice President, Government Affairs | **NAIOP Massachusetts**

The Commercial Real Estate Development Association

144 Gould Street, Suite 140 | Needham, MA 02494

(781) 453-6900 x5 | small@naiopma.org

From: John Dalzell [mailto:john.dalzell@boston.gov]
Sent: Tuesday, September 5, 2017 6:19 PM
To: Tamara Small <small@naiopma.org>
Subject: Climate Change Checklist - Developer Round Table Summary

[Quoted text hidden]

CC Checklist Developer Round Table - DRAFT Comment Summary 2017-09-05.docx
89K

John Dalzell <john.dalzell@boston.gov>

FW: BPDA Climate Checklist and CRB Reference Error?

Wayne Cobleigh <wayne.cobleigh@gza.com> Thu, Jun 22, 2017 at 2:11 PM
To: "John.Dalzell@boston.gov" <John.Dalzell@boston.gov>, Paul Kirshen <Paul.Kirshen@umb.edu>

John and Paul:

After attending the public comments meeting yesterday, I was confirming the scientific references of the information in the BPDA Checklist Guidance from the CRB reports. I only found two references to "Rossi" by scanning the full CRB December 2016 report.

From CRB report Page 18- "Locally, a heat wave is defined most often (and for the purposes of this study) as three or more days in a row with maximum ambient temperatures greater than 90 degrees Fahrenheit. The Vulnerability Assessment used data and projections created as part of the City of Cambridge Vulnerability Assessment, supplemented by the Kopp and Rassmussen 2014 (Robert Kopp, Rutgers University assumed on BRAG team for sea level rise) projections to best understand and analyze frequency, intensity, and **duration of extreme temperatures in Boston**. **The Vulnerability Assessment uses the Trust for Public Land's (TPL) base heat island analysis**.5 (This seems confusing to me. Why is a SLR researcher cited for extreme temperature research)

Footnote 5 on CRB Report page 18- While Climate Ready Boston has not analyzed future heat island projections in this report, **Rossi et al.** observed a general trend that UHIs (Urban Heat Islands) tend to remain in place (and increase in severity) in warmer future scenarios, which were applied in this UHI analysis. UHI is understood through spatial analysis conducted by the TPL to identify specific localities in Boston that experience higher temperatures than the city average locality during days with hot temperatures. The TPL maps show relative land surface temperature data from MODIS/Aqua radiometer satellite (MODIS MYD11A2) from the warmest summer months. They identify the specific locations in urban areas that meet the characteristics of UHI isotherms and have land surface temperatures averaging at least 1.25 degrees Fahrenheit above the mean temperature for both day and night scenarios. "

The only relevant research paper by Kopp and Rassmussen in 2014 that I could find online was

Kopp, R.E., R.M. Horton, C.M. Little, J.X. Mitrocia, M. Oppenheimer, D.J. Rasmussen...C. Tebaldi. 2014. Probabilistic 21st and 22nd century sea-level projections at a global network of tidegauge sites. Earth's Future, 2(8), 383-406. http://doi.org/10.1002/2014EF000239.

It appears to me that the graphic used on page 2 of the Draft Climate Checklist Guidance was taken from **2016 Climate Ready Boston Climate Projection Consensus Report** page 5, which may be incorrectly referenced to Rossi et al, 2015. (It probably came from a USGCRP (2009) publication cited in the Massachusetts Climate Change Adaptation Report, 2011.

The June 2016 CRB BRAG report has an incorrect reference on page 33 to Rossi et al, 2015. Per the BRAG Report a ambient air temperature and humidity heat index study done by City of Cambridge, 2015 (included in the Climate Change Vulnerability Report cited at top of page 33) was later incorrectly assigned later in in the text on page 33 to Rossi et al. 2015, but no such Rossi et al. scientific research reference is listed in the Appendix of the BRAG Report. The consulting study in the City of Cambridge in 2015 by Kleinfelder acknowledging Richard C. Rossi, City Manager of

Cambridge and the steering committee for funding and participating in the Climate Change Vulnerability Assessment appears to have made Rossi an author of the report, cited in the BRAG Report and CRB Report.

From my brief web research, there is a Rossi doing climate research on soil impacts from heat and drought and the other is Richard C. Rossi the City Manager of Cambridge acknowledged in Kleinfelder's Report.

I found a MassDOT graphic online (attached) similar in content to the CRB graphic that summarizes the Days above 90 degrees in Boston Region referenced to:

Source: **USGCRP (2009).** Global Climate Change Impacts in the United States . Karl, T. R., J. M. Melillo, and T. C. Peterson (eds.). United States Global Change Research Program. Cambridge University Press, New York, NY, USA. **Via Massachusetts Climate Change Adaptation Report (2011). I found the research publication and graphic for Boston at** https://nca2009.globalchange.gov/northeast/index.html

https://nca2009.globalchange.gov/projected-days-year-over-90%C2%B0f-boston/index.html

The 2009 USGCRP graphics are better quality than the CRB Report graphics and cite the scientific researchers.

If the references are incorrect on the extreme temperature graphic, the author citation should be changed in the CRB Reports and the DRAFT BPDA Climate Checklist Policy so others assessing heat island effects for large projects in Boston subject to the checklist can find the original research studies.

I feel like a scientific peer reviewer now.

We need back up the scientific forecasts and statements in the new guidance.

Wayne

Wayne Cobleigh, CPSM

Vice President – Client Services

GZA | 249 Vanderbilt Avenue | Norwood, MA 02062

o: 781.278.3848 | c: 860.250.6790 | wayne.cobleigh@gza.com | www.gza.com

Fwd: Climate check list

3 messages

Maura Zlody <maura.zlody@boston.gov> Tue, Jun 27, 2017 at 10:18 AM
To: John Dalzell <John.Dalzell@boston.gov>, Carl Spector <carl.spector@boston.gov>, Mia Goldwasser <mia.goldwasser@boston.gov>

——— Forwarded message ———
From: **ANNE HERBST** <anneherbst@comcast.net>
Date: Mon, Jun 26, 2017 at 9:27 PM
Subject: Climate check list
To: Amelia Croteau <amelia.croteau@boston.gov>
Cc: Maura Zlody <maura.zlody@boston.gov>

Hi Amelia and Maura,

I want to follow up on my suggestion for the BRA climate checklist. There are huge discounts for freeboard - and I think most developers are not aware of this. The discounts apply for 1, 2, 3, and 4 feet (max) of freeboard. Here's a link to a czm fact sheet. They don't show the 4 foot discount - I believe it's 70%. The only examples I have ever seen are for residential properties. I checked with Joy Duperault at DCR, she said that the discounts are the same for commercial properties.

http://www.mass.gov/eea/docs/czm/stormsmart/ssc/ssc5-freeboard.pdf

In Hull, we (I) really pressed people on freeboard and used this flyer. We had about 85% of properties elevating at least two feet. My thought is that the checklist could require people to get a flood insurance estimate and record the rates for 1-4 feet of freeboard. At least they would be required to make an informed choice. As flood insurance rates continue to rise, this becomes ever more important for owners and for sales. I'm hoping you can pass this along. I'm happy to talk with anyone about it, if there is interest. Thanks.

Anne

Maura T. Zlody, LEED AP BD+C
Senior Environmental Policy Analyst
Boston Environment Department
One City Hall Square, Room 709
Boston, MA 02201
617-635-4421 (direct)
617-635-3435 (fax)
617-635-3850 (department)

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June 29, 2017

Mr. John Dalzell
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

RE: Comments on Climate Change Resiliency and Preparedness Policy and Related Checklist

Dear Mr. Dalzell,

We are supportive of the City's goals to address the threats to Boston's neighborhoods related to climate change and greenhouse gas emissions. Regarding the draft policy, we have the following general comments:

GENERAL COMMENTS AND RECOMMENDATIONS:

1. The City should add language that ensures that this IGBC review process is streamlined with other Article 80 milestones and deadlines so as not to cause delay of approvals.

2. While the goal of carbon neutrality is a good one, the policy does not sufficiently recognize that some sectors and building uses or combinations of uses can't be reasonably expected to be carbon neutral or net positive without significant advances in technology and/or regulatory change. For example, patient care, clinical and clinical diagnostic uses as well as mixed uses such as research and patient care are all energy intensive uses. Energy requirements for diagnostic equipment, the need for sophisticated diagnostic equipment, or regulatory and licensure requirements for air handling in patient care and research facilities are just a few examples of some of the serious barriers to some of our members. Please see suggested language changes below.

3. The language in this policy and checklist in some sections is overly broad. As an example the policy requires a commitment today by a developer to make future investments to upgrade buildings built

375 Longwood Avenue | Boston, MA 02215-5328 | Tel: 617.632.2310 Fax: 617.632.2759

today with technology that may not yet exist or be financially feasible. Comments attached are intended to address this while staying within the spirit of the policy goals.

4. The City should identify an appropriate process and timeline for IGBC review of the Climate Change Checklist, including an opportunity for project proponents to object to IGBC findings.

5. The policy should make clear that while the Director will rely on the advice of the IGBC and shall consider its recommendations regarding a proposed project's Climate Change Checklist compliance and response requirements, the Director will retain discretion to recommend approval of a proposed project after consideration of the IGBC's recommendations, taking into account the overall impacts and benefits associated with the proposed project

We appreciate the opportunity to comment on the draft Climate Change Resiliency and Preparedness Policy and Checklist.

Sincerely,

Sarah J. Hamilton

Sarah J. Hamilton

Vice President, Area Planning and Development

Encl.

Cc: Brian Golden, Director BPDA

Sonal Gandhi, Senior Project Manager, BPDA

NAIOP
COMMERCIAL REAL ESTATE
DEVELOPMENT ASSOCIATION
MASSACHUSETTS

June 29, 2017

Mr. John Dalzell
Senior Architect
Boston Planning & Development Agency
City Hall
Boston, MA 02201

Re: NAIOP Comments on Update to BPDA Climate Change Resiliency and Preparedness Policy & Checklist

Dear John,

NAIOP Massachusetts, The Commercial Real Estate Development Association, appreciates the opportunity to submit comments on the proposed changes to the Climate Change Resiliency and Preparedness Policy and related Checklist.

NAIOP represents the interests of more than 1700 members involved with the development, ownership, management, and financing of more than 250 million square feet of office, research & development, industrial, multifamily, mixed use, and retail space in the Commonwealth.

Climate change resiliency and preparedness is a top priority for NAIOP and a significant economic development issue for the city. Real estate developers, building owners, lenders, insurance underwriters, tenants, and the public sector need to be prepared for a changing climate and its impact on investments and public safety. The existing BPDA Policy and Checklist have been effective tools in aiding both the public and private sector in thinking through these issues during the development process.

While we support the overarching policy goals of the proposed changes, NAIOP does have several concerns that we urge the BPDA to address to ensure it is a workable policy. We look forward to discussing the following comments with you and your team at your convenience:

- **Different Approaches & Increased Flexibility Needed for Smaller Projects and Minor Changes:** The Policy states that it is for projects subject to Article 80B, 80C and 80D of the Boston Zoning Code. However, many small projects are subject to these provisions, including minor changes at institutions that require review under Article 80D, or projects above 10,000 SF in Harborpark areas. Although portions of the Climate Change Checklist may be relevant for these projects, some may not be, and collecting the information may create an undue burden on the proponent. As an example, the energy modeling requirement would add a significant cost to smaller projects, including those

that are closer to 50,000SF (or a bit larger). The analysis necessary to adequately complete the checklist is too burdensome for very small projects.

There should be a qualifier that states that certain projects could be exempt from the policy or subject only to certain aspects of it (e.g., projects under 50,000 SF, or projects subject to Article 80D, but not Article 80B).

- **Level of Detail Should Vary by Stage of Project:** The Checklist requires a significant level of detail about the project early in the permitting stage, when most of the information that can be collected is preliminary at best. As an example, the Checklist now asks for the Annual Building GHG Emissions in Tons. Determining the GHG emissions from a building would require making decisions about mechanical equipment earlier in the design process than usually makes sense. Furthermore, as referenced above, requiring energy modeling so early in the permitting stage would be cost-prohibitive, especially for smaller projects.

  For the Review Policy, it would be better to have the Permitting stage of the Checklist provide "Goals," the Design/Building Permit filing include the "Planned/Anticipated," and the Construction/Certificate of Occupancy stage include what the project "Included/Incorporated into the Construction." So, for the example listed above, providing GHG Emissions in Tons would be more appropriate at the Building Permit stage. At the Permitting Stage, proponents should instead describe how they plan to study or analyze GHG emissions.

- **Carbon Neutrality Goals Need Flexibility:** We applaud the City for its ambitious goal of carbon-neutrality by 2050, but some of the requirements that pertain to this topic in the Review Policy cannot be achieved with existing technology. Unless significant technological advances are made, many uses will never be able to be net positive. Therefore, the Review Policy and Checklist should be modified to encourage proponents to illustrate how they "may feasibly" address this issue.

- **Appeal Process & Deadlines Needed:** To prevent needless delays, the Policy should ensure that the review process is streamlined with other Article 80 deadlines. In addition, an appeal process (with timelines) should be created to appeal IGBC determinations or recommendations made to the BPDA Director.

- **Reference to "*Any* Adverse Impacts" Too Broad:** Throughout the Review Policy references are made to how proponents need to mitigate "any adverse impacts" due to climate change. In addition, Section A of the Review Policy states that "Consideration of environmental impacts due to climate change should not be limited to those listed above or in the Climate Change Checklist." This language is far too broad and open ended. It

creates uncertainty and a lack of predictability. It could lead to dramatically different interpretations. The sentence in Section A should be eliminated and references to "any adverse impacts" should be changed to specify that proponents should "reasonably and feasibly" address "potential" impacts. The Review Policy and Checklist should be modified to address similar, open ended language.

- **Future Checklists Planned?:** The Review Policy states that proponents should "complete and submit the most appropriate Boston Climate Change Preparedness and Resiliency Checklist (Climate Change Checklist)." Are there additional checklists that will be made available or is there a schedule of updates to the checklist planned?
- **Freeboard Requirements May Create Accessibility Challenges:** Section E requires projects to identify immediate and future adaptation strategies for managing at least a 1% Annual Flood with 36" of sea level rise plus 12" of freeboard for non-critical buildings or 24" for critical facilities. Adding 12" of freeboard immediately in some situations would create accessibility challenges.

In addition to the more general recommendations offered above, NAIOP offers the following technical edits:

1. In Paragraph 2, line 3 of the Review Policy the word "sever" should be changed to "severe."
2. Section A.2 of the Checklist is mislabeled as Section A.3.

Thank you again for the opportunity to weigh in on this important issue. Please let me know if you have any questions or need additional information on any of our comments.

Sincerely,

NAIOP Massachusetts, The Commercial Real Estate Development Association

Tamara C. Small
Senior Vice President, Government Affairs

John Dalzell <john.dalzell@boston.gov>

Comments on Revised Checklist

Ris Bud <risboston@gmail.com> Thu, Jun 29, 2017 at 4:21 PM
To: John.Dalzell@boston.gov
Cc: John Cleveland <john@in4c.net>

Hi John:
I think the revised checklist is good - definitely headed in the right direction. I have a few quick comments:

1. 3 feet SLR + Freeboard: While I agree with the selection of the 3 ft number, I find the explanation provided for it is not clear. I would review Table 1-1 from the BRAG report again and see if you can come up with a better explanation. I can help with that, if you need it. See the one Boston Harbor Now has proposed, for example.

2. Chronic flooding: The Checklist appears to omit any mention of the possibility that several areas along the waterfront will experience chronic flooding on a monthly or weekly basis — or even a greater frequency — during the latter half of this century as SLR combines with the higher high tides. Adapting to this challenge is very different than preparing for a big storm and may well require a different set of resilience strategies. I think you need to build this in to the checklist for consideration by applicants.

3. “Critical infrastructure” - could use a definition somewhere.

Bud

John Dalzell <john.dalzell@boston.gov>

Comments on Revised Checklist

John Cleveland <john@in4c.net> Fri, Jun 30, 2017 at 9:42 AM
To: "John.Dalzell@Boston.gov" <John.Dalzell@boston.gov>
Cc: Amy Longsworth <amy@greenribboncommission.org>, Ris Bud <risboston@gmail.com>

Hi John —

Bud's email reminded me that I never provided you any feedback. Here are a few comments:

- I really agree with Bud's acute/chronic flooding differentiation. Resilience measures for these two kinds of risks could be quite different.
- I am delighted to see the incorporation of ZNC requirement in the checklist! This will help accelerate developer/designer focus on this outcome.
- I was also pleased to see the reference to an "on-line" flood risk tool — which I assume means use of the TPL data base.
    - My understanding is that you, ABC (Yve) and TPL have been in discussion on this. We need to determine:
        - What software changes are needed to the TPL platform to make it easy to access for users
        - What data they need to incorporate in their parcel data base and how it will be displayed (e.g. what levels of flood data for what time frame). It seems that we will also need to not just have the flood area defined, but also to have flooding depths defined.
        - What is technically required to load the flood data (I assume from Woods Hole) into the TPL platform.
        - What the system is for updating as the forecasts are updated.
    - I have worked closely with the TPL team on their Boston work. Let me know if you want the GRC involved in this process at all. If you guys are all set, no reason for us to intrude.
- Finally, I appreciate your perspective that the development approval process is an opportunity for best practice sharing in the development community. You talked about how to use the Article 80 process to build a data base of best practice examples that could inspire other developers about the "art of the possible" in both resilience and ZNC. I think this is a great idea. We are happy to meet with you to brainstorm how to make this happen. It might be a good item to consider for a future grant request to Barr. We could imagine, for instance, an annual "best practice" event building off this database co-sponsored by you, GRC and ABC. And the specific development components could be linked to the items in the ABC on-line tool kit (at least for the resilience side.)

Thanks for your dedication in pushing this forward.

Best, John

John Cleveland, Executive Director
Boston Green Ribbon Commission <www.greenribboncommission.org>

President
Innovation Network for Communities <www.in4c.net>
156 Grover Lane
Tamworth, NH 03886
616-240-9751

Coauthor, Connecting to Change the World: Harnessing the Power of Networks for Social Impact – click here <http://www.amazon.com/Connecting-Change-World-Harnessing-Networks/dp/1610915321/ref=sr_1_1?ie=UTF8&qid=1403549456&sr=8-1&keywords=connecting+to+change+the+world> to order a copy on Amazon.

[Quoted text hidden]

John Dalzell <john.dalzell@boston.gov>

Re: Boston Climate Change Checklist UPDATE

Verly, Caroleen <caroleen_verly@harvard.edu> Mon, Jul 3, 2017 at 9:38 AM
To: "john.dalzell@boston.gov" <john.dalzell@boston.gov>

Dear John,

Please accept the following feedback on the City of Boston's revised (June 14, 2017) Climate Change Checklist on behalf of the Boston Green Ribbon Commission Higher Education Working Group. The following is a compilation of comments received from our member institutions and does not necessarily represent the collective view of all of our institutions.

Comments Received:

1. I like how their language has changed from "mitigation" to "adaptation."

2. The general issue that people have had with this form remains: the BPDA encourages people to file their regulatory documents early and at the schematic design phase (or earlier), yet the form asks for very detailed information, including an energy model.

3. There is a new question in the energy section: "Have the electric and gas utilities reviewed the energy model?" I am not aware of any project sharing their energy model with the utility companies (nor am I aware of a utility company asking for it).

4. They have added a section of GHG Reduction and Net Zero/Net Positive Carbon Building Performance, but have not provided much guidance on how to complete it. The state's MEPA Office has very clear guidance on how they want GHG analyses conducted and it would be helpful to proponents if these methodologies were consistent.

5. This new GHG requirement is somewhat problematic in that they want this form to be used not only for single buildings, but also for Institutional Master Plans and Planned Development Areas, which are regulatory filings that cover up to ten years and include speculative ideas about future buildings. I am not sure how you would do a GHG analysis that calculates tons of annual GHG emissions on speculative growth.

This feedback is in addition to the feedback we provided on May 17, 2017 (attached) on the earlier version of the checklist.

Please let us know if you have any questions on these items.

Best,

Caroleen

Caroleen Verly

Adria Boynton <adria.boynton@boston.gov>

Re: Climate Resiliency Checklist

4 messages

John Dalzell <john.dalzell@boston.gov> Wed, Jul 12, 2017 at 10:27 AM
To: Amelia Croteau <amelia.croteau@boston.gov>
Cc: Maura Zlody <maura.zlody@boston.gov>, Adria Boynton <adria.boynton@boston.gov>

Thanks Amelia; we very much appreciate your comments and insights. The structure of the IGBC process is to engage new projects early in the planning process so as to inform critical planning decisions including site elevation.

I am adding Adria Boynton who is pulling together a summary of comments although I believe we have recieved other comments regarding the flood insurance savings based on free-board. Thank you for the flyer; do you know how this applies to larger mixed use and commercial buildings? The CC Checklist screens projects over 50k SF.

Best,

John

boston planning & development agency

John Dalzell, AIA, LEED Fellow
<Senior Architect for Sustainable Development
617.918.4334 (o)

Boston Planning & Development Agency (BPDA)
One City Hall Square | Boston, MA 02201
bostonplans.org

EPositiveBoston.org
BostonLivingWithWater.org

On Wed, Jul 12, 2017 at 9:53 AM, Amelia Croteau <amelia.croteau@boston.gov> wrote:

> Good morning John,
>
> My name is Amelia and I am with the Boston Conservation Commission. One of our Commissioners had a suggestion for the climate resiliency checklist, which to my understanding, is under review.
>
> To give you a bit of background, part of my job is to act as Floodplain Manager for the City of Boston and in doing so I ask proponents to fill out the climate resiliency checklist for any 'substantial redevelopment/development' projects within the floodplain. This is to give myself, FEMA and the Commission, a better idea of the amount of freeboard they plan on adding to their structure. In talking with developers and proponents before they file (which is rare), I inform them that the City of Boston projects at least three feet of sea level rise (SLR) for the year 2070. One of the most cost effective ways to mitigate for SLR is to elevate their buildings with additional freeboard. Elevating a building a few feet above the legally mandated height can lead to substantial reductions in flood insurance, significantly decrease the chance that their building will be damaged by flooding, and helps protect against SLR. While we can't require them to add additional freeboard above the 1 foot required, I think it is important to have that discussion with them early on and let them know their options. There are huge discounts for freeboard, and I think that most developers are not aware of this. The discounts apply for 1, 2, 3, and 4 feet (max) of freeboard. I have attached a link to a CZM fact sheet. They don't show the 4 foot discount, but I believe it's 70% for both residential and commercial properties.
>
> One of the main issues that the Conservation Commission runs into is that nearly every project that comes before us, already has their engineering and design plans finished by the time they submit a Notice of Intent to the Commission,

which makes it a lot harder for the developer to incorporate a greater amount of freeboard. We feel that including this information early on in their development through talks with the BRA, might help. I will be adding this information to our filing requirements on the Conservation Commission website, but we feel it would be helpful to add a section to the Climate Resiliency Checklist that would require the developer to get a quote from a licensed insurance agent on the amount of freeboard they are using. That way, we know they are informed on their options prior to filing and hopefully early on in their development design.

I apologize for the lengthy email, but if you have any questions or would like to discuss further, please feel free to shoot me a call at 617-635-4416.

Best regards,

Amelia Croteau
Floodplain Administrator, Conservation Assistant
Boston Environment Department
One City Hall Square, Room 709
Boston, MA 02201
(617) 635-4416 (direct)
(617) 635-3435 (fax)

John Dalzell <john.dalzell@boston.gov> Wed, Jul 12, 2017 at 10:28 AM
To: Adria Boynton <adria.boynton@boston.gov>
Cc: Maura Zlody <maura.zlody@boston.gov>, Amelia Croteau <amelia.croteau@boston.gov>

Flyer attached - JD

---------- Forwarded message ----------
From: **Amelia Croteau** <amelia.croteau@boston.gov>
Date: Wed, Jul 12, 2017 at 9:53 AM
Subject: Climate Resiliency Checklist
To: John Dalzell <john.dalzell@boston.gov>
Cc: Maura Zlody <maura.zlody@boston.gov>

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