



## City of Cambridge Conservation Commission

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### Public Meeting – Monday, September 19, 2022 at 7:00 PM Zoom MEETING MINUTES

The following meeting minutes were taken by Tracy Dwyer and are respectfully submitted.

Present Commission Members: Jennifer Letourneau (Director), David Lyons (Vice Chair), Kathryn Hess, Michelle Lane, Elysse Magnotto-Cleary, Erum Sattar, Kaki Martin

Absent Commission Members: Purvi Patel (Chair)

Attendees: Tracy Dwyer, DPW; Kathy Watkins, DPW; Jim Wilcox, DPW, Michael Bellomo

David Lyons opened the meeting.

#### **7:00 – Presentation on Climate Change** Kathy Watkins, City Engineer

The commission went around and gave introductions to Kathy Watkins. Kathy Watkins stated that the city has been working on climate change for decades and started looking at vulnerability assessment and then branched out to look at strategies for preparedness. In 2017 the city focused on Alewife and then in 2019 focused on the Port neighborhoods. Kathy stated that these areas were selected because they were the most prone to flooding. Kathy said there were a few reports that were done, and that work came out of the resilient Cambridge about a year ago that was published. Kathy stated that all this information is available on the city's Community Development website about the overall climate planning.

Kathy said the city is looking at increasing heat, the days over 90 degrees, in 2030 and by 2070 there could be two months of over 90-degree days and that is a big impact on people as well as the city's building stock. Kathy stated although that is less of a focus for the Conservation Commission, but she feels that it is critical when you look at impacts on health and increased heat is a big stressor. When looking at increase in rain and the city has done a lot of work on looking at projected rainfall. The city has looked at what a 10-year storm looks like and then 2030 and a 2070 storm looks like verse today's storm. The city has also looked at coastal flooding which is coming back from Boston Harbor over the dams and up back into Cambridge. Kathy stated they looked at the increasing number of days over 90 degrees today, 2030 and 2070 and looking at that you will see what areas in the city that are impacted by the heat, areas where there is an increase of asphalt parking lots, where there are no tree canopies and that you see

those areas have the biggest impact on urban heat island on those really hot days and not evenly distributed across the city. Kathy stated one of the interesting things about increasing heat when we think about New England buildings as having more energy spent on heating than cooling and traditionally that has been the case but when we look at 2070 that is going to flip so there will be more cooling days than heating days, so that will add stress to the electrical system as well as stress on building.

Kathy said when looking at increasing precipitation the city has done projections for a 10-year storm, 2030 and 2070 and what they see is those precipitations really increasing and what they have discovered that on average every 25 years or 4% chance each year becomes a 10 year storm in the future so the same size storm will happen much more often and will impact areas where there is flooding.

Kathy said in the city they also think about coastal flooding sea-level rise storm surge. Kathy said the Amelia Earhart Dam and Charles River Dam, those dams help keep any coastal flooding from coming back into Cambridge. Kathy said what we know that starting in 2040-2050 the elevation of those dams will no longer be sufficient to provide the same level of protection.

Kathy said by 2070 if we do nothing to our infrastructure, we will see significant areas of the city that will be impacted by coastal flooding. Kathy said if you think about the water coming back into the Mystic River into the Alewife and flooding around Fresh Pond in 2070, you're looking at a 50-70% chance that area could flood with coastal flooding. She said in East Cambridge a similar situation with coastal flooding but with a lower probability only 5-10 % chance in 2070 if we don't do anything.

Kathy said the overall approach to climate change is really thinking about reducing risk, how do we reduce the risk of these three things happening while simultaneously working to prepare for those risks. Kathy stated the city is trying to reduce the frequency of those risks as well reduce the impact of those risks. So, working with the city's infrastructure, working with property owners and residents how can we make Cambridge more resilient to the changes coming with climate change. Kathy stated that when we look back to the resilient Cambridge work that the city has done, we've looked at four different strategies and those are wide ranging, and they come to four different buckets and those come down to closer neighborhoods and that comes down to how do we make people more resilient. We talk about better buildings, what can we do to make buildings more resilient regarding heat and flooding. We also talk about infrastructure; how do we make our own infrastructure stronger and greener city – what are the natural systems that we can do that also really helps to mitigate the impacts of climate change. Kathy stated when we look at “closer neighborhoods” we put this in the A category because we wanted the people to come first. We think about what the impacts on people are and how do we make people more resilient to climate change. Kathy said when we look back and talk about heat waves, we look at who's impacted and one of the big drivers is who has connections in the community versus who is isolated that is one of the big determinants of who is going to be the most impacted by extreme heat waves. How do we build more connectivity between residents, and can we create climate hubs where people can get information and develop a stronger social network. Kathy said when they looked at neighborhoods like in The Port can they use the Margaret Fuller House as a hub where people can get information before, during and after a storm and know that they are a resource. Kathy said when they look at “better buildings” and look at the A category that is a less of a DPW category and more of a public health and human services. For “better buildings” the city is thinking about what it takes to make our buildings more resilient both when people are doing new buildings, doing renovations and when people are reaching out to us saying what can we do. Kathy said we have a lot of different resources; looking at different types of materials people use, elevations that people are designing to, making sure that there is a backwater valves

so if the city's sewer system backs up it doesn't not back up into your basement and lastly elevating utilities in basements and maybe looking at removing them from your basements. Kathy stated that the city has a flood viewer on the city's website and with the flood viewer you can click on any property in the city and click on it and find the projected flood elevations for today, 2030 and 2070 both for precipitation and sea level rise during coastal flooding. The city is working with developers and others that are doing major renovations to make sure they are building to the 2070 elevations. They are asking the developers if there is a 2070 10 % storm event can your building recover from that and can the building be built not to be damaged. Kathy said that DPW has been working with developers on this for more than four years and they are also working with Zoning to make this a Zoning requirement. Jim Wilcox stated it's been about 5 years that they have been doing this. Kathy said that it's been nice to see what works and what doesn't not work and surprisingly there has been no push back from developers. She stated that developers want to have a building that is more resilient and will work today and in the future. David Lyons said it's great that developers are willing to go along with the requirements but was wondering if there were any notable ones that did push back. Kathy stated that with the smaller renovation projects it can be much more challenging which isn't inappropriate but with the larger gut renovations that has been successful. She said it tends to be the smaller fit out in basements that can be much harder. She said in those instances they look at where can water get in and what are the steps, they can take to reduce impacts. Jim Wilcox said it's usually not the developers it's the people doing work on their own property, and they have a set budget for the project and then DPW is asking for more work to make the project more resilient. He said it is a good investment for them they don't want to spend a lot of money and then have it flood. Kathy said it's the smaller ones that make it more important to get into zoning so it's not that DPW is asking for the owners to do it and it makes it a clear requirement and the people have clear expectations. Kathy said for the first two years they did not have the flood viewer available on the website so they would call DPW for flood elevations, but now that it is available and accessible has made it easier. Jim said at this point the regular contractors and developers at this point know how to look up the flood elevations and are usually prepared to when they submit their plans to DPW and thought about what they are going to do for resiliency.

Kathy said that as we look at the cool factor or the cool green factor in terms of zoning, we are encouraging developers to look at their sites and think of ways to reduce the urban heat island. She said we are talking about the precipitation piece and now we can look at ways to encourage people to do things that reduce the heat impact of the building. Kathy said they city is looking at point base score where you get points for having a green roof, landscaping and trees and they larger species of a tree the more points you get as a way to push people to do things that are more greener as well as things that can benefit for the stormwater management and they are hoping to have something in front of the city council later this year. Kathy said there's infrastructure and that falls under DPW and one that they get particularly excited about. Kathy showed in her presentation the large stormwater tank that was constructed in the Port neighborhood. This large stormwater tank takes water from the Port neighborhood that is prone to flooding and this water gets pumped into a pipe that eventually goes out to the Charles River. She said with last year being the sixth wettest year on record it got a lot of use and dramatically reduced the amount of flooding in the Port neighborhood.

Kathy said with coastal flooding, and we talked about the Amelia Earhart Dam and the Charles River Dam which reduces the rising sea level to flood the rivers and since those dams have been in place Cambridge has not seen coastal flooding but with the sea level rising and with bigger storms those dams will be both topped as well as flanked, so water can go around the dams and

over the top of dams. Kathy said that areas could flood so at the Shrafts Center and in Chelsea and Everett we are looking at a 90% chance in any given year start in 2070. Kathy said with interventions we can decrease flooding, so one of the interventions is raising the Amelia Earhart Dam four feet, adding four feet to the Charles River Dam as well as a project at Draw 7 Park in Somerville. She said when we look at all these projects they are already in developed areas, no significant environmental impacts, and a real potential to significantly decrease the flooding that we could experience from coastal flooding. Kathy stated that there are 12 communities that could benefit from these interventions and Cambridge is one of the big winners which is why the city had spent a lot of effort working on the maps and data analysis behind it. None of the interventions are in Cambridge so this requires a regional and state effort. In the flooded areas about 108,000 residents would benefit as well as about sixty billion dollars' worth of real estate is captured. Kathy also stated in the areas that would have coastal flood would still be subject to precipitation flooding as well.

Kathy said with greener infrastructure, they city has an Urban Forestry Master Plan which is a great document, and she encourages people to read it if they haven't already. She said the document has a lot of strategies; Kathy said that DPW has built up their Forestry Division with staffing with Arborists as well as additional planting crews to get more trees planted in the city. She said they city has a commitment to plant one thousand trees per year which is a significant undertaking. Kathy talked about a few projects the city is working on; Triangle Park which started out mostly as a hardscape park now has changed and they added 400 trees being planted. Also, she talked about the parking lot on Springfield Street where they did a high SRI coating which will help reduce the impact on heat. She said it is much more comfortable on a hot day then with fresh asphalt. She talked about the Alewife stormwater wetland which is a great project in terms of stormwater management with both quantity and quality as well as the quality of the open space. She said this is unique in that they city doesn't have a lot of space where they were able to do this kind of facility on four and half acres of land. She talked about Longfellow Park near Harvard Square where they did a retro fit and the goal was to infiltrate water and get it out of the system. Kathy said the city is about to release a heat viewer like the flood viewer where people could zoom into their property understand if they made changes the contributions, they could make to reduce the urban heat island.

Kathy said there is also a big discussion about net zero emissions with city staff and city council to push to make our buildings net zero as soon as possible. She one of the interesting things about Cambridge if you look at our greenhouse gas emissions the bulk of that is on buildings which is not what you see nationally. She said in Cambridge we have a lot of sustainable transportation, so the buildings take a big piece of the pie on greenhouse gas emissions. Kathy said the last piece of this is what are looking at when we look at private developments. She said when they are looking at stormwater management and new building developments one of things that is important is how does that development benefit the system. Not only looking at can they manage themselves but are they doing things that benefit the system. She stated in addition to the urban heat island pieces we talked about there are also specific requirements if it's in the flood plain that are clear from the Conservation Commission as well as a zoning perspective, there are also other strategies they are looking at the 25 to 2 that in terms of the peak of the runoff that is going into the system. So, the 25-year storm must be equal or less than the 2-year storm (25 to 2). She said one of the requirements they added was that analysis been done looking at 2070 rain projections. She as new buildings are coming in and adding additional sewerage flows into the system, they are required under state regulations for the larger developments that are adding more than 15,000 gallons per day that for every gallon that they add to the system they have to remove out 4 gallons of stormwater, so she said these are

significant benefits to our system that developments need to make. She said they also work with properties that have sewer holding tanks particularly in the Kendall Square and Alewife areas to make sure that those buildings can continue to service themselves if there are backups in the system.

Kathryn Hess said that one of the frustrations with the Conservation Commissions they don't have the ability to strong arm because they have a narrow law to follow and when developers come in and present to them and they have met all the conservations requirements and most exceed them. She feels powerless, she said they can ask questions but can't require them to do more and she does understand that the Conservation Commission is just one their stops and there are other entities that they will be talking to. She just wishes that the commission just had a little more power. She said when you attend trainings given by MACC and you talk to other members from other communities who have been given more power than Cambridge.

Kathy said it's important to hear what is working and what is not working.

Kaki Martin said what Kathryn is touching on is by-laws and with her long tenor with the commission. She said that she has been to the Law Department at City Hall at least two times with the commission to put pressure on them to allow the commission to have bylaws. She said that the towns that Kathryn has run into at the conference are towns that have a very particular structured bylaws in addition to the Wetland Protection Act. Kaki said when they have gone to the Law Department the answer has always been no.

Jennifer Letourneau stated that when you look at the commissions jurisdictional area, we should think about what more would the commission like to accomplish than what was demonstrated in the presentation. She said it might not be in our particular built environment to do a strict bylaw like other communities that have areas to protect that are pristine. She said we should think about what we can do in our built environment to do more for climate change and Kathy's presentation really did lay out all the different ways that the city is looking to address that beyond this jurisdiction of flood plain, waterfront and bordering land subject to flood and the city has these amazing opportunities that they can institute. She said now in addition with the heat island effect and now property owners can see what they can do to reduce that. Jennifer said that we aren't like other communities like Boston or Worcester we are different so from an engineering perspective how do we maximize the mitigation of climate change.

Kathy said that one part of the resistance over the years was what do we want to happen as a city that is not happening and figure out where the right place is for it. She said that one of the thoughts is that Cambridge has a lot of abilities and capabilities within departments to get where we want to get to in way that they feel has been more efficient or effective through the stormwater permits and building permit reviews, so she said are there things that are not being prioritized that should be.

Kaki agreed with Kathy and the right way of thinking about it and Kaki also said that there are legal issues that put the commission and/or city in a more vulnerable spot when it's through bylaws rather than all the other levers and good reasoning. Kaki said with the Tree Canopy Master Plan which she said is incredible, she said she wishes that there was a way not for them to suggest it but demand it regarding tree counts and the commission can suggest native species be planted and usually have good success and she said she knows that projects go in front of the Planting Committee and that would be the mechanism.

Kathy said one of the recommendations that came out of the Urban Forestry Master Plan was about the importance of trees on private property, she said that a significant amount of the tree loss in Cambridge has experienced has been on private property and she said some of that is just normal aging and smaller renovation projects that can have tree loss. So, she said there was a

significant change that was implemented about private property trees. She said the removal of any tree six inches in diameter or greater goes through a process and must pay a cost to push people to save trees.

Elysse Magnotto-Cleary she asked for clarification, the tank that was built at the Mass and Main project was that part of a condition for the developer or a city investment. Kathy said that the developer did infiltration onsite between the two buildings underground to mitigate their site. She said the stormwater tank that was built was a city project to reduce flooding in the Port neighborhood.

Erum Sattar asked Kathy about incentive homeowners with regards to shade trees that will make updates easier.

Kathy said if you take trees down there is a cost associated with it, so they are asking residents to think about that or plant more trees. She said that the city is also working with Green Cambridge to do plantings on private property, so they city provides the trees, but they work with the residents on planting the tree on private property. Kathy said the city has a bare root nursery so that when they are planted, they adapt quicker, so she said Green Cambridge is doing outreach for that. She said the city had a program in place for 20 plus years that when the city redid the sidewalk in front of your house you could elect to have a tree planted on your property to provide shade for the sidewalk. She is hoping with Green Cambridge doing the outreach it will be more successful.

Erum stated that with residents now being able to see the flood elevations on their properties do you see that as a motivator.

Kathy said the emails they receive are mostly what does this mean for my property and what steps can I take. She said there has been no push back in terms of the information. She said people have been more interested in the information and what it means.

David Lyons put in a question in the chat regarding upgrades to the Earhart and Charles River dams and how are they being funded for upgrades.

Kathy said that those dams are owned and controlled by DCR and the city is actively working with them. She said they are working on FEMA funding as well as the state to provide a match, so they have been working with state legislators over the last year to identify state funds. She said at the last transportation bond bill there was funding for Draw 7 park as well as the dams. Kathy said there was an authorization it's not cash in hand but it's a step in the right direction that the state would identify the 10% match that is required for the dams and then they can go after competitive federal funding. She said it is also not inappropriate for other communities who would benefit from this to also contribute money. She said they did secure a \$750,000 FEMA grant to continue the work on these coastal interventions. She said that grant went to Arlington, but Cambridge is partnering with them, and Cambridge is going to manage the grant, but the funding went to Arlington.

David also asked in the chat if there was a cost on the estimate for the upgrades to the dams.

Kathy said that DCR's consultant put a cost on the Amelia Earhart Dam, which said seems low to her, but they said between \$20-\$40 million dollars to raise it four feet. She said if it is double that she thinks it's worth every penny. She said the city when the project is complete will spend over \$100 million to reduce flooding in the Port neighborhood and rebuild streets and sidewalks. Kathy said that DCR is going to start a study on the design of the Amelia Earhart Dam and what that will entail so she said that will give them a better cost estimate.

David asked in the chat how green infrastructure is being funded. Kathy said that gets funded with capital projects, city funds or bond money.

David asked in the chat if the cost estimate for the property impacted by the flooding if its today's estimate. Kathy said that was a high-level estimate by looking at all the assessors' databases from the different communities but yes that was in today's dollars or from a year ago.

Jennifer said there was one person from the public in attendance, Michael Bellomo. Michael said he did not have any questions or comments.

Kaki asked before an applicant see us, she said that the commission does not know what is happening before the applicant comes to the commission, in terms of who they have talked to. She said that Jim and team have done a technical review but anything that involves tree canopy, what the planting commission has said or the city arborist. She wanted to know how the commission can be better connected and understanding to help support conversations that already happened, she doesn't want to commission contradicting past conversations. She said now that we know the city has all these levers, she wanted to know how they can maximize what role they do have to have a successful project that is meeting all of Cambridge's goals. The second question she asked was if Kathy was anticipating any differences on how Jim and herself are working or focusing on these issues of topic at hand tonight with the new City manger and leadership. Do you think things might become more urgent or pushed further. Are there grant program strategies that might help with ownership for people who feel overwhelmed by some of the new guidelines. She said what comes to mind is the façade refresh grant program for businesses.

Kathy said in terms of grants, she said they thought about resiliency audits she said they did a few and they did one on her property to try it out and did a few sample ones and they all came back with the same strategies and so she thought the audits wouldn't be helpful and instead did a flyer with all the key strategies to distribute to residents. She said that HRI had a HIP (Homeowner Improvement Program) program for low-income residents to try and stay in their house but help them with improvements. She said there are a lot of challenges with using city funds on private property.

The new City Manager is committed to progressive work and supportive to what work people are doing. She said I don't think anything will get held up.

Jim said there are people who submit a notice of intent and have met with DPW staff several times and then there are ones that submit cold and don't talk to DPW and those are the ones that generally get continued. Jim said generally they come to DPW first because if DPW asks for them to revise plans they don't want to have to go back to the commission with the revised plans. Jim said for 125 Cambridgepark Drive they did the informational presentation; he didn't know if the commission finds those helpful or not. He said that when he does his review for the commission, he can also add in what had been talked about before them coming to the commission. Jim said that a lot of the review is done before the commission sees it and that is to make sure they are not skipping this public hearing process that the commission is reviewing the project and that it is being open to the public for comment. Jim said that they can talk about this more, but he said one idea is when they meet with developers maybe there are formal notes taken at the meetings and those are shared with the commission. Jim said the other thing is we need to be careful with this, all the city departments are only reviewing what is under their jurisdiction and not going outside that because they could get themselves in legal hot water.

Jennifer said she can offer for the commission she could create a checklist and check off what they have already done.

Kaki said that maybe we can ask applicants who they have talked to other city departments do a small presentation in the being talking about who they have seen prior to coming to the commission.

David agreed that last part of the conversation was helpful and thinks that checklist would be helpful to the commission as well as the developers.

Kathy said that the one thing to add that she usually goes to the Bike and Pedestrian Committee meetings once a year to present the city's 5 year and 10-year plan and she said it might be helpful for her to do a check in with the commission on a yearly basis.

Jennifer said that one thing she wanted to talk about that has been frustrating in the past with the commission is coordination and collaboration with the DCR. She said that a lot of these rules, regulations, and policies that the DCR is exempt from like the tree ordinance and Kathy has tried to work with them over the years.

Kathy said that DCR is a struggling agency with great staff that are struggling. She said that they have a great group working on the dams, but they will work on others.

Jennifer said David wrote in the chat that if the commission could join other meetings, so Kathy didn't have to double up with the commission. Jennifer said she would keep an eye out on the city calendar and let the commission know.

**8:27** – Meeting Minutes approved from August 15, 2022.

4 – In Favor, 2 – Absent\*, 0 – Opposed, 1 – Abstained

\*Kathryn Hess left the meeting early

**8:37 - Meeting Adjourned**

5– In Favor, 2 - Absent, 0 – Opposed, 0 – Abstained