

Austin Water Oversight Committee Meeting Transcript – 10/28/2020

Title: City of Austin

Channel: 6 - COAUS

Recorded On: 10/28/2020 6:00:00 AM

Original Air Date: 10/28/2020

Transcript Generated by SnapStream

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[2:03:55 PM]

>> It is 2:03 P.M. On October 8th, 2020. We are meeting remotely. We have a couple of items on our agenda we have approval of minutes. Approval our committee meeting schedule we're still checking the times we're going to put on those three dates. We've got that sorted out at this point. Then we have briefings, director's report from the director. Implementation status. 2030 water savings goal and relate strategies in 2020 climate equity plan. Discussion of toxic algae in Lady Bird Lake and identification of future items. We did chat with our one registered speaker, Bobby Lavinski at this point in time if you would like to speak in support of items four and five you have three minutes to do so.

>> Many things, council members. I just wanted to call in and

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show some appreciation for Boston water utility staff bringing forward the items four and five. On item four implementation of at least couple of the things for water forward. I spoke with several environmental advocates that have been working with us on push can forward some of these amendment. I think that we're all in support of the on site rather requirement being volunteer at first then fully I am implement in 2023. One thing we would ask you to do now, though, is to go ahead and insert something in the code that is an automatic trigger so not something we have to continue to debate for the next two years that we recognize that that is a requirement that is going to happen and that we need voluntary program to help iron out some of the programmatic details of it. But this is something that's important for community that needs to be adopted. If we can get an automatic

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trigger similar to what we've done in the past with recycling or accomplishing requirements that would be important to go ahead get that in there now. We also wanted to remind y'all this is only part of the overall package of code amendments that actually had some widespread agreement earlier before -- those are not zoning requirements. These are amendments that can move forward now and they're important, too, just water quality and water quantity. One of the requirements that could easily move forward to lower water quality threshold from 10,000 square feet to 5,000 square feet of impervious coverage. The other thing that I thought was more of a question that we have that we're going to hope to get resolved before gets to council. Appears that the water benchmarking requirements in title 15, title 25.

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That means that it's only applicable to Austin water utility customers I don't think that was the intent of the stakeholders. We're all using the same water regardless of who is pumping it. The water benchmarking requirement was focused to be more of a wide thing regardless of who water utility provider was. Secondly with the delayed implementation for on site water just make sure that the water benchmarking something that happens now not something that gets delayed to 2023. I think that's it. Really appreciate y'all moving forward with these. If you have any questions feel free to reach out. Thanks.

>> Very much appreciate you taking the time to come and speak with us, Mr. Lavensky. The next item is going to be the approval of the minutes from the last meeting. Do I have a motion to approve those meetings? Moved. Do I have a second? Seconded by vice chair pool.

[2:08:03 PM]

All in favor. All right. Those meeting minutes are adopted from the August 0, 2020 meeting of our utility committee meeting. The next item would be the approval of our committee meeting schedule. I'm not sure if we were able to get confirmation of what time those were to be proposed. The dates so far are Wednesday, March 3rd, 2021. Thursday, May 13, 2021. Wednesday, October 27, 2021. I'm not sure if Heather might be on the line to confirm that or if we need to approve the first date then bring that back for the second one to make sure we have the time sorted out.

>> I'd like to recommend that we set the time for either 1:00 or 1:30. We're the one setting the time as opposed to staff. I'll go ahead propose that we adopt the committee dates, the dates for committee meetings as

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chair has laid them out.

>> Very much appreciate that. I could certainly support landing on 1:30. Especially because we're still navigating a lot of committee meeting schedules. Let's adopt these three dates at 1:30 P.M. Anyone opposed to adopting that motion? Okay. Without objection. We have approved those. Thanks, vice chair pool. The next item will be director's report briefing.

>> Thank you, chair. Just a few items to note today. I'll start with some recognitions. Just want council to know that about a month ago we received a significant recognition, we were noted as utility of the future. It's an award given by several professional organizations that recognizes utilities that are working to manage climate change, engage their community, be more sustainable and planned for the future. So it's an honor that we're very

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pleased to have received. Also, we received EPA letter that recognized our use of the effective utility management framework for our strategic planning as a national best practice. And they're writing a case study and plan on sharing our work to use that framework as part of our business and strategic planning and complementing the committees sd23. On the innovation side. Share a couple much updates for you. You may have seen some of the media coverage, Austin water announced that we have our phase one control systems in production at all three of our drinking water plants. We would expect by the end of the calendar year are did did I year that all of our raw water will be free of zebra mussels. That's a significant -- mussels since that invasive species came a few years ago. You might recall in January of 2019 we had taste and odor that

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was related to zebra mussels with these control systems we would taken care of that risk. Much course the mussels are still in the Lakes themselves. But the raw water piping will be free of mussels by the end of the calendar year. The pore item note on innovations is our treatment plant we'll start up a polymer system next month. Again, you might remember from the Colorado river flood of 2018 and subsequent boil water notice we did engineering after action review and recommended a polymer addition as a way to combat high per bitty event, is that -- going into service at our largest plant. For us to design and permit and construct a project like that in 18 months took a lot of effort by our staff and so I'm very proud that we're able to get that and help us manage future risk of that sort. I would note, also, an important upcoming council item. Probably in the December

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timeframe. Councilmember alter was the sponsor of a budget writer directing the utility to come forth with recommendations on expanding our low income customer assistance program to support multi-family customers, renters. The way we configure our system is most of our apartment complexes are master metered. There's one meter. So it's been more difficult for us to figure out a way to provide relief for low income customers that are renters. In working with the ae we've come forth with recommendations and matter of fact we're going to recommend implementation and hopefully set public hearings and be in a position to expand that program come January of '21. So we're planning to bring those forward to the council in December and we'll provide a memo describing what we're going to do in advance of that. But I think that is a real positive story. We would estimate that well over 20,000 new customers will receive some support from Austin

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water that meet these low income thresholds. Now is an important time with the covid pandemic and economic upset to be doing that. Good news there. With that, chair, that concludes my report.

>> Thank you director. Certainly appreciate that, congratulations to you and your team for those awards. Certainly love to hear of innovation that y'all are doing and appreciate moving forward with council member alter's thought process to implement these changes to help people who really need it. Thank you so much.

>> You bet.

>> Councilmember ellis if I could just interrupt a moment.

>> Yes, ma'am.

>> On the vote that you took on the meeting schedule just for the meeting record officially I had a motion by councilmember pool, who was the second on that vote for meeting schedule?

>> I'm not sure we got one. Councilmember -- do we need to retake that vote this I'm happy to ask for it again sure.

[2:14:12 PM]

Just to be official. Motion by pool. Seconded by alter. Thank you unanimous. Thanks for keeping us in line. Councilmember councilmember alter, did you want to speak?

>> Alter: Yeah, I wanted to thank Mr. Meszaros and his staff for really working with us pretty quickly to be able to step up a program that would address some of the needs for assistance in our multi-family units with respect to water and the legal department also helped us to overcome some of those rules that had been preventing this before. APD it is a time when people need relief and we have a lot of folks who are living in these multi-family units what are going to benefit. 20,000 is a lot of people. A lot of units to be helping. So I look forward to the

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next steps and seeing that through in December, thanks.

>> Thank you, councilmember.

>> Ellis: And with that we are able to move on to item number 4, the water forward implementation status. We've got a few people to move over and slides to be put up.

>> Yes. The assistant director will be on that soon.

>> Good afternoon, councilmembers. While we let the slide deck load up here, just by way of introduction, my name is Kevin credit tendon, I am assistant direct four water and wastewater. Specifically I am over the environmental planning and development services program area. I'm here this afternoon to provide you with an update on our water forward plan implementation status and specifically provide you

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with details on water forward. By way of context I'll start with some background. You will recall that water forward is our 100 year integrated water resources plan developed over a three year period. It was done in conjunction with a council appointed citizens task force, presented to council in 2018 and approved in November of that year. It recommends water supply and demand management strategies that consider our future growth and climate uncertainty all in an effort to build a sustainable water future for our community. Some of the initial strategies identified for implementation of the plan include continued and enhanced water conservation and water reuse. Next slide, please. Overall the water forward strategies can be divided into four basic categories. One is reducing demand. That would include strategies such as benchmarking, smart

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meeting initiative which we are labeling myatxwater, water control and ordinances and census. Strategy two were around increased water use such as on-site water reuse, a centralized scale of reclaimed water. Our third strategy pre-king the core Colorado river supplies and that includes working with regional partners, our work in our regional region K water planning efforts, working with our strategic partner, the lower Colorado river authority, and then state agencies like the Texas commission for environmental quality. And then our fourth category of strategies are around building resiliency and that includes the water storage and aquifer project which we updated you on in the last meeting and then future strategies around, for instance, indirect potable reuse for a drought

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resistant strategy. All of those strategies, Austin water envisions the water forward will continue to have robust and continued stakeholder engagement in a way that allows us to implement these strategies in a thoughtful and considered way. Next slide, please. For the remainder of the presentation this afternoon we'll be focusing on two particular areas related to some of our ordinance strategies. These specific ordinance relate to two primary areas. One is commercial industrial and institutional water conservation ordinances, primarily surrounding cooling tower efficiency. And the other is our alternative water use resources, our on-site reuse systems for new development. Next slide, please. Specific topics that we'll be going over are proposed amendments to Austin city code title six and title 15, again related to cooling

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tower efficiency and improving public healthment and the latter will be a discussion on a proposed new chapter for Austin city code related to on-site water reuse systems. Next slide. I'll start by focusing on our title 6 and title 15 amendments related to cooling tower, commercial cooling towers. In short those are amendments to existing code that kind of hit these topics which includes requiring owners to use bio size to promote more efficient cooling tower operation and.

-- Our inspection requirements that are in

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effect for other commercial systems such as commercial systems and car washes. It makes non-compliant cooling towers ineligible for evaporative loss credits on our wastewater building. Overall I would describe these changes as somewhat technical in nature and hopes of continuing to drive the use of more efficient technology for commercial cooling. So that kind of wraps up the chapter 6 suggestions. Next slide, please. In addition to cooling towers and commercial and industrial water conservation in

title six, Austin water staff has been working on code changes associated with advancing water forward on the water on-site water reuse initiatives. The proposed changes that we'll be discussing are proposed changes to title 15, which is our utility regulations, and more specifically would add a new chapter in title 15 called

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15-13 on-site water reuse systems. This new code provides a regulatory framework to facilitate our voluntary and infuture mandatory use of these types of on-site systems. The code relates to permitting, design of reuse systems and the code changes we're talking about today this is certainly the most substantive kind of change. It would actually add some 20 to 24 pages of code all involved or with the on-site reuse topic. It adds an entirely new chapter dedicated to the regulation, design, permitting and operations of multi-family and commercial on-site reuse systems. This added code will help us advance our understanding of the implementation of water reuse systems on site in Austin in advance of a 2023 or 2024 adoption of mandatory on-site reuse for large commercial development

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development. So where will this new ordinance apply? Basically it will apply to commercial developments, including multi-family housing. It will also apply to commercial complex development developments. Specifically it doesn't apply to single-family houses or duplexes in that opportunities for on-site reuse are typically simpler and can be accommodated by the existing plumbing code or more traditional plumbing practices. Next slide. In addition to applicability of the ordinance, this ordinance also describes our risk-based framework related to treatment requirements. This allows Austin water to regulate treatment requirements in on-site systems. It anticipates the use of different types of on-site sources such as gray water, storm water and rainwater and it allows us to have treatment types with non-potable uses on site. Next slide, please.

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The key to this is protecting public health and safety. That's paramount to our sustainable future. This code change approach is largely based on national model code framework developed by the national blue ribbon commission on on-site non-potable water systems. That's a collection of 23 member organizations that includes utilities, public health departments, E.P.A., industry organizations and others spongessered by the water reuse organization, a national organization. Fundamentally that approach identifies a path to protection targets to protect public health and ensure that on-site reuse systems are safe for intended uses. And in that process is a strict focus from reducing pathogens or harmful disease-causing bacteria, including viruses, bacteria and protozoa. Next slide, please.

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In addition, the proposed chapter 15-13 provides for administrative program for this initiative. It includes discussion of permit application processes, talks about permit and technical review, discusses permit issuance, city inspection, the ongoing monitoring and reporting for these types of systems, and allows for, provides for enforcement processes, including Progressive enforcement and escalation through and including penalties. Next slide. At this time staff is prepare a request for council actions related to these specific code changes. And included in that process there will be several stops by various boards and commissions, including first our water forward citizens task force will be presenting in the November 10th time frame. That's where we're sent tentatively. That will be followed by waste and wastewater

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commission on November 17th. And we're still working to land a date for the resource management commission, but anticipate that that could happen in the November time frame. There after we would be prepared to bring this -- these two code amendments to the full council as early as December of this year. Next slide. If anyone is interested in additional details about these code changes, that information is available online. We have used our speak up Austin platform to provide public access to the actual code, proposed code changes in title six and title 15. This is a similar platform and approach that the city has used in other city initiatives, including the budget process, the climate equity plan, transforming public safety and others. In addition to this, just to reacquaint you, we did provide a number of public

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engagements back in the summer of 2019 when we were able to do this sort of thing in person where we had a series of workshops around these topics. More repeatly we held a public -- more recently we held a public workshop and meeting on September 23rd about this specific code language. So had a lot of good participation in that. And then kind of used the speak-up Austin format to gauge engage with the public. With that, that kind of gives the overview of where we are on Ta water forward, specifically the upcoming code requirements, and with that I'm available to answer any questions.

>> Thank you so much for that information. It's helpful to know that speak up Austin is one way to look at this and provide your input and that you can also pay attention to the boards and commissions that were mentioned to have additional places to add your comments and to let commissioners know what you're thinking and hearing,

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and then obviously the opportunity to come speak to us about it at council. I will open it up to questions if anyone has any. Councilmember alter.

>> Alter: Thank you. I think it's exciting that we're moving forward with these. I did have a question for the phase I for title 15 for the on-site water reuse. Salary, there was a piece in -- as I recall, there was a piece in there about education and water forward and you didn't mention how this was in the first phase of the voluntary because I think part of the problem is folks not knowing how to do it and trying to incentivize for them to do it sooner rather than the delay. So if you could speak to that, please.

>> So briefly, the overall plan was to bring into a

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requirement that large developments over 250,000 square feet would be mandated to use these types of systems. That particular language is part of language that has been proffered for the land development code rewrite. We've always envisioned that this would be a two phased process where we would first have a voluntary and ordinance -- excuse me, an incentivized program for people to participate and basically expected there would be a three-year period where we would first develop this framework and use that three-year period for staff and the community to become better acquainted with the processes and we could in essence try out sort of our regulatory framework. And really that's kind of the path that we remain on. That this framework and title 15, that sets the

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basic structure for permitting those systems. That sets the basic expectation on technology requirements to protect public health and safety. So that's again kind of continues to be our schedule and path forward.

>> Alter: So again, I'm again trying to understand the specific plans on education and demonstration for folks who want to be part of that voluntary earlier portion because the idea was-- I believe you had an amendment to this effect that was going to help us move forward more quickly by trying to set it up so it was easier for folks who adopt it earlier because I think that the ultimate expectation is that you're saving money on water and so overtime the saving of money and so you want to get in it sooner.

>> We're fortunate in the community where a lot of

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interest and energy around these types of systems so we continue on a day-to-day basis receiving a lot of inquiry about this and despite the fact that this regulatory framework is not currently adopted. We probably have somewhere upwards of 20 to 30 types of systems that have already been in place through different processes. This framework frankly gives us a codified set of requirements that we can use to help direct that. We're engaged with the development community on a regular basis and in fact our utility development services works in the land use planning or the land use review process where we see -- we have an opportunity to comment and input on a variety of like pid developments or other development activities where we have the opportunity to reach out and work with the

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development community and try to encourage participation and kind of direct them to other alternatives.

>> Alter: So again I'm not trying to take issue with the framework that you're laying out. I've just -- I had thought that we had provided direction on taking some very specific steps to be supporting folks adopting it earlier. And it sounds like some of that is happening informally, but I thought that was direction on, you know, being proactive and providing the insights and the information to folks so that they could see this as a choice sooner. And so this is I think something as complimentary to the introduction of the ordinance that I'm trying to understand what you have planned in that regard as opposed to something that goes in the ordinance, per se, but as a step that you're taking along the way with respect to water

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forward.

>> So forgive me. Perhaps this is something that I've omitted. I would say in conjunction with this the utility is also an incentive program, so we are actually budgeted this year for I think in total around a million dollars to promote incentives for development to try to use these types of systems. And so we are working to further refine sort of the tactical details of how we sort of actually make those incentives available, but at this point we are funded for incentives and we'll continue to advertise and make interested parties aware of incentives to try to -- to try to gather interest and get more people involved in doing these systems.

>> Alter: So it's good to know about those incentives because I think it's part of the answer to my question is the incentives. I still -- maybe we can have

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some follow-up conversations. About what I think we had in mind when we added that to the direction on water forward. I don't think it's counter to anything that you're doing and you may be doing it and we're just not communicating well in this format. But I think my understanding was that there are developers who don't know how to do this, who might want to do it, and being able to have some more ready to use materials and things to help them think through what it would mean to adopt this before it's required would be helpful. And again, you may not yet because you don't have the ordinance adopted and it may come later. I'm really just trying to make sure that that's part of the process as we move forward, not that it would necessarily be ready before you adopt it.

>> And we could certainly follow up. I think perhaps what I

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missed or didn't hit in the presentation itself is the existence of the very framework that is included in title 15, particular the proposed chapter 15-13, is actually -- I describe generally as a cookbook. It is a prosecutor prescriptive approach on how applicants would go through that to design their systems. So there is much more information in there than currently exists and it's all in one location about the different technologies that would be acceptable to use, which technologies would be used for specific source water types, and then whatever envisioned uses on the site. I would say that we also have another activity -- independent of this, we've developed two guidance documents that are available online for practitioners that want to either do sort of residential on-site reuse

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or more commercial on-site reuse. So I think that's another tool that we have to educate the community and folks that are interested. Range so I think it's sort of a multitude approach much it's the framework, adopting the regulatory framework gives some direction on that. I think those guidance documents that are out there is part of it. I think us working into the development framework or workflow as it relates to the framework and the incentive that allows us to move the evolution of on-site reuse along. So we haven't quite hit on it and I apologize.

>> Alter: And I think that as we're talking you're definitely getting at more of the things that I was trying to understand that we were doing because the ultimate goal was to make it easier for folks to adopt it sooner. That was really the direction. And it sounds like the incentives and the other

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stuff get there, but I haven't had a chance to look at the actual ordinance to see that so we can continue that conversation. I was wondering where you would put the trigger or is that already in there that Mr. Levinski mentioned that it would automatically go.

>> So there are two things that I think -- and Mr. Levinski's discussion, I think he mentioned the benchmarking topic and the topic of what we call the mandate for the large commercial developments. The language related to those are both in the proposed land development code title 23 so we have provided that information and that's where those specific requirements remain today. I'll say that we are engaged and remain engaged with the land development code rewrite team on a very close

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basis and believe that there's conversation now about kind of continuing a comprehensive land development rewrite strategy. At this point I believe there's going to be more update to councilmembers later in the November time frame. But the short answer is that -- those specific items are still proposed to be in right now the proposed new title 23, which is the land development code.

>> Alter: So I think we had this conversation at a prior Austin water meeting, maybe at our last one. Those changes do not need to wait for the comprehensive rewrite to happen. They do not involve zoning changes. They're not two individual properties in the same way that the other things are. And I think we could move forward with those things and to the extent that they're required to make

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these things have teeth and mean something that we should be moving forward with them. They seem to have majority support and we should find a way to move forward with those pieces.

>> Yes, ma'am.

>> Ellis: I certainly appreciate that conversation. I know we had questions a little while back just to understand is that land development code rewrite holding anything up? And it seems like because we have such a strong water forward plan ha had been developed through the years, had its own committee, that it wasn't necessarily something that we couldn't continue to work on. So it seems very unique that there's this separate programming and implementation status, but I fully agree that we should keep moving forward with what we can do to be better about water conservation and to continue moving in that direction. So I appreciate that conversation. I did see director Meszaros maybe you need to add another comment. I'm not sure if you needed to. Then we have two other councilmembers with

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additional questions.

>> I won't take up any more time.

>> Vice-chair pool?

>> Thanks. So I just wanted to double-check on the bring is water forward. Did you say that's in December?

>> So the changes to city code that we discussed today, specifically changes to title six and title 15 related to cooling towers and then separately changes to title 15 that would add the on-site reuse regulatory framework, yes, we would be prepared as early as December, assuming everything goes through, you know, boards and commissions as we expect it. We could be prepared to present that to full council as early as December, yes, ma'am.

>> Alter: Are there any other parts of water forward plan that would be ready to move forward if we were to so inclined?

>> So at this point we are

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only specifically focused on those particular elements.

>> Alter: Okay. All right. Well, I think that's great. I want to see us moving forward and adopting and implementing as well. I think we pretty much indicated that previously. Thanks.

>> Ellis: Councilmember kitchen.

>> Kitchen: Thank you. I wanted to get a little bit more specifics to make sure that I'm understanding this. So the part that you mentioned that's in the -- now I've forgotten the title number. The number that we're calling the land development code number, those are the parts that you're not bringing forward at the same time that you're bringing forward the items that -- not items, but the changes

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that would be ready in December, right? You've separated it, right?

>> Yes, ma'am. They've been separated.

>> Kitchen: Not you've separated. They've been separated.

>> Yes, they've been intended to be separate kind of through this process, but yes, ma'am, they're separate.

>> So I just want to understand, councilmember alter had mentioned that perhaps they worked together and so I wanted to understand in a better way what exactly are we talking about that's in the land development code? Are they the kinds of things that -- from your perspective can you describe them better for me so that I can understand them better?

>> So probably -- two of them were referenced earlier. And just broad brush, there are three elements there were included in the land development code rewrite moving water forward. One was what we typically referred to as the large

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commercial development mandate, so the mandatory requirement and the way it's written is that mandate that would be mandated by the end of 2023, that the large commercial, 250,000 square feet, would be required to adopt on-site reuse. So that would be a piece that at this point has been proffered as a proposed section in title 23, the land development code, and that's where that is. The other element would be the requirement for benchmarking. So again, also in the proposed title 23 of the code. And the third item is the requirement for large commercial developments that

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are within [indiscernible] Of the current reclaim system [indiscernible] The reclaim system. So right now current code requires that the development within 250 feet of the existing reclaimed system connect, it would --

>> I'm sorry, can you mute?

>> Kitchen: I'm sorry, guys. It keeps cutting in and out. I muted --

>> Ellis: It happens. Thank you, keep going.

>> So those are the three primary pieces that today remain in the proposed changes in the land development code in title 23.

>> Kitchen: Okay. So those pieces, have they been brought forward and when will they be brought forward through the commissions?

>> So again, those particular pieces, I think

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it remains to be seen what the overall strategy is for moving the land development code rewrite forward. I believe those particular pieces are more directly impactful to new development and are more specifically related to land development and therefore likely belong in the land development code code.

>> Pool: I don't think they have anything to do with development, though. I think that's what.

>> Kitchen: Is pointing so -- what councilmember kitchen is pointing to. I think we are all wanting to move ahead with water Bart. I don't think it has anything to do with zoning, but please disabuse me if I'm not correct.

>> I believe there is thinking evolving around that. I believe you're right generally. That's kind of the input that we received from the law department.

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I think it becomes as a city strategy to have a more comprehensive approach for land development code and dealing with land development code. So again, we're awaiting for a bit of direction.

>> Kitchen: Let me ask a follow-up question then. Have these provisions been brought through those commissions? The past? I mean, we all know we've had a couple of starts and stops and those starts have included a path through the commissions. So the three provisions that you -- that we just talked about, have they been before? Those commissions?

>> Yeah, I would say certainly in a general way they have. Certainly in a general way we've talked at link certainly with our water forward task force and I would say they're very aware of that. We have a subcommittee of that task force where we talked about talked a lot

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about the detail and nuance of the whole body of city code and specifically the land development code and how any of those -- any particular element of code sort of affects or relates to implementation of different parts of water forward.

>> What I'm asking is specifically. Because the commissions that you named that these things go through is something that's part of our process for adopting these kind of ordinance changes. So my question is when you go in front of a commission and you're going through this process for an ordinance change, you talk to the commission about the specific ordinance change, isn't that right? So my question is these three specific ordinance changes which are written and in a proposed code have

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they -- have these commissions heard them, talked about them, reviewed them, said anything about them? Have they been brought in front of those commissions?

>> Can I try to answer that Kevin?

>> Sure, please do. So councilmember, no, they were not specifically brought to the commissions. The way the land development code unfolded, a lot of this was provided from the dais, from the council so that the code was essentially discussed at the council level. We did not go back and take all of these through the individual commissions.

>> Okay. So those three items haven't been through the commissions. Thank you. That answers my question. At this point what you guys are saying, absent direction, you aren't planning to move them forward except as part of the comprehensive ldc process.

>> Speaking from the water utility we're not sure how

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to peel this apart. If the expectation was the water utility staff should just break off these from the land development code and try to take them forward or if that was going to be a council recommendation and it's --

>> Kitchen: I'm not suggesting you should have done it by now. I'm just trying to understand. I understand if it's something you need direction on. So I'm sorry, I didn't mean to sound like you should have done that. I was just trying to clarify that absent a direction contrary to that, then the way it's proceeding right now as part of the whole comprehensive land development code.

>> Just to make sure I'm understanding too, the parts that are in that rewrite are dates that we haven't passed them right there a year, two years, maybe their years out just to make sure those programs are in line with how our housing and

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transportation uses is working, right? So we haven't missed any of those dates, correct?

>> Well, one of them is a date that would mandate when it's a requirement in 2023, so that mandate hasn't triggered. So some of the codes that are in the ldc would have gone into effect earlier. So for example, requiring a water balance for all new development would have went into effect immediately. So that code is still sitting idle. Similarly the expansion of the connection from 250 feet to 550 feet for reclaimed water would have started earlier so that is sitting idle in the ldc.

>> Ellis: I appreciate that. I would have to go back and look at the record, but I remember having this thought earlier that I was worried if they got tangled up. So certainly see water forward implemented wanting

[2:51:15 PM]

to make sure we're making those good decisions to move these policies forward that have had so much community input. So it's interesting to see if there's a date of 2023 of whatever happens with land development rewrite but we look at that date and make sure does it need to be moved up. How can we, once you're able to start working on that in a more official capacity publicly with more input for that particular piece to make sure we do it at the appropriate time and making sure it's developed well, thoroughly vetted, ready to go once we hit that target. So that's interesting to me. I'm glad there are so many other portions able to be implemented and it seems like you're definitely thinking about it and continuing to roll over to owes ideas and to work towards this goal which I really appreciate it. Vice-chair pool?

>> Pool: There isn't any reason why kicked not as a

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committee move this forward ourselves. I think the pause in adopting water forward is a little bit artificial because as we pointed out previously doesn't have anything to do with zoning. If we wait until 2023 we will be missing significant savings and not only money savings, but water savings. And considering the fact that we have a new Tesla in a factory that's opening just off to the east of us and will be taking significant amounts of water out of the Colorado river even if it is downstream of us that will have some significant impacts on what we do with regard to our drought mitigation and management. And I know director Meszaros I asked for an update to the best you're able to do realizing we're still in negotiations with

[indiscernible], I think Mr. Credit enton is about to

[2:53:16 PM]

give us an update on the Tesla. But this needs to move with urgency. We've lost most of 2020 and I've not been convinced that was even necessary. So what I would like to propose is that before as a committee look at making a recommendation to move this forward to the larger council. I know this is not on the agenda for us to take action, so I am simply proposing it as a thought for us to consider at this point and then I'd like to have the chair reconvene us at some point, even if it's like a special called quickly before the end of the year so that we can make a determination on moving this forward. And

director Meszaros, if there are reasons why you think we should not move forward with water forward or if there are only selected portions of it that are larger than the ones we talked about today, I think we would need to take your recommendations on that. So also please note that I

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want to understand how they are related specifically to why they should be delayed, if they should be delayed to this latest comment.

>> I think if the council were to lift the ldc portions of water forward out and move it forward, we are in a position to make it all happen.

>> Pool: That's great. That's actually wonderful news. I think councilmember alter has --

>> I think that's a good conversation for us to have, but I just want to make sure that all of water forward is not held up. There are certainly big components of it that have reference in the rewrite, but there are so many other moving parts that the utility is moving forward with, that our commissioners in two different commissions are working on very steadfastly so we certainly want to look at some of these pieces, but the whole water forward plan is not

[2:55:20 PM]

being held up.

>> Pool: Actually, it has been. I think Alison had her hand up.

>> Ellis: Go ahead, councilmember alter.

>> Alter: I wanted to say that this would be a really good thing I think for our committee to kind of run with and move forward and figure it out. As you know, my understanding is that there are the pieces within the land development code that could easily be separated out. It is a matter of politics that they're not and the trade-offs, but I think there is -- I would venture that there is unanimous support for all of those pieces moving forward. So it's a really a question of whether we think that the costs of waiting on those outweigh the benefits of waiting and I think that there are high costs of waiting and they are ready to go. We're not hearing objections

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to those pieces set up within the legal framework so I think, chair, it would be a great thing for this committee to lean into and move forward. And the timing with the passage in December of these next

steps would afford a really nice opportunity for leadership in moving in that direction. And I'm happy to help and participate however the chair and the vice-chair would like to move forward with that and make time for a special meeting if we need it. Or we can just the four of us do it and bring somebody else on as a co-sponsor if we think that the meeting time frame -- I think all of those pieces have been vetted at various stages and I certainly wouldn't be proposing to change any of the pieces. It would simply be moving it. I would also flag that there's another that's in the code related to wildfire that's in a similar situation but I would also

[2:57:22 PM]

like us to see -- like to see move forward. I don't know that those have to go together, but those are two key pieces in there so we adopted the wild land urban interface code, but not the pieces in the land development code that make up the urban wildlife code. So there are pieces for our wildfire response that are in a similar thing where there was an expectation that they were in the code and there was a place for them, but now that wasn't adopted we have big holes in what we've adopted that need to be addressed that I don't know that they can wait another year, year and a half, depending on how long it takes with the appeal process.

>> Ellis: Councilmember pool is muted, but councilmember kitchen has her hand up. Do you want to go ahead, councilmember kitchen?

>> Kitchen: I was just going to say I think it's a really good role for our committee because it gives

[2:58:22 PM]

us the opportunity to dig into the details. Mr. Meszaros I appreciate what you had to say and I was also thinking in terms of those three items, at least some of them that would be useful to go ahead and get going. What I would like to see is I would like to see our committee to move those forward that instead of waiting on the ldc and move them forward such that we can really talk about them in the same time frame that we're talking about the other item that is moving forward for December E and I'm happy to do it either way. I'm happy to do it out of this committee or just bring it separately. But I do think that one of the nice things about a committee, or not nice things, one of the good roles of a committee is to vet these kinds of things and this fits squarely within the role of this

[2:59:24 PM]

committee.

>> Ellis: I'm certainly glad we're able to have this conversation. Vice-chair pool?

>> Pool: I wanted to check to make sure we would be able to take some action. And it says on our agenda action will only be taken by members of the committee and this is an item that refers to water forward implementation status and proposed new chapter for Austin city code and on-site water reuse. So I think there is room for us to make a motion to regard this chapter and implementation of water forward. Is that a motion that you wanted to make, councilmember kitchen?

>> Kitchen: Yeah, I'm happy to make that motion. I would move that as a committee we move forward with those recommendations.

>> Ellis: Could I get a a little clarification from

[3:00:24 PM]

our staff contact. Are we posted to make motions on this item?

>> This is Heather cook from Austin water. No, councilmember, this is posted as a briefing item, not an action item.

>> Pool: I'm looking for that on here, and I'm looking at our agenda that's online.

>> Right, and item four that you've been discussing is under briefings as opposed to discussion and possible action.

>> Pool: I see, discussion and possible action was item 2 and then briefing is three and four. I think our intent here is pretty clear here. Let's go ahead and all weigh in on our interest in doing this and then perhaps we will set a special called meeting so that we can bring forward from this committee

[indiscernible] Notice.

>> Councilmember kitchen?

[3:01:27 PM]

>> Kitchen: Sorry, wrestling with my mute button. And actually, I think that we will want to be specific in terms of what we're bringing forward, and so it makes sense to me a special called meeting so we can actually look at the code provisions we want to recommend. And that would be more specific that's part of the role of this committee is to get to that level of detail and that's the value add that the committee offers. So I would like to propose that we set a special called meeting that is -- that is set as a discussion and an item for action.

>> Ellis: I certainly hear that. Sounds like the three of you are on board with that. I have my concerns about taking things out of what may be in a lawsuit, seeing as how so much much of this is moving forward. I certainly appreciate that and hear you and we will take next steps to further

[3:02:27 PM]

this discussion. Councilmember pool?

>> Pool: I wanted to ask director Meszaros and

[indiscernible] To give us the specific portions of water forward that we would like to see moving forward, whether it's the entirety or subset, send that to us and we should set a special called meeting date. Chair, if you have a calendar there handy maybe we could get some suggestions out on the floor and then we can confirm them later, or we can have Heather connect with our offices and find a date. I'm thinking probably next week.

>> Ellis: We will certainly have to go through -- I hate to do this, councilmember pool. I totally get you and I hear you, but you know how hard it is to get calendars together and we have to work with ctm and the clerk's office. I absolutely hear you. Let coordinate offline about how to make it work.

[3:03:28 PM]

>> Pool: I think that's great. It's the urgency of it that I think the three of us or all four of us actually are indicating our acknowledgment of.

>> Ellis: Certainly hear you. Councilmember alter.

>> Alter: So I really believe this is something we can all get behind and I don't want to put anyone on the spot without having an opportunity to think it through and to understand that. And I appreciate where our chair is coming from in wanting to do the due diligence in the next steps. I think I would certainly favor a special called meeting and appreciate the opportunity to continue that conversation, but I think when I brought it up earlier, I brought it up not from a position of trying to put anyone on the spot, but really of a position of believing that the full council was behind and agreed with. And that understanding that there were costs of delay without understanding that

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there were benefits of waiting, which I have yet to hear the benefits of waiting. I'm open to hearing those if they're there, but I think this exceeds if we all work together and walk arm in arm with it and recognize that it's an important step to achieve the goals that we all agreed with with water forward. And I would prefer for us to be able to move forward that way. I believe that this is something that everyone on council wants us to see move forward. I was not aware when we had the previous conversations that this piece of it was going to be moving forward as quickly or in this time frame. It

wasn't something I had on my radar screen. Now that I'm aware of it going forward in this time frame and understanding that there are some pieces missing the way that we ended up having to experience with the wild and urban interface code, I'm

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very interested in seeing if we can find a way that all of us are interested in kind of moving it forward together. But I think this is something that we all agree on and should be done in that spirit. I think councilmember Ellis might have lost power it almost looked like.

>> Yeah.

>> Ellis: I'm at city hall. You know how they turn our lights off if we don't move.

[Laughter].

>> Kitchen: That's what it is?

>> Ellis: You have to save energy so the lights are motion censored. Councilmember kitchen.

>> Kitchen: I agree that this should be something that -- at least from my perspective I think there's a lot of common ground here and so much that if we set up a special called meeting it will let us get into the details because what we haven't done today is actually look at language and get into the details. It also provides some time

[3:06:29 PM]

for everyone to do some due diligence on the time frame. And you know, we could also consider doing an executive session as part of the -- as part of the committee if there's some questions about this being zoning or part of zoning. We can certainly have that conversation as part of the committee also and we can use that committee meeting to get into more actually and then see if we're comfortable moving it forward. From where I sit right now, I think I want it to move forward, but also from where I sit right now like councilmember alter said, my impression is that we have a lot of common ground and we could get to a place that we could all move forward with. And I want to allow that space to have that conversation.

>> I certainly appreciate that. It's an important topic and I remember having reservations when it got

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wrapped into ldc that it wanted to fly when it was ready to fly. And it's important to look at the last few pieces that are obviously big and important. I still have concerns, legal concerns about pulling things out of a lawsuit. That's my comfort level. I know we may have different levels of comfort on that information, but certainly have appreciated this conversation and obviously appreciate where everyone is coming from on it.

>> So chair, could we then so we're going to move forward with setting up a special called meeting. Could we also -- let's set it up so that we have options so we can take action if we want to and that we can also set it up so that we could have an executive session because I think that would be helpful.

>> Ellis: I'll take a look at what needs to happen to that and coordinate with either all of y'all or vice-chair pool on exactly what that might be posted to look like and what type of

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schedule we can do. I think it's tough with so many things needing our audio visual tech and our clerk's office doing what we can and our staff contacts working hard to make sure we're set up. So we'll certainly continue this conversation and see if we can get one in the books in a time my fashion and what that posting language should look like.

>> Pool: That's great. This is pretty exciting. I know we've all been waiting to move forward with water forward for most of this year. I think the community is ready too. Good work, everybody.

>> Ellis: We certainly have advocates that are eager as well. All right. Next item.

>> Pool: I will have to step away. Is there anything else that I needed to be here for? What are we doing?

>> Ellis: Water savings goal in the community -- the climate equity plan and then toxic algae.

>> Pool: On the climate

[3:09:33 PM]

equity plan, I think on that one there's some questions outstanding that I am working on getting answers to, but we weren't going to take any action on this anyway today. Is that right?

>> Right. It's just posted as briefing.

>> Pool: All right. Well, I'm sorry to leave you all, but thanks very much to staff for all the good information, and I will catch you with you all later.

>> Ellis: Thanks, vice-chair pool. See you later.

>> Pool: Bye.

>> Ellis: All right. Are we ready for the next item?

>> All right. Again, we're moving on. I'm Kevin credit endon. What I'm going to try to do in the interest of time because I feel like we want to preserve time for the

[3:10:36 PM]

algae conversation, I'm going to try to step on the gas here. Despite the title of this slide, we're really here to provide you a brief overview of how Austin forward plan relates to the Austin climate equity plan. While Austin's water staff participated in the climate equity plan, we certainly take take credit for the tremendous work by the sustainability office and the climate equity plan steering committee and the entire breadth of this plan. I'm going to narrow it down a little bit. Today's presentation is really going to be focused on the water forward connection so bear with me. Next slide. With that I am going to provide a little bit of context and I want to acknowledge that Zach Balmer with the sustainability office is on the line with us. Just a shout-out to him. I'll stealing a some slides in the beginning here from a

[3:11:37 PM]

presentation they made to the water and wastewater commission and I'm going to present and do my best to set a framework for how water forward is tied into this. So on this slide particularly I need to say that I think at the core of the climate equity plan, the steering committee had recommended accelerating the city's previous 2014 council recommendation of driving the city's net zero, net carbon emission by 2050, accelerating that to get to net zero by -- by 2040. Next slide. In addition the climate equity plan calls for climate to climate equity so kind of a new piece of the previous goals, but specifically to try to use a -- the use where -- the use of fossil fuels for energy and transportation

[3:12:37 PM]

are eliminated such that that reduction and reliance on fossil fuels could be a significant factor in eliminate disparities that can be traditionallily predicted by race. So ultimately resulting in better outcomes around health, affordability, preservation, community capacity, just transition and accountability. The plan use a framework advanced by the city's equity office which basically sequentially looks to evaluate different strategies within the plan. To start by understanding the history and understanding why any inequities exist. Using data to understand that and to kind of tell us more about that situation. Number three is it actually uses, evaluates goals. Including in climate and

[3:13:39 PM]

equity component, and tries to just bring this framework to bear on issues of climate. Next. One more. There you go. Another aspect of the climate equity plan was to try to align components of other related planning initiatives across the city. So initiatives like zero waste master plan, Austin energy, generation plan, cap metro, project connect, strategy mobility plan and of course our own water forward plan. In the climate equity plan there are five sections that emerged. One was sustainable buildings, the other was transportation and then transportation and land use, natural systems and consumption.

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Specifically Austin water was engaged in the sustainable buildings component. Next slide. What resulted in how it relates to water forward really was the development or the recognition of what's called goal four and just what it says here, Austin water participated in developing strategies for goal four. It was basically states as by 2030, equitably achieve a community wide water demand of approximately 200,000-acre feet per year and water forward strategies. I'll simplify this to say that really this goal is an interpolation of goals that were already included in water forward. So we had a little bit after disconnect in that water forward, basically took 20 year time steps looking in 2020, 2040, 2060, so we had to interpolate to approximate that 2,200,000-acre feet.

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But basically this goal restated supports the water forward and the interpolation of our water forward goals. We have had some feedback in the public process to clarify this goal, so we've included the language around community-wide water demand to help clarify exactly what we were talking about. As far as equality highlights, it ensures safe and clean drinking water for generations, lowers utility bills, arrests more inclusive outreach and places a responsibility for new building on developers. Specific strategy, the first specific strategy is to engage residents in water efficient and technological transformations and conservation programs. That will be measured by ebb

[3:16:43 PM]

hanced community engagement strategies and creating partnerships through community organizations one keelment of that would be our equity plan as it relates to our my atx or my ae program. How do we get out in the community and make sure we're engaging the right segment of the community on how they will be impacted through that program. How we'll get there, we'll collect and analyze and respond to demographic data on the participation. We'll be gathering input on program experience including low income residents through our my atx water. And then we'll also be developing and implementing

targeted outreach efforts and enhanced program participation, collect input and better engage residents in the decision-making process. So those are all themes that we've continued through our water forward process but we are just restating those in

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the climate equity plan. Next slide, please. A second strategy related to water forward is how we will evaluate our various water forward related programs. So specifically we'll be evaluating program criteria to identify opportunities for barriers that prevent program participation we'll be collecting -- we'll be collaborating with other city departments and community organizations to explore strategies. Where we can expand enrollment of like our cpa program and increase participation participation in other programs that Austin water currently has serving low income residents. How we'll get there, we'll undertake equity assessments of each of our programs. We'll include extending program eligibility to multi-family properties like we have discussed through our cap program. We'll be modifying some of our existing repair programs, streamlining application processes and increasing outreach to

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qualified customers that may not currently be enrolled in those programs. All in all it's involved to try to cite partnerships across the city, departments and other organizations to enhance things like workforce development opportunities and water and green jobs. And finally our third strategy is to reduce emissions at nexus. We'll be assuring this by assessing how we reduce water demand associated with energy assumption and residential and commercial buildings and Austin water facilities as well. We'll be identifying and pursuing water conservation and energy management optimization efforts through programs and partnerships. We'll be completing evaluation of energy use across Austin water facilities and develop a plan to reduce uses,

[indiscernible] And demand and try to decrease demand.

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And finally we'll be developing methodologies to quantify how customer invest and water plan reduce the city's energy and related emissions. So with that we're kind of at our next steps. I will offer that this slide -- next slide, please. This slide we had a late change. It's our understanding that this plan really will be the overall climate plan will be presented to the full council instead of November. I think it's been delayed until the December time frame so that's been an adjustment. But after adoption there will be an implementation planning process that will begin in January of 20 and '21. Austin water will follow suit

as we continue to establish water forward strategies and related programs and we'll be developing our implementation of similar

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programs in a similar time step. With that I know I burned through that one pretty quick trying to preserve a little time, but I'm going to stop and open up for any questions that you may have.

>> Ellis: Very much appreciate that run down. Are there any questions from the committee? Looks like councilmember alter.

>> Alter: Thank you. Appreciate the work that went into it and know that much of the work related to water was already done in water forward. We see that across -- Austin energy also had its next gen plan and the other kinds of stuff. I really wanted to first flag for my colleagues that I'm planning to bring a resolution for adoption and that will also provide some additional guidance for the implementation piece. At this point I'm anticipating for Austin water it's follow the water forward plan because you already have that.

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But we'll be reaching out to see if there are particular elements. I think that the chief part behind that implementation is devising sort of our budget strategy and making sure that we actually move forward with these pieces. So that with we don't have a plan just sitting on the shelf, but we are able to reach our goals. I wanted to flag that for folks. We'll be modeling it. I know councilmember kitchen has put forward several implementation type resolutions for past things like the housing blueprint, etcetera, and we are looking at those as models to make sure that we have strategies for the equity plan in that regard. The other thing that I wanted to talk about was the piece about energy demands for Austin water. I had an opportunity, I forget who it was that I was speaking with, but I think there's some very

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interesting things you've already begun to implement with respect to demand management of your energy usage similar to when we can use when there's a higher and when there's more solar and more renewables that are being used so I just wondered if you could speak a little bit to what you're already doing in that regard and where you see some of the next steps for the energy uses, the Austin water facilities themselves.

>> Well, thank you, councilmember. And certainly I would start out by pointing out that Austin water is a significant part of Austin green choice energy program. We buy our energy through the [indiscernible]

Program. So that is a -- we believe a material contribution. Otherwise we have a lot of initiatives across the utility. Whether it's our bio gas co-gen utilities out at the

[indiscernible] Facility.

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Whether it's our ongoing demand management exercises at our office facilities, we own and operate a number of office facilities and we're continuing to try to enhance processes, make sure that we're using as low impact energy demand as possible. So those are some of the opportunities. And throughout the utility we try to make sure that when we do equipment replacements they're done in a way that is most current technologies and most cost effective or efficient equipment, pumping, capacity, changes and those sorts of things.

>> Alter: Thank you.

>> Ellis: Councilmember kitchen, did you have your hand up earlier?

>> Kitchen: Oh, yeah. Councilmember alter read my mind. I was just going to say that that sounds great what she's talking about doing. I think that it really helps

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in these larger plans to also adopt an implementation plan or at least a path to have an implementation plan. So that's all I was going to mention. Council did that as part of the housing -- the housing blueprint I think we've done it for other things too. That's the first thing that comes to mind for me.

>> Ellis: Certainly very helpful. Any more questions before we move on to the toxic algae discussion? Okay. Let's go ahead and move on.

>> Thank you.

>> Ellis: Let's move on to item 6, toxic algae in lady bird lake, which I know y'all are doing so much to pay attention to and working in partnership with watershed protection and so we certainly appreciate that. Know it's commonly on people's minds as they want to know more about what to expect, when they're going on walks with their pets and kind of what is on the horizon for looking at this

[3:25:52 PM]

in a comprehensive way.

>> All right. Is that my cue.

>> Ellis: Yes, you're up.

>> Thank you very much. I appreciate this opportunity. As you mentioned, we've been engaged with Austin water quite a bit, with LCRA, great partners to talk about what's been going on, impacts on our water supplies obviously. I'm going to focus on Lady Bird Lake, which is one of the crown jewels of this city, Lake Austin, very important for a lot of reasons in a lot of ways. So I guess I'll start. My name is Brent Bellinger, I am a research ecologist with the city of Austin's watershed protection department. I've been in this position for about six and a half years. Brought in to focus research efforts on the reservoirs, the ecology, water quality,

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biological quality of the systems, look at emerging concerns and threats and we've had a pretty eventful years between zebra mussels, fluctuations in aquatic vegetation, droughts, floods and then last year unfortunately the toxic algae that afflicted Lady Bird Lake. So that's what I'll be talking to you about today. I'll give you some background about these types of blooms. I will go over some of the data that we collected last year, some of the hypotheses we have, and what we're exploring for the future of Lady Bird Lake. Next slide, please. So what happened last year? Unfortunately there was some 311 calls that came in at the end of July and beginning of August about some dogs that had died after swimming at Red Bud

[3:27:54 PM]

Raise and Auditorium shores. I think in all there were six dogs that ended up getting ill. Watershed responded very quickly. We had staff go out to these sites, look at the conditions. They saw -- you can see some of the pictures. These floating scums of algae, noted that this is something very abnormal. Took some samples to the University of Texas where they determined there was a potent neurotoxin present. It's a diazinon hydrolysis toxin within the mass. So it fit with the toxicology of the dogs of a very quick mortality after swimming in the water. One of the unfortunate nicknames is very fast death syndrome. This is something that is well-known globally to cause mortalities in livestock and in pets, especially dogs seem to be susceptible.

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At that point last year we did close with -- in partnership with PARD. We closed down Red Bud Isle. We essentially close the dog launches around Lady Bird Lake, got some temporary signage up and monitored the bloom from that point on until the situation was resolved. Over the winter we

developed a more comprehensive monitoring program in anticipation of a return of the bloom event this year. There was a lot of public engagement, our public information office and education group were amazing in anticipating questions and getting information out to the public through the media, through social media, websites. Absolutely tremendous effort. We got some permanent signage out, working again with pard over in the beginning of the -- some time in the spring, beginning of summer.

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We got signage, educational signs, and we began our observations at the beginning of July, and once we saw the bloom kind of resurgence, we saw the toxins did come back, but messaging and signage, we did not have any reports of any dog deaths this year, which is as someone who currently has three rescue dogs at home, I was very glad that no more of our pooches passed away this year. Next slide, please. To bring you up to speed, there's a lot of terminology that the scientific community uses to describe these types of events but in yep there's two main types of harmful algae blooms.

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There's a plankton and they grow and proliferate in mass. You can see the top pictures what that looks like. It basically turns your water into a pea soup. Looks like someone spilled green paint. Again, those are just single cells but those densities, that's tens, hundreds to millions of cells per liter of water. So it's a absolutely tremendous bloom. These are the most commonly observed types of blooms globally. These are the most -- these are the ones that you hear about that afflicted tow Lee dough and lake Erie every summer, the western basin. This year affected des Moines. And really what this is, this mats, this top right picture, this is affecting tens to hundreds of square

[3:31:57 PM]

miles. When those sign of bacteria start to die and the cells just break open after death they release the toxins into the water and this is when you get a lot of those kind of secondary effects. You have low oxygen concentrations lead to fish kills. You can impact drinking water supplies, etcetera. But it's related to the bloom kind of deaths in essence. The bloom that we had in lady bird lake, the bottom picture, that is from red bud isle. This is something that's not as common as the plantonnic blooms. These are known as harmful water proceed fill rations because science does not have enough jargons. We will stick with has. So these are cohesive mats. Instead of being single cells floating around, the sign of bacteria filaments

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grow on the sediment surface, they form a matrix. If you think about in the morning before you brush your teeth your teeth are kind of fuzzy, that's bacteria that have formed a bio film and they're all kind of glued together with this extracellular slime. That's what you see on this bottom left picture is going on. The sign of bacteria growing together in a community. These mats are very solid. You can pick them up. They're slimy and gross. As the sign of bacteria are photo synthesizing, air bubbles get trapped within the matrix, they float to the surface and with wind, with current, they collect in different areas along shorelines, and that's when you have your potential chance of exposure. Again that bottom right picture. So these are the two types of blooms. I'll be focusing on again what we had at lady bird lake, those -- that bottom

[3:33:58 PM]

proliferation. Next slide, please. So just for -- I guess to go a little more general the bacteria I've referred to a few times, they are the most commonly associated organism with these toxic bloom events. You can get golden algae or red algae that also produce toxins, but -- toxins, but in general what you're going to read about, what you're going to see impact a water body probably going to be a sign of bacteria. One of their nicknames is blue-green algae. The blue-green comes from their coloration of the chloroplasts of their photosynthetic pigments but they're actually not algae. Algae are eukaryotics, cell walls, membranes, nucleus, all that. Cell bacteria are actually bacteria. And they decided three

[3:34:58 PM]

billion years ago to start using sunlight and CO_2 for photosynthesis. The -- of course the product of that is oxygen. So really it was a sign of bacteria that created this oxygen rich planet that we now live in. Tragically for all of the anaerobic organisms living at that time, they sadly died off, sadly or one way or the other, so cyanobacteria are not new at killing off organisms. They're a various species rich, they have a lot of diversity that is possible out there, so there's an estimate of 67,000 plus species that are out there. But not all of them produce toxins or are otherwise necessary

[3:36:02 PM]

nefarious. They're just out there doing what they do. Most of the talk about the cost is about the toxins they produce. You can talk to the folks at Austin water. They also produce other secondary things. When these are in the water supply they're not harmful to people, per se, but these are odoriferous compounds and it can show the compounds that are there in addition to toxins. Next slide, please. To

get into some of the biology about cyanobacteria, one of the things is they're fairly predictable. When we will see them take off in terms of their biomass. This is data from lake

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Austin. This is data provided by Austin water to me for analysis. They are a different type of algae. They're a very beneficial group of algae. They tend to bloom in the spring. You can see the day of the year around 200 is when they hit their peak biomass. Thighs are the guys that are producing your omega 3 fatty acids everyone wants to get in their diet. This is where that's starting in the food web. But as the water temperatures heat up, as nutrient dynamics change in your system you get a succession that occurs, the the density drops off and in that bottom figure you can see the cyanobacteria numbers increase. So August, September, here in Austin given our 100-degree temperatures, this is when we tend to see a peak in the cyanobacteria

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numbers. Next, please. With that said, with these population dynamics about the cyanobacteria, again, they're always out there, they can -- you have these seasonal patterns but they're not always toxic, the blooms are not always toxic. You need to have specifics of a criteria that kind of flip that switch so that the certain species that are present that have that capability turn on those genes. Now, the things that are related to an increase in cyanobacteria biomass, again they like it hot, warm temperatures. They tend to like stable water. They don't like a lot of turbulence, they don't like a lot of flow, they don't like a lot of turnover. So when you have these low flow conditions, you get water column stability, usually associated with stratification is when you will see their biomass increase, and especially

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excess nutrients. These are organisms that 35 on excess nitrogen and phosphorus. So globally as a human driven eutrophication coupled with climate change, warming, those kinds of things, is what researchers believe is driving the increase in cyanobacteria biomass in our aquatic systems. Next slide, please. So to focus on Lady Bird Lake, I'll kind of break down each of those three pillars right now. You know, kind of what we saw last year that we're associating with the toxic event. So I mentioned they like low flows, don't like to be flushed out. So at the mid to late July there's a large drop in

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discharge and go through the capital metro to lady bird lake and at that time is when we see the algae biomass increase, the toxins. In September there was a period of increased flows and we saw essentially no algae biomass around red bud isle or auditorium shores. There were no toxins detected. At the end of September, beginning of October it was still a very warm fall. We had the low flows and there was a small resurgence of the bloom. So that's kind of those hatched areas in that top figure that you're looking at. Next. Now for reference, coming out of drought period we have a return, quote unquote, of a kind of normal discharges through the highland Lakes system, providing water for the downstream rice farmers and for other uses. So if you look at that

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bottom figure the open circles are the 2019 flows. The solid circles are the averages for the previous three years. And what we saw during the bloom proliferation last year during those two periods, in general the flows were lower, especially that july-august period, were lower than what we saw the previous three years. So this was kind of a shift in the ecosystem last year compared to the previous three-year period. Next slide. I mentioned that cyanobacteria, they like it hot. There's no shortage of that here in Austin in the Summers, so water temperatures were very warm throughout the bloom period. You know, we saw that weekend, 32-degree I believe was the max, 33 or 33 degrees C water temperatures. This is like bath water. Obnoxious.

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For reference, Barton springs is about 18 degrees centigrade so that's the difference between the water temperatures. And then the last component, that last and most kind of important driver about what flips a bloom cyanobacteria from just being benign to toxic, an abundance of nutrients, I provided a table here looking at some of the monitoring data that is collected from lady bird lake. We do routine monitoring monthly to bimonthly. That's been going on for about 20 years at three sites out there, including the tip of red bud isle, first street bridge down in the basin, and I summarize if you're looking at table 2016-2018 monitoring data is reflective of that. Looking at those monitoring sites in 2019 there was a significant increase in

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ammonia and nitrate system-wide across lady bird lake. Phosphorus wasn't significant, but it was definitely higher than what we saw the previous three years. And the bloom project, what I'm calling that, looking just at these sites where whoa monitor the toxic algae, we saw even higher concentrations of ammonia and phosphorus present in general than what we saw out in the main water body. So there was a very large spike in nutrients last year, which was probably that final straw that helped push the

scales. Next slide. So you know, trying to think about what was going on in lady bird lake about 2019, I've broken down a few of the things. What else? There's a lot of different ecosystem stressors that are possibly in play here.

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So one of the big ones is zebra mussels. They got established in lady bird lake about 2017. Their densities have increased over the last three years. That picture that you're looking at, that was a boom that I had accidentally hooked with my anchor right off the tip of red bud isle. Pulled that up off the boat and completely encrusted with zebra mussels. Zebra mussels well documented in the great Lakes region for what they do to the water column. They filter out all the planktonic algae, all the sediments in the water, the particulates, sediment in the water. They excrete pseudo feces and excrete dissolved

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nutrients. There are some good studies that have shown in the presence of zebra mussels you get an increase in ammonia I can't and phosphorus you two things we saw last year as compared to previous years. Zebra mussels are also well-known for promoting benthic algae growth. Typically that -- this is a picture of my anchor from lady bird lake. This is a filament, this green algae that is pretty much covered, I would estimate over 90% of lady bird lake's sediments bottom area. It's a different type of algae. I've talked about diatoms, green algae are another one. Again not toxic species, but promoting these blooms, changing up the nutrient dynamics, just changes up the entire ecosystem and the interplay of these organism. So these are some new stressors in the system we had, as was mentioned

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earlier, I believe in the first talk, some of the new -- new treatment methods that are being instituted by Austin water, one of them is in response to zebra mussels, another one in response to potentially large flood and turbidity events. Around this time in 2018 in the fall, we had the massive rainfall in the upper part of the watershed that -- that brought a lot of sediments, a lot of nutrients through the highland Lakes, you get deposit position of that sediment into each of the water bodies. Deposition. That was now fuel for all of the algae growing on the bottom sediments. This is something that was unprecedented even know

[indiscernible] Alley, that happened probably not coincidentally, the fall before we had the bloom.

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If you look in the upper midwest, in lake eerie, the western basin, they project and predict the intensity and magnitude of their bloom events that happen in July and August, they make those predictions based on rainfall in the spring. So they look at how much rain falls in the watershed, loading, of phosphorus rich sediments and fertilizing from all of the farm communities and they use that to project how bad a bloom will be. This is a well-known stress stress-- stressor to our aquatic systems that it known to fuel algae blooms. Water is experiencing microdroughts, two or three months with no rainfall, a big rainfall event which increases [indiscernible] Mobilization and runoff, our temperatures, you know, how many years in a row now have

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we had over 50 days in the summer over 100-degrees. These are new stressors and overall rainfall the 100th meridian moving to the east, so rainfall we are actually getting drier. These are all kind of bad things and they are all linked to proliferation of bacteria globally. There were many questions from the community. These events were primarily observed at dog parks where we have a lot of dogs off leash. Not every dog owner is a good steward in terms of picking up the dog waste. This is something that cannot be discounted but these are areas that have been dog parks for a while, not necessarily a new nutrient source, but definitely something that we can't discount.

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I mentioned the low flows from 2019 compared to the recent period. If we look at the recent drought of record, kind of the gray circles there relative to 2019, the solid black circles, 2019 was not exceptional in terms of discharge rates coming out of Tom Miller dam. We've had lower flows without having toxic algae before. But again last year there's a lot of new drivers that were kind of added into the mix into the system. That again may have tipped the scales not in our favor. So this is just a quote, I know all of you have copies of -- of the presentation, so I won't read this for verbatim. But essentially what we are trying to do is minimize, prevent, ameliorate the

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impact of these types of events. This year very fortunate, no reported dog deaths through effective monitoring and messaging and now that we have a better handle on the drivers, now that we have another year of data, next from doing weekly water quality sampling, utilizing data for lcra, climatic data, we can spend the winter now developing better models, have a better handle on this. Next. So that we can finally start to explore and hopefully implement some treatment options. Treatment is

difficult. It tends to be very -- very costly. To treat a lot of these aquatic afflictions. Prevention is always the

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best approach. Whether it's exotic species or algae blooms or eutrophication, the best approach is to prevent the scales from tipping to this alternative stable state as Austin water unfortunately knows very well the cost of dealing with zebra mussels, unfortunately because of human activity, because of bad stewards, people, boaters bringing these zebra mussels down into our watershed, now we have to deal with this. Really the treatment options that we are exploring is going after that third and kind of most important driver of a toxic algae bloom, that's the nutrients. We are looking at ways to bind phosphorus into sediments. Again, these are algae that are growing at the sediment water interface. If we can remove the months

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deprived from the -- phosphorus from the water, we can starve them out, possibly they will not go toxic. Also different ways of physically or mechanically removing the algae. Because they do float up to the surface. There are laborious methods of removing the algae. Of course, this is just kind of a temporary fix. You are going to get a constant regrowth from the sediment surface, but you can at least reduce and minimize that biomass and of course, you know, everyone that reaches out to me with their treatment options almost all revolve around chemicals. This is obviously a last resort. Chemicals tend to do more harm than good. Very short lived, pretty expensive. But there's some -- some potentially interesting avenues with chemicals that we are exploring trying to do something in the most holistic environmentally

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friendly way. So try to starve them out first and then, you know, choose the worst options if we have to. But again, some of the things to highlight from last year and from this year, toxins have not been measured in the water, which is a very big deal. That's why we're able to keep Lady Bird Lake open. Keep promoting it as a recreational resource. As long as people are not directly interacting with these algae, their risk is extremely low. I mean, you really have to ingest the algae. Also, as of now, there is -- there has not been a reported human fatality from anatoxins, it's really just livestock and animals, again because of the mode of ingestion. This is the only toxin observed in these mats. There are other toxins that

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the bacteria can produce that can affect, you know, cause skin irritation and rashes. Can have more chronic effects rather than acute effects like the anatoxin. We are continuing to monitor the type of toxins present but this one stays within the cells, relatively short life, once it's -- it's released into the water, fortunately. So these are things that we're kind of taking as positives right now. And hopefully we don't get any other types of noxious blooms out there that would impact reservoir use and activities. So with that, next to the last slide, I will take some questions.

>> Thank you so much for that really interesting presentation. There were so many things that I learned that I -- that -- that was even new to me. So very, very interesting. I will see if any of my

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colleagues have questions. Because I know we all care about the green algae.

>> I just want to say thank you for the overview. It was really helpful to do a deep dive to understand how we're approaching it for and for those who really want to get deep into the science, it's important because there are people asking lots of questions.

>> Yeah.

>> Councilmember kitchen?

>> Kitchen: Yes. I say thank you, also. And appreciate the pictures, that helps a lot. This will be materials that we can use to share with our constituents. I know it's a big concern for folks. So -- so appreciate it.

>> A lot of people are wanting to know how to make it go away. It is a science and -- and we understand that as you solve for one problem, you may be inadvertently creating another sometimes, you have to be very careful

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about how you solve these issues. We very much appreciate that. On that note, we will -- right before we do the very closing things, I wanted to make sure it was on the record the two earlier topics we talked about that speak up Austin, those websites are speakupaustin.org/proposed-framework-onsite-Water-reuse if you want to be involved in the conversation for that one. Tell me if I'm wrong on that one. That was good? And then the other one for the community climate plan, climate equity plan is speakupaustin.org/community

-climate-plan. So I was able to Google those words pretty quickly and find those, if people are watching and want to participate, provide comments, I wanted to make sure those websites were including in our official meeting minutes.

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I see you are unmuted. As far as future items, the next regularly scheduled meeting we've adopted is Wednesday, March 3rd at 1:30 P.M. We have discussed that a majority of the committee is interested in a special called meeting to talk about some of the special [indiscernible] In the land development code rewrite. Any other future items you want me to take note of before we adjourn for today? We can always get-together behind the scenes, too, if you think of anything. Okay. With that, it is 3:57 P.M. And this meeting is adjourned. Thank you will all for being with us and providing your thoughts and experience and your brains today. It was really helpful.

>> Thank you for having me.

>> Bye.