WATER AND INFRASTRUCTURE COMMITTEE

Council of the County of Maui

MINUTES

February 3, 2025

Online Only via Teams

CONVENE: **1:32 p.m.**

PRESENT: Councilmember Tom Cook, Chair
Councilmember Yuki Lei K. Sugimura, Vice-Chair (arrived at 1:43 p.m.)
Councilmember Gabe Johnson, Member
Councilmember Tasha Kama, Member
Councilmember Alice L. Lee, Member (left at 3:15 p.m.)
Councilmember Tamara Paltin, Member
Councilmember Keani N.W. Rawlins-Fernandez, Member
Councilmember Shane M. Sinenci, Member
Councilmember Nohelani U'u-Hodgins, Member

STAFF: Keone Hurdle, Legislative Analyst
Jarret Pascual, Legislative Analyst
Carla Nakata, Legislative Attorney
Lori Ann Tengan, Committee Secretary
Maria Leon, Committee Secretary
Jean Pokipala, Council Services Assistant Clerk
Ryan Martins, Council Ambassador

Residency Area Office:
Mavis Oliveira-Medeiros, Council Aide, East Maui Residency Area Office
Christian Balagso, Council Aide, West Maui Residency Area Office
Roxanne Morita, Council Aide, Lāna'i Residency Area Office
Jade Rojas-Letisi, Council Aide, Makawao-Ha'ikū-Pā'ia Residency Area Office
Zhantell Lindo, Council Aide, Moloka'i Residency Area Office
Bill Snipes, Council Aide, South Maui Residency Area Office

ADMIN.: Caleb Rowe, Deputy Corporation Counsel, Department of the Corporation Counsel
John Stufflebean, Director, Department of Water Supply
James Jensen, Engineering Program Manager, Department of Water Supply

OTHERS: Cari Ishida, Vice President, Carollo Engineers, Inc.
Matt Huang, Principal Planning Engineer, Carollo Engineers, Inc.
(14) additional attendees

PRESS: *Akakū: Maui Community Television, Inc.*

CHAIR COOK: . . .*(gavel)*. . . Will the Water and Infrastructure Committee of February 3, 2025, please come to order. The time is now 1:32. May I ask that all participants, please silence their noisemaking devices. I'm your Chair, Tom Cook. Members, per the Sunshine Law, please identify by name who, if anyone, is in the room, vehicle, or workplace with you today, exclusive of minors. Before we begin, I'd also like to ask the Department representatives who have joined us today online to please also turn on your cameras when it's your turn to speak. Now, I'd like to introduce the Committee Members. Council Chair Yuki Lei Sugimura is…will be coming. Councilmember Gabe Johnson. Kwey and aloha.

COUNCILMEMBER JOHNSON: Chair, Councilmembers, Committee Members there is no testifiers over here at the Lānaʻi District Office. I'm alone here at my workspace and ready for your agenda, ready to work. Mahalo, Chair.

CHAIR COOK: And aloha and kwey, Tasha…Member Kama.

COUNCILMEMBER KAMA: Aloha ʻauinalā, Chair.

CHAIR COOK: And aloha and kwey, Councilmember Alice Lee.

COUNCILMEMBER LEE: Hi, Chair Cook. Kwey is from the Algonquin Indians. I'm home in my workspace alone, ready to go. Thank you.

CHAIR COOK: Aloha and good afternoon, Member Paltin.

COUNCILMEMBER PALTIN: Aloha ʻauinalā kākou. Streaming live and direct from Lahainaluna High School. I have with me in the vehicle one unnamed minor. And as soon as they're finish unloading the tents I'll have another adult named George Vierra. Thank you.

CHAIR COOK: Aloha, kwey, and good afternoon, Member Rawlins-Fernandez.

COUNCILMEMBER RAWLINS-FERNANDEZ: Aloha ʻauinalā kākou mai Molokaʻi Nui a Hina. I am at the Molokaʻi District Office alone on my side of the office and on the other side of the office we have… I have my entire . . .*(inaudible)*. . . team, Zhantell Lindo, Keomailani Hanapi Hirata, Mahealani Bright-Wilhelm, and Sarah Sexton, and Baby Ava in preparation for my Town Hall Meeting this evening at 5:30 on Molokaʻi. And there are no testifiers currently at the District Office. Mahalo, Chair.

CHAIR COOK: Good afternoon, aloha, Member Sinenci.

COUNCILMEMBER SINENCI: Aloha ʻauinalā, Chair and kwey. There are no testifiers at the Hāna District Office.

CHAIR COOK: Good afternoon and aloha, Member Uʻu-Hodgins.

COUNCILMEMBER UʻU HODGINS: Good afternoon, Chair. Good afternoon, everyone.

CHAIR COOK: Today from the Department of Water Supply we have Mr. James Jensen, the Engineer Program Manager. From Corporation Counsel we have Deputy Corporation Counsel Caleb Rowe.

MR. ROWE: Good afternoon.

CHAIR COOK: From Carollo Engineering, Inc., Ms. Cari Ishida, Vice President.

MS. ISHIDA: Good afternoon.

CHAIR COOK: Good afternoon. And Mr. Matt Huang…Huang from the Principal, he's the Principal Planning Engineer. Matt. I'm going to read out. Members, without objection, I would designate Mr. Huang…Huang and Ms. Ishida as resource persons under Rule 18(A) of the Rules of the Council…

COUNCILMEMBER SINENCI: No objections.

CHAIR COOK: …due to their expertise in today's subject matter. They are the…

COUNCILMEMBER LEE: No objections.

CHAIR COOK: They're the consultants with Carollo Engineering, Inc. and have been working with the Department of Water Supply in creating the County's hydraulic model.

COUNCILMEMBER SINENCI: No objections.

CHAIR COOK: From OCS our Committee Staff Keone Hurdle, welcome. Jarret Pascual, Lori Ann Tengan, Maria Leon, and Carla Nakata. Please see the last page on the agenda for information on the meeting connectivity. Ah, good morning, everybody, Happy New Year, and welcome back to the WAI, first WAI Committee of 2025. Today's meeting we have one item on today's agenda, WAI-1(1), relates to the Department of Water Supply's Hydraulic Model Study of Maui County Water System. Members, if there no objections, I would like to take testimony after receiving opening remarks and the presentation of WAI (1) [*sic*].

COUNCILMEMBERS VOICED NO OBJECTIONS.

DEPARTMENT OF WATER SUPPLY HYDRAULIC MODEL STUDY (WAI-1(1)) (RULE 7(B)

CHAIR COOK: Thank you, Members. Members, the Committee will receive a presentation from representatives of the Department of Water Supply and Carollo Engineers… Engineering, Inc. relating to the Department of Water Supply's Hydraulic Model Study of the Maui County Water System. Mr. Jensen, you may share any opening comments following by your presentation, please.

MR. JENSEN: Mahalo. And aloha, Chair and Members of the Committee. Yep, I'm James, Engineering Program Manager for Department of Water Supply. Director Stufflebean is currently meeting with CWRM and he will be joining us as soon as possible. Yeah, we're…we're excited to…to share this presentation with…with the Committee. It's…it's a very important endeavor that's been a long time coming and I know probably everyone on this Committee has…has heard me at one point or multiple points in the past refer to this mysterious nebulous thing that we're working on that we call a water model and is getting very curious and…and anxious to see what it's all about. So, I think we…we've talked in the past about how hydraulic calculations are very arduous, cumbersome things that in the past have been calculated by hand and this…this tool that we're going to share with you today I…I would equate it to like having a…a thousand engineers in a room just cranking out calculations for you. It allows…it allows the math to be done in a way that simply was not practical in the past. So, it's and the best part about it is it's like getting a thousand engineers in the room and we didn't have to go through a union consultation. So, you know, it's…it's a good thing. If we could get the presentation on the screen, I'd like to walk through the first three or four slides before handing off to our consultant. Mahalo.

CHAIR COOK: Thank you. Staff.

MR. JENSEN: Thank you. I kind of covered that…that first slide, if we can just go through and go to the second slide, and I'll just give a quick overview of what we're going to go through. So, initially we're just going to talk about, or Matt's going to talk about what hydraulic modeling is. Give kind of the overview of the…the workflow of building a model and everything that goes into it. Then we're going to discuss some examples of use. Some examples of which we've…we've already…we've already partaken in kind of as a part of beta testing and starting to just work with the model and interact with it to develop our own workflows between our staff and the model itself. And then we're going to close the presentation, discussing next steps and future work that we'll leverage the model for. Next slide, please. All right so we're going to start with discussing hydraulic modeling and next slide, please. That one wasn't too exciting. So, I'd like to…this is the exciting slide here. I've gotten to know Matt Huang over the last…almost a year now. Hard to believe I've been with the Department for almost a year. And Matt's… he's, you know, this is one of those…this is one of those things where you've…you've got to hire the best, and Matt's prepared models like this for hundreds of municipalities across the country and he really knows what he's doing and good at explaining things and thinking about all the gotchas along the way. So, without further ado it's my pleasure to introduce Matt Huang. Thank you.

MR. PASCUAL: Mr. Huang, we see your mic is unmuted, but you might have to go into your settings to adjust your microphone options.

MS. ISHIDA: …This is Cari Ishida with Carollo. I don't know if Matt's having some technical difficulties. Can you guys hear me?

CHAIR COOK: Yes, we can hear you.

MS. ISHIDA: I can try to start but really this is Matt's gig. I can do my best if…if you'd like.

CHAIR COOK: We can give him some time to try and get lined up.

MS. ISHIDA: Okay. Okay.

CHAIR COOK: We're…we're excited to have you here. Welcome. It's okay, relax, get hooked up. I'd like to welcome Vice-Chair Sugimura.

VICE-CHAIR SUGIMURA: Sorry, I'm tardy. Nice to see you here and looking forward to the presentation.

COUNCILMEMBER RAWLINS-FERNANDEZ: Chair? Chair?

CHAIR COOK: Yes, Ms. Rawlins-Fernandez.

COUNCILMEMBER RAWLINS-FERNANDEZ: Chair, would you like to take a brief recess while we try to figure out tech issues?

CHAIR COOK: Yeah. We will take a five-minute break.

COUNCILMEMBER RAWLINS-FERNANDEZ: Five.

CHAIR COOK: Back at 1:47, 1:48. . . . *(gavel)* . . .

RECESS: 1:32 p.m.

RECONVENE: 1:44 p.m.

CHAIR COOK: . . .*(gavel)*. . . Members, welcome back to the WAI Committee. It is now 1:55. We're going to reconvene after a little technology hiccup. Want to welcome Matt for his presentation and if you could pick up where we left off, James.

MR. HUANG: Right.

CHAIR COOK: Introduction and he can…just…

MR. JENSEN: Yeah. So, I…I've known Matt for about nine months now. He's a…he's been with Carollo for…for quite a while now and he's…he's up there in the food chain there. Carollo International firm, they specialize in water and wastewater consulting. And Matt's built more than his fair share of hydraulic models for his clients across the country. So, it was…it was very nice to, you know, having not been a part of the selection process for this consultant, that I was able to come on board the DWS team and already have Matt working on this for us. So, it's been great to get to know Matt and to get a sense of his…his expertise on this subject and I look forward to his presentation to the…to the Committee on this subject. Thank you. Take it away, Matt.

MR. HUANG: Okay. Good afternoon, Committee. Glad to be here today. I apologize for the technology difficulties. My name is Matt Huang. I'm the project engin…project manager for DWS' hydraulic model. And I also currently am serving as American Water Works…our…the Vice-Chair of the Engineering Modeling Applications Committee who… which focuses on using these types of models. Next slide, please. So, would like to talk little bit about the scope of work that we are doing as a part… as Carollo is doing its part of the hydraulic modeling project. Beyond the hydraulic modeling, we did an asset inventory of the facilities in DWS' system, and we also performed a condition assessment of the water treatment plants, the groundwater wells, tanks, and booster pump stations, and prioritized those for the… for replacement and rehabilitation. From the modeling perspective, we converted the DWS' current fire protection plans. They had been maintained in…in CAD over the number of years and we have converted that to GIS, a Geographical Information Systems, which is the mapping database that…that is used throughout most of the industry. We built and calibrated five hydraulic models for DWS for each of the five water systems so, Lahaina, Moloka'i, Central, Upcountry, and East Maui. We performed a…a system evaluation on the water system using the hydraulic model looking at the ability to convey pressures or deliver pressures, convey fire flow, available storage and booster pumping and the capacity of pipelines. And so, we are in the process of developing and recommending projects to DWS. We will be conducting a hydraulic model training with DWS staff, so DWS staff can do this work in-house and not rely on a consultant or an outside party. And also develop model maintenance procedures so this model will be kept up to date as additional pipelines and new facilities are constructed. James, any other comments here?

MR. JENSEN: Nothing to add here, Matt. Thank you.

MR. HUANG: Okay. Next slide, please. So…so, what is a hydraulic model. Basically, it's… a hydraulic model, is a mathematical simulation that predicts how water moves through water distribution system. And so the model contains potable transmission and distribution system pipelines, and the model contains every pipe…pipelines on every street within the DWS service area. This model contains water sources, so water treatment plants and groundwater wells where water is supplied from. It has storage facilities, reservoirs, and tanks that are within the distribution system. Booster pump stations, booster pump stations are used to pump water from a lower elevation to a higher elevation. And it also includes pressure reducing stations where water is moved from a higher elevation to lower elevation. Mr. Jensen, do you have any other additional comments here?

MR. JENSEN: Yeah. I do have one. I'll…I'll try to explain this briefly without sounding too engineery but, you know I made the reference to this model being like having a 1,000 engineers in the room cranking out calculations, and what I mean by that is when you're doing hydraulic calculations it's all about, you know, how many directions is water going. So, if water is just going one direction from point A to point B in a single pipe, it's a pretty straight forward calculation. But when water is going… say there's two directions water can go and they get to the same point, it becomes about balancing the energy loss in those different directions, and in order to do that you have to have an equation for each direction. So, for…for each of these systems, like Central and

Upcountry, there are hundreds if not thousands of directions that the water can go and on paper or even in excel, those calculations simply are not practical. So, this…this software is robust and the model computes all of these things. I'm not sure how long it takes to… from hitting the go button to actually getting…getting the results, but it's a lot longer than trying to do things by hand. So, that's…that's where the power of this tool comes from. Thank you.

MR. HUANG: Next slide. So…so, in response to James' comment, the model calculates results in about 30 seconds for about one day period, which is a lot quicker than doing these calculations by hand. So, the… so, we went through this process of developing a hydraulic model for DWS, this kind of a three-step process of model development, calibrating the model, and using it to evaluate the water system. So, in the model development we had…had to obtain the pipeline attribute data which was currently on the fire protection maps and CAD. We added the facilities so the pump stations, and the reservoirs, and the pressure reducing stations, including their attributes and those had to be collected. Some in the field and others from…from record drawings. We added elevations because elevations is important for determining pressure at a location. We added demands in the model using billing data. The thing about demands is demands represent how much water is used at a particular location and because you bill each of your customers that data is available, and we were able to add that to the model. And then we added usage patterns, different parts of the system and different parts of the community used water at different times of day and with different types of peaks. The next stage is model calibration. The purpose of the model calibration is to verify that the results from the model is giving is representative of what is going out in the field. So, we collected a…a large amount of field data. Some of it is from the existing SCADA system which is the Supervisory Control and Data Acquisition system that DWS already has that collects data on flows and pumps, and pressures and tank levels. We also installed some temporary flow meters, temporary pressure loggers. I ran some hydrant tests to collect additional data, and we compared model results of field data. In…in some cases making modifications to the models so that our model reflected what went on in the field. From there we used the model to evaluate the existing water system, looking at system pressures, pipeline velocities, capacities of pumps, and looked at the ability for tanks to refill. Additional questions or additional comments, James?

MR. JENSEN: No. Mahalo.

MR. HUANG: Next slide, please. So, for these next four slides we are going to be giving some examples of…of the use of how this model is useful to DWS, not in terms of just the past, but looking at the future and how this model can…can and will be used as part of DWS' processes. Next slide. Uhm, can we have the next slide here.

MR. PASCUAL: Chair, I apologize. The slides that we received were only up to nine pages.

MR. HUANG: Uhm.

MS. ISHIDA: Uhm. If you can allow me to share, I can share my screen.

MR. PASCUAL: Hi, Cari. Yes, we…you…you can share your screen now.

MS. ISHIDA: Okay, great. One second. Share the right screen here.

MR. HUANG: So, the hydraulic model can be used well, for…for generally in three…three large categories. One is to meet regulations and to confirm that the water system meets regulations. The second one is to confirm that the water system can provide service according to a land use plan. As you know, the Council has approved an existing land use plan or a land use plan for…for the County and so it is the water from a water system side from our planning. The intention will be to meet that land use plan that the County Commission has already approved. And the third area is to address operational concerns. And so, we'll give… I'll be giving some examples of each of these. James, any comments here? Kind of as an overview.

MR. JENSEN: Yeah…yeah. That…that first bullet about meeting regulations, it's not necessarily like regulations above the…the Department, it's a lot of times to deal with our standards. So, for instance, what kind of pressures are we supposed to have in our system at the delivery point, what kinds of velocities do we have under regular flow, and under fire flow conditions. So, that's generally what…what it means about testing the system to see if it meets our own standards. Thanks.

MR. HUANG: Great. Thank you. Next slide, please, Cari. So, we have four examples here, of different ways that the model can be used to evaluate the system. First one is available fire flow and so for example, there may be a new development, and the hydraulic model can be used to assess the ability for a hydrant or standpipe to provide the target fire flow rate. And so there may be a new development or a public facility, or perhaps a critical customer like a hospital. And the…the target… and so we can run the model to identify if the target fire flow rate can be achieved at this location. And if the results show that the existing piping is unable to meet fire flow, then the model can be used for simulations of trying, you know, using some different potential solutions to evaluate whether those potential solutions would improve fire flow into the area. And so, you know, it may be larger pipes installed, it may be a…a loop or a new pipe from a different direction, you know, there are… there are different solutions the engineers could develop to increase the fire flow. But the model simplifies the…the ability for the engineer to…to try out some different options whether those options would increase the available fire flow at a location. James?

MR. JENSEN: Yeah. I…I like this example because it…it really shows how we have the ability to kind of play a little bit of guess and check when we want to see what kind of improvements are necessary to make something possible. So, you know, those two lower… those two lower pipes, if only those were increased in size, then, you know, we'll improve the energy loss through those pathways, but everything else is going to kind of operate the way it had before. It's just that the…the… there will be a little bit more energy available in that middle area. The upper right, adding that pipeline in the upper right brings water from a completely different direction and it's a… that…that's where the big change happens and to…to do that in excel is…is just it… you really can't play the guess and check game. So, that's…that's what's great about a tool like this. Thanks.

MR. HUANG: Next slide, please. So, this model also allows us to prioritize improvements for fire flow. For example, this is a section of the Upcountry system. We know there's a lot of pipes that are less that six-inch diameter. And in general we know that pipes less than six-inch diameter do not have the capacity to deliver the…the desired fire flow that DWS would like to convey. And so, the model suggests that there are a number of locations, any system that cannot meet the full recommended fire flow and that's due to small diameter pipes and it's a condition that's common in all systems, not necessarily just Upcountry. But these results also will help DWS prioritize improvement projects because all these projects can't be done at once. And so those that deliver the lowest amount of flow could be prioritized first. James?

MR. JENSEN: Yeah. Nothing to add. Thanks, Matt.

MR. HUANG: Next slide, please. But it's not just fire flow. One thing that we are currently using the model to look at is the impact of new ground water wells. In the Upcountry system DWS has identified a…a number of non…existing non-municipal wells that could be used to connect to the water system. And…and so we are using the hydraulic model to evaluate the best connection points that benefits to the system for each of these wells in terms of the benefits to pressure, maintaining tank levels, and…and the hydraulic model could help show what area of new supplies which ground water well can serve. And so with that, we are prioritizing these different ground water wells to… or potential ground water wells that could be connected to the DWS system and to identify which ones might bring…bring the greatest benefit to DWS if these wells were used for municipal supplies. James?

MR. JENSEN: No comments. Thanks, Matt.

MR. HUANG: Next slide. But this is also a potential concern…the models also helpful not just for engineering but…but for engineering support of operations. We have a well…we have a…a tank here, this is kind of in the Wailea area and…and DWS is looking at removing the tank for one to two weeks for maintenance. This is… and so the hydraulic model we are able to run simulation of the hydraulic model with this tank offline to evaluate the impact of…of removing this tank temporarily from service . . .*(inaudible)*. . . and look at pressure, fire flow, the ability for the pumps to pump and give recommendations to DWS on what kind of fire flow would be able to be delivered during this time, can flow be delivered to customers during this time, and this is something that DWS has never really had a…a tool in the past to be able to…to do this kind of evaluation. And so it's brought some insights that DWS is able to use to make some decisions. James?

MR. JENSEN: Nothing to add. Thanks.

MR. HUANG: Next slide, please. So, just a few comments here on next steps and future work. Next slide, please. So, as part of our current hydraulic modeling project contract, Carollo will be providing input for the Capital Improvement Program based on existing needs. We presented some preliminary results to the DWS staff, but they are reviewing it and considering those as part of upcoming CIP's. As I mentioned earlier, we'll be

conducting hydraulic model training to enable DWS staff to perform evaluations in house. The software that we're using is called InfoWater Pro it's a commercially available software that's used by a number of…of utilities and engineering firms so this is, you know, DWS is not… can… could use this in house and they could hire, you know, a variety of engineers to do evaluations for them as well as develop a process for model maintenance. James?

MR. JENSEN: Nothing to add. Thank you, Matt.

MR. HUANG: Okay. Next slide, please. In terms of potential future work, one thing that DWS is considering is to perform a master plan for their… for the water systems. As of now we have used the hydraulic model to evaluate the existing system based on the existing demands, but there is an approved land use plan for the County and this model would be very helpful to define the infrastructure and supply needs to serve the already approved land use plan. The other portion of study that…that we have recommended that DWS consider is also looking at prioritization for replacing aging pipelines and look at the potential water supplies to meet future needs. Back to you James, and that was my final slide.

MR. JENSEN: Thank you, Matt. I have no further comments on the presentation. Thank you, Chair.

MR. STUFFLEBEAN: Chair, this is John. I just wanted to add… sorry I was a little late. I was in another meeting on calculating sustainable yield in West Maui. But I just wanted to point out that you've been listening to two engineers, this is what excited engineers sound like. This is…this is really very exciting that we have this new tool and, you know, we're…we're really, we're really excited about the fact that this is going to be something that will help us be more efficient, manage our system better, process permits faster. And so again, I want to thank him for the presentation. Thanks.

COUNCILMEMBER PALTIN: Chair. Chair Cook.

CHAIR COOK: Member Paltin.

COUNCILMEMBER PALTIN: I had a point of clarification. When they were saying land use plan during their presentation, were they referring to like the Community Plan or the Maui Island Plan?

CHAIR COOK: Yes. Correct.

COUNCILMEMBER PALTIN: Oh. Okay. Thank you.

CHAIR COOK: James, that's correct right?

COUNCILMEMBER PALTIN: And…and if I need to …

CHAIR COOK: Our existing land use plans that have always been, the desire has been able to…to see what infrastructure would be needed and what cost would be needed. This is the tool kind of that we've been looking for to enable us to address those questions that have not been able to be answered in the past.

COUNCILMEMBER PALTIN: Okay. And if I need to disclose it, I'm at my home at the kitchen table and it's the same people with me plus one minor canine.

. . . OPEN PUBLIC TESTIMONY FOR WAI-1(1) . . .

CHAIR COOK: Okay. Thank you for staying with us. So, thank you for that presentation. And Director took the words out of my mouth because I'm sitting here all excited and I'm looking at everybody I'm going like yeah; I think this is more like a building engineering kind of thing. Members, if there's no objections, I'd like to take testimony after receiving the thing, okay. Do we have testifiers?

MR. PASCUAL: Chair, we currently have no individuals signed up to testify. Would you like me to do last call?

CHAIR COOK: Yes, please.

MR. PASCUAL: If anyone would like to testify in the Chamber or on Microsoft Teams, please raise your hand or come down to the podium. This is final call the countdown is three, two, one. Seeing none, Chair, no one has indicated that they wish to testify.

CHAIR COOK: Okay. Members, seeing that there no members, no more individuals wishing to testify, without objections I'll now close oral testimony.

COUNCILMEMBERS VOICED NO OBJECTIONS.

. . . CLOSE PUBLIC TESTIMONY FOR WAI-1(1) . . .

CHAIR COOK: Okay. As a reminder, written testimony will continue to be accepted into the record. Members, I'm proposing two rounds of three-minute questions per Member. Are there any objections?

COUNCILMEMBERS VOICED NO OBJECTIONS.

CHAIR COOK: Okay. Thank you, Members. Let's begin with Councilmember Johnson because Vice-Chair Sugimura isn't here right now. Member Johnson.

COUNCILMEMBER JOHNSON: Thank you, Chair. Thank you. Thank you, Chair. Is Director Stufflebean available for this round of question? I saw him pop on, is he be staying, is he staying? Okay. I…I guess…

MR. STUFFLEBEAN: Sorry. Yes. I'm here. Yes, I'm here, sorry.

COUNCILMEMBER JOHNSON: Okay. So, Director Stufflebean, I…I could see that the engineers were excited, how's the Department? I know it's important to gather data, but then we end up what are you going to do with the data, what type of policies, you know, that you might be interested in changing. Is there anything that this Council here can help you with as far as like, you know, any County Codes that are helping or hindering you. I know hindering I should say that like doesn't help you achieve the goals that you were setting out for?

MR. STUFFLEBEAN: So, yes. So, I think they covered pretty well what this model helps us do. But at a separate track we are preparing to bring to…to the Council our recommended revisions to the County Code. And they are extensive, we've been doing it's been really months in the making that James has led this effort and we're going to be bringing a lot of changes to the code that we think will make things more efficient and streamlined while still maintaining, you know, protecting public health and being, you know, fair and equitable to our…to our customers. So…so, stay tuned this should… we're probably coming right after budget season I'm guessing. It…it's really, we finished with the work, and it's now being looked at by the Corp. Counsel and we're also reviewing it with the community, with the engineering professional societies, and contractors. So…so, yes, we will be bringing those forward as well to help make things more efficient.

COUNCILMEMBER JOHNSON: That's great news, Director. Thank you, Chair. No further questions at this time.

CHAIR COOK: Member Kama.

COUNCILMEMBER KAMA: Thank you, Chair. So, James, are you folks going to build just one hydraulic model? And is one all you need for what you need to get done?

MR. JENSEN: Thank you for the question. So, it's…it's five, it's…it's one model per system.

COUNCILMEMBER KAMA: Okay.

MR. JENSEN: And just…just with where software and computing power is these days, Central District is able to be one contiguous model where in the past to model a system like that you might kind of stitch together some smaller --

COUNCILMEMBER KAMA: Yeah.

MR. JENSEN: -- ones. But yeah, it's five total models. Central District I think is the largest. Upcountry is probably the most complicated because of all the elevation. But yeah, this is…this is all we need for now and then as development happens or, you know, new subdivisions, or we make improvements to the system, we will append the model with those changes so it'll always be…we're going to always be reacting and modifying it to be what…what is currently in place.

COUNCILMEMBER KAMA: So, do you already have the funding for this first model? Or this particular one that you're working on right now?

MR. JENSEN: Yeah, this model is complete.

COUNCILMEMBER KAMA: Okay.

MR. JENSEN: And…and ready for use.

COUNCILMEMBER KAMA: Okay. So, do you anticipate in the future having to need more funding? I know…I know I just heard Director Stufflebean say that after… probably after budget you're going to come back and continue and share with us what all more you're doing but you anticipate any more after today? I mean after this one model is put together?

MR. JENSEN: So, we will, we are asking for…for funding to…to leverage the model into system master plans. The…the model right now just represents what's physically out there. The…the system master plans are going to be what Matt had…had referred to earlier about seeing what is needed to…to make the…the island plan and all the community plans feasible --

COUNCILMEMBER KAMA: Yeah.

MR. JENSEN: -- and then we will need some operational funds on an ongoing basis to maintain the system.

COUNCILMEMBER KAMA: Uh huh, uh huh.

MR. JENSEN: And then ultimately when…when we don't have consulting support for it, and we have --

COUNCILMEMBER KAMA: Uh huh.

MR. JENSEN: -- some of our staff trained and working with the model enough to maintain it then is should --

COUNCILMEMBER KAMA: Yeah.

MR. JENSEN: -- be covered through our regular staff and operating funds.

COUNCILMEMBER KAMA: You have a sense of…

MR. STUFFLEBEAN: Can I make…I just want to add that what this model really does, is it helps us optimize our spending.

COUNCILMEMBER KAMA: Yeah.

MR. STUFFLEBEAN: So, as we develop our capital projects, this model will help us identify which capital projects will have the biggest benefit. And that's really important that…that, you know, we want to make sure we're spending our money efficiently. And I did see Matt had his hand up, Chair, if we can recognize that.

COUNCILMEMBER KAMA: Okay.

MR. HUANG: I…I wanted to note that the model does permit multiple scenarios.

COUNCILMEMBER KAMA: Okay.

MR. HUANG: So, even though there's five models one for each of DWS' systems, we evaluate the system under different conditions. For example, time of the year where the demands are higher versus kind of an average year and…and we can set up different scenarios appropriately. Thank you.

COUNCILMEMBER KAMA: Thank you. Well, I'm not an engineer but, you know, when you were talking about what was exciting what . . .*(timer sounds).* . . was exciting it is in this presentation I thought that's not exciting to me but now I can understand why you're excited. So, thank you. Thank you, Chair.

CHAIR COOK: Chair Lee, you have questions?

COUNCILMEMBER LEE: Okay. So, from your preliminary studies of everything, have you found anything, any information that might be useful to us at this point? About water sources, more available than you thought, less available than you thought in a particular area, more challenges, less challenges. Which ones would you prioritize?

CHAIR COOK: Director.

MR. STUFFLEBEAN: Yeah. So, I…I would simply say that at this point what the model has helped us identify is where there are shortcomings in our system that need to be addressed. And that's been the primary output so far, and that's been extremely helpful. So, now as we build our capital program that's related to making sure our system is…is, you know, delivering as it needs to, we have information now to help us do that. It also helps us identify if we add a new source at point A versus a new source at point B which one's the most valuable to the system. So, it helps us evaluate, you know, where…where the best places are to…to add new sources to the system. That's what the value of this model is.

COUNCILMEMBER LEE: Okay. Wouldn't the priority be West Maui?

MR. STUFFLEBEAN: Well, we're…well sure. I mean but we're…we're doing it all at the same time. I mean, you know, there's…there's needs, I would say there are needs on West Maui, there are needs Upcountry, there are needs in the Central system, in Hāna and Moloka'i as well. Different kind of, different needs there because there isn't really a

water source issue as much. But you bet, I mean we are certainly…the model is done in West Maui. We're…we're moving full speed ahead to identify how we can use the model in West Maui to…to optimize things. And of course, we do have the opportunity to get a fair…quite a bit of federal funding for projects that will have a huge impact on our system that is focused on West Maui, but there are projects all over Maui that are within the…within the funding. So, we're, you know, we're looking at improving all the systems together. Obviously West Maui is the special condition, you're right.

COUNCILMEMBER LEE: Okay. So, the…the federal funding you refer to, is it the DR funding or other federal funds?

MR. STUFFLEBEAN: It's…it's the DR funding and four or five other sources of funding that we are…we've been going after a wide variety of sources. And so, you know, it's certainly the DR funding--

COUNCILMEMBER LEE: Okay.

MR. STUFFLEBEAN: -- it's funding from EPA, from FEMA, from Bureau of Reclamation, from Department of Agriculture we…we've…we've been going after funding in every place we could…we could think to find it and, you know, we think we have a good chance of --

COUNCILMEMBER LEE: Okay.

MR. STUFFLEBEAN: -- getting a lot of it. Things may change because of the --

COUNCILMEMBER LEE: Yeah.

MR. STUFFLEBEAN: -- the new Administration of course, but we do have it, we think we're in good shape for that.

COUNCILMEMBER LEE: Thank you, thank you, Director for that information. But what…how many vacancies do you have so that we know that you're able to…to handle x number of projects?

MR. STUFFLEBEAN: So, in engineering we're way better than we were. When I… we have 16 engineering positions, two years ago we had seven filled and now we have 13 filled. So, we've made a huge progress in our internal engineering. But also, we do absolutely recognize that we're going to need consultant help to deliver all these projects. And so we have consultants already on board and we'll be getting additional…coming forward with additional consultant aides to help us deliver these projects.

COUNCILMEMBER LEE: Okay. Thank you. Yeah. Because I think our existing staff is overwhelmed and we're going to have to outsource. But thank you for the update. *. . .(timer sounds). . .*

CHAIR COOK: Member Paltin, you have questions for our presenters?

COUNCILMEMBER PALTIN: Thank you, Chair. You know, when you were speaking about fire flow and adequate fire flow and like that. I just wanted to clarify, you know, like I live in an experimental designed subdivision, and I don't think our hydrants are up to like the standard. And will that be corrected possibly through this water development plan or noted to be…to be corrected or no? And then also, you know, like with all these mega fires that we're seeing, our system wasn't the only one not to have water in the system. And is that what we build to…to this day standard like a mega fire where the entire town burns down or is it going to be the fight one, two, three houses fire?

CHAIR COOK: Either Director or James.

COUNCILMEMBER PALTIN: Or Matt.

CHAIR COOK: Or Matt.

MR. STUFFLEBEAN: Yeah. I can start that. So…so, we will identify the fire flow needs in every pipe in the entire system. So DWS absolutely will include the experimental areas of course. In terms of the…the fire flow we have standards that we use to determine the fire flow needs in terms of velocity and pressure and those are based on industry standards. It is true that there really is no fire system that anybody knows of that would handle these mega fires; it's unfortunate but it's true. We saw that in… we saw that in L.A. as well. You know, we will build to…to the current standards, probably at the kind of at the top of the level of what the current standards are, but that…that is what we're that is our objective is to build it to the American Water Works Association standards for water system.

COUNCILMEMBER PALTIN: Okay. And then the…the areas that are experimental in design, are we going to bring them up to the regular standards?

MR. STUFFLEBEAN: Right. So, we're…we're looking at throughout… the throughout the entire systems, where the fire flows are most…where we most need to make improvements. And so to the extent that those…some of those would be in the experimental areas then they would be prioritized; yes.

COUNCILMEMBER PALTIN: Okay. And then the…the specifics of your guys' land use plan or the community plan, I don't know that it has conditions that were part of the change in zoning or whatever like Pulelehua. We attempted to try and remove the condition that they, Maui Land & Pine, provide their own water system, water for the…the project which is kind of weird because they're hearing a bill at the State about like the State getting all the systems and then making the County run them and then, you know, Pulelehua is a affordable housing project but they got to…so I just was wondering when you say that you want to have water to be able to satisfy the land use plans, is that taking into consideration, is there like little notes somewhere like where the water is supposedly supposed to be coming from, or you guys are working to provide water for all the plans on the books?

MR. STUFFLEBEAN: I'm going to ask… I'm going to ask James to identify…to address that one.

COUNCILMEMBER PALTIN: Okay. James, the water guy.

MR. JENSEN: Thanks…thanks, John, I appreciate that. So, from a…from a full build out prospective the *. . .(timer sounds). . .* the model wouldn't…would…would look at all the currently allowed land uses in the island plan and then if…if property had… was…was subdividable, it would look at what's…it would likely look at what is at least the average…the average density of that subdivision. Sometimes it's appropriate to look at what the full density is. I think the… if a…if a specific zoning application comes through, like if there's paperwork regarding a…an application for land development or some kind of an entitlement that changes what the allowed use looks like, the model would be modified to incorporate that. So, if it's… if it is detached from… if it is detached from our water system from a land use standpoint, then the model would not incorporate it or if it was added to the system through a land use application and the model would incorporate it is how I would imagine that playing out.

COUNCILMEMBER PALTIN: And…and by Maui Island Plan it only goes to the Maui Island Plan not down to the community plans.

MR. JENSEN: Yeah. It would go down to the community plan level.

COUNCILMEMBER PALTIN: Oh okay. Cool. Thank you for that clarification. Thank you, Chair.

MR. STUFFLEBEAN: See, James could handle that better than I could.

COUNCILMEMBER PALTIN: I'm pretty sure my bell rang. My time's up right, Chair?

CHAIR COOK: Yes. Thank you, we'll have another round.

COUNCILMEMBER PALTIN: Okay.

CHAIR COOK: Councilmember Rawlins-Fernandez, questions for our presenters?

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Chair. And mahalo to our present…presenters. Okay. And mahalo to Staff for updating the presentation on Granicus, the earlier presentation didn't have all the screenshots and…and graphics, and the maps and stuff. So, mahalo for that. Whoever wants to answer this question. So, in the presentation where it shows the different maps of the area where the pipeline could potentially be, are those screenshots from the model?

MR. STUFFLEBEAN: Yeah, Matt, go ahead.

CHAIR COOK: Matt.

MR. HUANG: Um, that actually…so they're a combination of maps that we use. Some of them are model screenshots. That specific map was actually on the fire protection maps that the Department uses currently.

COUNCILMEMBER RAWLINS-FERNANDEZ: Okay. So, then you would enter in the size of the pipe in that area and then it would… the model would show what the…what the flow rate would be if that size pipe was installed?

MR. HUANG: That is correct.

COUNCILMEMBER RAWLINS-FERNANDEZ: And then so like for Moloka'i, one of our main line along Kamehameha V Highway is old and it bursts in areas and so there's been band-aid fixes but its…there's never been like a full so… wherever there's fixes then the pressure just increases in different areas. Member Paltin asked if there's going to be like little notes. So, in the model are there notes where like there were band-aid fixes or will there be like a plan to, you know, like…like fix a…a good portion of the area of…of the pipes so that there isn't continuous bursts?

MR. JENSEN: So I can…

MR. STUFFLEBEAN: So, I'll start by saying that, oh well, I'll just start and then I'll turn it over to you, James. So, I'll start by saying that, you know, we do have the…for example, the map of the Moloka'i system and identified the areas where there are… where the model shows that there are shortcomings. We then truth check that with our…with our field staff. And the field staff have been heavily involved with this, and they've said, you know, they say things like "you should know that this situation exists" or that "there is what we worked a lot in this area." And then does it seem like the model, you know, fits reality? So, that's an important part of this process is to connect with the field staff. James, I'll let you take it from there.

MR. JENSEN: Thanks, John. Yes. So, the… if the pipeline is being repaired frequently but its…but its size is appropriate, then the…the model would probably say hey, you know, no need for a…for an improvement to… for the system to meet standards. But our condition assessments and our work order records are going to reflect a high frequency of maintenance. So, projects that have a high frequency of maintenance actions are they find their way into our CIP for sure with waterline replacement projects. Thank you.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, James. And so for like a…like a main line like that because that's through Kaunakakai, and I think like that's the only one. Would it make or would you folks then come up with a recommendation to create like a different line? Or because that's…shutting that off just seems like it wouldn't really be a feasible option, you know, and I'm sure Maui has that too.

MR. JENSEN: Yeah. When we only have one way . . .*(timer sounds).* . . for water to get across town, that's always something that we want to look at and, you know, look at having, you know, the…the… if there's already a right of way that we can send water in another

direction or if we have to potentially acquire an easement from someone. I…I would say that if…if we see a situation where we're doing shutdowns for…for this reason or that…that are…that are consistently putting customers out of service for…for periods of time, then some kind of a…a looping project is going to get on to the radar and become important. It's hard to really say what kind of would be the tipping point to make it a high priority, but I think it would just be volume of…of work orders and, you know, PR releases where we're letting folks know that the shutdowns happening and especially if there's kind of a…sometimes there's a clever solution where we're not really having to go through an act of congress to…to make something happen. So, it's…it's hard to…hard to pinpoint when we would react but those are situations we would like to avoid with having our guys constantly dealing with…with headaches like that.

MR. STUFFLEBEAN: And I'll just say that he mentioned loops. So you may have probably heard me over the years talking about how much we all love loops. And so one of the things the model has done is already identified places where a fairly simple addition will give us some loops and so, you know, provide a much more robust system. But we're certainly looking at how we can add loops to the system. Some cases it's really hard, you know, it's a really long…but we're absolutely, we're looking for loops to make in case we can. Because it enables you to make these repairs without taking people out of service for example. Okay.

COUNCILMEMBER RAWLINS-FERNANDEZ: Amazing. Well, I'm excited about this modeling too. Mahalo for getting this done. Mahalo, Chair.

CHAIR COOK: Thank you. Member Sinenci, questions.

COUNCILMEMBER SINENCI: Mahalo, Chair. And mahalo, for the presentation. Just a couple questions. Does acquisition of private water systems part of this hydraulic model in an attempt to add source to the system?

CHAIR COOK: Director.

MR. STUFFLEBEAN: So, I would…I would say that what the model enables us to do is to evaluate how a potential private water system would fit into the County system. So it would help us to identify what would happen if we suddenly, you know, connected it together, how we could…what potential upgrades would need to be made. Additional connections and…and then how that would benefit potentially the County system as well. So, it…it doesn't really, you know, we're still the decision makers as to whether we would buy a private system. But this will help us provide…this will give us some really good information on the value of that and the needs that we would have to experience in acquiring it.

COUNCILMEMBER SINENCI: Okay. Thank you for that, Director. And then we too, in East Maui, we experience some intermittent bursts in certain areas as you probably already know. But are there… would the plan also tell you the reasons to either increase the diameter of certain pipes. I…I guess if you're adding development, then you would need to…to add a larger pipe. But as… does the… this model help you to determine that?

MR. STUFFLEBEAN: Sure, I'll let James go ahead, you can answer that one.

MR. JENSEN: Thanks, John. So…so, yeah, the model…the model it runs and then it spits out results based on certain rules that we give it. So, we'll run a scenario for say average daily demand plus fire flow and whatever the most restrictive rule is, the model is going to tell us whether…whether it passes or fails. So, in a situation where we have a small pipe where we should have a large pipe, we're either going to violate a velocity rule or a pressure rule or something like that. And then it's…it's going to tell us because when we open it it'll probably, you know, the…the that pipeline will be highlighted red or something to kind of stick out to us. And if we are plugging in a…a development to see what happens, which is…which is great for at the planning stage, being able to write conditions of approval because you can make nexus and proportionality findings around what that development is responsible for. If you plug in that project and then you run it and you see maybe that project changes the fire flow, it's a rezone that can be another rule that comes into play. But yeah, by…by giving it all the rules to think about if it's going to fail your rule, it will find it and it will tell us.

COUNCILMEMBER SINENCI: Okay. Great. Thank you. And then, Chair, we've seen all of the different flooding that happened this weekend, right? So, does the hydraulic model also address storm systems?

MR. JENSEN: No, it doesn't.

MR. STUFFLEBEAN: This is a hydraulic for the…the I'm sorry. Yeah, James. This is a model for the…the County's potable water delivery system.

COUNCILMEMBER SINENCI: Okay.

MR. STUFFLEBEAN: But we could add recycled water too of course, but it's for the potable.

COUNCILMEMBER SINENCI: Recycled water.

MR. STUFFLEBEAN: It's for the potable pipe system.

COUNCILMEMBER SINENCI: Okay. All right. And then are there any efforts to address the expense of electric costs…electric cost in pumping wells? *. . .(timer sounds). . .* Thank you.

MR. JENSEN: John, you want to take this one.

MR. STUFFLEBEAN: Yeah. So, I mean I would, for sure, I mean we are, as you know, electricity is, you know, 18 or 19 percent of our budget and so it's a huge… it's our biggest cost item. We're always looking for ways to save…to save energy. Again, this model will provide information that could help with that but that really is sort of a separate effort in terms of, you know, where, you know, it may…it may help us to say, you know, if we had a well at this location then we wouldn't have to pump so much up the hill, that kind

of thing. It'll provide us that information, you know, but we're…we're also by the way, again just a side note, looking for peak…for solar at a number of our sites. But yes, we're always looking at how we can maximize, you know, how we can best use the electricity and not…not pay as much as we… because we, you know, pay the minimum amount we have to.

COUNCILMEMBER SINENCI: Thank you, Director. Thanks for the engineering *(audio interference)* assessment.

CHAIR COOK: Member U'u-Hodgins.

MR. STUFFLEBEAN: That'll be a quick way.

COUNCILMEMBER U'U-HODGINS: Thank you, Chair. Thank you to everybody trying to explain it to us because this has been fun. I'm excited that you guys are excited. Whether or not I can comprehend everything that this model does, I see its good points. It is kind of like talking to my kid about Pokémon, they know what they are talking about, but I'm just here supporting. Can you please give me some specific examples of what this model will do today if it's implemented, and where we can see the greatest impacts? And then later on specifically how we can improve Upcountry's water system with this model. Anybody, whoever can answer.

MR. STUFFLEBEAN: Yeah. Sure, James, you can take that one. Sure go ahead.

MR. JENSEN: All right.

COUNCILMEMBER U'U-HODGINS: Thank you.

MR. JENSEN: Thanks, John. So, right now we've been using the model to…when we get our partners in the Fire Prevention Bureau ask us to look at fire flow availability, we've…we've pinged the model a few times, we're still kind of beta testing how, you know, how all that works, but we've been able to use the model to…to get those results many times turned around the same day where it's usually…its usually been a few days to hand compute. If, you know, I've had some folks reach out and ask, hey, you know, this…this hydrant right here, do you have any idea what kind of flow it can deliver right now? We've been able to use the model to look that up and provide same day…same day response. The in…in terms of, you know, that example that Matt shared about being able to plan with fire prevention around how do we provide protection to an area when the system's going to be operating different from normal, we are using it for that purpose now. From a we…we are starting to build it into our development review processing workflow, which is probably what everyone wants to hear. So, but from a CIP standpoint it's…it's confirmed kind of some of the CIP projects we've already got in…in the works. And it's going to be…to be adding to the CIP, no pun intended, but the CIP pipeline. So, those are all ways it's being leveraged now. And…

MR. STUFFLEBEAN: I…I can add a few things. So, yeah, so adding a few things. So, an example that we already have used it for is if we took a tank out of service what would

for…for maintenance, how…how would the system operate. So, that's a quick example. In terms of the Upcountry meter list this could be helpful in several ways. We are looking at a number of wells that exist Upcountry that we could add to the system, private wells. We're also looking at drilling our own wells at various locations. So, this model would help us to identify a network is underway, to identify which wells would give us the biggest benefit that we would want to make sure we go after first. And so, that's…that's a really important one. It will also…also tell us where there are limitations in the Upcountry system that by upsizing a pipe, we can make sure we get flow to areas. And then if we do go to some other… I probably shouldn't even bring this up, but if we could do it with some other way besides going through it in chronological order then for example, if we were looking at a district, this could help us to identify how that district could be served, you know, through what would be necessary, how we could then distribute the cost on to people in that district. So, it could be… provide a lot of benefits to the Upcountry system and every place.

COUNCILMEMBER U'U-HODGINS: Love to hear it. Thank you so much.

CHAIR COOK: Thank you, Members. You ready for a second round? Does anybody want to take a break? Oh Member, you didn't get a turn yet. Does anybody want to take a break or is this so exciting that you want to stay here and run through. Members, you want to keep going.

COUNCILMEMBER U'U-HODGINS: Yeah.

CHAIR COOK: Yay. Okay.

COUNCILMEMBER JOHNSON: Yeah. Let's keep going.

CHAIR COOK: So, Member Sugimura.

VICE-CHAIR SUGIMURA: Yeah. Thank you. So, actually, of course, because Member U'u-Hodgins asked my question. I was going to ask how does this impact my water meter list and how can it help. And I, by hearing what Director said, it sounds like this could if we…if we do look at something creative when looking at the list in terms of a district and not by numerical. But any comments you want to add to that.

MR. JENSEN: Is it okay if I try to answer this one, John?

MR. STUFFLEBEAN: Sure. Go for it.

MR. JENSEN: I'll try not to say anything too controversial. But… so, the way that I would see this being used is if we were to establish a source somewhere or upgrades that were implementing at the Kamole Treatment Plant one way or another if we have additional source that allows us to start to offer meters again. Let's say we could…let's say we had enough new source to offer 500 meters. If there was a…a region where specific improvements could be made that allowed those…those consumers to be connected, we could take that strategic approach, get those folks connected, and then when they pay

their development fees to connect to the system that those funds can then be leveraged to unlock the next area. We haven't looked in detail at the geography of, you know, like heat. Well we haven't put together like a heat map of folks on the wait list but identifying areas where there are a lot of users that can unlock fees can kind of create a little bit of a… I don't know what the term is but…it, taking the first step allows the next step to become possible and then taking that step makes…because right now going out of order puts people in a position to implement improvements they can't afford. So, the just the nature of list in my opinion is…is fairly stifling to the fulfillment of water Upcountry so the…the model would be an incredible tool and we…we will see we will get clues to what some of those projects could be when we develop a system master plan that…that looks at, you know, the existing condition versus full build out of what's…what's allowed by right Upcountry.

VICE-CHAIR SUGIMURA: Okay. We'll wait for that miracle to happen. I hear John, Director.

MR. STUFFLEBEAN: I think maybe you before it was, we almost did like a revolving fund or the funds that come in from the first phase, you know, the first group . . .*(timer sounds).* . . could be used to fund to help start the second phase…part.

VICE-CHAIR SUGIMURA: Okay. Great. I have another question. I'll wait.

CHAIR COOK: We're going to have a third round, I think. Councilmember Johnson.

COUNCILMEMBER JOHNSON: Thank you, Chair. Some of these questions have been touched on, but I want to kind of get in a little bit of it. Basically, and Director Stufflebean, I'm sorry if you…if you have to go over it again but really the big picture is how does this affect your upcoming budget, do you need more funds? You mentioned capital improvement projects, picking and choosing by priorities based on community needs for potable water. I…I think that's where I'm curious, so, is this going to direct you on prioritizing which capital improvements you decide to move forward in this year's budget? And I'd like to hear your kind of thought process on how this affects your budget. Because remember, we have the budgets just around the corner and I…I… I'm really, I mean I don't know if you're going to come before this Committee before budget, but maybe now we could speak a little bit about how this does affect you.

MR. STUFFLEBEAN: Right. So, you know, we've already, you know, basically developed our preliminary CIP because of the timing of the budget process here which takes years. I don't know. So, as we…we certainly…we certainly will…are looking to this model to help us refine that certainly next year and it will really ultimately be the foundation for the Capital Improvement Program. It will be the most, maybe the most important information that we have. And we're already using it now to some degree but, you know, this is going to be an interesting budget because I know I can't talk about budget too much but, you know, we have our typical CIP that we'll be coming forward with that's based on the funding sources that we have. But then we have a whole other group of projects that we think we're going to get federal funding for and we're planning how we integrate those into our budget and…and that's all, you know, pretty much worked out. But again, we need to have some flexibility there because we don't know exactly what

federal funding we're going to get and so, we have to make sure we're kind of ready for whatever…whatever happens. But yes, this will be…this will be the foundation for prioritizing our budget going forward.

COUNCILMEMBER JOHNSON: That's really good data and I appreciate you spinning all those plates, Director, it is hard to tell what the Feds are going to come down to us. So, thank you much for your response. And thank you, Chair. No further questions.

CHAIR COOK: Member Kama, second round.

COUNCILMEMBER KAMA: Thank you, Chair. So, I think earlier in the presentation, I think James, maybe it was you I'm not sure, but that this model would be able to identify the shortcomings in our system. So, will it identify all of our shortcomings or just some, depending on what you input into the model.

MR. JENSEN: Yeah. Great question. So, wherever we have a rule being violated. So, we build the…we build the model based on…as builds, our fire protection plan it is, you know, every pipe size is dialed in. And based on the demands, you know, that the… what Matt was talking about with taking demand data and putting that in. That just kind of tells us how water is moving around as people use it. The fire flow scenario is specifically the one that typically dwarfs the…the domestic demand. And wherever fire flow… what… when that…when that 30 seconds is…is done and the model spits out a result wherever we have violations of our rules whether it's velocity or pressure, it's going to tell us system wide. So, there it…it can tell us a lot and it…it will it's not going to…it's not going to omit any results, it'll…it'll cover the entire system.

MR. STUFFLEBEAN: And I would add that we just got the maps on…on that…that we've looked at which is really fun to look at and it actually kind of provides it in a kind of a yellow, red, you know, orange kind of color where in some areas like we're a little below what we need other cases were pretty far below and in some cases we're like really far below. And those of course are the ones we're going to prioritize first. So, now it tells not only where the shortcomings are, but how significant the shortcomings are.

COUNCILMEMBER LEE: Hello.

MR. HUANG: I'd like to mention though, that this model is based on hydraulics, which is based on water flow. So, there are things with the water system like leaks and condition that are outside this model that are… need to be considered when prioritizing on recommendations and projects.

COUNCILMEMBER KAMA: No. So, my last question is, you know, Director Stufflebean, you mentioned that you're going to try to get as much funding from whoever, wherever, whenever, and however, but and a lot of it was from the federal government. What is the backup plan if all of those don't come our way?

MR. STUFFLEBEAN: So…so, the backup plan is we use our own funding as much as possible. And…and secure the funding that is available. So, I mean, you know, there…there's

the GET, there's the State Revolving Fund which will certainly be there. There so…so, you know, what we're preparing is to try to go after everything and whatever we get that's what we get and, you know, certainly we know we're going to have our own funding beyond that we…we hope we get a lot more.

COUNCILMEMBER KAMA: Right. Thank you. Thank you, Chair.

CHAIR COOK: Chair Lee, your second round.

COUNCILMEMBER LEE: Thank you. No questions.

CHAIR COOK: Member Paltin, second round.

COUNCILMEMBER PALTIN: Thank you, Chair. Some of my questions is, you know, I'm stoked we just updated the West Maui Community Plan. The South Maui Community Plan is next up on deck, but like some of our community plans are older than our youngest Member here, and I was wondering if that impacts this…the this plan, this water thing. That…that our community plan or what you call the land use plan is so old and outdated but we're…we're creating this water development plan thing to fit the land use plan, but the land use plan is older than Nohe.

MR. STUFFLEBEAN: Go ahead, James.

MR. JENSEN: Oh. Yeah. The…as we start to develop master plans for each system and look at full build out of…of whatever the adopted plan is at the time, it's…it's going to incorporate whatever the adopted plan is. If we have a plan that is like there's…there's five systems I'm not sure if there's I think what Central has multiple community plans, but if there's a system that or an area that has a community plan that is being updated I…I would imagine that we would…we would kind of tie in to that process so that we don't build… so we don't…we don't program that full build out model scenario only to program it all over again when that new policy document is adopted. So, we would try to be tied in to that process and if…if that meant holding off, I wouldn't want to wait too long to develop a master plan for an area just to wait for that updated policy document. But if…if it wasn't going to cause too much delay we'd…we'd probably just try to tie in to that…that process of updating that document and…and kind of --

COUNCILMEMBER PALTIN: So, you're…you're…

MR. JENSEN: -- skip the initial step of programming it based on a…a policy we're going to abandon.

COUNCILMEMBER PALTIN: So, you're aware that South Maui is currently in like phase two of three phases then and you're not going to like when once, hopefully maybe this term, we update the South Maui Community Plan then you'll dial it in?

MR. JENSEN: Yes.

COUNCILMEMBER PALTIN: Okay. And then I heard you guys want to go both ways on water, and in West Maui we only go already North to South and not South to North. Is that part of like you guys are figuring out the logistics of going South to North as well?

MR. STUFFLEBEAN: Yes.

COUNCILMEMBER PALTIN: Oh. Sweet. And then like the cost analysis and all of that and then like, you know, I know . . .*(timer sounds).* . . you guys said that…oh shoot. Okay.

CHAIR COOK: You can finish your question.

COUNCILMEMBER PALTIN: Okay. That you were going to use this as a tool to prioritize where the funding is sent. Like what if West Maui brings in number one or two of the revenue and…and so we want to prioritize the water to West Maui because then we can fund more projects. Just throwing it out there.

CHAIR COOK: Okay. Thanks.

MR. STUFFLEBEAN: Right. It'll be a multi…a multi variable analysis that we'll consider a wide variety of things in terms of how we…how we recommend prioritizing the project.

COUNCILMEMBER PALTIN: Got it. Thanks.

CHAIR COOK: Member Rawlins-Fernandez, questions for presenters?

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Chair. Okay. So, I will dovetail off of prioritizing repairs and improvements. So, okay. One I…I think it'll be great for…for me to be able to work with the Department to present like to the community what the next, you know, three years of improvements will look like and…and where that… they may be just so that they have a heads up. Two, do you plan to try to work with like Public Works or State Highways to coincide improvement with the road improvements so that you won't have to dig up the road after they just improved it.

MR. STUFFLEBEAN: So, yes, we could do that both on terms of the Transportation Department and the Sewer Department so that and so that yeah, we don't…the last thing we want to do is to put in a new pipe and then have…put in a new road and have to go and tear up. So, yeah, we work with them on a regular basis.

COUNCILMEMBER RAWLINS-FERNANDEZ: That's wonderful. Okay. And then so I saw photos from this last storm exposing I think that was a waterline along South Kīhei Road; did you… is your modeling showing like how to address that or is that just something you don't even need the modeling for to figure out how you're going to… so that's like a main line; yeah?

MR. STUFFLEBEAN: Right. And we don't we don't need the modeling for that. I mean that's just really a the condition of the…of the… the support materials around that pipe that we need to be fixed up. So, you know the model says the pipe's sufficient; it's just a

matter of we had a wash out, we need to fix that. That's different than what the model shows.

COUNCILMEMBER RAWLINS-FERNANDEZ: But you're going to plan to go mauka with that line or something in the future right, because it's already been exposed so it'll likely be exposed again with…with --

MR. STUFFLEBEAN: Yeah.

COUNCILMEMBER RAWLINS-FERNANDEZ: -- storm events; yeah.

MR. STUFFLEBEAN: James, I know you're working on that.

MR. JENSEN: Yeah. That…that pipeline has been… we've been working with our field operations guys and that was one that did kind of trigger and…and muscle its way into our CIP through excessive work orders. So, going mauka with that line is…is very important. The one thing is, you know, that is a…that is a road that receives federal funding and we've been trying to kind of coordinate timing so that a…a federal… a federally a…a federal aid road project with Public Works that we could, you know, infuse some capital into that and do stuff at the same time. It…it is possible that this frequency of maintenance leads to a…a pipe project first. So, we…we may decouple from…from Public Works' larger efforts on South Kīhei Road and do something for that watermain sooner than later.

COUNCILMEMBER RAWLINS-FERNANDEZ: Is that also kind of a similar plan for like Front Street? Because there's a main line that goes through Front Street as well; yeah.

COUNCILMEMBER PALTIN: And Lower Honoapiʻilani Road as well.

MR. JENSEN: I'm sorry I'm not as familiar with those two pipelines as that South Kīhei Road one. I apologize.

CHAIR COOK: Thank you, Members, that was the bell ring.

COUNCILMEMBER RAWLINS-FERNANDEZ: Oh okay. I didn't hear it, sorry. Mahalo, Chair.

CHAIR COOK: Councilmember Sinenci.

COUNCILMEMBER SINENCI: Mahalo, Chair. No further questions, but Member Rawlins-Fernandez had brought up some…and Member Paltin about our Community Plans. I think East Maui is maybe 20 years down the road, but I did…Staff will definitely email us Director Stufflebean our DHHL project, our greenway plan project, as well as some possible easements for infrastructure. Thank you.

CHAIR COOK: Okay. Member Sinenci. Member Uʻu-Hodgins.

COUNCILMEMBER U'U-HODGINS: Thank you, Chair. I agree with Member Paltin, you know, to coincide how we're going to get this information and what it's going to look like for the community plans because that's an interesting one. I wish though, that I was the same age as the community plan, but the Botox must be Botoxing because it's a little bit younger than I am. But I appreciate that compliment if I look like I was born in 1992. Thank you. Legitimately, thank you, I needed that today. But we were discussing shortcomings. Can you please describe what our current shortcomings are and what we're going to need to do besides this model and all of the CIPs to like specifically fix our shortcomings. I know you said in some areas we're a little bit behind and other areas we're kind of sort of behind and other areas we're really behind. If you could kind of describe what that looks like.

CHAIR COOK: Director.

MR. STUFFLEBEAN: Sure. There's really not as much by area; it's to some degree… it's really just pipeline by pipeline. If each pipeline kind of that…that is has a shortcoming is identified in the model, we have the maps that show every segment of pipeline. Whether it's okay, whether it's in need, or whether it's really serious needs. So, every pipeline has that designation. So, in terms of…of the information that we need to figure out what how we prioritize that's one piece of information that the pipes are too small or they the velocity, or the pressure isn't, you know, isn't…isn't up to our standard. When…when James talks about the rule, he's talking about our standard for what we want to see in terms of pressure and velocity in the pipelines and the various scenarios. But…but as Matt mentioned we also look at the condition of the pipeline which also is done by Carollo and so in some cases it will be the condition not the size of the pipeline that we need to look at. And then of course there's the whole issue of source; right, which is one of our major shortcomings in terms of developing new source, for all of our systems. And, you know, when distributing out the monthly report that talks about all the things we're doing to looking at source. I'd be glad to come and make a presentation on that. We have 30 somethings that we're doing around the island, around the County, to look for new sources, and that is a lot of dishes to keep spinning for sure, but we are looking at sources everywhere…everywhere we can find them. And a lot of them are tied to federal funding of course.

COUNCILMEMBER U'U-HODGINS: Thank you. Can we please schedule that about source; I would appreciate that. I think that's all the questions I have for today but thank you so much. I appreciate all of this really informative information.

CHAIR COOK: Thank you. Chair has a couple of questions and then if we have time and the Members want an additional questions, and the presenters are patient, we could do that. I want to make… it's a question/comment. Would you consider this to be like a living document? This is something that's going to… you can… the model can be as you add things and as you develop it, its recorded and its part of the whole program?

MR. JENSEN: Yeah. So, a model like --

UNIDENTIFIED SPEAKER: . . .*(inaudible)*. . .

MR. JENSEN: -- this is typically updated on a 6-month to 12-month basis. So, yeah, I…I would consider it to be a living document.

CHAIR COOK: The… as far as like the field data collection process, is that like the members of the Water Department literally going out, opening a hydrant, taking the pressure and what the flow rate is, and then comparing it with the model says it would be? Like that kind of field testing. And I don't know if that's accurate, I just want to kind of get a clue of what you do to…you run…you run the model, and then you go out and you compare and check the results, and that was your beta testing?

MR. STUFFLEBEAN: Yeah. Matt, go ahead.

MR. HUANG: So, for our model calibration we collected a bunch of field data for that. But for, you know, for the beta testing that was referred to was really a comparing the model versus the hand calculations that were previously performed. And to see, you know, whether the, and we found in the…in the places that we checked the model, and the hand calculations were giving a similar result. In terms of longer term, you know, updates and calibration of, that's part of the maintenance process that we still need to work with DWS to determine on what things would be done at what type of schedule. And so that's still to be determined. But so, but in general we don't want to do extra testing just for the model purposes. We would take information that's collected through existing processes and then use that data as much as possible not wanting to burden the operations staff with extra testing.

CHAIR COOK: Thank you. So, whichever the three of you would want to answer this. The discussion of connecting the Upcountry and Central Systems, is that something that's currently two different models. Is that a whole 'nother project to integrate the two?

MR. STUFFLEBEAN: We talked about that Matt, why don't you go ahead and discuss that. You can discuss that great job.

MR. HUANG: So…so, we currently have them as two separate models. No, we can…we can work to integrate them if things…if something's actually constructed but for now it can be an input out of one and an output of one model and then input out of the other if we want to do some kind of simulation that involved both parts.

CHAIR COOK: Thank you. So, Members, . . .*(timer sounds).* . . it's 3:14 we still have time you have the third you want some third-round questions?

VICE-CHAIR SUGIMURA: This is my second-round question because I was late.

CHAIR COOK: Okay.

VICE-CHAIR SUGIMURA: So sorry. If I could, Chair. So, over the weekend as, you know, right we had heavy…heavy rains and, Director I got to ask you this question this is Hāpapa Gulch. So, Hāpapa Gulch, James and Director again there was a problem, and

we all didn't have… not we all, but a whole bunch of us didn't have water and the same gulch had a problem in December '21 and I was told that we had the helicopters again came and brought the supplies and it was a really big deal. Appreciate the Department working Friday, Saturday, Sunday to get us with water. And thanks again for the water buffalos. But I wonder if the Department can put it on your priority to let us know what is going to happen so that we don't have the same damage happening every time there's a major storm. I was told that was because we didn't get FEMA funding and could we not use our own funding to fix it rather than waiting from 2021, oops again '25 and, you know, it's going to happen again. But can you put it on your CIP or can you…can you let us know what help you need to solve it.

MR. JENSEN: I can speak to this one a little bit, John. And then you can…

MR. STUFFLEBEAN: I just add that we kind of thought this question might come up so we're ready to answer it. So, go ahead, James.

MR. JENSEN: Yeah. So, just…just for…for awareness after the 2020 event happened and the pipeline was repaired. Our field operations guys did install about a half dozen gate valves in certain strategic locations that allowed the…the loss of service to be mitigated better than it was in 2021. The…the repair the…the replacement project for those pipelines I don't have my CIP manager here to give us tighter details but it's at about 80 percent design, the goal is to go out to bid…bid with it this year. But it…we are trying to plug it in for Federal Hazard Mitigation Grant Program funding. I don't…I'm not familiar with it having lost any FEMA fundings. So, it's we're…we're trying to get some FEMA funding for it, but there was no loss of FEMA funding. We're still in the application process. So, if we have to…if we have to replace that pipeline through just through our water fund then that…those monies would be used for something like this.

MR. STUFFLEBEAN: That's so, James, the FEMA loss was…was before you got here. That was…that was an issue before you were here. But yes, I mean the answer is I think as…as James mentioned that it's in progress to make, to fix that and, you know, unfortunately the storm came before it was done,--

VICE-CHAIR SUGIMURA: Hmm.

MR. STUFFLEBEAN: -- you know, we feel it's a shame, but, you know, we are, you know, we do have a…a like he said the design is nearly finished, we'll be putting it out to bid. Whether or not we get federal funding that's a project we're going . . .*(timer sounds).* . . going to be doing for sure.

VICE-CHAIR SUGIMURA: Okay.

MR. STUFFLEBEAN: But we like we're, so we think it's…we think it's a high…high probability of getting federal funding so we certainly want to make the effort on that one.

VICE-CHAIR SUGIMURA: Okay. Great. My office was being asked to write a letter to the Congressional [*sic*], so we'll gladly do it. Thank you very much.

CHAIR COOK: Member Johnson.

COUNCILMEMBER JOHNSON: Thank you, Chair. All my questions have been answered.

CHAIR COOK: Member Kama.

COUNCILMEMBER KAMA: We got so excited that you answered all our questions. Thank you, Chair.

CHAIR COOK: Chair Lee.

MR. PASCUAL: Chair, I apologize she left at 3:15.

CHAIR COOK: Okay. Member Paltin.

COUNCILMEMBER PALTIN: Oh. Just a…a short one. What is, I might have missed it because, you know, I was makahiki. But what is the time frame that we expect this to be finished and how will it be distributed to us?

MR. STUFFLEBEAN: I'm not sure what you mean by distributed, it is, I mean the model's finished.

COUNCILMEMBER PALTIN: Oh.

MR. STUFFLEBEAN: We're using it now. Yeah, it's finished.

COUNCILMEMBER PALTIN: Oh.

MR. STUFFLEBEAN: It didn't really, it's really an operational model. So, we wouldn't really be there's no need to distribute it, but we will be using it, and we are already using it.

COUNCILMEMBER PALTIN: Oh. So, it's an after-the-fact, you guys finished the model. Are you going to give us like a…a summary of how the projects pan out to be prioritized or like the I guess extrapolation that you got from this or is that what today was?

MR. STUFFLEBEAN: No. So, that…that…

COUNCILMEMBER PALTIN: It seemed a little . . .*(inaudible)*. . .

MR. STUFFLEBEAN: That's the CI, the CIP is our prioritization of projects, and the model is used to help develop the CIP. So, that…that's really the…when we bring it to you is when we bring you the CIP.

COUNCILMEMBER PALTIN: Okay. So, we're going to get in the budget the CIP is based on this model that's finished that helped you to prioritize this year's budget request?

MR. STUFFLEBEAN: To some degree, again the timing wasn't perfect because we had to get the CIP in before the model was done. But we're certainly using it as much as we can. In future years, the model will be done. We'll use it more fully to…and as Matt said, not just the model, but other also condition assessment, other information that we have, the needs and so on. But yeah, we're using it now, we'll really use it fully next year.

COUNCILMEMBER PALTIN: And…and do we expect a partnership? I think Mr. James, the water guy, said that 6 to 12 months it'll be updated. Do we plan to stick with the same Mr. Matt Huang?

MR. STUFFLEBEAN: We're going to hire Matt, you know, so…so he…he mentioned that he'll be training our staff to do it. So, we will keep Carollo our…our intention is to keep Carollo on…on under contract and maintain it until they can hand it off to the County staff, then we're ready to maintain it.

COUNCILMEMBER PALTIN: Okay. Awesome. And then we would just consult as-needed basis with Mr. Huang. Okay. Great. I'm so glad I asked that question because I must have missed that whole like you guys finished it already. Lonoikamakahiki.

CHAIR COOK: Thank you. Member Rawlins-Fernandez.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Chair. Just…just a quick clarifying question. So, Chair Cook called it a living document, is it…is it a document? I thought it was like a software like Minecraft.

MR. STUFFLEBEAN: Yeah. That… yeah that was kind of metaphor, I think. No it's a…it's a…it's a software package that can be…that will be modified, kept up to date, utilized in many different ways. But certainly, you want to keep it up to date and put in all the new information as new things are developed in the system you want to make sure the system is completely up to date. So, in that way it is always a living thing.

COUNCILMEMBER RAWLINS-FERNANDEZ: Updated, ongoing process. Okay. Very good, every six months it'll be updated as far as if there's expansion or repairs and…

MR. STUFFLEBEAN: Well I mean I wouldn't say necess…I mean it'll be updated as anything that's major that's done will probably, at the same time, we'll update it right then. But then every six months maybe kind of take a thorough look to make sure every things caught up, that kind of thing.

COUNCILMEMBER RAWLINS-FERNANDEZ: I see. Mahalo, I appreciate that clarification. Mahalo, Chair.

CHAIR COOK: Member Sinenci, any further questions?

COUNCILMEMBER SINENCI: No questions, Chair. Thank you.

CHAIR COOK: Member U'u-Hodgins, any further questions? Okay. So, yeah. It'll become a further…it'll become a document after they print out the results on paper. Just leaving…

MR. STUFFLEBEAN: Well…. . .*(inaudible)*. . .

COUNCILMEMBER PALTIN: CIP.

CHAIR COOK: Leaving this trying to leave it on a light note. I really want to appreciate the presenters and I want to appreciate the Staff and I want to appreciate all of the Members for this, the first WAI meeting…Committee meeting in 2025 got off to a little bit of a shaky technical start but I want to commend the Water Department for something that they've been working on for over a year, year and a half and the fact that they are…have gotten to this point where they can make the presentation and it's a functioning tool to assess our entire water system. It's a huge accomplishment and I'm very grateful and excited for the entire community, and grateful to them. If there's any other further discussion. Members, if there's no objections the Chair will defer this item.

COUNCILMEMBERS VOICED NO OBJECTIONS.

ACTION: **DEFER** pending further discussion

CHAIR COOK: Members, this concludes today's Water and Infrastructure Committee meeting. Thank you everywhere [*sic*] and a bit thank you to Mr. Jensen, Mr. Huang, Mister…Ms. Ishida for being here this afternoon. The time is now 3:24. And this meeting is now adjourned. . . .*(gavel)*. . .

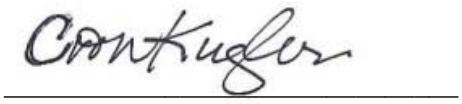
ADJOURN: 3:24 p.m.

wai:min:250203:cvk Transcribed by: Cheryl von Kugler

CERTIFICATION

I, Cheryl von Kugler, hereby certify that pages 1 through 33 of the foregoing represents, to the best of my ability, a true and correct transcript of the proceedings. I further certify that I am not in any way concerned with the cause.

DATED the 12th day of February 2025, in Wailuku, Hawai'i.



Cheryl von Kugler