

# CLIMATE ACTION AND RESILIENCE COMMITTEE

Council of the County of Maui

## MINUTES

June 1, 2020

Online Only

**CONVENE:** 9:05 a.m.

**PRESENT:** VOTING MEMBERS:

Councilmember Kelly Takaya King, Chair (out at 10:41 a.m.; in at 11:45 a.m.)

Councilmember Shane M. Sinenci, Vice-Chair

Councilmember Riki Hokama

Councilmember Tasha Kama (in at 10:05 a.m.)

Councilmember Alice Lee

Councilmember Tamara Paltin

Councilmember Keani N.W. Rawlins-Fernandez

**STAFF:** Kasie Apo Takayama, Legislative Analyst

Nicole Siegel, Legislative Analyst

James Forrest, Legislative Attorney

David Raatz, Supervising Legislative Attorney

Stacey Vinoray, Committee Secretary

Jean Pokipala, Council Services Assistant Clerk

Kate Griffiths, Executive Assistant to Councilmember Kelly Takaya King

Christy Keliikoa, Executive Assistant to Councilmember Tamara Paltin

**ADMIN.:** Richelle Thompson, Deputy Corporation Counsel, Department of the Corporation Counsel

Michele McLean, Planning Director, Department of Planning

Juan Rivera, Civil Engineer VI, Wastewater Reclamation Division, Department of Environmental Management

**OTHERS:** Tara Owens, Coastal Processes and Hazards Specialist, University of Hawaii Sea Grant Program

Dr. Mike Foley, Coastal Engineer, Oceanit, Inc.

Sam Lemmo, Administrator, Department of Land and Natural Resources, State of Hawaii

(1) additional unidentified attendee

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

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CHAIR KING: ...*(gavel)*... Good morning. It's 9:05. This is the Climate Action and Resilience Committee meeting of June 1, 2020. Happy June, everybody. I hope everyone had a great long weekend and raring to go. I'm Kelly King, the Chair of this Committee, and I've got today it looks like full...we've got one Member excused. We have Committee Vice-Chair, Shane Sinenci. Aloha, Mr. Sinenci.

VICE-CHAIR SINENCI: Aloha kakahiaka kākou mai Maui Hikina.

CHAIR KING: Aloha kakahiaka. We have Council Chair Alice Lee.

COUNCILMEMBER LEE: Okay. For all of our Portuguese friends, bon dia. Bon dia, Madam Chair.

CHAIR KING: Bon dia. We have Council Vice-Chair Keani Rawlins-Fernandez.

COUNCILMEMBER RAWLINS-FERNANDEZ: Bon dia and aloha kakahiaka, Chair and everyone, mai Molokai. Happy June.

CHAIR KING: Thank you. Councilmember Riki Hokama.

COUNCILMEMBER HOKAMA: Hi, good morning, Chair.

CHAIR KING: Good morning. You look very refreshed for a long weekend. I don't know, did you get a haircut 'cause the rest of us are still waiting.

COUNCILMEMBER HOKAMA: Yeah, I got a haircut. Yes, thank you.

CHAIR KING: Yeah, looks good, looks good. And Councilmember Tamara Paltin.

COUNCILMEMBER PALTIN: Aloha kakahiaka kākou mai Nāpili.

CHAIR KING: Aloha kakahiaka. How is it in Lahaina today? Bright and sunny?

COUNCILMEMBER PALTIN: Bella.

CHAIR KING: And Councilmember Tasha Kama will be joining us a little late. She's on a NACo call with a Committee that she's a member of for the National Association of County *[sic]* organizations. We have no non-voting members present. And today, we have with us from the Administration, I think she'll be joining us a little later, Michele McLean, Planning Director. Now we have...

MS. McLEAN: Aloha, Chair, good morning.

CHAIR KING: Oh, where are you? We don't see you. Good morning wherever you are. There you are. Good morning, Michele. We have Juan Rivera, Civil Engineer VI, Department of Environmental Management. Good morning, Mr. Rivera.

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MR. RIVERA: Good morning, buenos dias a todos.

CHAIR KING: Buenos dias. And...let's see, we have Richelle Thomson who's going to be representing the Corp. Counsel today. She said she was going to be offline but off-camera, but paying attention.

MS. THOMSON: Good morning.

CHAIR KING: And so, if we need her. Hi, Richelle. But if we need you, we'll call you, and thank you for being here. Other representatives we have that will be doing presentations today are Tara Owens, Coastal Processes and Hazards Specialist from the University of Hawaii Sea Grant Program. We have...

MS. OWENS: Hi, good morning.

CHAIR KING: Hi, good morning. We have Dr. Mike Foley, Coastal Engineer from Oceanit, Inc. Hello, Dr. Foley.

MR. FOLEY: Good morning, everyone. It's a pleasure to be with you.

CHAIR KING: Good morning. Thank you for being here. We have Sam Lemmo, Administrator from the Department of Land and Natural Resources from the State of Hawaii.

MR. LEMMO: Magandang umaga.

CHAIR KING: Magandang...

COUNCILMEMBER LEE: Hey, all right.

CHAIR KING: And we have our Committee Staff who is Kasie Apo Takayama, our Legislative Analyst; Nicole Siegel, our Legislative Analyst in training. We have Stacey Vinoray, our Committee Secretary. Jean Pokipala, the Council Services Assistant Clerk, and she'll be helping assisting with testimony. We have a new Council Assistant Clerk, Lei Dineen...I think...is Lei new? And we have James Forrest, our Legislative Attorney from OCS joining us today. Aloha, James, wherever you are. Okay. Members, we have two items on today's agenda. We have CAR-9, Sea-Level Rise, Shoreline Erosion, and Managed Retreat; and CAR-15, Kam I Beach Park Dune Restoration, and so both of these will be mainly presentations. The second one is an actual grant project that we'll be hearing from. And what I wanted to do today if we...do we have any testifiers, Stacey [sic]?

MS. APO TAKAYAMA: Chair, we have one testifier I believe signed in under the number, the last four digits 0530, but that's our only testifier signed up.

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CHAIR KING: Okay. So, what I wanted to do was allow the testifier a chance to either testify now or wait till after the presentation to testify after we hear the first presentation of the four presenters. So, it's your choice if you want to testify and move on with your day, or if you'd like to join us for the presentation, and then testify afterwards. You want to call the first, the testifier, Stacey [sic], and find out?

MS. APO TAKAYAMA: The first testifier is logged in under the last four digits 0530.

SPEAKER 0530: Aloha. This is the telephone number that you're identifying. Actually, I'm not going to be testifying for this particular meeting. I wanted to, because I've never done this before, I'm going to be calling in on Wednesday's meeting but I wanted to see how it worked.

CHAIR KING: Oh, okay.

SPEAKER 0530: So, I apologize if --

CHAIR KING: No problem.

SPEAKER 0530: --I'm showing up as a testifier. I'll testify on Wednesday, not at this meeting. Sorry, I just wanted to practice.

CHAIR KING: That's okay, no problem. You're welcome to join us for the presentation, to observe the presentation. And so, I'm going to go ahead and leave public testimony open in case there are any testifiers that would like to testify after the presentations. And we'll move right on to the presentations then if there are no objections.

COUNCILMEMBER LEE: No objections.

CHAIR KING: Okay. Thank you.

**CAR-(9)      SEA-LEVEL RISE, SHORELINE EROSION, AND MANAGED RETREAT (CC  
20-24)**

CHAIR KING: All right. So, Members, today we'll be receiving information from individuals that can educate both this Committee and the public by providing information on impacts of climate change to sea-level rise, shoreline erosion, and managed retreat on Maui. Our General Plan Objective is to protect the natural environment, and I look forward to hearing from our presenters today on how we're accomplishing this goal and how we can do it even better. We have with us Sam Lemmo, the Administrator from the State Department of Land and Natural Resources; Michele McLean, our Planning Director; Tara Owens, the Coastal Processes and Hazards Specialist with University of Hawaii Sea Grant Program; and Dr. Mike Foley, a Coastal Engineer from Oceanit, Inc. Mr. Lemmo will be our first presenter today, giving us the Statewide perspective and background on coastal erosion and sea level rise. Ms. Owens will give us an overview of erosion response options and provide examples of proposed beach

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restoration projects on Maui that incorporate sea level rise into community plans. She will also discuss other examples of research and community projects. Director McLean will follow with an update on proposed shoreline rules and updates setbacks, and other permitting topics. Dr. Foley will share with us some ideas for innovative responses and provide more details and updates on the Kahana Erosion Mitigation Project. Okay. So, that's our first item. And just to let Members know, I'm...my goal is to try to get through the presentations and your questions by 10:30, and then when we come back, our Vice-Chair, Mister...Councilmember Sinenci will take over. I have a...an HSAC meeting that should be quick. We just got the issue of the officers that we have to vote on today. So, I mean I'll try to get to that and get back but...so right now, we'll go ahead and start with Mr. Lemmo, with your presentation. I think...do we have that...

MR. LEMMO: Do you want me to share it now?

CHAIR KING: Sure.

MR. LEMMO: Okay. I'm trying here. Okay. There it is. Am I...are we good?

UNIDENTIFIED SPEAKER: Mr. Lemmo...

MR. LEMMO: Can you hear me?

CHAIR KING: Does everybody see it?

COUNCILMEMBER LEE: No.

CHAIR KING: I think some of us can't see it.

UNIDENTIFIED SPEAKER: I don't see it.

MR. LEMMO: Oh.

UNIDENTIFIED SPEAKER: You might have it open but aren't sharing screen.

MR. LEMMO: I have it...

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

CHAIR KING: So, at the top, there's a screen next to...there's a...there's four icons. There's a...

MR. LEMMO: Yeah.

CHAIR KING: The third icon is a screen so you...

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

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MR. LEMMO: Yeah. How's that?

CHAIR KING: I don't know but it seems like Riki is the only one that could see it.

COUNCILMEMBER HOKAMA: When he speaks, he...the camera shifts to him, Chair.

CHAIR KING: Okay. But he's trying to share his screen. Do you see his screen? 'Cause he's --

COUNCILMEMBER HOKAMA: No.

CHAIR KING: --trying to share his presentation screen.

COUNCILMEMBER HOKAMA: Okay. I haven't seen that yet.

CHAIR KING: Okay. So, that's what we're waiting for.

MR. LEMMO: Has anybody seen it?

UNIDENTIFIED SPEAKER: No.

CHAIR KING: I don't think anybody can see it.

MS. McLEAN: After you click the share screen icon, it asks you what program you want to share. So, you'll need to answer --

MR. LEMMO: Yeah.

MS. McLEAN: --that question and click on PowerPoint.

MR. LEMMO: Let me try it again. Yeah, so it does ask me share screen, and I'm looking at Microsoft PowerPoint. So, I'm going to try again.

UNIDENTIFIED SPEAKER: There we go.

MR. LEMMO: You see it?

UNIDENTIFIED SPEAKER: Yeah.

CHAIR KING: Okay. Now, we see it.

MR. LEMMO: Okay.

CHAIR KING: Okay. Take it away, Sam.

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MR. LEMMO: . . .*(PowerPoint presentation)*. . . Thank you. Hello, everybody. For those of you who don't know me, my name is Sam Lemmo. I'm the Administrator of the Office of Conservation and Coastal Lands, which is an office within the Department of Land and Natural Resources. We regulate all the Conservation District lands in the State of Hawaii. And this includes terrestrial areas, and of course, marine areas out to three miles, the State's beaches. We're sort of like the fifth planning department in the Hawaiian Islands, along with the four county planning departments, pretty much do similar functions as your Maui County Planning Department, which is to basically do regulatory and planning, and enforcement of State land use laws. In your case, it's County land use laws.

CHAIR KING: Sam, can I just --

MR. LEMMO: We have a...

CHAIR KING: --ask you quick --

MR. LEMMO: Yeah.

CHAIR KING: --if...has this presentation been updated because it's dated on the bottom, it says April 11, 2002.

MR. LEMMO: No, that's the picture, actually.

CHAIR KING: Oh, that's just the picture. Okay. Great.

MR. LEMMO: Yeah. Yeah, I don't...that's funny. That would be a --

CHAIR KING: That's okay. I just wanted --

MR. LEMMO: --pretty old...

CHAIR KING: --to make sure that we're...we weren't looking at something that was --

MR. LEMMO: Yeah.

CHAIR KING: --20 years old.

MR. LEMMO: Okay. Thanks. No, it's just a picture stamp, old picture --

CHAIR KING: Okay.

MR. LEMMO: --Sugar Cove. So, my office over the years has...because we actually do regulate beaches and marine areas, we've had an interest in coastal issues. And of course, we're interested in the protection of our beaches and the perpetuation of the health of our sandy beaches. So, we've done a lot of enforcement in that area enforcing on illegal seawalls and processing applications for shoreline actions, whether

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it's permanent seawalls or temporary erosion control. And so, we've kind of done our best over the last few decades to try to balance all of the competing issues, which is of course, protection of our beaches, and then this problem, private homeowners were having regarding the loss of their property. Also, public facilities have a lot of challenges like the Wailuku Wastewater Treatment facility. We know we all went through an application process there, and there was some compromises made with how that all panned out in the end. Anyway, my office has actually transitioned into more of a...in addition to what we do to a climate orientation. Let me go on to the presentation now just to sort of familiarize yourself with my...what, you know, some of the State issues, and then I'll get into the what we're doing on the climate front. So, basically, we all know...I'm going to go through this very quickly so we can get to the sort of the meat of the conversation, which is --

CHAIR KING: . . .*(inaudible)*. . .

MR. LEMMO: --you know, sea level rise adaptation. We all know what's happening to our beaches, chronic beach loss throughout the Hawaiian Islands. We all know why this is a major problem 'cause we all...we built too close to the shoreline in the past. Our predecessors probably did not understand or recognize the dynamic nature of our shorelines. And they frankly built far too close to the ocean. This has resulted in...this has resulting into our communities becoming vulnerable to erosion effects. We...and this is resulting in the loss of beach access. We have a problem Statewide with cesspools draining into the nearshore area causing nutrification and nutrient loading. Maui knows a lot about that at this point. Marine mammals are affected. Severe property loss. Change in our lifestyles. We all understand there are natural drivers to shoreline change, geology, waves and currents, tides. We all know that humans influence shoreline change in addition to natural drivers. Of course, we can all look to sand mining of the past century and before that. And of course, Maui was a prime example of the taking of sand from North Maui beaches for construction for the sugar cane industry, the lime kiln, all those examples, you know, hundreds of thousands if not millions of yards of sand were taken from North Shore beaches. We try to combat shoreline erosion with beach restoration projects. You know, we're planning a big project at Kaanapali. There's a big project being contemplated at Kahana Bay. Mike Foley will probably talk about that. We're doing Waikiki. We have homeowners and AOAs...AOAOs who want to do beach restoration. We have Napili Bay. We have Sugar Cove, et cetera, et cetera. We all know that coastal armoring destroys our beaches because it essentially detaches the sandy beach ecosystem from its backshore store of sand, and that wreaks havoc on our beaches. And we all know that one of the major drivers of beach loss has been and will continue to be at an accelerating and alarming rate, sea level rise. So, we can see the progression of sea level rise over the past century. Now, we're getting, you know, into the second part of this equation. So, tidal data from tides around the world, we see we have like a very slight increase in sea level rise early in the 20<sup>th</sup> Century. Later in the 20<sup>th</sup> Century, towards the end of the 20<sup>th</sup> Century, the rate increases. And this coincides with sort of the Industrial Revolution and greenhouse gas emission production, and then we see the more colorful line. This is basically...the blue areas are tidal data. The colorful one, which is orange and green, this is from satellite data telemetry. There was a



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satellite put in orbit, I think around 1990 or 1995, and we've been getting average global sea level rise data from this satellite or satellites for the past number of decades, and we see a increase again in sea level rise, and its continued to increase. This curve is going to continue bending upwards. And we all know that we projected the sea level rise is going to increase at least 3.3 feet or a meter over the next century. Under a business-as-usual scenario, it will actually increase more than this because we haven't really been able to curb our carbon emissions, we haven't been able to curb our behavior with respect to greenhouse gas emissions. And so, sea level rise is going to have devastating effects on the coastal communities. This is from the melting of glaciers in Greenland, and also thermal expansion of the ocean. Tara can verify all of that. She's the real coastal global scientist, not me. So, we have a serious issue with sea level rise that we all have to recognize in the future, and that's where we're going to get into the whole manager pique discussion. Because the old practices aren't going to work any longer where we think we could manage erosion 'cause maybe sea level wasn't accelerating or increasing at such a great rate. We might be able to hold it back through a combination of maybe some...doing some renourishment, some minor armoring in certain areas, sort of playing around with the system, holding the status quo, moving sand around. But I don't think that's going to work any longer because...and you're getting the Statewide perspective right now on this, my sort of years of expertise in kind of dealing with this from many different aspects. I think the old paradigm is not going to work for us. And because of rapid accelerated sea level rise, we're going to have to think outside the box. And so, that's kind of what...where we're going now and what this is all about. I wanted to show you one more thing here. I got to go back. There's this thing that we're experiencing all over the State. It's called anomalous tides. This is just the screenshot from the NOAA...I think this is the NOAA tides website, water level's website, and you see the blue line is the predicted tide for a particular day. I think this was back in August of last year maybe. And the red line is the actual tidal experience that we had. And so, we can see that...and this is a common feature now, day in and day out, where we get a predicted tide and we get a much higher actual tide result. We're talking about anywhere from three to eight, nine inches at any given day. This is mind-boggling, the magnitude of this problem that we're experiencing anomalous tides of this scale sort of consistently tells me that there's a real strong sea level rise signature that's getting baked into the system, and they're going to have to recalibrate all the tidal data, and they will do that soon. But...so if you look at the current data on sea level rise, it tells you well we've had about six to nine inches of sea level rise over the past century or so. It's actually been much more than that in my estimation once we calculate the more current data. So, what are we doing about it? You know, the State passed the Climate Adaptation Initiative in 2014. This is an old slide, excuse me on this one. That was updated in 2017 with Act 32, I believe, which established the State Climate Change Mitigation and Adaptation Commission. There's two Climate Change Commissioners. Suzanne Case from DLNR and Mary Alice Evans from the Office of Planning are the two Co-Chairs. My office sort of runs the back-office aspects of the Climate Commission. We have a Climate Coordinator. Her name is Anu Hittle, and she's trying to basically coordinate State and County efforts to deal with this pernicious problem of sea...of climate change. So, she's doing mitigation, which is how do we reduce our greenhouse carbon footprints and mitigation, how do we adapt to all the effects of sea

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level rise including climate change, including sea level rise. One of the major things we did to start this whole thing off was to develop a Sea Level Rise Vulnerability and Adaptation Report. I think many of you have probably been exposed to this. And I'm very happy to see how well it's been received by the State and county entities. And some of the counties including Maui County are actually...appear to be using some of the information from this report, which is what we intended it to be used for. So, thank you very much. Real briefly, to kind of give commissioners an overview of what this report basically does is it modeled sea level rise hazards pretty much throughout the State except for a couple...a few islands where we didn't have the data necessary to do that. And it modeled...basically, what we did is we said, we think sea level rise is going to occur at about 3.2 feet of an increase over the next century or sooner. What is the impact of that on our coastlines? And it's not just the aspect of passive flooding, bathtub flooding, where you just raise the water level on a digital elevation map, and then you can see areas that are flooded. That's very one-dimensional. It doesn't paint the whole picture for you. So, we decided to take it a step further. So, we added two other parameters. We wanted to see what the impact of annual high wave flooding plus sea level rise would be on our coastlines, and of course, erosion. And so, we did that. And...sorry, this is a slide of Honolulu area, Nimitz area, and this is an example of passive flooding modeling in that area. And this is from the Sea Level Rise Viewer. We also developed a Sea Level Rise Viewer, a web tool. You...anybody can get access to the sea...you know, particular sea level rise impacts in your community. And this just kind of shows you the effect of passive flooding. And then...oh, yeah, there's a picture there. And then we have...we...then we modeled high wave flooding. So, this is going up West Maui side, Launiupoko, Ukumehame. And this shows you at 3.2 feet of sea level rise, when you have a kind of a large wave event, you're going to get, you know, wave inundation that's pretty damaging and pretty concerning. And, you know, a little picture, typical sort of, you know, low-level flooding along that highway. And then of course, we mapped erosion throughout the State. This is the North Shore of Oahu basically showing you various recession of the shoreline at various sea level rise stands. And so, basically, we took all those layers, passive flooding, annual high wave flooding, coastal erosion, and dropped them into a Sea Level Rise Exposure Area. So, basically, one large exposure area combining all of the various exposure elements. So, one of the issues, and I'll get...I'm starting to the end of this now, one of the issues is when we sort of published all this information on the Viewer, people started saying, well, thank you very much, we really like the SLR-XA, but it's really...we're not really sure how to implement it or use it for planning purposes, planning and zoning purposes. There's a number of issues with it. One of the issues is that the lines are very choppy. There's islands where you have...are surrounded areas where they're surrounded by sea level rise flooding, but then you get an island that has no exposure probably 'cause it's at a higher elevation. And then the line can be quite irregular. And so...and it cuts across parcels. It bifurcates parcels. It's really sort of a unwieldy sort of boundary to sort of use for planning and zoning purposes. And plus, it's something that people have never done before. I understand there's really only a few jurisdictions around the country who are trying to implement this type of overlay zone. And so...but basically, what we did is we're standing up this little Climate Ready Program. And one of the goals is to maintain best available information and practices on sea level rise adaptation, calling it an Information Hub. So, we would populate a

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website with as much information about climate change and sea level rise as possible and provide people with potential solutions. One of the things I'm going to talk about right now is this guidance tool, a planning tool for giving planning...county planning officers guidance on how to utilize the Sea Level Rise Exposure Area. And then there's a few other things in there but I'm not going to focus on those today. I really just want to focus on the guidance tool. So, we're in the middle of almost completed...we've almost completed this effort to develop additional guidance for use of the Sea Level Rise Exposure Area by planning entities. And we're just about ready to sort of publish a draft, and we'll...we're going to sit down with county planners and your County climate people, and see how this resonates with them. People such as Jim and Tara of course, will be the first people that we consult with. But the problem has been, how do I actually utilize a tool like this in modern zoning and planning purposes? And so, we're doing our best. And this is sort of an older iteration of what we're doing. We're doing our best to try to make it something that can be seamlessly incorporated into planning purposes. So, just take a look at this for instance, there's a lot of elements going on here. This is one of two slides. For instance, you could...so, you would download an area where you could see the area that's exposed to sea level rise. Once again, this is down at Nimitz Highway. And we're going to show you that what we can do is you can basically project the life expectancy of a particular piece of infrastructure that you're planning, or perhaps, maybe it involves a residential development. So, let's project it out to 2070, and then you can plug in the number of days at 2070 in which an area will be flooded. And so, you can see now in there that we can show you in the blue area that you would have quite a number of days that you would experience flooding at two feet of sea level rise in 2070 for this particular area or this particular parcel. So, that can help you understand or make a decision about what you want to do with existing infrastructure or to try to avoid that area for planned infrastructure in the future. And so, if we dig down on this a little bit further, we can create sort of a bit of a planner's tool here, which gets a little more busy and a little more complicated but incorporates a lot more information for people so we can make wiser or more informed decisions about what we're doing. So, this for instance, shows you the similar area from Mapunapuna. The questions that you pose in this sort of panel or whatever you want to call it are, you know, what this...what decade will the project lifespan...span in, choose a sea level rise projection, and we're taking this from NOAA Intermediate sea level rise scenarios. It's very complicated. NOAA projected Low, Intermediate, and a High Sea Level Rise scenarios based on greenhouse gas emissions. And one of the ideas here is that, if you've got infrastructure that's really, really sensitive to sea level rise like a road or a sewage treatment plant, and it just can't tolerate any type of sea level rise, you may want to take the more conservative higher risk scenario by NOAA. Whereas if you're doing like a greenway or a park, maybe you don't have to worry so much about sea level rise, right? So, you can look at the lower projections for that. And then basically, we want to break it down into relative components or relative impacts. So, we want you to understand, you know, at a certain time in the future, what is the passive flooding effect on this infrastructure or development or whatever it is you want to do? So, what do we expect for passive flooding? Okay. What do we expect for annual high wave flooding? And what do we expect for coastal erosions? So, you want to look at everything in its totality, then you want to break it down on its relative components, and look at each

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component. And then all of these elements combined should bake you a cake in which you can decide how you want to address this particular area and what you want to do in this area or not do in this area. So, I'm really excited about this guidance document and really looking forward into sharing it with the communities and counties in the very near future. So, that's about it for me. I just want to...I always include this slide lately. It's like sort of apropos I think, you know, where we keep telling ourselves, you know, it's not going to be so bad maybe and...but I always warn people, let's not go the way the dinosaurs. Okay. I'm going to stop sharing this then if that's okay. Got to unmute.

CHAIR KING: Okay. So, Members, keep your questions written down if you can. We're going to go right into Tara Owens. And we have about ten minutes for each of our next presenters. And Tara will be followed by Dr. Foley. Okay. Tara, do you have a presentation or...

MS. OWENS: I do.

CHAIR KING: Okay.

MS. OWENS: Let me...

CHAIR KING: Go ahead and share.

MS. OWENS: . . .*(inaudible)*. . . see?

CHAIR KING: Yeah, we can see it.

MS. OWENS: . . .*(PowerPoint presentation)*. . . Excellent. Okay. Sounds like I need to try to hurry and stick to ten minutes. Thanks, Chair King and this Committee, for having us today. I just want to recognize right away the Department, and the Administration, and this Council for sort of expanding support of climate-related activities. So, relative to the things we're discussing today, the FY '21 Budget supports a dedicated Dune Management Coordinator, a new additional Shoreline Planner, and an erosion study for Ma'alaea. And all of these help to give us additional tools we all need to support more proactive coastal management. I usually go through the process of sharing lots of pictures about our coastal erosion impacts on Maui, but I'm going to skip that today. I think you have a sense of the expansiveness of these issues, and Sam gave a really nice background overview of the Statewide issues. And so, I'm going to focus on a few examples of very positive response efforts that are underway.

UNIDENTIFIED SPEAKER: Okay.

MS. OWENS: Of course --

UNIDENTIFIED SPEAKER: 'Cause we like that.

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MS. OWENS: --my name...my name is on the slide here but I just want to...I always emphasize that everything we do is some sort of collaborative effort with Federal, State, local government, private sector, UH, and the community of Maui. And in my experience, it's really nothing good happens on the shoreline if it isn't through a partnership. As an example the background image here is from Charlie Young Beach in Kihei. So, this is north of Kamaole I Beach Park. This is an area where a number of years ago, we worked to remove encroaching and invasive vegetation, and replace it with native vegetation, and allow the dune system to recover. And so, you can see that today it's thriving and protecting homes, and providing habitat for native plants and shearwater birds and other things. So, a very good outcome. So, hold on, I have to change my screen here so that I can see slides. Okay. So, real brief, I'll recap what Sam said about coastal erosion trends, causes--my slides are not moving forward now, there we go--talk about how we're incorporating some of that information that his office has worked so hard on. And solutions, I'll introduce the solutions and responses to impacts, and then all of us, Michele and Mike Foley will go more into detail on some of those as well. We'll talk about some new research projects, our dune restoration program, and upcoming proposed beach restoration projects. I don't want to belabor this point but as Sam said, we have a Statewide erosion problem, and it happens to be generally speaking, statistically worse on Maui than the other islands. We have higher rates of erosion and more beach loss here on Maui than on Oahu and Kauai. And it's because of a combination of factors. The sea level rise issue like Sam said, is sort of really magnifying the problems and, you know, but add to that our typical seasonal conditions, big waves that can move sand around and episodic storms. And add to that, our land use decisions of the past and some of the human interventions along the shoreline that have contributed or exacerbated the problem. And really, what we're seeing with sea level rise as our beaches sort of start to drown and narrow, these typical seasonal conditions are what are leading to...so, a combination of those things are leading to the impacts we're seeing today. But there's a lot that can be done and a lot that we're doing. So, as Sam said, I don't know if you can see my arrow, but here on the left side, we have the sea level rise report in the Viewer, and that's providing the basis for a lot of things we're doing. So, this is one report that isn't sitting on the shelf. Its seeds are spreading. And my Sea Grant colleagues and I are involved in a lot of different planning efforts that sort of incorporate that information. So, community plans across the State, we're helping to support integrating this information into those. So, for Maui, that's right now the West Maui Community Plan wrapping up and the South Maui Community Plan coming up. Also, the State Hazard Mitigation Plan, the County of Maui Hazard Mitigation Plan, and we have other guidance documents we've been developing like one for including our guidance for resilience in disaster recovery. So, lots of good things happening. And we kind of focus our discussions on what we can do in response to coastal erosion and high waves that are being exacerbated by rising sea levels. And you've seen this slide before, I think, but it's, you know, we have the range of responses from doing nothing and letting roads or buildings or infrastructure fall into the ocean. To the bottom of the list, the far end of the spectrum, which is to armor the shoreline, which is sort of the approach of the past, which we now know has consequences, to these preferred strategies sort of in between, including setbacks, which Michele is going to talk a little bit more about, the Planning Director, about how

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the County is using the information to propose modified setbacks. And I'm going to focus right now on beach and dune restoration a little bit more. And Mike Foley will talk a little bit more about these as well. As Sam said, we have the Viewer. And one of the models in that Viewer that he mentioned was this annual high wave flooding model. So, taking sea level rise and adding waves on top, we kind of know that these events are already happening. This is Mile Marker 14 at Olowalu where we have a combination of high tide, swell, and sea level rise creating these more frequent scenarios of wave flooding. But you might not know that we are working really hard with West Maui sort of being our ground zero for the impacts of sea level rise right now on Maui. We are building on that research and actually focusing in on West Maui, and trying to take our understanding of these predictable wave events and actually being able to forecast them. And so, we will know exactly what combination of direction and size of swell will affect different areas in West Maui, and how precisely that will happen. And we have a 2017 NOAA Regional Coastal Resilience Grant award that allowed us to do this research, and we teamed up with its PacIOOS, Sea Grant, and oceanography researchers at UH. And West Maui is a really complicated case because of the Maui Nui complex, you see whoever here on the rest...West are on the left side. The image shows bisymmetry. So, you can see in purple, those are the real deep areas. That's the Pailolo Channel between Maui and Molokai. And then you can see the shallower areas in the lighter colors. And that complex bisymmetry creates a really complex system where wave energy comes in and waves bend and refract. And they create...you can see here these fingers of wave energy that come in to the coastline. So, this image in the middle is of a north swell. You can see the red areas are the high wave heights and they bend in, and you can see how the energy as these fingers along the shoreline. And the right-hand image is from a south swell. You can see when we get a south swell even some of that energy bends all the way up into focusing in on the Napili area, and you'll see once in a while we get a big south swell that can affect Napili. That's a little counterintuitive to me. But I'm going to leave a lot of details out. But basically, these new forecasts that we're developing based on this new high-resolution wave model are going to support resilience actions. And we're dividing the coastline into a series of different areas. And what we'll essentially be able to do at the end of this, these products will be available within the year, is have...bottom right-hand corner here is a like a seven-day forecast for waves. So, when we...when the weather service is predicting waves, we'll be able to show you exactly where in West Maui we expect to exceed certain thresholds, and where we might have light impacts, hazardous impacts, or critical impacts depending on the conditions that are coming in. So, we're working hard on that. One of the really cool things about this project though is that we've been able to involve the community in helping us validate the model and the impacts. So, we have this cool little web application. You can use it from your phone. Folks are submitting photos when we have wave events from their phones. And this image here shows you where we have photos and how many. This is an old graphic so we have even more today. And you can go to this website we have to view the photos that have been submitted. Here, this shows one in, at the Hyatt Kaanapali. And so, you can see during this wave event in June, last June, we had wave flooding of the beach-walk along the Hyatt at Kaanapali. And so, we're going to be able to predict and demonstrate these types of impacts with this new forecast system. And thanks to all our community science

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helpers, we...these...I can't understate the importance of the photos in helping us make a validation and determine what the impacts will be in these different areas in West Maui. Of course, I also want to mention our dune restoration program. We have a longstanding program on Maui. I'm sure many of you see the fruits of these labors around the island. But basically, healthy beaches and coastal dunes help us to buffer against high wave events as the sand can be mobile and move around in the system. You know, we have situations like the photos you see here where there are degraded dunes, where we have these tightly-bound grasses that have been planted along the shoreline versus our native dune plants, which allow us to capture sand and grow the dunes and have the system be able to respond in the face of high waves. So, our coastal sand dunes combined with our coral reefs and our beaches are our natural lines of defense against ocean impacts. And we have sort of a strategy or a prescription if you will for how we do dune restoration on Maui by moving things out of the way, we add sand. Sometimes we add sand fencing. We add native vegetation. Sometimes we need...we definitely always need designated access pathways. Sometimes we have to do that in the form of these dune walkovers to protect the native vegetation. I just want to mention that historically, this program has been mentioned...has been implemented by volunteers. In South Maui, that's the South Maui volunteers led by Bob and Lis Richardson. And Sea Grant provides oversight and the science-based direction for this program but it's the volunteers that carry out the day-to-day operations. However, our volunteers are retiring from this long-term retirement job they took on and...so, with County Council support, Sea Grant and the Planning Department are partnering to right now, hire a full-time Dune Management Coordinator that will continue the program in South Maui and continue to help us expand it Statewide. I know...I learned that Juan Rivera is coming up later today. He's going to talk about a recent project at Kamaole I. So, I won't steal his thunder too much but I wanted to show these images here. This is actually happening just last week. We got delayed due to COVID but the volunteers are out there. Two volunteers, Bob and Lis, single-handedly planting hundreds of dune plants to finish out this restoration project. And in a year from now, you'll never even realize that humans had a hand in this, and this site will be changed and sculpted by nature. All the things here I have in words on the left-hand side are sort of the process coordination with State and County to get this project going, lots of permitting, hauling and placement of sand to make sure that sand from the Kihei Boat Ramp stayed in our Kihei system, designating shoreline paths, and establishing native dune plants. So, there's lots of stuff that goes on behind the scenes before you ever see the outcome that you're used to seeing along the coastline. We have a new project coming up for Baldwin Beach on the North Shore where you know we have major high wave flooding and erosion issues. This is the pavilion you see on the right-hand image there getting flooded at the peak of the summer erosion. So, I'm happy to announce that we worked to get a 2019 National Fish and Wildlife Foundation NFWF grant award that's going to be focused on planning for dune restoration at Baldwin Beach. And this is in partnership with the County Parks and Recreation who did a master plan for this area. And one of the priorities in that master plan was to work on restoring coastal dunes. And I'm going to wrap up real quick with a series of slides. I won't go into detail but I just wanted to make sure you know that there are three proposed, I think Sam already mentioned the three proposed beach restoration projects coming up, focused in West

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Maui. One is the Kahana Bay project, which Mike Foley will talk about in more detail. Another is the State and Kaanapali Operations Association partnership for the Kaanapali Beach Restoration project. And another one that is being proposed at Napili Bay. Now the difference between Kahana and Kaanapali is that, you know, both of those projects are regional-scale projects, much larger in scale in terms of quantity and scope compared to the Napili Bay project, which would be a smaller scale project involving a lot less sand. And Kahana involves structures, Kaanapali and Napili involve sand only. And just so you can see and compare those projects, this is Kahana. You can see the reason behind proposing such a project. I have...we won't go into detail but you have these slides for reference. This sort of just gives you a real brief background so you can compare each of these three projects. For example, at Kahana, the hope is to restore the 1975 beach footprint with somewhere between 50 and a 100,000 cubic yards of sand. There were some sand studies previously completed. There are some statistics here on the economic background. In their case, the EIS preparation notice was published last July. Construction estimates are 15 to 30 million. There is so far private funding but there is of course, as you know, discussion about a possible Community Facilities District as a financing tool. This is a look at where that Community Facilities District would apply. These are the nine condominiums and one single-family property. This is a look at Kaanapali during a peak erosion period. And some of the similar statistics for Kaanapali restoring a 1988 beach footprint, sand volume of 75,000 cubic yards, similar EIS-PN published in 2018, \$11 million. This one is cost-shared by the Kaanapali Operations Association and DLNR. So, Sam is working hard on that project. And then finally, this is a look at Napili during peak erosion, and last summer. And some similar statistics for that project. Of course, the main difference being this would be much smaller, something like 10,000, maybe a little bit more than 10,000 cubic yards of sand on the beach and a smaller price tag, somewhere from maybe 1 to 3 million, and they're working on seeking private funds for that. So, I will wrap up with that. I know that was really quick, and I'm leaving out a lot of details. But if you ever have any questions about any of these projects or the others, lots of good work going on, we can get to some really good outcomes. Thank you.

CHAIR KING: Okay. Thank you so much, Tara. I'm sure we'll have some great questions after these next couple presentations. So, we'll go right on to Dr. Foley. Dr. Foley, do you have a presentation? Oh...

MR. FOLEY: Yes, I do. Am I next in the lineup --

CHAIR KING: You're --

MR. FOLEY: --or are --

CHAIR KING: --next --

MR. FOLEY: --we going --

CHAIR KING: --in the lineup.



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MR. FOLEY: --to have Director McLean?

CHAIR KING: I have you next in the lineup, and then followed by Director McLean.

MR. FOLEY: Okay.

CHAIR KING: Oh, I'm sorry. No, you're right. We do have...okay, we do have Director McLean next, and then you're going to follow up with some ideas for innovative responses. So, we'll go to...I'm sorry, Michele. We'll go to you next.

MS. McLEAN: That's okay.

CHAIR KING: Do you have a PowerPoint...

MS. McLEAN: I do. I do.

CHAIR KING: Okay. Great.

MS. McLEAN: I'll go ahead and share my screen.

CHAIR KING: Okay.

MS. McLEAN: Is that coming up?

CHAIR KING: Not yet, but...oh, now it's up.

MS. McLEAN: Okay.

CHAIR KING: Okay. So, we can see your next slide as well. I don't know if you...okay, there we go. Now, we're on full screen.

MS. McLEAN: . . .*(PowerPoint presentation)*. . . Okay. All right. So...and thank you for that \_\_\_\_\_ from Sam and Tara. We'll be talking about shoreline planning and permitting. And so, the topics I'll cover today are the proposed shoreline rule changes, emergency permits, work in progress, the streamlined shoreline permitting, the...just briefly touch upon the financing tool of Community Facilities Districts, and some lessons learned. So, the proposed shoreline rule changes we're talking about shoreline setbacks. And just really briefly, just to refresh everybody, the Federal Coastal Zone Management Act was adopted in 1972, followed up by the State in 1977. And that gives authority over the SMA and shoreline area to the planning commissions. The Maui Shoreline Rules were adopted soon thereafter, and were most recently updated in 2003. And those 2003 changes created the first erosion-based shoreline setback in the State. And what we're talking about using is the sea level rise, what we're calling the redline as the new basis for the shoreline setback formula. So, our current formula is the greater of either an erosion-based setback, which is 50 years, which is the expected life of a structure, the annual erosion hazard rate or the historical

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erosion of the property and 25 feet, which is the minimum setback. So, there's an example there. If the annual erosion hazard rate is 1.4 feet per year, then that property will have a 95-foot setback. Or the setback can be great...can be based on the depth of the lot. And so, today, the setback is the greater of those two things. What we're proposing is using the redline. And now, the redline is what gives you 80 percent confidence that you'll be safe from erosion if you're on the landward side of that line. So, the proposed setback would either be the erosion hazard line plus 40 feet, or if in the areas where there is not a redline, and Sam mentioned how that redline has some gaps in it, area where there is no redline, the Department is mapping the shoreline based on imagery and other data. And so, the shoreline, if you don't have a redline would be 200 feet from that shoreline or the lot-based setback if there is a certified shoreline. The benefit of this formula, and I won't go into a whole lot of detail, I know we're short on time, but now --

CHAIR KING: It's okay.

MS. McLEAN: --if a property requires a certified shoreline to determine the setback. And this would remove that requirement for most cases. And also, a proposed rule change we're discussing is how we process emergency permits. So, as we know, emergency permits can have long-term implications. What we're proposing to do with the rule changes is to make sure that those temporary measures, temporary protective measures, stay temporary. It would require that the applicant come up with a long-term plan, and that's something we would do collaboratively with the applicant. It would broaden the use of verbal approvals. The rules right now allow verbal approvals, but the proposed changes would broaden that and give the applicant more time to file that written application. And coming up with a long-term plan as I've said would be a collaborative effort with the Department because we do understand the financial reality of some of those long-term plans. There would be opportunities to extend the temporary measures but only if the applicant is working toward implementing that long-term plan. Something else that we're working on is a streamlined shoreline permitting process. So, as you can see here, we have State jurisdiction, County jurisdiction, and also Federal jurisdiction. Shoreline permitting right now can require up to 18 permits. There's a list of Federal permits, there's a list of State permits, and there's a list of County permits. So, we're trying to find where there's overlap and duplication, and how that whole process can be streamlined. Talking about the financing tool, Tara showed this slide really quickly of a Community Facilities District. And I understand the Water Infrastructure and Transportation Committee is --

CHAIR KING: Right.

MS. McLEAN: --discussing in more detail this afternoon. So, I won't go into a whole lot of detail here. But just a very, very broad overview of this, if you have this defined geographic area, if the cost of the project is let's say \$24 million, and there are 1,200 property owners including all the owners of the multifamily units, that's about \$20,000 per unit, over a 20-year period is a \$1,000 per unit per year or about \$83 a month. So, even though you look at a \$24 million price tag, you go, oh my God, how

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are they going to pay for that? If you break it down by a high number of property owners, it's a viable alternative. And just talking about Kahana Bay, and most of you were quite familiar with this, this has been an ongoing effort for about five years with the County and the owners, and UH Sea Grant, Tara in particular. The Council funded a offshore sand study in 2016. That was cost-shared between the County and the property owners. We've held more than 40 meetings with community members and owners in the area, engaged with the Army Corps of Engineers looking at alternatives. We have been issuing emergency permits for this area. The Kahana Bay Steering Committee was formed with representation from all of the affected property owners, and they entered into a cost-sharing agreement among themselves. And that cost-sharing agreement provided funding for the EIS, which is underway now. And I think that Mike can talk more about that. The Council adopted the enabling ordinance for a CFD. And the Council has held several information meetings on CFDs including the one that's going to take place this afternoon. So, some lessons learned so far is we need to be proactive, not reactive. That sounds obvious but with shoreline planning even more so, we need to get on the front foot and get off on the back foot. Looking at it rather than a parcel-by-parcel basis, looking at it at a regional beach cell basis. Seeking cooperative and collaborative relationships with the communities so it's not just us waiting for applications to come in. We have to work with them on what approaches might be feasible. And then we always want to look at beach restoration as plan A in the areas where it's a viable option. And Tara mentioned this as well, but I would be remiss if I didn't mention the amount of support that the Council has given. As Tara mentioned, in our FY '21 Budget, we have an expansion position for a Shoreline Planner. This fiscal year, we're right on the verge of finalizing the contract with UH Sea Grant for the Dune Management Coordinator position, and the Council provided funding for that to continue in FY '21. So, 'cause we're just getting started, it will really be for the next two years we have that position funded, and hopefully, it will prove to be worth funding in future years after that. And the Council funded the Ma`alaea Coastal Erosion study this fiscal year. And also working with Tara has been such an important component of this. I would be remiss if I didn't thank her for all her help and contribution by giving us this science-based perspective for our policy and planning. And that's it.

CHAIR KING: Okay.

MS. McLEAN: I hope I didn't go too quickly. That was a lot of information but I wanted to keep to your timeline.

CHAIR KING: That was great. I...and I think there'll be some questions. Thank you so much, Director McLean. I see we have our Pro Temp Tasha Kama on. Welcome, Tasha. Aloha. Thanks for joining us.

COUNCILMEMBER KAMA: Good morning, Chair. Thank you.

CHAIR KING: Good morning. Hope you had a good meeting this morning. So, Director --

COUNCILMEMBER KAMA: Very good.

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CHAIR KING: --McLean, are we going to need a...are these issues, the updates, are these going to be...do they need to be approved by the Council?

MS. McLEAN: No --

CHAIR KING: This proposed --

MS. McLEAN: --the Shoreline --

CHAIR KING: --changes?

MS. McLEAN: --Rules...the Shoreline Rules and SMA Rules are solely under the authority of the Planning Commission.

CHAIR KING: Okay. That's what I thought. All right.

MS. McLEAN: We will --

CHAIR KING: I just wanted to --

MS. McLEAN: --certainly keep --

CHAIR KING: --. . .*(inaudible)*. . .

MS. McLEAN: --the Council updated because this is such a big issue. Certainly, we will keep the Council up to speed before any final action is taken.

CHAIR KING: Okay. Well, we really appreciate all your work on this and especially the, you know, we all know . . .*(inaudible)*. . . forward thinking. So, thanks for being on top --

MS. McLEAN: Yeah.

CHAIR KING: --of this and thanks for the report.

MS. McLEAN: Thanks.

CHAIR KING: So, next we'll move to Dr. Foley. Are you still with us?

MR. FOLEY: Yes, I'm here.

CHAIR KING: Oh, okay.

MR. FOLEY: Do you see me?

CHAIR KING: Great. No, I cannot but --

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MR. FOLEY: I'll try...

CHAIR KING: --maybe you're...is your...oh now, I can see you. Okay. There you are.

MR. FOLEY: Okay. Great.

CHAIR KING: Okay.

MR. FOLEY: And do you see the screen?

CHAIR KING: We do.

MR. FOLEY: Okay. Excellent. Well, thank you for having me. It's a pleasure to be with you all. And those were great presentations to follow up after. So, I'm humbled. I think we got a lot of, you know, pertinent information and a lot of background. So, that's...makes my job easy. But I do want to give you some more background, maybe some more of the technical information and specifics with regard to the Kahana Bay Restoration effort. But also, if I may, just some general observations in the role that the County Council can have to really help facilitate some of the partnerships and some of the policies and technologies that are needed to address this crisis of climate change and coastal erosion on Maui shorelines. So, I'll start with Kahana. And...oh, do we have a question? I'm sorry, I see a hand.

CHAIR KING: No.

MR. FOLEY: Okay.

CHAIR KING: No, I'm sorry.

MR. FOLEY: Oh.

CHAIR KING: Oh. Tamara, did you have a process question or something?

COUNCILMEMBER PALTIN: Yeah, I just was wondering, you know, I can see him sharing his screen but it's just blue. Is there information on your screen that you're sharing right now?

MR. FOLEY: Oh --

COUNCILMEMBER PALTIN: . . .*(inaudible)*. . .

MR. FOLEY: --yes, I have.

COUNCILMEMBER PALTIN: . . .*(inaudible)*. . .

CHAIR KING: Okay.

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MR. FOLEY: I have the...

CHAIR KING: All we see is a blue screen. So, we're waiting for the first slide.

MR. FOLEY: Oh, I'm sorry. Let me...this is my first time on this particular platform.

CHAIR KING: Okay.

MR. FOLEY: So, let's --

CHAIR KING: Thanks...

MR. FOLEY: --try again.

CHAIR KING: Thank you --

MR. FOLEY: Yeah.

CHAIR KING: --Tamara.

MR. FOLEY: Yes.

CHAIR KING: I thought we were...okay, I thought we were waiting. So...okay. There we go.  
Now we see the first slide.

MR. FOLEY: Oh, you do. Okay.

CHAIR KING: Yeah.

MR. FOLEY: . . .(*PowerPoint presentation*). . . Excellent. Okay. I'm sorry about that. So, I'll just back up. This was the title page. So, Coastal Restoration for Maui shorelines. So, basically, I'm just going to cover the example of Kahana Beach, why this is a particular good example of a restoration on a regional scale. And, you know, it's probably not applicable for every situation on Maui's coastlines. Of course, we have different levels of development and different natural conditions. And so, you know, not one size fits all in any particular case for Maui's coastlines. I wanted to just give this background, you know, satellite image of Maui Nui just for perspective. Of course, we're talking about a relatively small percentage of our overall coastline. And of course, climate change and sea level rise is going to be an issue that affects every square mile of our coast. So, you know, it's definitely a daunting challenge, and I'm very pleased to be a part of the conversation about how we're going to manage this in the future. I will discuss some issues just from...based on experience of managing these types of projects around the State, and some solutions, or at least recommendations in terms of how partnerships, and policy, and innovation can play a big role. So, dialing into Kahana, this project of course, is a regional partnership. Director McLean did a excellent job summarizing all of the County's involvement to-date. And of course, Sea Grant involvement, they've been huge champions in terms

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of developing a partnership here and really being cheerleaders for the private landowners to form a hui, to fund the project, and to basically start the EIS process, which is the first step in ultimately securing those many, many permits that are required to do any work in the ocean. But this is an area that involves ten properties, nine condominium complexes, as well as a kuleana parcel that is owned by the Sedang ohana. So, I'll flip through some of the background images just to give you perspective. I'm sure you've seen these before. But the Royal Kahana hotel that's...or condo that's in the middle of the project area is pretty recognizable by the V shape. So, just keep that in mind. Also, I want to point out the Kahana Reef and Pohailani and Hololani complexes that are where the road bends closest to the ocean. So, just take those into perspective as we flip through some of the background. And then Pohaku Beach Park is on the south end of our project area. This is also known as S-Turns. And on the north end, we have the Kahana Stream, which is distinguishable with the Kaea Point, which sticks out at the stream mouth. So, going back to 1949, you can see we had a much different situation on the coastline here, very little development. There were...there was a continuous sandy beach from S-Turns down to the stream mouth. Then as development began in 1975, here you can see we have the Royal Kahana, the V-shaped complex, as well as the Kahana Reef. You can see there was a nice beach in front of this area still, but we had started to already lose some of our sands. Nineteen eighty-eight, the coastline is very well-developed at this point. We still see that we had a beach where...in some part. But as we get to the recent decades, you can see in 2007, we have lost the continuous beach. And so, for those who know this area today, you will know that you can't walk from one end of the beach to the next. Basically, the beach ends at the seawalls of the Kahana Reef and all the way down to Hololani. And so, here's a most recent image, aerial image in 2016. You can tell that our beach is quite depleted at this point and we have lost most of the public area that lines in front of these private properties. So, this is...we saw some previous images of basically the sandbags or the emergency response that has at this point taken the footprint of the public beach. And so, we've lost a great public resource. Of course, we've also lost a natural system, which provide storm resiliency to these properties. And so, ultimately, this creates a hazard issue. And so, public safety is a risk due to the loss of the natural system. So, that ultimately leads us to planning this project for Kahana Beach. Our objective is to provide a sustainable resilient solution to mitigate the erosion issue. We did a background investigation in terms of various alternatives. Tara mentioned kind of the traditional adaptation measures for coastal response. In this situation, we felt it was most appropriate to continue along in kind of the footsteps prior to our involvement with Oceanit in terms of looking at the options of beach restoration with and without stabilization structures. So, I'll get into a little bit more detail. But Kahana is blessed in that it has offshore sand that's readily available in close proximity. And so, a previous study that was funded by the County identified several patches of offshore sand. The two patches that are most convenient are Site 22 and 19, which you see on the map here. And these two patches are in the vicinity of the S-Turns' surf break, a little offshore and on either side of the reef where people surf. And they...they are deep sand pockets of great quality beach sand. And we have a backup site at Site 18, which is further offshore. But the sand in these locations are...is abundant and plentiful enough that we can feasibly restore a continuous beach as we once had. So,

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we're looking at 1975 as kind of our base mark for what we could restore in terms of beach width. And the beach restoration would be a complete design. So, it would involve not only the dry beach area where, you know, you would traditionally have recreation and cultural practices, but also the full profile, so the beach that goes into the ocean that's submerged and provides a stable slope, as well as the back shore area that's, you know, potentially planted with dune vegetation as Tara was highlighting in her presentation. So, it would be a complete package. The other option though that we're proposing as an alternative is to stabilize the beach area using a system of structures, coastal structures, that work with the natural waves that approach the shoreline. Basically, these structures work as breakwaters and groins to filter out a portion of the energy over time, and basically use the natural energy of the waves to stabilize that sand against the coastline. So, we're allowing just enough waves into the coastal area to keep that sand pushed up against the shoreline. And so, you can see we have a proposed layout for a particular approach which is seven T-head groins in this area plus a reinforced headland. And we have a lot more information on this, as well as other alternatives for coastal structures that have different scales, different numbers of structures, as well as different spacing between the structures, and different types of structure that could stabilize this coastline in the face of climate change and sea level rise, and how we're going to adapt over the next 50 years or so. And so, this information is all going to be available in our draft EIS once that's published. So, I just like to point out that as I kind of mentioned in my introduction, Kahana is an example...one example for a coastal situation on Maui which requires a certain type of strategy. And I think it's relevant for Kahana because of the level of development that's been...that's occurred there over the decades. And it's comparable probably to Waikiki and especially this adaptation measure using beach, nourished beach, as well as stabilizing structures. It's a strategy that's occurred in Waikiki for decades. Currently, the State is managing an effort that's a partnership as well, a public-private partnership, to restore the beach. And this is an image from the 2012 beach restoration, which is very similar in that they dredged offshore sand, pumped it to the shoreline and used it to fill in the beach profile. Currently, the State is also managing a project to rebuild a historic stabilization structure, a groin in front of the Royal Kahana hotel. So, it is a proven strategy, and it is, you know, acceptable in some locations. So, I'll just go quickly through some of the technical issues that we're dealing with in terms of planning this project. So, of course, we're doing investigations where we're sampling and collecting data on the depth and the quality of the sand resources in those patches offshore. We're also looking at the benthic environment. So, the characteristics of the bottom of the ocean seafloor in terms of the types of habitat. It provides what sort of species live in the areas of our proposed coastal structures or T-head groins, what species live in the areas that will be filled in with our sand. Our proposed restoration of the beach will cover some coastal, you know, some habitat. And so, we need to understand those areas, as well as what lives in those sand pockets that we're proposing to bring to shore. We're also doing investigations on of course, the wave climate. As Tara mentioned, it's a complex situation in the Maui Nui zone between the three main islands. And so, you know, there's a lot of diffraction effects and wave amplification effects. And so, we need to understand those in detail. And ultimately, bring those waves into the close proximity to our shoreline so that we can design these structures that work with the waves to



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make a sustainable shoreline and also understand the impacts that the structures could have on currents, on surfing resources, and the overall nearshore environment. So, I've touched on many of these issues but I just wanted to throw a bunch of words on this slide in terms of kind of the main issues that I'd like to identify that we need to deal with for any coastal restoration project in Hawaii. The issues on the left are more of the technical side, the things that we're studying in our EIS, and that will be detailed completely in our EIS, the environmental concerns, the assessment of various types of alternatives whether they are armoring or managed retreat, or in this case, beach restoration, and of course, what we think we're going to see in the future with climate predictions. On the right-hand side, these are more of the issues that I really believe that the Council can be of great help in terms of providing leadership, and policies, and programs to help. And so, of course, funding for the project is a...is kind of a make-or-break issue of course, and it involves everything from planning the project through construction, and then maintenance. You know, if these structures are going to be in place for 50 years, they're going to need to be maintained, and we need to be forward-thinking. Government regulations and policies, I believe Maui County is doing a great job, as Director McLean pointed out several policies are in the works. And ownership, this is a particular issue because these structures that we are proposing are going on State-submerged lands. And so, the State needs to approve of them for one. We need to apply for easements, and then someone needs to be responsible to maintain the structures and to take on the liabilities and the insurance that would come with building structures on public property. And I think the most critical aspect to any project for coastal restoration is going to be the relationship. And so, it is kind of inherently a public-private partnership just because we are restoring a public resource in, you know, adjacent to...often adjacent to private property, and there's benefits, great benefits for the community in these efforts. And so, the Community Facilities District that is being proposed for Kahana Beach, I think is a very important tool for enabling this type of partnership and bringing in the community together both on the private side and in the public side in terms of a structure for how to manage this partnership, both through funding and decision-making, and ownership of the resource. But there's other examples. And so, Waikiki Beach is a great example of a special improvement district, that's enabled that project to continue. And there's other...probably other ways that the County can help through partnerships. Of course, all the services already provided by the Planning Department and Sea Grant have enabled a lot of these projects to continue. There's probably other programs that can be devised by the Council and by this Committee. And I think there's also some potential for maybe tax incentives or other types of policies that might enable especially smaller projects, areas where maybe a regional effort isn't necessary where we might be looking at maybe just a few properties that need to be managed in terms of maybe a retreat strategy and how we can enable some sort of policy that provides a framework. I'll finish here with just a couple of ideas on potential innovations. And maybe zooming out to recognize that the problem isn't only Maui County, that we have to deal with this threat of climate change and the big problem of coastal erosion, and sea level rise, but it's a global issue, and there's communities all over the world and especially in our Pacific Basin that are island communities that are looking for solutions. And many of them don't have the resources that we are blessed to have at our fingertips in terms of all of the power of

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our system that we currently employ, as well as experts that are within reach. And there's definitely a role for technology here. Tara mentioned the work that the University is doing with our wave models. Those are very powerful tools and it should be expanded beyond West Maui, really, we should have a full Countywide picture of how waves are influencing our coastlines. We can collect data to verify. Tara mentioned the community outreach. That's a very powerful tool now that everyone has a phone in their hand at all times. They can snap pictures for us. But there's also low-cost camera systems that are available now, and there's advance software through computer vision, artificial intelligence. These allow us to collect data and process data. If you could . . . *(inaudible)* . . . big data for our coastline, could really be a powerful tool for us to understand the changes over time so that we have perspective of what areas are really needing our priorities. There's also an effort to learn from nature to design structures that mimic nature in terms of how nature itself, you know, responds to changes of the sea level. You know, this isn't the first time our planet's experienced sea level rise of course, and we can learn from the past and from natural systems, things like vegetation, what works in these areas, and how vegetation and beaches can be stable. And that's somewhat of, you know, the approach that we're taking with the design of these structures. And I think there's a big role for traditional knowledge here. So, the Hawaiians and the Pacific Islanders in general had a system for managing their coastlines for the generations, and they were thinking long-term, and they were thinking sustainably, and they were thinking about resilience. And I'm not an expert in this area but I think they're...you know, we should be learning from our kupuna here, and we should be asking for their voice in this discussion. I think there's a lot we can learn in terms of how we can maybe adapt quickly by building smaller structures and maybe utilizing them as a resource not only, you know, to maintain a stable coastal ecosystem but also to provide some of the recreational and fisheries benefits that were traditionally harvested or utilized in the nearshore environment. And that's it for me. I'll take any questions once we get to --

CHAIR KING: Okay.

MR. FOLEY: --that.

CHAIR KING: Great.

MR. FOLEY: Thank you.

CHAIR KING: Okay. Thank you so much, Dr. Foley. You put great information, and it's great to see how that project is expanding on the West Side. So, Members, first, I want to find out if there's anybody who out there and who's watching who wants to testify. Stacey *[sic]*, do we have any testifiers logged on?

MS. APO TAKAYAMA: Chair, we currently do not have any individuals signed up to testify.

CHAIR KING: Okay. So, I would like to go ahead if there's no objections and close public testimony --

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COUNCILMEMBERS: No objections.

CHAIR KING: --for the day. Okay. Public testimony is closed. And then if we...I don't think we have any written, but if we have any written, we'll write that...read that into the record as well. There's no objections? And then I'd like to go into...I have about ten minutes before I have to leave. So, I would like to go into questions from Councilmembers for any of our presenters this morning. And what we'll do is start with the...well, the list I have, which I think is the same list that the Vice-Chair has of the Committee Members, and we'll go down in the list and give everybody three minutes to start with. If you can kind of keep track for me, Stacey, just so we can get everybody...go through everybody who has questions, and then we can start again if there's a need for additional questions. And the one thing I wanted to ask, because I do have to exit for about half an hour, is...and I think this is a question for maybe Tara or Sam, is there a way to get some kind of overlays that would help us in our decision-making, and our planning that would be like for this next decade, and then the following decade? And so, the next 10 years, the next 20 years, the next 30 years. Because when we talk about the 3.2 feet sea level rise, it's nebulous because people don't understand when that is expected to happen. So, what are we expecting in the next 10 years, what we're expecting in the next 20 years, and what are we expecting in the next 30 years? And if there's a way to map that out, that would help us with when we look at these coastal erosion studies and we look at policies about construction on the nearshore line. Is there a way to get that information?

MS. OWENS: Sam --

CHAIR KING: Tara --

MS. OWENS: --do you want to respond --

CHAIR KING: --or Sam?

MS. OWENS: --or do you want --

CHAIR KING: Okay.

MS. OWENS: --me to respond?

MR. LEMMO: Well, I can try real quickly, then you can correct me if I...

CHAIR KING: Okay.

MR. LEMMO: Yeah, my video keeps muting. But the Viewer that we developed, you know, I know Maui is adapting the erosion line for its own purposes. And that should give you the 10 or 20 years based on a...based on for instance, one foot of sea level rise or half a foot of sea level rise, or whatever data. The Sea Level Rise Viewer, which is available to everybody, illustrates sea level rise impacts at one foot of sea level rise, at two feet,

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at three feet. One foot is approximately 20 to 30 years down the road. Perhaps, sooner.

CHAIR KING: Okay.

MR. LEMMO: I don't know. So, there...the data is there for you to review. As I said, one thing we're doing is making a guidance document so that the planning departments have an opportunity to utilize the data in a rational manner. And...

CHAIR KING: Okay. So, my...yeah, my thought was, you know, to...and to hear that the 1 foot is 20 to 30 years, if those kinds of estimates could be updated because that's what makes it more real to people when we're passing policies is if they understand the timeframe that we're talking about, and it's not 50 or a 100 years, you know.

MR. LEMMO: Yeah.

CHAIR KING: People think, well, I'm not even going to be around then. So, that's...the timeframes are really helpful for us in policymaking and for --

MR. LEMMO: Okay.

CHAIR KING: --I think our Planning Committee as well. And then my other question is, I guess the...for Dr. Foley, those two options for the Kahana area, is it one or the other, or are you looking at both? Is it a combination --

MR. FOLEY: Yes.

CHAIR KING: --of both?

MR. FOLEY: It's...at this point, we're looking at one or the other. So, both options are included as potential alternatives in our EIS for Kahana. They both have their advantages and disadvantages. And so, ultimately, the concept for stabilizing the beach is separate from just the concept of nourishing.

CHAIR KING: Okay.

MR. FOLEY: I mean we could --

CHAIR KING: So, it will be...

MR. FOLEY: --divide the area into two different approaches but ultimately, I think since it's a regional project, it would make sense to apply one or the other approach for the overall --

CHAIR KING: Okay.

MR. FOLEY: --region.

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CHAIR KING: Okay. Great. Okay. Well, those are my main two questions. And then I'm going to go to Member Sinenci for your question, and then...our Vice-Chair of our Committee, and then I'll turn...then you can go ahead and continue the meeting and give everyone else the three minutes. Okay. Member...

VICE-CHAIR SINENCI: Thank you, Chair. Yes --

CHAIR KING: Vice-Chair Sinenci?

VICE-CHAIR SINENCI: --I had a question for Mr. Lemmo. So, the State side, how...is the State committed to funding sea level rise measures? We have the documents to support it but are they . . .*(inaudible)*. . . for measures that fund sea level rise?

CHAIR KING: Mr. Lemmo?

MR. LEMMO: Can you speak up a little bit, sir? I was having a little trouble hearing you.

VICE-CHAIR SINENCI: Mr. Lemmo, was the State committed to funding sea level rise measures?

MR. LEMMO: That's a very challenging question for me to answer especially given what's happening this year with a complete collapse of State revenue. And I can't say anything regarding the expectation for funding over the next couple years.

VICE-CHAIR SINENCI: Okay. Thank you. And then my second question was, is the State's, I guess are they more committed to moving inland, moving mauka, or hardening the shoreline?

MR. LEMMO: Excellent question. It is a...I think it's good to have a Statewide perspective on this. It's...I'm thinking about it every day as I watch illegal seawalls go in and struggling to combat it. I firmly believe that we can have a combination of all of these. I...I...despite...okay, I know that people will disagree with me on the armoring, but we may have to look at areas that...where we can protect some structures that we have under the...under...with the understanding that there's no effect to beach processes, sandy beaches, public access. Okay. We got to set that aside. There might be places where we can armor. We don't have to beat ourselves up every single place. There are places where we're going to do beach restoration. We definitely got to do it. We want to do it, great. And there's places where we need to start moving people away from the coastal area, not just to say beaches because the reality is you need to get them out of there anyway because maybe the beach will get lost, but we'll certainly have a major public disaster on our hands if we don't do something about some of these large structures, infrastructure, AOA's, residential areas in the heavy SLR-XA areas. We need to really think about getting them out of there.

VICE-CHAIR SINENCI: Thank you, Mr. Lemmo. Thank you, Chair.

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CHAIR KING: Okay. Thank you. Thank you, Mr. Lemmo, for those answers. And just to kind of quickly follow up on Vice-Chair Sinenci's question, is the State prepared to accept the responsibility for upkeep of the...if they go to T-groins or even beach nourishment in the Kahana area? If that goes through a Community Facilities District since it's in the district of the State, would that be handed over to the State at that point versus the County?

MR. LEMMO: Not really my call.

CHAIR KING: Oh, okay.

MR. LEMMO: You're all very high-level people, and I can't...I don't want to say anything to mislead anybody. I tell people at the staff level, you know, that the State can't really take...State can't assume the liability for something that is built by the County or by the private parties. However, that doesn't mean that that's the final answer. I'm just a staff-level person. It's always the legislative process, you know, and high-level negotiations and people taking about finding a solution, you know. But that involves people above my pay rate. I understand the complexity of the situation but you have to understand my position is it's unprecedented that we would allow somebody, a private party, to build something on State property without making them get an easement.

CHAIR KING: Okay.

MR. LEMMO: Because otherwise, we have tremendous liability.

CHAIR KING: Okay. All right. Thanks for that answer. So, Vice-Chair Sinenci, can you take over, and then the...continue with Councilmembers' questions? . . .*(inaudible)*. . . very important...and I've got my Staff on taking notes. So, thank you everybody. I'll hopefully be back in half an hour. But --

VICE-CHAIR SINENCI: Okay.

CHAIR KING: --go ahead and take a break --

VICE-CHAIR SINENCI: Yeah.

CHAIR KING: --after this. Okay. Aloha.

VICE-CHAIR SINENCI: Okay. Next, we have Chair Lee for three minutes. Questions?

COUNCILMEMBER LEE: Hi. Thank you, Mr. Chair. I have a question for Dr. Foley. I was interested in the T-groins, Dr. Foley. I was wondering how do you physically transport the sand from those sand pockets to the shoreline? And like what kind of equipment is used to achieve that and how long does it take, and how long does it last?

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MR. FOLEY: Yes, thank you, Councilmember Lee. I'm happy to address those questions, very good. From a technical perspective, there's two main methods for transporting the sand. One is hydraulically or using pumps to basically vacuum the sand off of the sea floor. And that uses a lot of water to move the sand from offshore with a pipeline to the beach area. And then we have to, once we get it to the beach, we have to dewater so that we have all that thousands of gallons of water to deal with in terms of keeping the ocean clean and water quality, that's a big concern. So, the other method is mechanically, which is basically a fancy way of saying to use an excavator to scoop the sand off the bottom of the sea floor, bring it to the surface, and put it on a barge, where we then can haul it to the shoreline. And that would involve barges and trucks to move the sand from offshore to onshore. At this point, we are keeping it open in the EIS to explore the environmental impacts of both of those options. As you can imagine, each option has its own advantages and disadvantages. In terms of how long it would take, it's going to be a several-month process. I mean the...due to the proximity of the sand to the surf break, to the shoreline, you know, it's going to be...it's going need to be done when the weather is fair. So, we're going to need to plan the construction around the weather predictions. And that might mean that the project takes some time. And of course, if we are building stabilization structures, we also want to build structures while we are nourishing the sand. So, it's going to be a process of leapfrogging, or building a stabilized beach, filling it with sand, and then building another cell, and continuing along the beach. So, it will take some time, and we'll have a detailed construction schedule once we get further in the planning stages.

COUNCILMEMBER LEE: Thank you.

VICE-CHAIR SINENCI: Thank you, Chair Lee.

COUNCILMEMBER LEE: Thank you, Mr. Chair.

VICE-CHAIR SINENCI: Thank you. Next, we have Member Rawlins-Fernandez.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Chair. Okay. And mahalo, everyone, for all of your presentations. Okay. Let's see. I guess my first question will be for Dr. Foley regarding the...I think it's beach nourishment, when we bring the sand back to the beach. How long do you project that will...the sand will stay on the beach?

MR. FOLEY: Yes, excellent question, Councilmember. It's of course dependent on the beach that we're talking about. So, for Kahana in particular, we're projecting a...an erosion cycle on the order of five to ten years. So, we would need to renourish the beach every decade or so to make up for the loss as the erosion continues. Of course, the erosion isn't constant or the rate isn't constant throughout the entire beach cell. So, particular parts of the bay will erode quicker than others. And so, you know, it really depends which property we're talking about in terms of how long it will last. It also is going to be dependent on what we actually see with the sea level rise projections. So, as sea level rise gets...accelerates, we're going to see quicker erosion, of course. And Sam pointed out that we already are seeing a background sea level rise, which is a little quicker than we expected. It's basically here a decade sooner than we thought,

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at least if this data continues, if this trend continues. So, I think we should err on the side of caution, and that's really why stabilization structures become more feasible. Because if we really look at what we might see in the next 50 years, the erosion rates might be so quick that we would need to be renourishing this beach very frequently to make it sustainable, and that could be a big expense, as well as there's environmental concerns, and there's concerns where that source of sand would come from once we deplete our offshore sources. So...

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo. Okay. I have 30 more seconds, and I have one more question for you, and then I have a question for Mr. Lemmo. But I'll wait for our second round. My last question for you is during your presentation, you mentioned all the different impacts but I didn't hear any potential impacts to traditional and customary practices in the areas. So, I wanted to make sure that was something that was being considered and taken into account.

MR. FOLEY: Yes, thank you for that question. We are doing an...a Cultural Impact Assessment as part of our Environmental Impact Statement, as well as reaching out to the community through a number of planned community outreach events. You know, of course, traditional practices I think are a very important concern for this type of project. The impact that we'll have to gathering, fisheries, you know, cultural use of the shoreline is a very important issue. So, it is something we're considering.

COUNCILMEMBER RAWLINS-FERNANDEZ: Yeah, just to clarify, when you say this project, you're talking about both the T-groin and the beach replenishment?

MR. FOLEY: Yes, we're talking about both. We're considering --

COUNCILMEMBER RAWLINS-FERNANDEZ: Okay.

MR. FOLEY: --impacts of both.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo. Mahalo, Chair.

VICE-CHAIR SINENCI: Mahalo, Member Rawlins-Fernandez. Next, we have Member Hokama. Questions for the panelists?

COUNCILMEMBER HOKAMA: Thank you, Chair. Maybe for Mr. Lemmo. First, Sam, thank you for participating with us. I know you're a long-time State employee, you know, that has the ear of many decision-makers. So, my question to you, Sam, is again, yeah, I feel a greater urgency than others, maybe it's an age thing, but I don't think we have that much time to make certain decisions. And one of the discussions I feel we are not doing today is trying to come to terms on the division of responsibilities and who's going to be the key agency or key level of government that's going to move certain things forward and eliminate any duplications. So, my thing is, you have any comments regarding that especially maybe we need as islanders to look at our land use and ocean use policies a little different? I appreciate Ms. Rawlins-Fernandez bringing up the more traditional aspects of the aina, the kai, and the coastal areas.



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So, maybe we need to adjust it, Sam, whereby now it...for our sister counties but for especially our County that the internal waters between our islands be some kind of like ocean property that we would consider for better management, as well as potential economic and sustainable food efforts for our island people. So, is that something you folks are willing to talk about, having the discussion and coming to terms on who will have the responsibility of various areas as it regards to climate rise?

VICE-CHAIR SINENCI: Mr. Lemmo?

MR. LEMMO: There's a couple things going on I can just mention. Of course, we have the State Climate Commission, and the counties are members of that Commission, the county planning directors, and made up of department heads from the State and the county. That could be a venue to sort out your questions on jurisdiction, kuleana...whose kuleana is what, and how to move forward with respect to tackling this severe problem, and all aspects of our life, just not sea level rise. There's also the Office of Planning, who does have responsibility for doing some climate change planning work under the State Planning Act. Act...I can't remember, they've got some overarching policy guidelines that they're supposed to follow. They are a part of the Climate Commission. Certainly, we'd like to bring all that into a more efficient and effective planning unit.

COUNCILMEMBER HOKAMA: Thank you, Sam. I appreciate the...your brief comments. And yeah, I wish we just wouldn't look at project specifics but look at the County as a whole. I haven't heard one thing from a County employee today that has talked about this in a County perspective except for a regional perspective, and that's not satisfactory to me. Thank you, Chair.

VICE-CHAIR SINENCI: Thank you, Member Hokama. Next we have Member Paltin.

COUNCILMEMBER PALTIN: Thank you, Chair. My question is for Director McLean. I was wondering about the shoreline setback appeal process. Is that...if you can explain that briefly like in a minute or so?

MS. McLEAN: Are you asking about the current process?

COUNCILMEMBER PALTIN: Yes.

MS. McLEAN: Yeah, there is an opportunity...we have a process called the Shoreline Assessment. So, where we establish what we believe the shoreline is and how the shoreline setback formula is established. And there is an opportunity to appeal that. Formally, that goes to the Planning Commission. But in general, most disputed cases are worked on the staff level to see if we can come up with a reasonable understanding that works for us in the Administration of the rules and also, the property owner. But --

COUNCILMEMBER PALTIN: So, basically...

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MS. McLEAN: --formally, it can go to the Planning Commission for a determination.

COUNCILMEMBER PALTIN: If people don't agree with the setback, they can appeal it and try to build closer to the ocean is kind of what the process is about?

MS. McLEAN: They can appeal it and that would be a public hearing before the Planning Commission. And if the Planning Commission agrees, then their setback would be from whatever that determination is.

COUNCILMEMBER PALTIN: And just wondering, do you think the rate and fee is a little low on that or no?

MS. McLEAN: I've been with the Planning Department for more than nine years now, and I do not recall that ever going to any of our planning commissions. So, it does not happen often.

COUNCILMEMBER PALTIN: Okay. Cool. Thanks. My other question is for Mr. Foley. I don't know, we've seen a few years back, I think DLNR was trying to create an artificial reef, and they dropped these structures right on the reef instead of in the sand and ended up damaging the reef. And so, my concern in getting these...the sand...I mean I don't have a problem with getting the sand away from the S-Turn...or Pohaku Park reef, but I don't have good trust that they wouldn't damage the reef in the process of trying to get the sand unless they're using like some sort of vacuum pump or anything. Do you have any comment as to the reliability and responsibility of removing the sand and moving it to one area? And also, if you have any knowledge, I think Hololani did their own project like this, and within the very next weekend, there was a swell from the incorrect direction and all their money went out with the swell.

MR. FOLEY: Yeah, great comments, Councilmember. I...I'm familiar with the...I think it was Keawakapu where they dropped the Z-block artificial reef units, and I believe that was...that's Division of Aquatic Resources that manages the...that program. That program was shut down after that accident. It was...I think it was a mistake from what I've...you know, I wasn't involved of course, but from what I've heard, it was a mistake with the GPS or potentially, the contractor lost their bearing in terms of where they were, and it was a tragedy. And of course, that put a black eye on the, you know, the industry in terms of restoring artificial reef habitat. And so, you know, in terms of mitigating that type of mistake in the future and avoiding it, it really comes down to good management, good technology, well-funded projects that don't cut corners. And I don't think the public should allow for contractors to cut corners. And it does require, you know, good management in terms of knowing the weather forecast and being prepared if things change abruptly, which they definitely can. So, just good project management and considering all the impacts that could happen.

COUNCILMEMBER PALTIN: So, then, you know, if we are to do the Kahana --

VICE-CHAIR SINENCI: . . .*(inaudible)*. . .

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COUNCILMEMBER PALTIN: --T-groin...oh --

VICE-CHAIR SINENCI: . . .*(inaudible)*. . . --

COUNCILMEMBER PALTIN: --sorry.

VICE-CHAIR SINENCI: --go to the second round after this. Member Kama, do you have some questions for the panel? Thank you, Member Paltin.

COUNCILMEMBER KAMA: Thank you, Chair. Yes, I just wanted to ask how many other properties around the County, on all islands, are having the same issues as the Kahana and the Kamaole I, those issue that's...that we're talking about today? How many other properties across our County?

MS. OWENS: This is Tara. I think I can generally answer that question. These erosion and high wave impacts are basically ubiquitous across the State and around our island. The degree of severity changes depending on land uses and geology. But the bottom line is that pretty much all areas on Maui are experiencing erosion and there are very few exceptions Statewide to that trend.

COUNCILMEMBER KAMA: So, with that being said, Chair, do we...how do we figure out what areas that we're going to concentrate on? I mean is there a priority list across our County that says this is what we're looking at now, and as time goes on, we got to keep our eyes and our ears open to this, this, and this, and this?

VICE-CHAIR SINENCI: Did...Director, did you want to answer that question?

MS. McLEAN: I'm sorry, can you repeat the question please, Councilmember?

COUNCILMEMBER KAMA: Yes, I was asking if there's a priority list in terms of how do we handle these issues if they're across the board? And today, we're talking about Kahana and I think Kamaole I. What are the other ones, and what priority or what order are we having them in terms of discussion and also probably remediating?

MS. McLEAN: That's a tough question. And I'd ask if Tara wants to chime in on this. This relates back to what a number of us mentioned about being proactive because the higher priorities now frankly are the ones where structures are the most threatened. Or in some cases, infrastructure being threatened. And if there are temporary measures that can give us some breathing room, which we've done in quite a number of cases, while we develop that long-term solution. So, it's, you know, where there really is a health and safety issue, or an imminent threat to a structure is when we will approve temporary measures and when we kick in to high gear with long-term planning. But right now, that tends to be reactive. If we can get on top of these cases, then it would be fantastic to be proactive, so we identify where future threats may be happening and see what we can do today to stave off, you know, this intense response that we're doing. But yeah, right now, it's where we're talking about health, safety, or imminently-threatened structures. I don't know if Tara wants to add anything to that.

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VICE-CHAIR SINENCI: Perfect. Thank you --

MS. OWENS: Well...

VICE-CHAIR SINENCI: --Director. Oh, Tara, go ahead.

MS. OWENS: Can I quickly, I...well, I would just add. We could easily, we, being myself and the coastal planners at the County and State, we could easily identify specific erosion hotspots around the island. Of course, prioritizing is a harder thing because it goes beyond just the issue itself but to bigger questions about financing and other things.

COUNCILMEMBER KAMA: Yes.

MS. OWENS: But I would want to say that being proactive sometimes means addressing the problem before it's seen as a problem.

COUNCILMEMBER KAMA: Yes, yes, yes. Is my time up, Chair?

VICE-CHAIR SINENCI: It is.

COUNCILMEMBER KAMA: Okay. Round two coming up. Thank you.

VICE-CHAIR SINENCI: Yeah. Thank you. So, Members, I just wanted to get a feel, did you...are you guys ready for another round? Is that okay?

COUNCILMEMBER KAMA: Yes.

VICE-CHAIR SINENCI: All right.

COUNCILMEMBER KAMA: Yes, round two.

VICE-CHAIR SINENCI: Okay. We'll start again from the other end. I just have a question for Director McLean. So, are there current projects already in the books as far as permitting that are within the SLR-XA areas? I believe, you know, there is the Hilton that is in...down in South Maui. So, what happens to those that are already in the pipe and moving forward from here on out?

MS. McLEAN: That's a great question. Right now, we have not, or I should say the Planning Commission has not adopted those revised rules to use the Sea Level Rise Exposure Area as a basis for the setbacks. So, we do not have a regulatory mechanism to use that as the setback. However, shoreline permits require SMA and shoreline approvals. And in that analysis, we look at coastal hazards and other conditions. And knowing that that redline is out there is something that we do apply to the analysis. We have been successful in some cases with having property owners move their improvements farther mauka, not necessarily out of the exposure area, but at least farther from the current shoreline. And in some cases where we are talking with them about modifying

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their plans more significantly to demolish existing structures if they're going to be doing renovations and have those amenities relocated into a...an existing safer location. So, we've had a number of permits come through since the Climate Commission's report was adopted and the Viewer came out. And we can only do what we can do to impress upon property owners that if they build those improvements today, they could very well be in big trouble in another 10, 20, 30 years.

VICE-CHAIR SINENCI: Thank you, Director. Then just a follow-up, do you see a need to move our SMA boundary lines mauka?

MS. McLEAN: In some cases, I do think they should be moved mauka. In other cases, I think it...they could be moved more makai. But that is...we did work with the Lanai Planning Commission a year or two ago, and did a comprehensive revision of the SMA boundaries on Lanai. And we haven't yet ventured into Molokai and Maui yet for that, but they do need to be revisited for sure.

VICE-CHAIR SINENCI: Thank you. Thank you for that. Next, we're going to go to Chair Lee.

COUNCILMEMBER LEE: Hi. Thank you, Mr. Chair. I have a question for Michele. Director McLean, it appears that the Council has been supportive of the Planning Department's efforts, but is there more you would like to see the Council do in terms of providing more funding, more ordinances, less interference? What would you like from us?

MS. McLEAN: Oh, how could I answer that question? The Council has really been great with this issue in particular. I don't really know that we have the capacity to handle a whole lot more, and especially with the economic situation that we're facing being realistic with our capacity, as well as what's reasonable to fund. I think the big question, and we'll be talking about this this afternoon in the Water, Infrastructure, and Transportation Committee is about CFDs. And really, it's a big fundamental question for the County, for the Council, and the Administration, is do we support a CFD for Kahana Bay? And if the answer to that question is yes, the next big question is who is going to own those improvements. We've touched upon that a little bit here this morning, but those are two huge questions that need to be answered. And depending on those answers is really going to drive our options for some of those hotspots. Kahana Bay is, you know, limited in the kinds of improvements that could work there, but I think it's still is a good test case for other areas and whether the County sees CFDs as a viable option for them. And having that policy discussion with the Council, I think is the next big thing we have to do.

COUNCILMEMBER LEE: Yeah. Thank you, Director. Yeah, I totally agree. I asked the Chair of that Committee to schedule CF...the topic of CFDs because I'm...I am getting to the point where I would like to see actual applications. I have a feeling that some people just don't know how to do it. I asked her to bring in options to identify people who could be resource people, you know, for people...for the organizations to hire. My...I would guess that the organization that applies for the CFD is the organization that's going to own the improvements because somebody has to be responsible for the bond. And so, somebody has to be responsible for the maintenance of any

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improvements. But, you know, I look forward to that discussion this afternoon. And I fully support what you're doing. Thank you, Michele.

VICE-CHAIR SINENCI: Thank you, Chair Lee. Next we have Member Rawlins-Fernandez.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Chair. I think where I'd like to go is kind of dovetailing off of everyone, and my question will be for Director McLean. Do you know if there are talks, you know, Committee discussions happening where...I know that the primary objective right now is to try to preserve these shoreline properties, like that's the property owners' objectives, but are they starting to accept the reality that its, property is only going to be protected for so long and they're going to have to at some point give it up?

MS. McLEAN: That's a tough question. I think that because the period of time that we're talking about with the Sea Level Rise Exposure Area is really in terms of decades, and there's a big difference to all of us between one decade and five decades, but we're talking in time range of decades. When you look at a property owner, they're looking at their interest in that property. They're not necessarily looking in that decades-long timeframe. So, it's really like they have a short-term immediate interest, more immediate than mother nature. So, I really don't think they're looking...they're not concerned with what's going to happen to that property 60 years from now. If you're a retiree and you're thinking, oh, I, you know, that's not going to be a problem for me during my lifetime. So, it's really a very...it's an emotional and a financial issue. So, I think some people are just truly interested in the short term. We found that actually with hotel properties as well. You know, the general manager right now is interested in his property and the success of his property. And 20 years from now, it's going to be that guy's problem, not his problem. So, it's tough. It's really pushing a boulder uphill trying to get the property owners' perspective on this.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Director McLean. And then my last question is for Mr. Lemmo. Aloha, Mr. Lemmo. Nice to see you. Are you still on? Oh, there you are. Okay. Nice to see you. So, in your presentation, you spoke about the creation of a website that would have...it would be a compilation of all this information. Do you have like an expected date for this to be ready?

MR. LEMMO: Well, we have a website right now. It's the Hawaii Climate Portal. And we'll probably work off that one with trying to highlight this, what we're calling the Hawaii Climate Ready effort, and at least the things that we're trying to accomplish at our level. So, that's sort of a work in progress. Our Climate Coordinator, Anu Hittle, is working with a web designer, and try to bring this thing up-to-date. And looks like our time is up, so. Trying.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Mr. Lemmo.

VICE-CHAIR SINENCI: You can finish --

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Chair.

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VICE-CHAIR SINENCI: --finish up. Okay.

COUNCILMEMBER RAWLINS-FERNANDEZ: Okay.

VICE-CHAIR SINENCI: Thank you.

MR. LEMMO: That's...

VICE-CHAIR SINENCI: Next, we have Member Hokama.

COUNCILMEMBER HOKAMA: Chair, thanks. So, my first thing for Ms. McLean is, can you send to the Committee a maybe a chart or a graph of all the changes over the past, I don't know maybe 50 years or whatever, regarding the shoreline certification for the County of Maui, our past data? And can that be plotted out so we can see areas of either big erosion or minimal erosion?

MS. McLEAN: Where we have received shoreline certifications for properties?

COUNCILMEMBER HOKAMA: I mean don't we...is there no regular frequency that we certify the shoreline?

MS. McLEAN: It's...

COUNCILMEMBER HOKAMA: Or we just do it when somebody asks for it?

MS. McLEAN: It's done on a...and this is, you know, a small piece of the problem, those are done on a parcel-by-parcel basis when the property owner has a reason to do it. If they're proposing a development and they need to establish their shoreline, or if Sam's office has a reason.

COUNCILMEMBER HOKAMA: Okay.

MS. McLEAN: So, yeah --

COUNCILMEMBER HOKAMA: Okay.

MS. McLEAN: --it's...

COUNCILMEMBER HOKAMA: There's no comprehensive island-wide shoreline data we can look at one time how Maui has changed over the last 100 years?

MS. McLEAN: Maybe Tara can chime in on this. We do have the erosion atlas. That's probably the better tool. Tara, do you want to --

COUNCILMEMBER HOKAMA: Well...

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MS. McLEAN: --discuss that a little bit more?

MS. OWENS: Right, right, the shoreline...

COUNCILMEMBER HOKAMA: I would rather you take that...send us whatever information you guys have, you know, I mean we are...

MS. OWENS: Okay.

COUNCILMEMBER HOKAMA: We just got insufficient time, yeah.

MS. OWENS: Okay.

COUNCILMEMBER HOKAMA: But for, Ms. Owens and Mr. Foley, I appreciate you guys bringing up that wave energy impacts. I need to know if you guys also looked at wind energy. Because what you guys doing, it's going to impact southeast Molokai. But for me, it screws up the whole north shore of Lanai. You know, how much crap I get from South Maui, from the restaurants in West Maui. I get Young Brother [sic] containers that get knocked off in the channel and end up on our north shore. I get a lot of crap on the north shore of Lanai and it's because of the waves, the currents, and everything else. So, I'm very hesitant about groins and anything that's going to put on the Southside of Maui to impact current and what's going to arrive on my north shore on Lanai. Okay. I'm pissed about this thing. It's been going on for...from the '60s. Okay. So, I've lived through all these erosion bullshit over my lifetime, and I just need to know when are you guys going to show the impacts on how it impacts other areas of the County. 'Cause what you're doing on West Maui I'm sure is going to hit me on north shore Lanai.

MR. FOLEY: Councilmember, that's an excellent question. And I share your concern about marine debris and the impacts to our coastlines. Obviously, certain coastlines in Maui County experience worse debris issues. Of course, this project is in the nearshore environment so it's inside the fringing reef. The impacts to coastal circulation are probably more...they're a little more immediate than a bigger type of like harbor development. But that is something that we are investigating through our modeling efforts, and it is...it will be addressed in our EIS, absolutely.

COUNCILMEMBER HOKAMA: Appreciate that, Dr. Foley. Thank you.

VICE-CHAIR SINENCI: Thank you, Member Hokama. Next we have Member Paltin.

COUNCILMEMBER PALTIN: Thank you --

VICE-CHAIR SINENCI: Final round.

COUNCILMEMBER PALTIN: --Chair. My question is for Director McLean. I just would like to know a little bit more about the shoreline setback appeal, like how to resolve it without going before the Planning Commission? Is it that the people that want to



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build something within their setback just decide not to do it? Is that how it's resolved? Or is the setback moved or...I just was thinking about that if you could go into a little bit more detail.

MS. McLEAN: Sure. In the presentation, I provided the formula for the shoreline setback. So, if an applicant comes in with a proposal, and we look at the property and we say, oh no, that's in the shoreline setback, you can't build there. They say, well, no, that's not where my shoreline is, or that's not the formula that should be applied to my property. So, we look at it and see if we were wrong in which formula we applied to it, or if we had the calculation wrong, if we were using old data or maybe they were using old data and we need to tell them what the new data shows. So, if we...if it turns out that we were mistaken, then we will correct our call on that. We don't have the ability to just change what it is. So, if we say no, we were right, and this is where we say the shoreline is, if they disagree with that, then they can take that to the Planning Commission. But if they agree with our call, then they would have to comply with the setback that we tell them applies to their property.

COUNCILMEMBER PALTIN: How often have you found that the Planning Department was the one that was incorrect?

MS. McLEAN: Not often, not often. People try, and this isn't just with shoreline setbacks, with all kinds of things whether their realtor told them, whether their neighbor told them, whether, you know, whoever it may be, you know, they're led to believe one thing, and we have the opportunity to . . .(inaudible). . . them. So, it's not often that we're mistaken but sometimes we are.

COUNCILMEMBER PALTIN: Okay. My next question is for Mr. Foley again. Just was wondering with the T-groin situation, do you have a estimate as to how long that would hold up, and if it would provide enough time for the buildings to disassemble and move back?

MR. FOLEY: Yes, Councilmember. Excellent question. Of course, you know, it's design practice, engineering practice in coastal engineering that we design a structure for 50 years. And of course, we can tailor that design for different design life cycles. So, if you want a project that will last a 100 years, we can develop a design. If you want a ten-year project, we could develop a design for that. And what ultimately...

COUNCILMEMBER PALTIN: Oh . . .(inaudible). . . --

MR. FOLEY: Go ahead.

COUNCILMEMBER PALTIN: --about this thing for 50, 10, 100 years, but as a...sorry. . . .(inaudible). . .

VICE-CHAIR SINENCI: Finish up. Go ahead.

COUNCILMEMBER PALTIN: Oh...

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MR. FOLEY: We are currently designing for 50 years, yes.

COUNCILMEMBER PALTIN: So, it will --

MR. FOLEY: And...

COUNCILMEMBER PALTIN: --hold back effects for 50 years of sea level rise?

MR. FOLEY: It would be designed for a 50-year projection of sea level rise, correct.

COUNCILMEMBER PALTIN: Okay. Thank you.

VICE-CHAIR SINENCI: Thank you, Member Paltin. Next we have Member Kama. Second and final.

COUNCILMEMBER KAMA: Thank you, Chair. So, I just wanted to speak to what Director McLean said about not having enough capacity. So, Director McLean, what will it take for you to get capacity to be able to do... 'cause when I look at the work that is before us, and we're only looking at today Kahana, and I think maybe Kamaole, but... and I'm thinking about what are the other properties that are out there that are in the same situation. So... but I'm also looking at the Kahana scope and status that I think Tara did in her presentation, and it tells me that the construction cost estimate to do what we want to do just for this project is 15 to 30 mil. So, my second question is not only about capacity, but the other question is how much money are we willing to spend before we decide that we have to stop spending money because ultimately, as Vice-Chair Rawlins-Fernandez had said, at some point in time, we're going to have to let it go? So, when do we decide as a County, and can we decide that or do we need to wait for property owners to make that decision too about how much time, money, and energy we can spend to be able to remediate these issues? And if we don't have the capacity to do it, in the end, it will all fall away. So, if you could respond to that please?

MS. McLEAN: Those are big questions. In terms of capacity, it's, you know, it's personnel, it's staff, and funding to do studies, and work with other experts like Mike and other shoreline engineers. You know, and that's true for any government function is, are... is the level of service that we're giving right now acceptable? You know, if we had 500 employees, we could be out all over the place but is that... *(inaudible)*... that that would cost. So, related to the expenditures, if we're talking about a CFD, that does not involve any direct County expenses. The County expenses do come... there are administrative responsibilities on the County, but that can also be paid out of the CFD. So, that is... that really isn't an expense for the County. But there could potentially be if we decide, if we make the call, and the Council is the policymaker, to not support that, and that essentially a property is going to be abandoned. You know, there are real property tax revenue implications to that. You know, there are a number of... you know, there are... it's not in a vacuum. So, there's a lot that goes into those policy decisions.

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COUNCILMEMBER KAMA: Thank you, Chair.

VICE-CHAIR SINENCI: Okay. Thank you, Members. Okay. So, it looks like that was the end of our second round for CAR-9. So, before we defer this item, we wanted to thank our panelists, Mr. Lemmo, Ms. Owens, Director McLean, and Dr. Foley. Thank you for coming in and sharing your expertise with the Committee so we can make some sound decisions. So, mahalo for your work.

MS. McLEAN: Thank you.

VICE-CHAIR SINENCI: With that, Members, if there are no objections, we'll defer this item.

COUNCILMEMBER KAMA: No objections.

COUNCILMEMBER LEE: No objections.

VICE-CHAIR SINENCI: Thank you.

**COUNCILMEMBERS VOICED NO OBJECTIONS.** (Excused: KTK)

**ACTION:            DEFER PENDING FURTHER DISCUSSION.**

VICE-CHAIR SINENCI: And then...okay. And without objections, we'll take a ten-minute recess. We'll be back by 11:34. The CAR Committee is now in recess. . . .*(gavel)*. . .

**RECESS:            11:24 a.m.**

**RECONVENE:    11:34 a.m.**

VICE-CHAIR SINENCI: . . .*(gavel)*. . . Will the CAR Committee of Monday, June 1, 2020, please come back to order? It is 11:34.

**CAR-15        KAM I BEACH PARK DUNE RESTORATION** (CC 20-154)

VICE-CHAIR SINENCI: And so now, Members, we have our second item, CAR-15, Kamaole I Beach Park Dune Restoration. And so, we have Mr. Juan Rivera, a Civil Engineer from the Wastewater Reclamation Section of the Department of Environmental Management here with us today. He'll be discussing the status of Contract C7010, Kamaole I Beach Park Dune Restorations [*sic*] in association with Goodfellow Brothers, LLC. Mr. Rivera?

MR. RIVERA: Yes, yes, Chair. Thank you so much.

VICE-CHAIR SINENCI: You have a presentation?

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MR. RIVERA: Yes, I do. Thank you so much for the opportunity. It's always a privilege to speak before the Council. I'm going to attempt to share my screen right now. Let's see. Microsoft PowerPoint...and, see if anybody can see it. Hold on one second. Looks like...I don't think it's wrong on my end here. Okay. Can you guys see it? Nope.

COUNCILMEMBER KAMA: No, the screen is blank.

MR. RIVERA: Now the screen is blank, hold on, hold on, let me try this again.

VICE-CHAIR SINENCI: There it is.

COUNCILMEMBER KAMA: Okay. You're good. You're good.

MR. RIVERA: . . .(*PowerPoint presentation*). . . We're good? Okay. I got it. So...thank you so much for the opportunity. I'd like to talk about the project that we completed recently. And to me this is a good example of how different County agencies have been able to work together to achieve a common goal. Before I start, let me...I want to acknowledge a few people that were instrumental in helping me with this project. Keanu Lau Hee from Planning, Tara Owens from Sea Grant [sic], Don Couch from Department of Energy Management [sic], and Mary Kielty from Departmental of Parks [sic]. A little bit of background, on the left you can see kind of highlighted the Kihei Wastewater Collection System. It stretches from North Kihei by the Suda Store down to the Makena. And all the system collects all the sewage and pumps it up to the treatment plant. Pump Station No. 7 is built along the shoreline just south of Alanui Ke Alii Road on Kamaole Beach I Park. This plant, this station was originally built in the 1970's and it had a major rehabilitation done in the year 1995...and like I said it previously collects the sewage from – it collects the sewage south of Alanui Ke Alii all the way to Makena. And then pumps it up towards the next station which is the main station in Kihei by Kalama Park, and from there it goes up to the treatment plant. So, you can see here I took a...these are some photos that I had in the archive. When I started working with wastewater 15 years ago, this was one of the things I first noticed is how this station was so close to the shoreline and it was already exhibiting some erosion on it. You can see on the back side of the station, there was some loss of beach already. You can see the sand dune kind of eroded away. And also, you can see already part of the foundation of the station was already exposed. And the fence used to go all the way around the station but we had to keep moving it forward mauka, away from the shoreline as it got knocked down over and over, over the years by erosion. And you can see it's already damaged again. So, in our six-year CIP plan, so, we have some...we do have some long-term plans for the station. We are planning to request funds in Fiscal Year '22 to do the design of the station or do a relocation study, the relocation of it, with hopefully getting funds for construction or relocation by Fiscal Year 2024. In the meantime, we were always looking for an opportunity to have some remedial action in sand...with sand nourishment being the preferred option. An opportunity came up last year, and I want to thank again Tara Owens for her help. Tara works literally just down the hall from me in the next office. So, I see

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her in the hallway. We, you know, talk story. And I had mentioned to her this station, and when...and the problems that it had. And when she learned about the sand dredging project that the State had at the Kihei Boat Harbor, she approached me and offered to see if we could do...take that sand and put it at the station. So, there was a, you know, there was this fortunate convergence of opportunities and needs. You know, the State needed to dispose of the dredged sand. The...Tara and the Planning Department they wanted to use the...do a sand...a dune restoration project. And that dune restoration project happened to be next, you know, adjacent to where we had a need to protect one of our assets. So, last year, we got together. And as far as my role with Wastewater, we...I prepared the plans and specifications. I held a bid meeting. And basically, I did the construction management for this project. And we provided the funding for it. The Planning Department and the Department of Management, they helped me procure all the permits. They helped me coordinate with the State to get all the testing on the sand. The sand had to be tested for quality before it could be relocated. And they also coordinated...Tara helped...coordinated the volunteers that are currently, you know, doing the fencing and replanting. And at the end of last year, we went out to bid and Goodfellow Brothers won the bid, the low-bid, and they did construction from February to March. It was a fairly fast project. On to the next slide if I could. I...looks like am I...okay. So, you can see the construction. On the picture on the left, you can already see how that hole that was behind the pump station is already filled with sand, and all that gap, the...all the sand that was missing there in the dunes is being restored, all the way south towards the rocks there, the edge of the beach. All safety measures were put in, we cordoned the beach off, and we have that...the truckers hauled the sand and the bulldozers spread it. And at the end of the day, these are the results we saw. We saw dunes being restored. Our pump station was protected. And you can see in the picture to the...at the corner station, you can see one of the fences that the...some of that sand dune erosion fence that the volunteers we're starting to put. And as Tara mentioned earlier in her presentation, they're still working on planting native plants and whatnot. So, to me, the...it was a nice little project to work with. It's a...my goal here was to put in an example of how the different agencies, and private industries, and volunteers could work together to achieve a desirable goal that was not constrained to just one benefit, you know. We had the benefit of dredging the harbor, restoring a sand dune, and protecting a County asset. And it was done very smoothly. Boy, I wish all my projects were as smooth as this one. And that's about it. If there are any questions, I will happily take them.

CHAIR KING: Okay. Thank you so much, Mr. Rivera. I'm back now. And --

MR. RIVERA: Okay.

CHAIR KING: --I'm going to...I open this...the floor up for questions starting with Vice-Chair Sinenci. Do you have any questions?

VICE-CHAIR SINENCI: Thank you, Chair. Yes, and mahalo, Mr. Rivera, for your presentation. I just had one question. When considering beach restoration, what's the Department's, I guess objectives when looking to protect sand burials when you're

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looking to bring in sand from inland? Are you taking extra precautions with the types of sand that it's bringing in for beach restoration?

MR. RIVERA: We have not had the opportunity to do that in our projects. We have done two projects that involve sand but it was only local sand. In this case, it was from the harbor in Kihei. The other one was the existing sand that was at the dune at the Kahului Plant when we built the shoreline protection project. In that case, we did have a full EIS, and we had an archaeologist, and followed all the rules on that. But we haven't used inland sand.

VICE-CHAIR SINENCI: Thank you, Mr. Rivera. Thank you, Chair. I'll yield to my fellow Members for the rest of my time. Thank you.

CHAIR KING: Thank you, Vice-Chair Sinenci. And I'm going to go next to Chair Alice Lee because I know you have to leave pretty soon. So, do you have any questions?

COUNCILMEMBER LEE: Thank you, Chair. I have no questions. Thank you.

CHAIR KING: Thank you. Vice-Chair Rawlins-Fernandez, do you have any questions?

COUNCILMEMBER RAWLINS-FERNANDEZ: I do. Mahalo, Chair. Aloha, Mr. Rivera. Mahalo for your presentation.

MR. RIVERA: Aloha. Thank you.

COUNCILMEMBER RAWLINS-FERNANDEZ: Good work. Oh, I'm sorry if you hear the --

MR. RIVERA: Thank you.

COUNCILMEMBER RAWLINS-FERNANDEZ: --sirens. I guess it's the 1<sup>st</sup> of the month. So, I have two questions, or three questions. One, so, it seems like...so, I support this project especially since the sand is from that moku. I think it's really important to keep sand from the moku within the moku. So, mahalo for that good work. But I guess as I understand it, it was kind of coincidental that the State dredged the harbor and we happen to need the sand for dune restoration. And as we move forward, we'll continuously need sand for dune restoration. So, did we learn that we could, from this project, that moving forward instead of it being coincidental that it could be something that is planned?

MR. RIVERA: Definitely. I think it's something that we can learn that...try to have more interagency communication in high-level planning to coordinate all these projects. Because as you are probably aware, you know, as you are aware, beach erosion is pervasive on the whole island, and we do have a lot of assets near the shoreline, you know, as far as the wastewater infrastructure. So, we look forward to have more opportunities to see how we can help each other.

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COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo. Okay. So, do you know how often like the harbor would be dredged there, and in Kahului, and in...anywhere else?

MR. RIVERA: No, I do not know that. That's more of a question for Mr. Sam Lemmo. He would have been better to ask that question. I do know...I am aware because we did a study back in 2008 of the Kahului Harbor, and we found out that there's a lot of sand out there that can be used. It's sitting there. And I can make you it open and available to you if you wanted, but it was something that we acted upon. There was an opportunity to do the study when we were studying the...doing the EIS for the Kahului Plant Shoreline Erosion Project. But yeah, there's a lot of sand. I mean I'm not planning on using it. I have no plans for it. I'm just aware that it's there.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Mr. Rivera. And then two last questions, Chair. So, for this project, the reason that you were point person or lead on this project is because it was affecting a DEM facility and not that you...this is...dune restoration is part of your job?

MR. RIVERA: No, no, dune restoration is not part of my job description. It's more to protect the asset that we had near the shoreline. And also, because I'm a construction manager because I could...I know how to put together the bid packages and get it out to construction.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo. And last question, for the name of the project, Kam I, I guess for me, I would prefer it spelled out, Kamaole. So, I don't know who to get that message to. But abbreviating Hawaiian names like that, it is not preferable. So, if, you know, when we have these projects that they could be spelled out completely. That would be the best. Mahalo.

MR. RIVERA: That's on me, ma'am. And I'll heed to that. Thanks.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Mr. --

CHAIR KING: Okay.

COUNCILMEMBER RAWLINS-FERNANDEZ: --Rivera.

CHAIR KING: Thank you, Mr. Rivera. That's great. Problem solved.

MR. RIVERA: Thank you.

CHAIR KING: Okay.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Chair.

CHAIR KING: Moving on to Member Paltin, do you have any questions?

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COUNCILMEMBER PALTIN: Thank you, Chair. No, I don't have questions about this project in specifics. I'm supportive of the win-win situation. My question is just, you know, we're looking at the sea level rise and all these situations, we have a similar situation kind of, not similar, but Ka'opala Bay, where the Lower Honoapi'ilani Road is just, you know, being eaten away by the waves. And I just was wondering, though I know we run on gravity-fed system, but is there any look like, you know, with sea levels rising and whatnot, to moving our sewer lines inland and not using the gravity-fed system but like, you know, pump system like in terms of looking into the future? If there is a six-foot sea level rise or the SLR-XA occurs, what are we going to just hope for a win-win in the future, or are plans actively being made?

MR. RIVERA: Right now, as far as the Department goes and our Division, we have commissioned a study that is ongoing right now with one of our consultants to study the effect of inundation in the wastewater infrastructure. However, I will hope that at the end of the day we could be...make this study part of a larger plan, you know, integrated with the County so we can all be on the same page. So...

COUNCILMEMBER PALTIN: And would you say it's realistic to do pump sewage as opposed to gravity-fed in the future?

MR. RIVERA: It is possible but it all depends on the local topography.

COUNCILMEMBER PALTIN: Okay. Thank you.

CHAIR KING: Thank you, Member Paltin. Member Kama, any questions for the presenter? Oh, okay, now I see...I didn't see Riki a second ago. Councilmember Kama? I think you might be muted. Oh, I don't know what happened to her. I think we...

MS. VINORAY: Chair, looks like she's joining the call again.

CHAIR KING: Oh, okay. Well...okay. Can you unmute yourself, Member Kama?

COUNCILMEMBER KAMA: Thank you, Chair.

CHAIR KING: There we go.

COUNCILMEMBER KAMA: Thank you. Yeah. So, my question was I'm happy that we were able to do this project in the amount of time that we did, and it was cost-effective when I think about what it costs us. But, Mr. Rivera, on top of your PowerPoint, on your Six-Year CIP Planning, Wastewater Division, it says FY '22 - Design of Station Renovations or Relocation, and FY '24 - Construction of Renovations or Relocation [sic] PS. What does that mean?

MR. RIVERA: Well --

COUNCILMEMBER KAMA: What are you . . . (inaudible) . . .



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MR. RIVERA: --this is part of our...on our planning...yeah, thank you for your question. As far as our six-year planning horizon that we have for our Wastewater projects, we are...we're hoping that we could, you know, that's kind of...we scheduled the project. We want to take care of this station. So, this is something that will be brought up next year as far as funding the study and the engineering to either protect the station as it is in situ, or to relocate it to a more mauka location, which, you know, a site to be determined, and with the hopes that we spend a couple of years in design, and then acquiring permits, and then we can go in construction in Fiscal Year '24. But this is for future budgets to, you know, to be discussed on.

COUNCILMEMBER KAMA: Do you have many projects similar to this? I mean I know that Kahului Wastewater Treatment Plant is something to consider too, right? So, you all are thinking about moving that also, right?

MR. RIVERA: Well, it is in the long-term plan to start decentralizing the wastewater treatment plant. We have done over the last 15, 20 years a substantial amount of work to protect the Kahului Plant where it is right now, but we realize that yes, at some point, we need to start either decentralizing it or, you know, building regional facilities that are protected from shoreline erosion and other inundation threats.

COUNCILMEMBER KAMA: So --

MR. RIVERA: But --

COUNCILMEMBER KAMA: --what we did with...

MR. RIVERA: --as far as the...sorry, ma'am, as far as all the --

COUNCILMEMBER KAMA: No, no.

MR. RIVERA: --projects ongoing, I mentioned we're doing the inundation study, and that will be our basis once it's completed to start identifying what are the areas that we need to address, and then we'll start bringing projects up.

COUNCILMEMBER KAMA: Okay. Okay. Thank you very much, sir. Thank you, Chair.

CHAIR KING: Great.

MR. RIVERA: Thank you.

CHAIR KING: Thank you, Member Kama. Member Hokama, do you have questions for the presenter?

COUNCILMEMBER HOKAMA: Who's going to maintain the dunes now that the project is almost completed?

CHAIR KING: Mr. Rivera?

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MR. RIVERA: It would not be...yes, ma'am. It would not be our job to do it as far as Wastewater Reclamation. I think this is more a question for Tara Owens. She might tell you that the volunteers will be working on this project. So...while maintaining the dunes.

COUNCILMEMBER HOKAMA: Whose property is this under responsibility?

MR. RIVERA: Well --

COUNCILMEMBER HOKAMA: . . .*(inaudible)*. . .

MR. RIVERA: --the dune itself --

COUNCILMEMBER HOKAMA: . . .*(inaudible)*. . .

MR. RIVERA: --is in the park, County park.

COUNCILMEMBER HOKAMA: So, Parks is going to have to eat the maintenance costs for...of your project then?

MR. RIVERA: Well, as far as maintaining the park goes, I mean it's...all they have to do is the landscaping. And like I said, the site restoration is being coordinated through the Planning Department with the South Maui volunteers.

COUNCILMEMBER HOKAMA: So, what is the value of the work that the South Maui volunteers are doing for this project?

MR. RIVERA: I do not know the answer to that question, sir. I would direct you to Tara Owens for that if she is...or the Parks Department who are coordinating the work.

CHAIR KING: Mr. Hokama, would you like us to send a letter to Planning since this came up in their presentation too, and ask them that question . . .*(inaudible)*. . .

COUNCILMEMBER HOKAMA: Yeah, because then...I don't understand how Planning made a determination on the...I'm assuming this would be an SMA minor permit because of the dollar value but they cannot even tell us how much the volunteers' value of all their work that they're doing regarding the replanting and caring of the dune restoration efforts. So, I'm just curious on how we got this all through Corps of Engineers and everything else. Thank you, Chair.

CHAIR KING: Okay. Thank you, Mr. Hokama. We'll send a letter. Staff, we'll send a letter to Planning and just ask that question about, verify the property ownership that the project is on, who is responsible for the maintenance, and then the value of the volunteer activity to . . .*(inaudible)*. . . --

COUNCILMEMBER HOKAMA: Yeah. And if...

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CHAIR KING: --or not.

COUNCILMEMBER HOKAMA: We...and if you can ask Wastewater for me, Chair, on the original project, what happened with the landscape architect's plan? I mean was the plan insufficient regarding the maintenance and management of the property or what? Because I'm tired of paying somebody else's bill to clean up their opala. Thank you, Chair.

CHAIR KING: Okay. Thank you, Mr. Hokama. Do you have any last comments on the last...Mr. Hokama's comments, Mr. Rivera?

MR. RIVERA: No, no further comments from me, no . . . *(inaudible)*. . .

CHAIR KING: Okay. I appreciate your presentation. And I appreciate the work that you've been doing 'cause it shows great care for the surrounding area as well. We're going to have to replace those volunteers because they've been around for decades, and I don't blame them for retiring at this point. But we got a lot of people in South Maui I think that could step up. And I...names start popping into my mind as soon as I heard that Bob and Lis were retiring. So, we'll see if we can drum up some more volunteers. Any...I saw that you unmuted yourself, Chair Lee. Do you have any last questions or comments?

COUNCILMEMBER LEE: No. Thank you.

CHAIR KING: Oh, okay. Just checking. Okay. Any other comments or questions from the Committee? If not, we're at the conclusion of our agenda. It's one minute till noon. And thank you all for your time and attention. I'm really excited that we are seeing some progress being made and we've got some policy ideas and appreciate everybody's input. Vice-Chair Sinenci, thank you for filling in. Do you have a comment, last comment?

MS. APO TAKAYAMA: Chair?

VICE-CHAIR SINENCI: Yeah, Chair, just if you were going to...the item, defer or file the item?

CHAIR KING: Well, this is an item that's...we can actually file this one because it was a report on a project that's completed. So, do...is there a motion to file?

VICE-CHAIR SINENCI: So moved.

COUNCILMEMBER RAWLINS-FERNANDEZ: Second.

CHAIR KING: Okay. Moved by Vice-Chair Sinenci, seconded by Member Rawlins-Fernandez. Any discussion? If not, all those in favor say "aye."

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COUNCILMEMBERS: Aye.

CHAIR KING: Any opposed? Okay. Motion passes unanimously.

**VOTE:       AYES:   Chair King, Vice-Chair Sinenci, and Councilmembers  
                          Hokama, Kama, Lee, Paltin and Rawlins-Fernandez.**

**NOES:       None.**

**ABSTAIN:   None.**

**ABSENT:    None.**

**EXC.:       None.**

**MOTION CARRIED.**

**ACTION:     Recommending FILING of the communication.**

CHAIR KING: So, Mr. Rivera, this...we're just filing that saying basically that's a thank you very much. We appreciate all your work. And we have no further questions at this point from you. So --

MR. RIVERA: Thank you.

CHAIR KING: --thanks for being --

MR. RIVERA: Mahalo --

CHAIR KING: --here.

MR. RIVERA: --to all the Members.

CHAIR KING: Really appreciate --

MR. RIVERA: Thank you --

CHAIR KING: --you --

MR. RIVERA: --very much.

CHAIR KING: --being here.

MR. RIVERA: I --

CHAIR KING: Yeah.

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MR. RIVERA: --appreciate you too. Thank you very much. Mahalo.

CHAIR KING: Okay.

MR. RIVERA: Bye.

CHAIR KING: All right. Mahalo. All right. Thank you, Staff. Thank you, Members. Great meeting. And we'll see you all in an hour-and-a-half, and then we can talk about the CFD.

UNIDENTIFIED SPEAKER: Yeah.

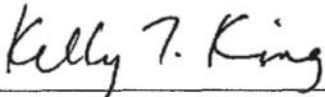
CHAIR KING: Okay. Aloha. Thank you.

COUNCILMEMBER RAWLINS-FERNANDEZ: Mahalo, Chair. Good job.

CHAIR KING: . . .(*gavel*). . .

**ADJOURN:** 12:01 p.m.

APPROVED:



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KELLY TAKAYA KING, Chair  
Climate Action and Resilience  
Committee

car:min:200601:acqp

Transcribed by: Ann Carmel Q. Pugh

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CERTIFICATE

I, Ann Carmel Q. Pugh, hereby certify that 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 26<sup>th</sup> day of June, 2020, in Kihei, Hawaii

A handwritten signature in cursive script, appearing to read 'ACPugh', is written over a horizontal line.

Ann Carmel Q. Pugh