City of Coral Gables City Commission Meeting
Agenda Item I-1
March 9, 2021
City Commission Chambers
405 Biltmore Way, Coral Gables, FL

City Commission
Mayor Raul Valdes-Fauli
Vice Mayor Vince Lago
Commissioner Pat Keon
Commissioner Michael Mena
Commissioner Jorge Fors

City Staff
City Manager, Peter Iglesias
City Attorney, Miriam Ramos
City Clerk, Billy Urquia
Public Works Director, Hermes Diaz

Public Speaker(s)
Colonel Patrick Kinsman
Nick Holberg
Viola Ferrera

Agenda Item I-1 [Start: 3:00 p.m.]
Presentation on the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study by the Army Corps of Engineers.

Mayor Valdes-Fauli: I-1.

City Attorney Ramos: I-1 is a Presentation on the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study by the Army Corps of Engineers.

Public Works Director Diaz: Good afternoon again, this is Hermes Diaz, Public Works Director. The purpose of this project is to reduce potential damage caused by coastal storms and improve human safety and coastal…in the Miami-Dade County Back Bay. This is part of a study that was

approved by Congress back in 2018. It was taken by the Army Core of Engineers, in conjunction with Miami-Dade County. The original scope of the project, they had no findings for any work within the limits of the City of Coral Gables. However, subsequent modeling by the Army Core of Engineers, they found that there were some hydraulic connections within the city that needed to be looked at. So, we have here the Army Core of Engineers and I'd like to turn it over to Colonel Patrick Kinsman, who is going to give a presentation so that he can present to the Commission and the public, what is being proposed under this study.

Colonel Kinsman: Thank you very much. Can you hear me okay?

Mayor Valdes-Fauli: Yes sir.

Colonel Kinsman: So again, Mr. Mayor, members of the City Commission and city staff, my name is Colonel Pat Kinsman, Norfolk District Commander and we are honored to be working in South Florida. So, Miami-Dade is one of three studies that we are working as part of the Army Civil Works process, and again, honored to be giving you an update today. I do apologize a little bit on the scheduling, as we are trying to fit this in as well, but we are glad we are able to line up. I think what I'd like to say just up front, and I think one of my team or the city staff has got the slide back, we can get that uploaded, but really the purpose here is working with Miami-Dade as the non-federal sponsor for the federal government to, again, reduce the risk to citizens from the long term effect of coastal storms. So, we are not talking about a one- or five-year effort, but the Core looks 60 plus years into the future, taking into account, not only the latest data that we have, but the data on expected future sea level rise. And in the Army Core of Engineers Civil Works process, really the first step is to do a concept level of design to get a workable concept that we can then get authorized by Congress, which is just an important overall step, and then later to get into the specific design feature. So, since really the fall of 2018, we've been working closely with Miami-Dade and other localities throughout the Miami-Dade area to get this project fully understood, to get it done in concept, and again, focused on that long term risk where achieving a project authorization from Congress normally done in a Water Resources Development Act will open the door, really to federal funding, peered with local funding to get after design and construction. So, we do have, again, broad agreement on three of the four areas of the plan, so those three areas are non-structural, critical infrastructure, and lastly, natural and nature-based features. As we progress, this past fall, what we heard from both Miami-Dade County, as well as from the Core of Engineers Headquarters is, we need to do additional engagement primarily on the structural feature, and so, what I'd like to do is move onto the next slide. So, I guess, Mr. Mayor, are you able to see the slides there?

Mayor Valdes-Fauli: No, we haven't seen anything yet.

Colonel Kinsman: Okay great, look at that.

Mayor Valdes-Fauli: There we go.

Colonel Kinsman: Okay, wonderful. If we go to the next slide there, this is just a broad overview of the recommended plan, so there we go. Hopefully we can slide that up just a bit. Out of Congress, the Bipartisan Budget Act of 2018, basically gave the study to South Florida, one of three studies again, at full federal expense. So, an opportunity where non-federal sponsor doesn't have to do a cost share, and we work closely with Miami-Dade to really focus the areas of the study to get done a reasonable concept plan within our three-year time limit. And so, Norfolk District Army Core of Engineers picked up the mission in the fall of '18, we moved right out working with the non-federal sponsor, because we want to get an authorized study on the books. And we are now very close to that three-year limit, which is coming this September, and again, the collaboration with the county is ongoing and that's been very successful. Just orient you to the right side of the screen. Again, you talk about the seven focus areas as designated on the graphic, again the project cost of just over $6 billion dollars and then the annual net benefits that we calculated, which is really in damages prevented and roughly is $2.7 billion dollars. Again, back on the lower left, so we are looking at the recommended plan, again with those seven focused areas, critical infrastructure throughout the county, as depicted in the color dots where you have fire stations, police stations, command centers, hospitals, and key communication nodes, approximately 200 critical facilities that will receive flood proof as part of this plan. The structural measures, again a combination of surge barriers, flood walls and pump stations at the areas designated, Biscayne Canal, Little River, Miami River, Coral Gables Way, and Snapper Creek Canal, etc., and that is where we have a little bit of natural, I would say, local concern. The other two areas of the plan, non-structural measures, so elevation of residential buildings where the federal government will pay to elevate homes, and then essentially flood proofing of non-residential buildings, about 4,600 of those. Some fairly significant non-structural areas, and then lastly, the natural and nature-based features or NNBAS, working with the local stakeholders, we've identified primarily the Cutler Bay area for a significant area, a mangrove area that can help with way…and we are continuing to look. As we refine the plan, the gentleman referred to the plan refinement that we've done in the last, really nine months, as we've listened to some great feedback from, not only Miami-Dade County and others, but from the public as well, because the Core puts out large studies like this for public comment. One of the key features of this plan is the number of structures that will have reduced level of risk. So as the slide on the left says, approximately 220,000 structures will receive some measure of increase protection, and I must be careful here, but not complete protection, because mother nature can seemly always overcome what man has to do, but definitely an increase level of protection, and that protection extends up to twelve miles

inland, in particular up the Miami River, so a fairly significant effort to get after the long term risk. What I'd like to do is, we go onto the next slide. Again, think about the visual on how the storm will protect different areas of Miami-Dade County from being inundated.

Commissioner Keon: May I ask you a question?

Colonel Kinsman: Yes, go ahead ma'am, sure.

Commissioner Keon: You have under non-structural measures and it say, elevating residential buildings, what are those numbers following that mean?

Colonel Kinsman: So those are the actual number of homes across the county that will receive that assistance, literally elevating those homes.

Commissioner Keon: Oh, okay.

City Manager Iglesias: This is actually, Commissioner, a very difficult number.

Commissioner Keon: Yes, I was going to say.

City Manager Iglesias: Because most of the residential structures we have in Dade County are very difficult to raise.

Commissioner Keon: Right. They are on blocks.

City Manager Iglesias: Those two items are something that I would like to discuss with the Colonel, because they are little suspect to me.

Commissioner Keon: I couldn't understand what he meant by that but go on.

City Manager Iglesias: We received this recently, so those two numbers there, I think are for further discussion and I'd like to discuss that with the Core separately, because I do think our construction techniques here, except for some areas along the coast, do not lead to those two, either flood proofing effectively or raising effectively.

Commissioner Keon: I just didn't understand what they meant. Okay, you can go on. Thank you.

Colonel Kinsman: Ma'am sure. So on the slide, you see here on the left, really the figure show or the graphic depicts the future without the plan, based on really a 200-year storm event, impacting the county, and again, a direct hit; and with the project, the same storm, again modeled and you can see again, the areas of the county that are not inundated by water. Certainly, in the upper right, we see some of the historical record of when the storms were, but the peak storm surge and as the asterisk notes that height, in terms of peak storm surge comes right out of the Miami-Dade local mitigation strategy document that was published back in '18, and certainly, the dorian number there at 23 feet of storm surge, right, and as we look back at that storm, that was about 100 miles away from Miami and then took a hard right, essentially, but took a turn and went elsewhere, and really its reflective, that storm surge is what happened on the Bahamas. So again, big picture-wise, we're talking about every year this 200-year storm could happen, we all hope that it doesn't, but eventually its going to hit, and so, the project here, and this is the challenge reference, you know the number of homes which will continue to change, because we are at the very beginning of our project, like that ten percent concept level of design, and as we continue to refine it with additional data, I think those numbers will definitely change a bit. Its difficult, really to make a direct one-to-one comparison with storms that hit in other areas. Again, we had Hurricane Andrew which was about $25 billion dollars in damage in 1992, with 25,000 homes destroyed, and I know many of you remember that, and over 100,000 storms damaged, and so that Hurricane Andrew is probably, if you're trying to picture a storm that we are trying to mitigate against, then that's probably the closest storm, if you will, in terms of proximity and what we are trying to mitigate. And then lastly, in the lower right is really the number of structures for the City of Coral Gables that will receive some increase level of protection or risk reduction for both Snapper Creek and Coral Gables Way. And then, I did skip over it, but the range of the elevation, so the wall height that we're talking about, and I really say a structural feature, that's really the height of what we're talking about in those different areas. Okay. To talk some of the specifics, my Project Manager Nick Holberg is going to talk through our next two slides. So, Nick, I'll turn it over to you.

Mr. Holberg: Hello everyone, this is Nick Holberg, can you hear me?

Mayor Valdes-Fauli: Yes.

Mr. Holberg: Very good. The next slide shows a little closer area on how the concept features would be in your community, and so Coral Gables Way and Snapper Creek Canal here, so on the left you can see in blue are early initial estimates on how long the footballs would be and where they would lay out across the canal. Estimates of where possibly we could put a pump station in, and this allows folks to kind of see what areas of neighborhoods maybe impacted, and so forth, and what roadways possibly. Subsequent slides that show in a little more detail, we do have some backup slides as well that can possibly show the local ground elevations in the area. I think the

slide moved there, there we go, back there. So, we have top of wall elevations of 21 and-a-half feet and 15 and-a-half feet. Now those include, and you can see the bottom text below that chart what the design water surface elevations are, of 13.9 feet and 13.2 feet. Now the reason the walls are higher than the design water surface elevation, is to account for waves and potential overtopping. I think the Core is conservative in this area, but in future design analysis those, particularly the top of wall elevation might be fine-tuned, but we have to account for any wave action to prevent over-topping of the wall, and with all that, on the right, we lay out where we think the wall would need to go to tie in, either tie into higher ground or at least get past where that wave action zone is. And on that chart, on the far right, I'm sorry on the table to the far right, we give an idea of the range with a visible wall heights are, so that's the height above ground, and so, we are looking at that's possibly two to four feet of height about ground, so that's what folks, if they were walking along that's what they might see. Let's go to the next slide and it shows something similar, but with wall heights and then we can pause, if folks have questions. So, this allows a little better view of the community, a clearer aerial shot there. So, as you can see, we are taking advantage of the coastal ridge to tie in and keep flood waters going up into those riverine areas further inland. As you can see, on the left, we've got Coral Gables Way, and due to the height of that ridgeline, the extension past the canal doesn't need to be very far. And of course, along the canal we propose surge gates that would open and close for significant storms. And our designers would account for maintaining navigation. We understand that you've got recreational navigation in these canals, so that would be considered in future designs. We would like to pause here to see if there are any questions so far?

Commissioner Keon: The name of it is called Coral Gables Waterway, not way.

Mr. Holberg: Okay. Coral Gables Waterway, thank you.

Commissioner Keon: Waterway, yes. Thank you.

Colonel Kinsman: Okay. If we go onto the next one, its Colonel Kinsman again, what we've just included on the next slide is really just some example of flood wall designs to really from, actually the Norfolk area where we are and then also one from somewhere in Pennsylvania. So they come in all different types as we achieve, right, a project authorization from Congress and hope that Congress will subsequently give us dollars to move into the design phase where we really take a deeper look at all the data and get down to specifically designing the final design height for all the walls, the flood walls and the tide gates, and all the different features of the project, and that is an opportunity. Again, this is just an example of what the wall, the flood wall could look like. The Core will have public engagement and be working with the localities, including of course Miami-Dade County as our specific non-federal sponsor. The next slide is really just, again from a big

picture perspective, what we see kind of happening over the next four-plus calendar and fiscal years. And on the left you see, the U.S. Army Core of Engineers, you see Miami-Dade as our non-federal sponsor, in red you see public interaction, and then lastly, we are certainly dependent upon Congress for continued funding. So in the current pace of this project, our goal is to achieve under the first line, Core of Engineers Chief's Report, by the 24th of September, and the Three-Star General Commander of the Core of Engineers, after receiving many briefings, hopefully will sign off on the report and he simultaneously presents it both to the Administration and to the Energy and Public Works Committee in Congress. And the goal, in light blue there, is the Water Resources Development Act where we hope that Congress will formally authorize this project and make it official. All the studies hopefully will pay off and if you follow that blue line down to Congress line as well, we hope that Congress will authorize funds for design. The FY23 Budget and the work plan, those are earlier opportunities that we are going to seek design funding, and I guess from the big picture perspective, we are working closely with Miami-Dade County to make progress, to get something done, to not only achieve a project authorization, but to start a design, specific design features as soon as possible. Then on the far right, up in green is really the priorities that we've received from Miami-Dade County. So first, its focusing on the critical infrastructure, that's the police stations, fire stations, hospitals, power stations and communication nodes across the county that need to receive flood proofing. The second is the non-structural aspect of home elevations and commercial building flood proofing, then natural and nature-based features, and lastly, the structural solution. So, USAC, the Army Civil Works process, I swear you need a doctor's degree some days to figure it out, but my team's got a good handle on it, and where we are laying out options for the county, we hope that they are going to approve and continue with the recommended plan. So, complicated slide, but I would love to take questions.

Mr. Holberg: Colonel, this is Nick, I'd like to add a point, add one point in here regarding the City of Coral Gables and their interaction with the county. If you look at the top, left there in the green box, it says, ADM TBD, that's Agency Decision Milestone to be determined, so we are currently working with the county, and so, on an internal USAC decision milestone, basically if you kind of follow the pinkish red line down, there is verbal support, so our vertical chain is looking for the sponsor, which is the county, for verbal support to move forward with the plan and that basically means that, eventually get into a design phase, that verbal support does not mean any sort of commitment of funds and its really more of an internal item we need. However, further down the line a few months, you notice in the green box, the next one, State Agency Review, so we do put out the final, what I call the draft final report for state and agency review, I put it up so the public can see it, and prior to that we do need a letter of commitment from the county and that letter of commitment, basically states that the county wishes to move forward with the recommended plan. What this all allows and once we get an authorized report, it allows future, get an authorized study and a potential for design funds in the future. And if you go on line 2 there, there will eventually

be a design agreement and I'm sure the county will include all the municipalities that are impacted in that design agreement. So, as far as commitments from Coral Gables in this study phase, as a verbal commitment between yourselves and the sponsor, and a letter of commitment from the county. There is no commitment of funds really until we get to the design phase and the construction phase really, until any real estate issues have to be resolved and cost share.

Mayor Valdes-Fauli: Comments?

Colonel Kinsman: Okay. We do have one more, kind of, if we go to the next slide that really kind of lays out maybe in a more linear format, what we expect for the future timeline. Again, as Nick mentioned, that second agency decision milestone is fast approaching, and we will hopefully following the county endorsement, we will complete the plan, we'll rally for state and agency review and hopefully achieve a signed Chief report here 24th of September this year, which again, I think is a very significant thing and the only thing is most of my work is in Virginia here with Army Core working with different localities, and I've spent last week engaging with the Virginia representatives, because we do this on kind of an annual basis. Now, one of the things we heard is that Congress is considering an infrastructure bill, Congress is working through the challenge of how do we bring back Congress directed projects and they are also thinking about pulling the WORDA forward a little bit, so earlier than maybe '22. So, I think its again, an opportunity that I think the entire South Florida has with these three studies to get authorized projects on the books. If I can ask to just go back one slide, please. So Congress, following storms has been known to issue large supplemental bills to fund infrastructure and in this case, that's how we got this study; and so, looking in light blue there, where we say, Water Resources Development Act 2022 Project Authorization, and you drop that line down to Congress, where it says, available for supplemental funds. And so, what that means is, once this project is on the books, if there is a large storm that hits, that this project is available to receive immediate funding, supplemental funding in perhaps whatever amounts dictated by Congress, but to move forward with design, and obviously, eventual construction. Okay. We'll go ahead, two now please. Go ahead sir.

City Manager Iglesias: Are we ready for comments or are you finished with your presentation?

Colonel Kinsman: The only thing I wanted to cover on the last one. If you just go forward two slides – there, one more. Again, so this is – people often want to know when will something happen? – and so, with the county's priorities and assuming we get project authorization in the FY22 WORDA, which means potentially a construction start in FY26, this is again, approximate duration of when things will happen. So, ten years to get the critical infrastructure done, ten years for non-structural, and again, all this is dependent upon project authorization and subsequent funding from Congress. That is really my last slide. Again, I'm honored to be able to, not only lead

this team, but to do the work and get this critical project done for you and your wonderful citizens in South Florida and please let me know if I can answer any questions.

Mayor Valdes-Fauli: Thank you very, very much.

City Manager Iglesias: Thank you. May I show you something Mayor? Thank you, Colonel. This is Peter Iglesias, I'm the City Manager. Thank you very much for your presentation, very informative and thank you very much for your technical presentation that you gave me last week, which was a more intense technical presentation. Could you go back to slide number three please?

Colonel Kinsman: If I was controlling the slides – there we go, they are coming up.

City Manager Iglesias: It's the one that shows – I think that slide is very important, because it shows what mitigation can do to the county. Look at the example of Coral Gables, you can see that not only the county speared, but also, we can recover faster when we don't have that kind of what happens on the left. So, its quite an important mitigation project that it will not only provide less damage, but it will also allow us to bounce back quicker. If we look at Coral Gables, you can see that the north side, the north portion of Coral Gables is in good shape relatively. Its always relative to the hurricane, but compared to the left; and so, I believe this mitigation project can be a substantial benefit. I still would like to work with the Core on the non-structural issues because I think we need to work on those, but I think the mitigation project would provide quite a large benefit for the City of Coral Gables and for Dade County in general. Not only its reducing water levels and that is a huge mitigation factor, as you can see there from left to the right for non-mitigation versus mitigation. So, I think that's a very good representation of what this can do for us and in case of a 200-year hurricane, which is what they are working with, but this we are currently working as far as mitigation for lower category storms. Thank you, Colonel.

Mayor Valdes-Fauli: Comments from the Commissioners, Vice Mayor.

Vice Mayor Lago: I just want to commend the gentleman for putting together an incredible presentation. I'd like to see if we can get a copy of that for our own perusal.

Mayor Valdes-Fauli: Very, very good presentation. We have a member of the public that wishes to speak.

City Clerk Urquia: Yes Mr. Mayor, its Ms. Viola Ferrera.

Ms. Ferrera: Yes. Thank you very much for that very informative presentation. I just wanted to understand a little bit better how you show for the City of Coral Gables the storm surge inundation models, but I see you have that, and I wanted to know why was the location of the proposed flood walls determined.

Colonel Kinsman: I appreciate the question. Now, I'll probably defer to my Project Manager on that, but we work really, again, initially at the very beginning of the project, we looked and worked with county planners to really identify some vulnerable areas across and really some focus areas, based on both income and social vulnerability, but we also took the latest data that we have with actual wave heights to be able to formulate the plan, and specifically, and again, you talk about the large scale nature of this project, when we put out our initial draft, we got a tremendous amount of feedback from the public and from both municipalities, like yours and from Miami-Dade County as well. So, we've continued to both listen to the suggestions that we received and adapt our recommended plan, and frankly, we are going to continue to adapt that plan. I want to get this project into the design phase for sure, because I agree with Manager Iglesias, I see some tremendous value in it, and a point that I must make as well is, this is not the all-encompassing one size fits all plan, this is only a component of both the countywide resiliency plan. So, supporting efforts are definitely needed to work in concert with this sort of plan. Nick, any details that I missed there.

Mr. Holberg: Sir, I think you described it pretty well. We use, to get very specific on why those locations were picked. It was areas where we can kind of plug a hole. They have a large surge coming up. You've got the limestone ridges along the coast and these canals offer a way for that surge to intrude and get back up into the system, and in fact, into the Miami, the City of Miami's watershed, which is the focus area. So that's the primary reason was to kind of plug those holes up. So, while Coral Gables is not one of the focus areas, it does get residual benefits and that was on slide three of those properties, the number of properties that are mitigated for flooding risk. Those get some benefits. I would like to also note, there was some non-structural – there is no non-structural proposed in Coral Gables. So, its only these two surge barriers, so any non-structural are in focused areas further up the county, because those were in focus areas. There is no no-structural actually proposed in Coral Gables. Its just the two structures that we've shown on these slides.

Mayor Valdes-Fauli: Thank you. Any further comments?

Vice Mayor Lago: I'd like to hear from staff, obviously their opinion.

Public Works Director Diaz: Like the Manager mentioned, the long-term benefits for this are, obviously well presented. At this stage this is a planning study. There are still a lot of questions

that need to be resolved, the specifics of what its going to look like, it needs to be designed, at least on a preliminary basis, so we have a complete idea of what the actual impact is going to be. Planning studies doesn't have that level, doesn't get to a level of detail. But as far as the impact, as you can see on the images from what would be a catastrophic event, which we'll have a great difficulty recovering from definitely spares a significant section of the city, doesn't make it easier for us to recover the area that maybe more severely impacted, and that's at the end of the day, the principle of benefit that this type of work will result in.

City Manager Iglesias: If I can say, one of the issues that we had the more technical presentation was the concern about the impacts to Coral Gables. The impacts to Coral Gables would be the gate at the Coral Gables Waterway, the other gate at Snapper Creek, and them some walls along, small walls along the Coral Gables Waterway and then walls along Old Cutler, south of Snapper Creek and just beyond Conday Street. This is preliminary, but those walls are four to four and-a-half feet in nature. You saw some of the walls that the presentation provided, they need to be strong, but they can be architectural in nature. So, one of the issues that further presentation was to kind of evaluate what the impact in Coral Gables. I think its doable. I think those walls are, because of the fact that they are limited to about four and-a-half feet and they can be done architectural in nature, can be accomplished, and is a very significant change in water elevations throughout the county. So, it looks to me like a very worthwhile project from a storm surge mitigation, from that aspect of it. They have done a very good analysis that he gave us. This is one, stochastic, anything can happen, you have to understand that; two, this is spacial and time-based and he did a very good study and know how to draft studies on that. So, I feel that this is not a bad plan for Coral Gables, in the sense that the impact, I think we can deal with it, not only from a technical perspective, but from an aesthetic perspective, which is very important to me, and one of the issues why I had the more technical presentation done.

Mayor Valdes-Fauli: Thank you very much Peter, and thank you everybody, great presentations and a very worthwhile goal for us to pursue. Thank you.

Colonel Kinsman: Thank you sir, appreciate it.