

MINUTES
TECHNICAL ADVISORY COMMITTEE
TO THE WATER ADVISORY BOARD

December 18, 2020

MEMBERS PRESENT

Albert Carbon, Kevin Hart, Harold Aiken, Doug Bell, Randy Brown, Adolfo Gonzalez for Mike Crowley, Mark Collins, Patrick Davis, Sara Forelle, Rafael Frias, Susan Bodmann for Alan Garcia, Steve Holmes, Christina Evans for Leny Huaman, Jennifer Jurado, Jose Lopez, Lisa Milenkovic, Brett Butler for Pat O'Quinn, Stephanie Pearson, Steve Urich, Tim Welch, Patrick Davis, Pete Kwiatkowski

OTHERS PRESENT

Jay Ameno, Dianys Arocho, Samantha Baker, James Bowers, J. Martin Cala, Isabel Cosio Carballo, Lynette Cardoch, Kevin Carter, Heather Cunniff, A. Davis, Monique Davis, Steven Eagle, Amy Eason, Mark Ellard, Norma Ellison, Susan Juncosa, Carrie Kashar, Katie Lelis, Carolina Maran, Lorraine Mayers, Kimberly Mayo, Christina Miskis, Greg Mount, Marta Reczko, Guillermo Regalado, Raj Sishodia, Janeen Weitgreffe, Bingjie Zhao, Mike Zygnerski,

CALL TO ORDER

A meeting of the Technical Advisory Committee to the Water Advisory Board was held on December 18, 2020; commencing at 9:40 am in the Hearing Room of the Broward County Governmental Center West in Plantation, FL.

Jennifer Jurado introduced the 2 newest members to Broward County's EPCRD staff; Gregory Mount, Water Resources Manager, and Rajendra Sishodia, Modeler and Engineer; providing background information on both. The Chair announced Norma Ellison's upcoming retirement at the end of January, acknowledging her essential support to the board and committee for over 25 years. Ms. Ellison expressed her privilege for the opportunity to work for such a dedicated group of people.

PUBLIC COMMENTS

None

As a quorum had not yet been established, the minutes could not be approved. The Chair proceeded to Presentations.

PRESENTATIONS

Future Conditions 100-Year Flood Map

Dr. Jennifer Jurado, Chief Resilience Officer and Deputy Director, Broward County EPCRD

Dr. Jurado explained her intent today is to provide a brief overview of the future conditions flood map and to request the committee to come to a general consensus to support a recommendation for the Water Advisory Board at its January 15th meeting.

She began with the brief overview of the advancements of the Broward County Future Conditions Flood Map.

Over the last 10 years, Broward County has taken a number of steps to help bring resilience formally into the planning and regulatory process through the establishment of a sea level rise projection, a priority planning area map, a future conditions map series, and a number of resilience standards.

Referring to a graphic in her hand-out, Dr. Jurado discussed the factors used for the basis of evaluating the 50-year planning horizon for the previous 2 ft. SLR by 2060 adopted in 2015. The new foundation is 2070 and 3 ft. SLR. The importance of the map is to assist in planning, regulatory applications, vulnerability assessments, finished floor elevations, and infrastructure siting.

She provided statistics regarding finish floor requirements, explaining that the 100-year flood map has remained the same over 3 decades. She explained that ensuring we update this map to account for recent and future changes in hydrologic conditions over the 50-year timeframe is very important.

Dr. Jurado discussed the flood area-based mapping approach. Statistical analysis was performed to evaluate the distribution of flood elevations within each zone and to further refine any additional features required. She referred to maps and charts in her hand-out depicting comparisons of the FEMA 1977 map to 2014 flood elevations; and the proposed future flood map compared to FEMA 2014 flood elevations. She also referred to charts detailing those shared comparisons of city-by-city flood elevations to the proposed flood map.

She remarked on the contributions made by the various stakeholders, the technical workgroup, the TAC committee updates, the municipal and industry workshops, and the resulting feedback.

Dr. Jurado then explained in detail the proposed provision.

In summary, she outlined the resulting conclusions:

- The Future Conditions 100-year Flood Map reflects 18 months of robust technical analyses and nearly 12 months of refinement
- Selecting the final product included 250+ participants
- Proposal map is a product of extensive internal vetting and balanced refinements in response of stakeholder feedback
- Staff sees TAC endorsement of WAB approval and transmittal to the County Commission

As a quorum had been achieved, the Chair requested a Motion on adoption and endorsement of the recommendation of the map to the Water Advisory Board for further transmittal to the Broward County Commission.

Dr. Jurado added that an RFP on the countywide resilience plan has been submitted with some responses received. County Administration supports establishing a resilience steering committee to provide ongoing review and exchange in developing the resilience plan. In response to Adolfo Gonzalez, Dr. Jurado answered she would clarify the county's reference on freeboarding.

On Motion by Steve Urich, and seconded by Mark Collins, and unanimously carried, the committee approved endorsement of the map to the Water Advisory Board.

Also, as a quorum had been achieved, the minutes of the October 16th meeting were motioned and approved.

Broward Water Partnership Renewal

Dr. Jennifer Jurado, Chief Resilience Officer and Deputy Director, Broward County EPCRD

Dr. Jurado provided some background history on the Broward Water Partnership.

- 2008 - The Broward Water Resources Task Force (WRTF) was created to identify and recommend strategies for among other things, improved water conservation
- 2010 The WRTF submitted a report recommending establishment of regional water conservation and incentives program
- 2011 October - The first 5-year partnership was launched
- 2015 September – Resolution of BOCC urging continued participation and support for Broward Water Partnership/Conservation Pays in 2016-2021
- 2016 December – 5-year partnership renewed via ILA's and consultant services agreement

Dr. Jurado then discussed some of the major milestones, what is proposed in the next 5-year budget and the next steps. She informed that she is in the process of renewing the contract for consultant services for the next 5-year program due this next year.

Referring to a chart in her hand-out, Dr. Jurado provided statistics on how many toilet rebates were issued, water saving devices distributed, amount of dollars rebated, and how many billion gallons water saved since the rebate program was formally launched in 2012. She also referred to a chart depicting the annual performance by year, explaining that thru cost-share, the partners provide the rebate dollars, while the County provides the management of the consultant services, the outreach, and the media campaign. She mentioned that the program has been successful in leveraging funds from cost-share partnerships with SFWMD. She is working with initiatives to assist with the challenges of this year.

Dr. Jurado mentioned the program's various campaigns and awards over the years, acknowledging Sam Baker, the Project Manager, and her tireless enthusiasm and incredible input. The water conservation programs are working as depicted in an impressive Broward County Water Usage graph illustrating a 25% per capita reduction and 15% reduction in withdrawals.

Due to the fact that the present consultant is retiring, Dr. Jurado explained that she is in the process of obtaining responses to renew the contract and the budget is a big consideration. She explained why she is requesting support by proposing an additional \$25,000 requested from the partners (to be split based on service area population) for increased media. The County will match for costs for the outreach consultant. She emphasized the importance of keeping up with the type of program to be expected.

Dr. Jurado further explained that in order to better serve the community, a new program element is being implemented with a goal to reach lower-middle income neighborhoods, the Direct Install Pilot Program. The program removes any cost to the homeowner and is a turnkey program. The plan is to use this as a model for the next 5 years. She emphasized how this will require planning, coordination, and costs to install, thus requiring additional budget.

In summary, she outlined the timeline for support:

- Dec/Jan 2021 – solicit concurrence from TAC/WAB to support renewed participation in Broward Water Partnership
- Jan 2021 – Notify partners of plans for new outreach contract and plan to pursue new ILA's in Spring 2021. Request commitment by January.
- Dec-Mar 2021 – Draft new Interlocal Agreements with County Attorney
- Mar-Apr 2021 – Send new ILA's to Partners for their Commission execution
- By Sept 2021 – Submit ILA's to County Commission for approval
- RFP for new consultant services already underway

A question and answer session ensued. Tim Welch responded that in the interest of better communication, he would rather have the opportunity to communicate this with his city's management before voting on it. Randy Brown inquired how permitting will be handled with the installations. Kevin Hart requested the vote be delayed. Dr. Jurado acknowledged his request, suggesting she would like to bring this item forward to the Joint WAB/TAC meeting in January. She informed that the board meeting will likely be virtual as a result of a public hearing scheduled on January 12th allowing continuance of virtual meetings for advisory boards while under the state of emergency.

The Chair inquired if this is acceptable, and Motioned the item be tabled for the Joint WAB/TAC meeting rescheduled for January 15th.

Broward Climate Change Action Plan (CCAP) Water & Built Environment Recommendations

Dr. Jennifer Jurado, Chief Resilience Officer and Deputy Director, Broward County EPCRD

Dr. Jurado explained that the County's first Climate Action Plan was developed in 2010, the second in 2015, and now it is in the process of being updated again. As a result of three meetings, a good set of draft recommendations addressing both water resource considerations as well as resilience for the built environment was developed. Referring to her hand-out, she encouraged anyone with additional suggestions or concerns to contact her and she would communicate them to the technical work group. The work group could then bring forward to the Climate Change Task Force for additional consideration.

Dr. Jurado discussed in detail the various water management strategies:

- Continue local water conservation program
- Include climate change in updates of the Lower East Coast Plan
- Seek future conditions analyses in regional water resources planning
- Investigate regionalization of water supply
- Develop alternative water supply strategies
- Incentivize water management strategies

She also discussed the various strategies for modeling and monitoring, and for reuse and green infrastructure.

Dr. Jurado emphasized the approaches for resilience of the built environment:

- Sea level rise adaptation planning
- Improve inundation mapping capabilities
- Encourage FEMA to consider sea level rise in flood map updates emphasizing a 50-yr period
- Develop new 100-year storm maps
- Update design storm criteria

- Incorporate combined sea level rise/storm surge impacts in hazard mitigation and adaptation planning

She continued discussing research and data evaluation approaches, and informed and active adaptation plans. She commented on the key language of “dynamically-adaptive management strategies” focusing on incremental goals and timelines. She pointed out the bullet “Protect systems from infiltration and inflow” to the utility committee members suggesting that there are some excellent sewer system evaluation studies that should be considered.

Regarding partnerships, collaboration, and communication; Dr. Jurado informed that a County-wide resilience dashboard is being developed that will provide planning tools, goals and projects that the public can see where dollars go and how it benefits the community. She reiterated that these recommendations will be delivered to the Climate Change Task Force in January.

The Chair requested that any comments about the proposed workplan should be sent to Dr. Jurado by the end of the year.

2020 Wet Season and Hydrologic Impacts

Dr. Rajendra Sishodia, Environmental Program Supervisor, Broward County EPCRD

Rajendra Sishodia provided background information on regional hydrology. He explained it is a complex system dealing with excess water in the wet season, maintaining minimum flows in the dry season, and challenges of extreme rainfall events, sea level rise, and King tides.

Mr. Sishodia referred to a bar graph in his hand-out depicting how the annual rainfall in Broward County has varied and increased over the last 20 years. He emphasized there has been 30” more rainfall than average this year, the highest annual rainfall since at least 1996. Some stations show a statistically significant increasing trend likely due to high rainfall in 2020. He discussed in detail various maps, graphs, and charts in his hand-out depicting this year’s maximum rainfall contours for 1 day, 3 days, 7 days, 20/30 days, and October/November rainfall. Other photographs illustrated the flooding effects following Storm Eta in western Broward County.

There has been a statistically significant increase in surface flows. The highest pumping on record occurred in November 2020. There is also an increasing trend in groundwater levels due to sea level rise that increase the flooding risk. Coinciding of King tides with high canal stages, brought on by Eta, likely extended the duration of flooding in low-lying coastal areas. The highest stage on record since 1989 occurred on November 9, 2020.

In summary, Mr. Sishodia outlined the conclusions:

- Highest rainfall in 2020 in combination with unseasonal occurrence of Eta resulted in intense flooding
- No significant long-term trends in Broward monthly/annual rainfall
- Increasing wet season flows in flows – Inflows (C-14 and Hillsboro Canal) and pumping (C-11)
- King tides in combination with intense rain events caused more frequent/severe flooding

The Chair thanked Mr. Sishodia for his report. A question and answer period followed.

Kevin Hart shared that impacts are being observed along the southern border of the county near the C-9 canal. Impacts from King tides are seen as far west as I-75 and US 27. He raised his concern that there are more impacts on his drainage district's operations ability to move water by gravity. More pumping has had to be done, resulting in 3 times their annual average due to the record rainfall and King tide impacts. He advised that the County needs to keep the southern half of Broward County in mind when they study adaptation and impacts.

Pete Kwiatkowski requested that tide gauge calculations need to more definitively attribute groundwater level increases in SLR specifically in Well #G-126 OT. The Chair noted his request.

Utilities Response to November Flooding Event Discussion

Raj Verma, Director, and Talal Abi-Karam, Assistant Director, Fort Lauderdale Public Works

Tim Welch, Director, City of Sunrise Utilities

Tim Welch introduced himself as the Director for the City of Sunrise, Florida. He described the city's three treatment plants that service its customers. The Springtree plant has 25.5 mgd capacity, the Sawgrass plant has 18 mgd capacity, and the Southwest plant has 2 mgd capacity, water treatment not wastewater. He explained that Springtree has a 10 mgd wastewater treatment facility. Sawgrass has a 20 mgd facility and Southwest has a .99 mgd facility for wastewater treatment.

Referring to his hand-out, he shared photos illustrating Tropical Storm Eta's flooding impact on Springtree's lime sludge watering pit and the wastewater treatment plant's effluent storage basin. He pointed out that sludge operations were down because they could not be utilized for several days which resulted in a big impact on lime softening treatment process. He then shared photos illustrating Tropical Storm Eta's flooding impact on Springtree's WWTP's storage tank and chlorine contact basin causing effluent overflow during the storm. Fortunately, all water was maintained on-site and no wells or surface water bodies were impacted.

Mr. Welch explained how impacts last well beyond the height of the storm for days; after the storm passes and after a day or two and no rain coming down, there is still this momentum of water that has to be dealt with. He reported that the treatment plant handled 3 times its normal average daily operations during this event, going from 8 mgd on a normal day to 22-24 mgd. He pointed out that the engineering safety factors were absolutely stressed to the max, and was impressed that they could even manage this type of water level. He then shared photos of the effluent pumping basin and well pad. He reported that the pumping stations were disposing effluent at the rate in excess of 52 mgd, which normally is 23-24 mgd, so they were pumping 3 or 4 times over the capacity of the plant. He also shared photos of flooded neighborhoods in Sunrise that caused traffic and parking problems.

In conclusion, Mr. Welch complimented the system and treatment operators on doing an outstanding job managing all this water. He added that the sustained road crown flooding seen in many areas was very excruciating for a lot of the public.

The Chair thanked Mr. Welch for his report.

Mr. Hart complimented Mr. Welch on his excellent report. He commented how it is not just the drainage systems that are impacted, but also the utility systems, perhaps even more so. The Chair commented on how Oakland Park experienced the same issues.

NEW BUSINESS AND OPEN DISCUSSION

Dr. Jurado informed that the County has been working in partnership with NOVA University evaluating COVID in groundwater wastewater streams, with input from regional, municipal, and private wastewater providers in the assessment. She added we are in our 15th week of data collecting and County Administration has been approached regarding extending funding for another 6 months. She explained that the analyses shows a strong correlation between COVID concentrations by count in the wastewater collections, about a 400% increase from three lift stations that were analyzed. She discussed the various factors involved; i.e., the huge amount of water resulting from Tropical Storm Eta, the number of public being tested, etc., not really suggesting a particular community. A memo was shared with the County Administration, partners, and some media conversations resulted. She suggested this topic be an agenda item for the next committee meeting.

As Raj Verma was not able to participate in the Utilities Response to November Flooding Event presentation, the Chair suggested inviting him to the next committee meeting on February 19, 2021.

NEXT SCHEDULED TAC MEETING: February 19, 2021

NEXT SCHEDULED WAB/TAC MEETING: January 15, 2021

ADJOURNMENT

There being no further business to discuss, the meeting adjourned at 11:53 am.

Bye, Bye Everybody! Bon Voyage!



Norma