

DRAFT MINUTES
TECHNICAL ADVISORY COMMITTEE
TO THE BROWARD COUNTY WATER ADVISORY BOARD

October 15, 2021

A meeting of the Technical Advisory Committee (TAC) to the Broward County Water Advisory Board was held on October 15, 2021, commencing at 9:30 am on WebEx. (The TAC meeting minutes were summarized by Gregory Mount (Gmount@Broward.org or 954-519-0356). Copies of the presentations are filed with the supplemental papers of the meeting.)

Link to the recording:

<https://broward.webex.com/recordingservice/sites/broward/recording/playback/0a3bd2f10fea103a9dfd0050568c61dd>

I. Roll Call

Members Present:

Kevin Hart (Chair)
Randolph Brown (Vice-chair)
Chris Cappiello for Albert Carbon
Susan Bodmann for Alan Garcia
Doug Bell
David Walker
Harold Aiken
Bridget Huston for Isabel Cosio Carballo
Jose Lopez
Leny Huaman
Lisa Milenkovic
Giovanni Batista for Mark Collins
Mike Bailey
Patrick Davis
Lorraine Mayers for Pete Kwiatkowski
Isabel Botero for Rafael Frias
Renuka Mohammed
Heather Cunniff
Susanne Carrano
Stephanie Pearson
Tim Welch

Members Absent:

Brett Butler, Jennifer Jurado, Renuka Mohammed, Mike Crowley, Steve Holmes, Steve Urich, Talal Abi-Karam

II. Statement of Meeting Objectives

A meeting of the Technical Advisory Committee to the Broward County Water Advisory Board was held on October 15, 2021, commencing at 9:30 am on WebEx.

III. Public Comments

None Provided.

IV. TAC Approval of Minutes of August 20, 2021

Motion: Mike Bailey, Second: Commissioner Bell, Vote: Unanimous. Commissioner Bell requested the minutes be made to reflect the discussion and questions raised by Commissioner Bell during the presentation for HB53. [item conducted out of order]

V. Announcements

Randy Brown made an announcement about their work with the University of Florida and the Broward County School Board for a training/internship program that will begin in November of this year with a tour of the facilities. The program will be virtual and begin in December with classes at the School District.

VI. Presentations

A. Broward County Saturation Zone Mapping and Contamination Risk Assessment (30p, 10d)
David Vanlandingham, P.E., Director, Environmental Engineering and Permitting, and Dr. Rajendra Sishodia, Water Planning Supervisor, Resilient Environment Department - Resilience Unit.

Dr. Sishodia began the presentation with an introduction to the saturation zone mapping and contamination risk assessment project that has been underway at the County. This effort was initiated from an action item in the CCAP (#114). A workgroup was formed that incorporated County, Academic, Federal, and State Agencies, as well as the private sector. He spoke about the update to the future condition groundwater map, and the use of this activity to also assess the potential for groundwater contamination. Results of the future conditions mapping activity were presented.

David Vanlandingham then took over and spoke about the contaminated sites located in Broward County. The County contains a wide variety of contaminants across over 900 sites. The sites are broken down into four main types, petroleum, chlorinated, arsenic, and metals. The working group came up with a risk ranking criteria that considered the depth to water table, future increase in water table, proximity to surface water, proximity to wellfield protection zones, and the type of contaminant. He provided a thorough overview of the sites in relationship to the ranking criteria and the justification for the placement of each site into the ranking. Petroleum free product was highlighted due to the types of sites in the County that have this, and how changing groundwater levels will increase the hazards of those individual sites. Mr. Vanlandingham also spoke about future undertakings or next steps that consider future conditions and the lack of current information on contamination plumes and contaminated sites. He also highlighted the need for funding and the backlog of sites requiring investigation.

B. Characterization of contaminant plumes and salt-water intrusion using geophysical methods. (30p, 15d)

Dr. Xavier Comas, Professor, Florida Atlantic University.

Dr. Comas began the presentation with an overview of near surface geophysical methods, including ground penetrating radar and the applications of these investigational methods to scenarios in south Florida. He went on to demonstrate the use of time lapse data sets to identify changes in the subsurface- here it was gas content in peat soils.

He then introduced the use of geophysical methods for characterizing a contaminant plume and how the physical property of electrical conductivity can show where contaminants are located, even when missed by wells. He continued with a series of case

studies for identifying contaminant plumes and the movement of the contaminants over time, and also highlighted the use of various techniques to identify saltwater intrusion and structural defects like sinkholes.

C. Broward County NPDES MS4 Cycle 4 Monitoring Update (10p, 10d)

Ashok Raichoudhury, P.E., Licensed Engineer, Environmental Engineering and Permitting, Carlos Adoriso, P.E. CFM, Engineering Unit Supervisor, Environmental Engineering and Permitting, and Thomas Crenshaw, Staff Engineer, Environmental Engineering and Permitting.

Mr. Raichoudhury provided an overview of the NPDES MSF monitoring requirements that are used to determine the overall effectiveness of the permit in reducing stormwater pollutant loadings from the MS4 system to the waters of the state. Broward County renews the permit every 5 years since 1996, the permit authorizes stormwater discharges to waters of the state with approved stormwater management programs, effluent limitations, monitoring requirements and other provisions. Mr. Crenshaw gave an overview of the monitoring sites, previous monitoring efforts, and the state required investigations that the division handles. He also provided examples of how the data collected is displayed in ArcGIS online through a series of GIS Dashboards and how those data can be used.

D. Integrated coastal flood observation network for citizen engagement and improved data, modeling, and projections (20p 5d) *Dr. Tiffany Troxler, Associate Professor, Department of Earth and Environment & Director of Science, Sea Level Solutions Center, FIU Institute of Environment.*

Dr. Troxler provided an overview of the integrated coastal flood observation work that is ongoing in south Florida and the use of citizen science in the observation and collection of data. Dr. Troxler noted that Miami Dade frequently has tidal events and associated compound flooding in the low-lying coastal areas. Dr. Troxler provided a detailed explanation of how the citizen scientists are trained and how they contribute data points to best cover the potential flooding events. They are given flood kits to make measurements, observations, and collect samples. The scientists upload their data to a webform hosted on the MESAN website. Photographs are taken of the measurements to allow for QA/QC of the data by the team. Dr. Troxler explained how the data was used to constrain the number of flood days by collecting minimum flood elevations over time. Dr. Troxler noted that her team was working with the Broward County Resilience Unit on establishing a flood monitoring station in Hollywood and is seeking ways to join both suites of crowdsourced data.

An overview of the SECOORA project was provided that covers how the multi-sensor network works and the combined approach of crowd-sourced data, surface and shallow surface measurements of depth and salinity, video surveillance and drone surveillance. Other flood observation stations will be installed based off the Resilient305 Strategy and will be used to develop a baseline of measurements from social, ecological, and technological data to understand the impact that resilience investments may have and how the metrics may change.

VII. New Business and Open Discussion

Dr. Mount noted that the County webpage has recently changed to /resilience so please update your links.

VIII. Next scheduled TAC Meeting: December 17, 2021, 9:30 a.m.

IX. Next scheduled Joint WAB/TAC Meeting: November 19, 2021, 10:00 a.m.

X. ADJOURN