

May 9, 2017

MINUTES OF THE COLLIER COUNTY COMPREHENSIVE WATERSHED
IMPROVEMENT PROGRAM COMMITTEE

Naples, Florida, May 9, 2017

LET IT BE REMEMBERED, the Collier County Watershed Improvement Program Committee in and for the County of Collier, having conducted business herein, met on this date at 9:00 AM in a REGULAR SESSION at the Growth Management Department Building, Room 609/610 2800 N. Horseshoe Drive, Naples, FL with the following persons present:

Chairman: Jocelyn Nageon De Lestang
Vice Chairman: Dennis Vasey
Gregg Strakaluse
Chadd Chustz
Brent Bachelder (Excused)
Jeff Carter
(Vacancy)

ALSO PRESENT: Jerry Kurtz, Stormwater Planning - Staff Liaison
Tabitha Stadler, Stormwater Planning

Any persons in need of the verbatim record of the meeting may request a copy of the audio recording from the Collier County Growth Management Department –Contact Mr. Evy Ybaceta at 239-252-2400.

1. **Call to order**
Chairman Nageon De Lestang called the meeting to order at 9:00am and a quorum was established.
2. **Approval of Agenda – Committee action requested**
Mr. Strakaluse moved to approve the Agenda. Second by Chairman Nageon De Lestang. Carried unanimously 5 - 0.
3. **Approval of Minutes – Committee action requested**
Mr. Strakaluse moved to approve the minutes of the April 7, 2017 meeting as presented. Second by Chairman Nageon De Lestang. Carried unanimously 5 – 0.
4. **Staff Announcements – Jerry Kurtz, Collier County Government**
Ms. Stadler reported she will be taking leave of absence from mid July through August and Mr. Kurtz will be the main point of contact for Committee business during this time.
5. **Workshop/Discussion Session – Tabitha Stadler, Collier County**
 - a. **Retention Pond Research, The Honorable Dennis P. Vasey, Chairman, Collier Soil and Water Conservation District**
Mr. Vasey provided the handout “Ecological Pond Management” and provided an overview of historic monitoring of the waterbodies in Longshore Lakes highlighting:
 - There are approximately 5,000 lakes/ponds in Collier County constructed either within or outside the permit process.
 - One concern is once the permitted ponds are issued a Certificate of Occupancy/Completion, there is not a substantial amount of historic monitoring that occurs.
 - He resides in Longshore Lakes, an area with lakes that are 20 years old and an excavation contractor approached the community on dredging the lakes at a substantial cost to the owners.
 - He developed a program to monitor the waters to determine if the dredging was necessary.
 - During the process, it was determined only 1 inch of sediment was present in the bottom of the lakes and the cost of dredging was averted.
 - The continuing studies revealed the main issues compromising water quality are items such as the influx of runoff from fertilizers, introduction of mulch, grass clippings etc. into the water and poor maintenance of the inlets which assist in transporting debris into the water.
 - The solution to maintaining optimal water quality standards includes proper design of the lakes, providing adequate buffers and littoral shelves, establishing an effective monitoring program, educating the public on the issue, promoting Best Management Practices for those maintaining the features (HOA’s, landscape maintenance contractors, etc.) and implementing any other measures to ensure the waters are left to function in their natural state.

Floating Islands

- Floating Islands are a tool being used to help maintain water quality via constructing man made islands floating on the surface of a pond or lake.
- The islands are planted with vegetation which removes nutrients from the water on an ongoing basis.

- Studies indicated one major issue is the plant list for the islands as approved by the State of Florida needs to be revised given the species allowed are not the most effective available for the intended purpose.
- In his opinion, the most effective vegetation proved to be Vertiver Grass, a plant that is not on the approved plant list.
- Studies indicated approximately 60 plants are needed for a lake 4.3 acre in size and the islands have been effective in maintaining acceptable water quality.

Under Committee discussion, the following was noted:

- The concepts outlined for lake maintenance are favorable, but it is a challenge to ensure all parties adhere to proper maintenance techniques and utilize Best Management Practices on an ongoing basis following construction of the lakes.
- Even visual monitoring of the areas is an important tool as changes to the footprint or shape of a lake, presence of new plant formations, changes in water clarity, etc. are an initial indicator(s) the lake is undergoing a change in its characteristics.

b. Update on Subsurface Storage Options in the SFWMD - Bob Verrastro, Lead Hydrogeologist, South Florida Water Management District (SFWMD)

Mr. Verrastro presented the PowerPoint "*Subsurface Options Update for the South Florida Water Management District*" dated May 9, 2017 and provided an overview of Aquifer Storage and Recovery (ASR) wells and Deep Injection Wells (DIW) highlighting:

- ASR wells are utilized to store large volumes of water underground for reuse at a later date.
- The water may be used for potable water, irrigation, etc. and the wells require limited land acquisition for the small footprint of construction, eliminates potential losses of stored surface waters due to evaporation and optimizes the function of surface reservoir.
- There are currently 544 ASR wells operating in 22 US States.
- In 1999 a Comprehensive Everglades Restoration Plan was developed for the purposes of augmenting surface reservoirs with 200 wells in the Lake Okeechobee area, 44 in the Caloosahatchee Basin, and 89 wells in Lower East Coast of Florida
- Further studies indicated only 130 wells were possible – 80 at Lake Okeechobee.
- The time to develop an ASR well is approximately 6 – 7 years including initial investigation, testing, permitting and eventual construction and operation.
- The City of Marco Island, City of Naples and Lee County all have operational ASR wells for a variety of purposes.
- The challenges of ASR wells include low recovery efficiency in the initial period requiring a long-term commitment to the program, undesirable constituents initially found in the water, the potential for diffusion and dispersion creating an inefficient aquifer and maintaining water quality during storage periods.
- One issue that came to light during development of an ASR well was the presence of arsenic which is liberated when certain underground elements oxidize with surface water, however studies now indicate the concentration often declines over multiple cycles of the well.
- Clustering of wells is advantageous as it allows opportunities for centralized pumping and filtration, intake structures, etc.

Deep Injection Wells

- Deep Injection Wells are Boulder Zone Injection wells with the ability to store water 3,000 feet in the ground or deeper.

- They are a simple design with straightforward permitting and used to primarily dispose of wastewater or control water levels in lakes.
- There are currently 200 operating in the lower west coast of Florida and are typically constructed in pairs at a cost of approximately \$5M each.
- The wells can be prone to plugging and occasionally need to be rehabilitated.

Under Committee discussion, the following was noted:

- A large quantity of wells would be required for the Golden Gate Canal area in order to meet the goals of reducing its flows.
- The operational costs of the well are \$700 – \$800 daily.
- The wells may be a useful tool given the area is characterized by large volume of rain that falls during the “rainy season” that is dispersed via sheetflows. The water has become increasingly difficult to deal with on the ground surface as many of the areas in need of assistance are developed with urban uses.
- The underground bubble of water may extend off property of the party operating the well; however it needs to meet certain water quality standards at the “boundary line” of the property.
- The ASR concept is used internationally and in Australia, one key difference to the program from the United States is the focus on the ensuring the water quality is adequate during recovery, not necessarily at initial injection.

c. Recommendations Discussion: Naples/Naples Bay Watershed Area

Staff reported they will be formulating recommendations on the Naples Bay Watershed for review at a future meeting.

Ms. Strakaluse reported beneficial recommendations which could be incorporated into their grant applications would include the County endorsing the City’s plan to reconstruct the outfalls on the beach and Cove Inn discharge redevelopment plan.

The Committee noted consideration may want to be given to recognizing the County’s recent endeavors to develop a coastal resiliency plan.

6. Member and Citizen Comments

None

7. Old Business

None

8. New Business

None

9. Set or announce next meeting date

Tuesday, June 13, 2017 – 9:00am

There being no further business for the good of the County, the meeting was adjourned by the order of the Chair at 11:45AM.

May 9, 2017

**COMPREHENSIVE WATERSHED
IMPROVEMENT PROGRAM COMMITTEE**



Chairman, Jocelyn Nageon De Lestang

These Minutes were approved by the Committee on 6/13/2017, as presented ✓, or as amended _____.

