SOUTH FLORIDA WATER MANAGEMENT DISTRICT

April 5, 2010

Colonel Alfred Pantano
District Commander
United States Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, Florida 32207

Dear Colonel Pantano:

Subject: Stormwater Treatment Area 1 East

The purpose of this letter is to summarize the South Florida Water Management District's (SFWMD) current position on the efforts by the U.S. Army Corps of Engineers (Corps) to address design and construction issues at Stormwater Treatment Area 1 East (STA-1E) that have affected the facility's ability to achieve its authorized purposes and performance standards. As you are aware, many of these issues have been known to exist since 2004 and a Joint Technical Team consisting of staff from both agencies has been meeting since September 2009 to resolve the issues. While these discussions have been productive and several issues are already being addressed by the Corps, namely the repairs at S-375, S-365A and S-365B, a focused and resolute effort is needed to successfully resolve the following outstanding issues:

- Cells 5 and 7 Fill and Grading (western flow way)
- Additional Capacity to Supplement S-375
- Culvert Repair/Replacement
- Flow capacity restrictions due to Periphyton-based Stormwater Treatment Area (PSTA) (eastern flow way)
- Trash Rake System Modification/Replacement
- L-40 Canal Mitigation Project

The SFWMD continues to operate the STA-1E Facility to the best of its ability within the constraint outlined above. However, these documented deficiencies must be corrected prior to the SFWMD accepting legal transfer for the operations and maintenance of the facility.

The SFWMD strongly supports the Corps-Jacksonville's request to the Chief of Engineers seeking approval and funding to expedite implementation of repairs to address these issues. The Corps will be preparing an implementation plan in order to

sequence these repairs to minimize operational impacts. The SFWMD supports the need for an implementation plan and will actively participate in its development.

Unfortunately, it appears that it will be several years before all outstanding STA-1E issues and concerns are resolved by the Corps. In the meantime, the SFWMD's ability to maintain flood protection for the C-51 West and S-5A Basins, and to treat stormwater run-off prior to discharge into Water Conservation Area 1 (WCA-1), will continue to be impacted. In the interim, despite these limitations, SFWMD will continue to operate STA-1E to the best of its ability in an attempt to achieve the authorized purposes and performance standards of this treatment facility. Additional details regarding the operational impacts and potential interim actions that can be taken to ameliorate those impacts are provided below.

Cells 5 and 7 Fill and Grading

The Corps, with input from SFWMD, is currently developing alternative plans, cost estimates, and schedules for raising the ground elevation of Cells 5 and 7 (in the western flow-way) to achieve the elevations needed to meet the authorized purposes and performance standards. Since the western flow-way of STA-1E (which accounts for 40% of STA-1E's treatment capacity) treats S-5A basin runoff that exceeds the capacity of Stormwater Treatment Area 1 West (STA-1W), the deficiencies within Cells 5 and 7 are negatively impacting the long-term phosphorus treatment performance of both STA-1E and STA-1W. The timely implementation of a solution for Cells 5 and 7 is essential to expanding and sustaining vegetation communities in both STAs.

Additional Capacity to Supplement S-375

Additional capacity (approximately 2,100 cfs) is needed to allow diversion of STA-1E inflows (via S-319) directly to WCA-1 during certain extreme conditions to maintain flood protection in the C-51 West Basin, avoid and/or minimize damage to treatment cell vegetation and maintain the long-term water quality treatment capability of STA-1E as contained in the authorized purpose and performance standards for the project.

The Corps is currently in the process of repairing the existing S-375 structure to allow it to be operated at its original design capacity. However, SFWMD believes that in order to meet the intended performance standards, an additional structure, such as a gated spillway, is needed to provide the additional capacity. The Corps' Office of Counsel has determined that additional authority (per ER 1165-2-119, "Modifications to Completed Projects") must be requested in order to add additional capacity. SFWMD will continue to support the Corps' efforts to obtain any additional authorizations determined necessary.

Culvert Repair/Replacement

The Corps is currently developing priorities, construction sequencing alternatives, and cost estimates for repair or replacement of at least 23 culverts throughout STA-1E that are experiencing problems. Due to the large number of culverts requiring attention, the operation of the STA will be impacted as many structures will be inoperable during

repair activities and flow capacity will be reduced. Therefore, all relevant design and construction methods should be evaluated to ensure that the potential for future culvert repairs will be minimized and operational capability of the STA is maximized during construction.

Flow capacity restrictions due to PSTA

Twenty percent of the treatment capacity of STA-1E is restricted as a result of the PSTA demonstration project located in the eastern-flow-way. SFWMD understands that the Corps will be coordinating with the Miccosukee Tribe prior to making a decision as to whether to continue or terminate the demonstration project. SFWMD also understands that this issue may not be resolved prior to the onset of the wet-season which could result in continued limited STA operations through those cells. Also as you know, SFWMD has an ongoing PSTA project associated with STA-3/4.

Trash Rake System Modification/Replacement

SFWMD has encountered numerous problems with the trash rake systems at Pump Stations S-319 and S-362 that have affected STA operations. Efforts by the Corps to acquire funding sources to enable near-term modification or replacement of these systems to improve their efficiency is strongly encouraged by SFWMD, as these systems are crucial to uninterrupted pump station and STA operation.

L-40 Canal Mitigation Project

While this still remains an issue to be resolved, SFWMD has asked that the L-40 Canal Mitigation Project discussions be tabled until a later date to enable further review by staff. SFWMD looks forward to resolving this issue with the Corps in the near future.

In summary, due to events beyond the District's control, there has been a 60% loss in STA-1E's treatment capacity (i.e., the combined effect of the design and construction defects and the restrictions due to PSTA). Prompt resolution of these issues by the Corps is critical because the reduction in treatment capacity has and will continue to impart the District's water quantity and quality commitments to the Refuge and other stakeholders. In that regard, the District strongly supports the Corps efforts in moving forward with obtaining the additional authorization and funding to bring this matter to closure.

Until resolution of the STA-1E issues is accomplished, SFWMD will be employing management measures and rehabilitation activities within several STA-1E treatment cells to enhance the condition of existing vegetation communities in an attempt to sustain and improve the treatment performance of the STA. These activities will be coordinated with the efforts of the Corps to ensure compatibility with future construction activities. Despite efforts to expedite completion of these repairs and to implement interim measures to improve performance capabilities, continued operational and performance challenges are anticipated for the next several years, and therefore, extensive interagency coordination during this period will be critical.

Please do not hesitate to contact Kenneth G. Ammon, P.E., Deputy Executive Director, Everglades Restoration and Capital Projects, at 561-682-6502, if you have any additional questions.

Sincerely,

Carol Ann Wehle

Carol Ann Wehle
Executive Director
South Florida Water Management District

CAW/tm

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