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Wakulla Springs Alliance

"Protecting and restoring water quality, spring flow and ecological health of Wakulla Spring."

March 8, 2021

Mr. David Edwards

Wakulla County Administrator

P.O. Box 1263

Crawfordville, FL 32327

Dear Mr. Edwards:

The Wakulla Springs Alliance Board recognizes that Wakulla County must make improvements to its existing Otter Creek wastewater treatment facility and the means for disposing of the treated effluent to mitigate the problems identified in the June 23, 2017, consent order with the State Department of Environmental Protection and to accommodate projected increases in demand from planned septic-to-sewer projects and anticipated growth. We commend the county for its commitment to help reduce nitrogen loading to Wakulla Spring by pursuing opportunities for connecting existing septic systems to central sewer and by providing incentives to property owners to connect to sewer where available and convert existing septic systems to those providing enhanced nitrogen removal where sewer service is not available.

We have been told on multiple occasions that the county's engineers believe the upgraded Otter Creek WWTF can regularly attain a treated effluent total nitrogen concentration of 2 mg/L or less. We urge the county to formalize this prediction by initiating an amendment to section I.A.7. of its August 12, 2019, operating permit for the Otter Creek WWTF to reduce the reclaimed water limitation for total nitrogen from 3 mg/L to 2 mg/L.

The Alliance Board appreciates the county's commitment to provide supplemental "effluent polishing" to reduce the nitrate-nitrogen load following advanced wastewater treatment at the Otter Creek WWTF. Doing so through the deployment of constructed wetlands or other technology is essential to minimizing nitrate-nitrogen loading to the aquifer and the associated risks to Wakulla Spring, private potable water

wells, and sinkhole lakes near treated effluent disposal facilities. To that end, we urge the county to explore options for providing such effluent polishing treatment to all the treated effluent from the Otter Creek WWTF regardless of where it is discharged.

Wetlands Solution Inc. engineer Scott Knight has stated that a constructed wetland system can be designed to reduce the nitrate-nitrogen concentration in treated effluent from the Otter Creek WWTF to at least 0.35 mg/L and potentially as low as or lower than 0.25 mg/L as measured at the surface in individual wetland cells. Minimizing the risks associated with nitrate-nitrogen discharges to the aquifer requires that a constructed wetland system be sited where it can be designed to provide sufficient residence time to achieve a final nitrate-concentration of no more than 0.25 mg/L measured at the surface.

The Alliance Board is concerned that the former Moore parcel where the county plans to deploy a RIB - constructed wetland system presents potentially significant constraints to constructing and operating a system capable of achieving that level of nitrate-nitrogen treatment. Figure 1 in the December 2, 2020, Jones Edmonds "Preliminary Evaluation of the Moore Property for PAR Disposal" depicts floodplains covering 50 percent or more of that 100-acre property parcel. The Lake City wetland system comprises 120 acres treating approximately 1.2 mgd. Wakulla County's Wastewater Facilities Improvements Plan calls for a 1.5 mgd RIB on the site. A wetland system sized similarly to the Lake City facility would potentially require 150 acres for the wetland system alone. The Moore parcel seems unlikely to offer sufficient area to allow for a wetland system capable of fully treating all the Otter Creek effluent that may be discharged to a RIB on that site, especially given the extensive floodplain area. The Alliance Board also is concerned by the potential for sinkhole formation on and proximate to that parcel resulting from operation of a wetland-RIB system. Sinkhole formation on the site could cause failure of the system resulting in discharge of incompletely treated effluent to the aquifer. Sinkhole formation on nearby properties could harm privately-owned structures.

The county and its consultants have stated repeatedly that they cannot draw conclusions about the suitability of the Moore site until further site analysis is conducted and that such analysis will not be done until the county receives its first loan from the Water Quality State Revolving Fund. The Alliance Board is concerned that infrastructure design expenditures made prior to and/or coincident with completion of appropriate geotechnical and hydrogeologic site analyses may constrain consideration of an alternative site should the Moore parcel prove deficient. We therefore urge the county to defer infrastructure design expenditures keyed to the location of the planned RIB-wetland system until the county has completed detailed site analyses of the Moore parcel and at least one other parcel that can accommodate a constructed wetland of sufficient capacity to treat all effluent that would be disposed of via a RIB and that presents lower risk of sinkhole formation.

Wakulla County residents have expressed concern with the potential for nitrate and pathogen contamination of private wells on properties proximate to a RIB. The county's willingness to amend its operating permit for the Otter Creek WWTF to set 2.0 mg/L as the treatment standard and a commitment to only site a RIB where effluent polishing via a constructed wetland can be accomplished for the full capacity of the RIB while accomplishing nitrate-nitrogen levels of no more than 0.25 mg/L measured at the surface, would contribute to reducing the risk of nitrate contamination of private wells from such a facility. The Alliance Board urges the county to also agree to conduct at least monthly sampling of perimeter monitoring wells for nitrate-nitrogen and fecal coliform bacteria at

a RIB-wetland facility to provide additional protection against ground water contamination. The Alliance also urges the county to conduct at least monthly sampling of any constructed wetland system to demonstrate consistent attainment of no more than 0.25 mg/L nitrate-nitrogen measured at the surface prior to discharge to a RIB.

Thank you for considering our recommendations.

Sincerely,

A handwritten signature in blue ink that reads "Robert E. Deyle". The signature is written in a cursive style.

Robert E. Deyle, Chair
Wakulla Springs Alliance

cc: Chuck Hess, Wakulla County Commission
Mike Kemp, Wakulla County Commission
Randy Merritt, Wakulla County Commission
Quincee Messersmith, Wakulla County Commission
Ralph Thomas, Wakulla County Commission
Adam Blalock, Deputy Secretary, FDEP Ecosystem Restoration
Julie Espy, Director, FDEP Division of Environmental Assessment and Restoration
Benjamin Melnick, Director, FDEP Division of Water Resource Management
Eric Draper, Director, FDEP Division of Recreation and Parks
Amy Conyers, Park Manager, Wakulla Springs State Park
Grant Gelhardt, Chair, Big Bend Sierra Club
Don Lanham, President, Friends of Wakulla Springs
Paul Owens, President, 1000 Friends of Florida
Phillip Pollock, President, Friends of St. Marks National Wildlife Refuge
Preston Roberts, President, Florida Wildlife Federation
Ryan Smart, Executive Director, Florida Springs Council
Rob Williams, Apalachee Audubon Society