



## Interoffice Memorandum

June 24, 2019

TO: Mayor Jerry L. Demings  
-AND-  
Board of County Commissioners

FROM: Jon V. Weiss, P.E., Director  
Planning, Environmental, and Development  
Services Department

**CONTACT PERSON: David D. Jones, P.E., CEP, Manager  
Environmental Protection Division  
(407) 836-1405**

SUBJECT: July 2, 2019 – Public Hearing  
Phosphorus Free Water Solutions, LLC - Conservation Area  
Impact Permit #CAI-19-05-022

On April 30, 2019, Phosphorus Free Water Solutions, LLC submitted a Conservation Area Impact (CAI) Permit requesting 0.90 acre of temporary Class I wetland impacts in order to construct a proprietary phosphorus removal system along the north shore of Lake Apopka.

The project area is located within the St. Johns River Water Management District (SJRWMD) Lake Apopka North Shore (LANS) project area within portions of Parcel ID Nos. 07-21-27-0000-00-002 and 12-21-27-0000-00-006 in District 2. The project site is approximately 268 acres and is located primarily south of Hooper Farms Road and west of South Binion Road. This project is being funded by the SJRWMD and the applicant is under a lease and contract with SJRWMD to remove phosphorus from Lake Apopka.

The long-term vision for the LANS and Lake Apopka itself includes the active management of property, Lake Apopka's waters, and submerged aquatic vegetation (SAV) communities that provide important natural resource benefits and recreational opportunities. Phosphorus management has been identified as a primary resource management goal by the SJRWMD. Other SJRWMD goals include wetland habitat maintenance and management, and flood storage. Constraints identified with respect to the SJRWMD goals include the presence and broad distribution of phosphorus-rich and heavily-subsided organic soils, phosphorus present in the lake water in both soluble and suspended solid forms, and the continued presence of pesticides and/or pesticide residuals in the soils of the LANS.

The Florida Department of Environmental Protection (FDEP) has adopted a Total Maximum Daily Load (TMDL) for Lake Apopka and the lake is within both the Upper Ocklawaha River Basin Management Action Plan (BMAP) and the Wekiva River BMAP areas.

This project will utilize proprietary technology to remove phosphorus and soft unconsolidated sediment flocculants (UCF) from the lake. UCFs contain high concentrations of nutrients including total phosphorus. These high nutrient concentrations result in the deterioration of water quality within the lake. Wind-driven re-suspension of UCF in the water column of Lake Apopka often contributes to reduction in the amount of light penetration necessary for SAV growth. The reduction of the amount of phosphorus within the lake along with removal of UCF in the water column, have been determined by SJRWMD to be the best courses of action to allow ecologically vital SAV to repopulate Lake Apopka's littoral zone and improve water quality. The facility, as designed, will accommodate approximately 16.75 cubic feet per second (cfs) of flow and has the capability at full operational rates to remove an average of approximately 20,000 pounds of Total Phosphorus (TP) annually.

To facilitate the phosphorus removal process, the applicant will pump lake water via a floating intake barge to a facility to be constructed specifically for the treatment. The applicant plans to then pipe the treated slurry, under pressure, to a five-acre portion of the property that is known to be contaminated with residual pesticides. The slurry will be distributed across the five-acre site and will flow downhill towards a sump constructed in the southwest corner. The slurry is anticipated to bind with the contaminants in the soil. The degree of stabilization of the contamination is dependent upon the capacity of the slurry and the amount of slurry ultimately discharged. The treated water will flow into the sump area and be pumped back to the treatment facility. The water pumped back from the placement area will undergo a second treatment at the treatment facility. Following the second treatment, the water will be discharged to an outfall canal. A pump at the end of the canal will then discharge the water back into Lake Apopka.

This project is located within the larger LANS footprint. There are two wetlands and one surface water within the project area ( $\pm 268.4$  acres):

- Wetland 1 (W1) is a small portion of a larger wetland system that is located on the east side of the levee along Lake Apopka and west of Conrad Road. The portion of W1 within the project area is 1.33 acres. W1 is a Class I wetland system and is comprised of nearly 100 percent cover of nuisance or exotic vegetative species. W1 also includes an embedded canal (surface water) that will be utilized for the final outfall from the treatment facility back to Lake Apopka.
- Wetland 2 (W2) is a small portion of a larger Class I wetland system with an embedded canal system that is located east of Conrad Road and south of Hooper Farms Road extending south to the levee of Lake Apopka. The portion of W2 within the project boundary is 4.81 acres. W2 also is comprised primarily of nuisance and exotic vegetation with occasional native species interspersed within the placement area. There are some open areas of higher quality vegetated with native herbaceous vegetation near the central portion of the placement area.

- Surface Water 1 (SW1) includes Lake Apopka and all portions of this project waterward of the Normal High Water Elevation (66.89' NAVD). SW1 also includes the narrow littoral shelf at the edge of Lake Apopka vegetated with native emergent aquatic species. SW1 comprises primarily open water with a narrow strip of eelgrass waterward of the emergent aquatic vegetation.

The vast majority of the proposed treatment facility construction area and all of the roadside areas comprise upland disturbed lands. These uplands are vegetated with both nuisance and native pioneer species. There are a few native cabbage palms (*Sabal palmetto*) at the outer edge of the treatment facility placement area. The pipes from the lake to and from the treatment facility to the placement area will be located within the graded roadways and the shoulders, as well as the levee road. The shoulders have a lime-rock base with scattered roadside grasses.

The development plan for this project will result in 0.90 acre of temporary Class I wetland and surface water impacts as follows:

- W1: 0.43 acre at the treatment facility;
- W2: 0.41 acre for the creation of a berm around the placement area;
- SW1: 0.03 acre for the floating dock and the electrical motor control center; and
- SW1: 0.03 acre for the outfall pipe.

All wetland areas impacted by the project will be restored at the end of the project; therefore, EPD is considering these impacts to be temporary and are not requiring any mitigation.

Pursuant to Orange County Code, Chapter 15, Article X, EPD staff has evaluated the permit application and required documentation. The removal, alteration or encroachment of a Class I conservation area shall only be allowed in cases where no other feasible or practical alternatives exist that will permit a reasonable use of the land or where there is an overriding public benefit.

Based on the documentation and justifications provided by the applicant, the applicant has demonstrated to EPD that the project has an overriding public benefit. The project, as designed, has the capability at full operational rates to remove a minimum of 16,000 pounds and an estimated maximum of 48,000 pounds per year of TP originating from all sources as well as removing UCF within the water column. Approximately 3.3 billion gallons of water will be processed annually at this facility. If the project is successful, the removal of TP and UCF will further the goal to improve the water quality in the lake, improve the property for fish and wildlife, improve recreational uses for the citizens of Orange County, and assist with the TP reductions mandated by the adopted TMDL for Lake Apopka.

In addition, to address concerns with potential wildlife mortality, SJRWMD has committed to monitoring avian use of the contaminated placement area to aid in preventing any large-scale bird mortality event. In the event that bird mortality occurs, SJRWMD will implement the Contingency Plan as required in the US Fish and Wildlife Service (USFWS) *Lake Apopka North Shore Biological Assessment for Active Management for Phases 1 through 8 and Duda*.

In order to address navigational hazard concerns, the permittee will equip the floating pipes from the barge to the intake pump and the floating outfall pipe with all the navigational equipment required by Coast Guard standards.

The applicant has also agreed to collect water samples from three locations: (1) the preprocessed intake flow of lake water, (2) at a sump after receiving runoff from the placement area, and (3) at the discharge point after the treated flow is processed a second time. The list of analysis parameters includes TP, dissolved phosphorous (DP), soluble reactive phosphorus (SRP), turbidity, alkalinity, and pH. The sample collection and analysis is intended to ensure compliance with the Class III, predominantly Fresh Waters Criteria found in Rule 62-302.530, Florida Administrative Code (F.A.C.). Moreover, FDEP has required that samples be collected at the discharge location and tested for the presence of trihalomethanes and pH as a condition of the Environmental Resource Permit for the project. FDEP has also required that samples be collected at the discharge and submitted for toxicity testing.

The analytical report documents the presence of chromium in the slurry in concentrations that may result in the leaching of chromium from the slurry to surface water should it be present in the placement area. In addition, the detection limit of the analytical method was too high to demonstrate that concentrations of arsenic, selenium, and silver in the slurry samples submitted for analysis meet the applicable Direct Exposure and / or Leachability Criteria found in Table II of Chapter 62-777, F.A.C. EPD has requested that SJRWMD add arsenic, chromium, selenium, and silver to the list of analytical parameters tested for in samples collected from the sump locations. EPD has recommended that the applicant or SJRWMD also conduct sampling efforts in the placement area.

Notification of the public hearing was sent to the applicant and authorized agent prior to the hearing. Notification of the adjacent property owners is not required.

There is no current enforcement action on the subject property.

### **Staff Recommendation**

Approval of the Conservation Area Impact Permit application subject to the following conditions:

### **Specific Conditions:**

1. This permit shall become final and effective upon expiration of the 30 calendar day period following the date of rendition of the Board of County Commissioners' (Board) decision approving the permit, unless a petition for writ of certiorari or other legal challenge has been filed within this timeframe. Any timely filed petition or other challenge shall stay the effective date of this permit until the petition or other challenge is resolved in favor of the Board's decision.
2. The wetland impacts must be completed in accordance with 'Sheet C509' of the plans prepared by JSK Consulting, dated as received by the Environmental Protection Division (EPD) on June 20, 2019. Construction shall be completed within

five years from issuance of this permit unless extended in writing. Requests for permit extension must be submitted to the EPD prior to the expiration date.

3. The site restoration shall be conducted in accordance with the narrative on Pages 6-7 of the Response to Request for Additional Information, dated as received by EPD on June 19, 2019. Wetland restoration shall commence within 30 days of the final day of operation of the treatment system.
4. In the event that the fill, structures and/or equipment are not removed from the conservation areas, then a permit modification is required and compensatory mitigation for permanent impacts will be required to offset the loss of wetland and/or other surface water functions in accordance with Chapter 62-345 Florida Administrative Code (F.A.C.) - Uniform Mitigation Assessment Method.
5. Successful restoration of the conservation areas will have occurred when:
  - a. At least 85 percent cover by wetland species has been obtained, and
  - b. Hydrologic conditions, including but not limited to water depth and water level fluctuation, generally conform to those conditions present in adjacent wetland areas, and
  - c. The elevations and topography generally conform to those present in the adjacent wetland areas, and
  - d. The wetland restoration areas meet the definition of a wetland or other surface water according to Chapter 62-340, F.A.C., and
  - e. The above criteria has been met at the end of a one-year monitoring period to EPD's satisfaction.
6. A time zero monitoring report shall be submitted to EPD within 30 days of completion of the restoration. The time zero report must contain survey transects in at least three locations within the restored wetland areas showing the restored wetland elevations and at least two elevation points in adjacent wetland systems.
7. One year after restoration activities have been completed, the permittee is required to conduct a monitoring event and submit a monitoring report that contains the following information (site location, GPS location of fixed transect, field sampling design, sampling methodology, photographic documentation, fish and wildlife observations, hydrology, results and discussion). If the restoration area is not meeting the monitoring success criteria at the end of the one-year monitoring period, the permittee may be required to provide a supplemental restoration plan and to continue monitoring until success has been demonstrated. The permittee may be released from additional monitoring if at any time the permittee demonstrates that conditions in the restoration area have met the above success criteria and wetland and surface water functions have been restored to the satisfaction of EPD. Any request for cessation of monitoring must be submitted in writing to EPD.
8. The floating pipeline and floating outfall pipe shall be fitted with all required navigational safety equipment in accordance with Coast Guard requirements per 33 CFR 88.15.

9. In the event of an emergency, such as a hurricane or fuel spill, the permittee shall follow the emergency procedures in accordance with Attachment 1 – Emergency Action Plan and Attachment 3 - Fuel Safety Plan (provided in the Response to Comments to SJRWMD from the permittee dated May 19, 2019).
10. The permittee shall provide written notification to EPD of any changes to the permitted system prior to implementation so that a determination can be made whether a permit modification is required. Any increase in impacts to a conservation area will require a permit modification.
11. The placement area shall be monitored for bird use weekly when there is standing water in the placement area. In the event of any mortality event or the congregation of wading birds within the placement area, SJRWMD shall immediately contact EPD, Neal Thomas at (407) 836-1451 or [Neal.Thomas@ocfl.net](mailto:Neal.Thomas@ocfl.net), and implement the Contingency Plan outlined on Page 10 of the Response to Request for Additional Information dated as received by EPD on June 19, 2019, and in accordance with the US Fish and Wildlife Service (USFWS) *Lake Apopka North Shore Biological Assessment for Active Management for Phases 1 through 8 and Duda*. The weekly monitoring reports shall be submitted to EPD monthly.
12. EPD reserves the right to revoke this permit should any environmental harm to fish, wildlife or water quality result from the project.
13. The permittee shall sample Total Phosphorus (TP), Dissolved Phosphorus (DP), Soluble Phosphorus Reactive Phosphorus (SRP), Turbidity, Alkalinity, and pH at the three locations shown on the 'Sample Collection Location Map' provided in the Response to Request for Additional Information dated as received by EPD on June 19, 2019. The permittee shall collect these samples monthly for the first three months and every three months thereafter provided the samples do not show any exceedance of Class III water quality standards per Chapter 62-302.530, and Table 2, Chapter 62-777, F.A.C., or other applicable standards.
14. It is recommended that the SJRWMD include the testing of arsenic, chromium, selenium, and silver to the list of parameters for the samples collected at the Point 2 (sump location) shown on the 'Sample Collection Location Map' provided in the Response to the Request for Additional Information letter dated as received by EPD on June 19, 2019. By acceptance of this permit, the SJRWMD acknowledges the recommendations and requirements contained in this permit and accepts that it is the responsibility of the SJRWMD to address any unforeseen adverse consequences associated with the proposed project in an effective and timely manner.
15. The permittee shall submit to EPD a copy of all reports and supporting documentation that are required by the FDEP permit for this project on the same schedule as required by the FDEP permit conditions.

16. Prior to any filling within the 100-year flood zone a Flood Plain Permit may be required from the Orange County Stormwater Management Division authorizing the fill.
17. The permittee shall notify EPD, in writing, within 30 days of any sale, conveyance, or other transfer of ownership or control of the real property subject to this permit. The permittee shall remain liable for all permit conditions and corrective actions that may be required as a result of any permit violations which occur prior to the transfer of the permit by Orange County to a subsequent owner. If applicable, no permit shall be transferred unless and until adequate financial assurance has been provided and approved by Orange County.
18. For projects which disturb one acre or more of land, or which are less than one acre but are part of a larger common plan of development of sale that is greater than one acre, coverage under a National Pollutant Discharge Elimination System (NPDES) Construction Generic Permit (CGP) is required. Prior to the start of land disturbing activities, which includes demolition, earthwork and/or construction, the operator shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and submit to the Florida Department of Environmental Protection (FDEP) a Notice of Intent (NOI) to obtain coverage under the NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities (CGP) pursuant to the requirements of 62-621.300(4)(a) F.A.C. As the Operator of the MS4, copy of the NOI shall also be submitted to the Orange County NPDES Environmental Program Supervisor prior to the start of activities. Copies of the SWPPP, NOI, and FDEP Acknowledgement Letter are to be kept on the project site and made available upon request. Upon completion of all land disturbing activities and after final stabilization of the site is complete, the operator/contractor shall submit to FDEP a Notice of Termination (NOT) to end their coverage under the CGP and provide a copy of the NOT to the Operator(s) of the MS4. A copy of the CGP, NOI and additional information can be found on the FDEP website: <http://dep.state.fl.us/water/stormwater/npdes/construction3.htm>.
19. The operational phase of this permit is effective upon the completion of construction and continues in perpetuity.
20. Turbidity and sediment shall be controlled to prevent off-site, unpermitted impacts and violations of water quality standards pursuant to Rules 62-302.500, 62-302.530, and 62-4.242 F.A.C. Best Management Practices (BMPs), as specified in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (2013, or most current version), shall be installed and maintained at all locations where there is the possibility of transferring sediment, turbidity, or other pollutants, into wetlands and/or surface waters due to the permitted activities. BMPs are performance based; if selected BMPs are ineffective or if site-specific conditions require additional measures, then the permittee shall implement additional or alternative measures as necessary to prevent adverse impacts to wetlands and/or surface waters. Turbidity discharging from a site must not exceed 29 NTU over background for Class III waters and their tributaries or 0 NTU over background for those surface waters and tributaries designated as Outstanding Florida Waters (OFW). A copy of the Designer and Reviewer Manual can be found at the following website: <https://www.flrules.org/Gateway/reference.asp?No=Ref-04227>.

21. Discharge of groundwater from dewatering operations requires approval from FDEP and the applicable Water Management District. The operator/contractor shall obtain an FDEP Generic Permit for the Discharge of Ground Water from Dewatering Operations pursuant to the requirements of 62-621.300(2)(a) and 62-620 F.A.C. and Florida Statutes Chapter 403. Discharges directed to the County's MS4 require an Orange County Right-of-Way Utilization Permit for Dewatering prior to the start of any discharges.

#### General Conditions

22. Subject to the terms and conditions herein, the permittee is hereby authorized to perform or cause to be performed, the impacts shown on the application and approved drawings, plans, and other documents attached hereto or on file with EPD. The permittee binds itself and its successors to comply with the provisions and conditions of this permit. If EPD determines at any time that activities, including without limitation the performance of the required mitigation, are not in accordance with the conditions of the permit, work shall cease and the permit may be revoked immediately by the Environmental Protection Officer. Notice of the revocation shall be provided to the permit holder promptly thereafter.
23. Prior to construction, the permittee shall clearly designate the limits of construction on-site. The permittee shall advise the contractor that any work outside the limits of construction, including clearing, may be a violation of this permit.
24. Construction plans shall be submitted to EPD prior to initiating any construction activities for review and approval. The construction plans shall include, but are not limited to, a site plan clearly depicting the location and acreage of wetland impacts.
25. The permittee shall require the contractor to maintain a copy of this permit, complete with all approved drawings, plans, conditions, attachments, exhibits, and modifications in good condition at the construction site. The permittee shall require the contractor to review the permit prior to commencement of the activity authorized by this permit. The complete permit shall be available upon request by Orange County staff.
26. Issuance of this permit does not warrant in any way that the permittee has riparian or property rights to construct any structure permitted herein and any such construction is done at the sole risk of the permittee. In the event that any part of the structure(s) permitted herein is determined by a final adjudication issued by a court of competent jurisdiction to encroach on or interfere with adjacent property owner's riparian or other property rights, permittee agrees to either obtain written consent or to remove the offending structure or encroachment within 60 days from the date of the adjudication. Failure to comply shall constitute a material breach of this permit and shall be grounds for its immediate revocation.
27. This permit does not release the permittee from complying with all other federal, state, and local laws, ordinances, rules and regulations. Specifically, this permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit.



This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities upon property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 15, Article X of the Orange County Code. If these permit conditions conflict with those of any other regulatory agency the permittee shall comply with the most stringent conditions. The permittee shall immediately notify EPD of any conflict between the conditions of this permit and any other permit or approval.

28. The permittee is hereby advised that Section 253.77, Florida Statutes, states that a person may not commence any excavation, construction, or other activity involving the use of sovereignty or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
29. Should any other regulatory agency require changes to the property, permitted activities, or approved mitigation, the permittee shall provide written notification to EPD of the change prior to implementation so that a determination can be made whether a permit modification is required.
30. EPD shall have final construction plan approval to ensure that no modification has been made during the construction plan process.
31. The permittee shall immediately notify EPD in writing of any previously submitted information that is later discovered to be inaccurate.
32. EPD staff, with proper identification, shall have permission to enter the site at any reasonable time to inspect, sample, or test as needed in order to ensure conformity with the plans and specifications approved by the permit.
33. The permittee shall hold and save the County harmless from any and all damages, claims or liabilities, which may arise by reason of the activities authorized by the permit.
34. All costs, including attorney's fees, incurred by the County in enforcing the terms and conditions of this permit shall be required to be paid by the permittee.
35. The permittee agrees that any dispute arising from matters relating to this permit shall be governed by the laws of Florida, and initiated only in Orange County.
36. Pursuant to Section 125.022, FS, issuance of this permit by the County does not in any way create any rights on the part of the applicant to obtain a permit from a state or federal agency and does not create any liability on the part of the County for issuance of the permit if the applicant fails to obtain requisite approvals or fulfill the

obligations imposed by a state or federal agency or undertakes actions that result in a violation of state or federal law.

37. Pursuant to Section 125.022 FS, the applicant shall obtain all other applicable state or federal permits before commencement of the activities authorized herein.

**ACTION REQUESTED: Approval of the Conservation Area Impact Permit (CAI-19-05-022) for Phosphorus Free Water Solutions, LLC. District 2**

JVW/DDJ: mg

Attachments