



Memo To File

A. Project Information

Park Name: Everglades National Park

PEPC Project Number: 71150

Project Title: Turbidity monitoring for construction of Tamiami Trail 2.6-mile Bridge project

Project Location:

County, State: Miami-Dade, Florida **District, Section:** 26

Project Leader: Charles Borders (charles_borders@nps.gov, 305-224-4234)

B. Description of the Current Action (Project Description)

This project is to implement the required turbidity monitoring for construction of the 2.6 mile bridging on Tamiami Trail to support Everglades National Park ecosystem restoration.

This monitoring project is a requirement of the Tamiami Trail Next Steps Final Environmental Impact Statement (FEIS) and Record of Decision (PEPC #26159) that will result in construction of 2.6 miles of bridging on Tamiami Trail. Monitoring details and requirements are described in the Florida Department of Environmental Protection (FDEP) permit and Erosion and Turbidity Control Plans (documents included in Step 5 - Internal Documents of this PEPC project). NPS is the permittee for the FDEP permit. As all impacts for this work were analyzed in the FEIS this Memo to File tiers from the FEIS.

Two feasible options have been identified to for this project: 1) traveling to sites by airboat and foot to collect samples and assess conditions, 2) using a UAS (Unmanned Aircraft System) or "drone" to remotely collect samples and photo-document conditions. Park managers determined that using a UAS would have the least impacts, be most efficient, and have most accurate data, and is the method for conducting the project (using an airboat is the back-up option if the UAS cannot be used at any time).

The primary project task is to access sites in the construction area and collect water samples twice/day for the full construction period (expected to be through December 2018). Sampling locations are within an area 150 meters north of Tamiami Trail (outside the park) and up to 100 meters south of Tamiami Trail (in the park). The project area is adjacent to Tamiami Trail and all activity will be well outside the park's wilderness boundary and in an area with very limited public use.

Work will be conducted in partnership with FDOT and Condotte America Construction Co. (contractor). Compliance for all applicable Federal and State Aviation Regulations associated with this project has been secured by FDEP/Condotte. Details for conducting the UAS work are described in the Erosion and Turbidity Control Plans and UAS Operation Plan (included under PEPC step 5). These and all other required documents, including the NEPA compliance document will be submitted from the park to Southeast Region and WASO for review/approval of the UAS/Drone waiver.

Objectives

- 1) minimize impacts to park resources in carrying out this project - If an airboat is used this work will require over 1000 trips and impact park wetlands and other resources each time. Using a UAS avoids most resource impacts.
- 2) maximize data quality - the quality of water samples will be improved using a UAS as there will be no disturbance to the underlying soils (the UAS hovers above the water when collecting samples). Using an airboat creates eddys that can disturb the underlying silt and contaminate samples.
- 3) responsiveness to changing conditions - when there is an obvious condition change due to weather or operations, the UAS can be quickly mobilized to collect needed samples. If a leak were to occur in the turbidity curtain, the UAS would provide a more efficient method identifying the leak and allowing for a rapid fix.

- 4) maximize data accuracy - the UAS has the ability to identify survey positions directly related to the bridge location and work zones. It can hover above sample locations and take real time photographs as project records and for quarterly and annual reports.
- 5) high-quality photographic documentation - aerial photos in specific project locations can be carried out on short notice to support communication with stakeholders.
- 6) provides lessons learned for future projects - use of the UAS for water sampling has not been done in the park before and should provide managers with an efficient method for future work. FDEP is also interested in this technique for future projects and this "pilot project" will provide insights for other potential UAS uses in the park.

C. Description of Previous Compliance Documentation

Decision Document Name: Tamiami Trail Modifications: Next Steps Project/EIS
Decision Document PEPC ID: 26159
Decision Document Approval Date: Feb 11, 2011

D. Notes


When PEPC #26159, Tamiami Trail Next Steps EIS was completed the method to carry out this turbidity monitoring project was thought to be by use of airboats, although there was mention of possibly using alternative methods. Based on the technological improvements in recent years for UAS/drones and the lesser impacts associated with their use for this project, park managers determined that the use of a UAS is clearly preferable to the use of an airboat for several important reasons as described in this compliance document. In brief, given that it is estimated that at least 1,000 separate trips/visits will be required to fulfill the turbidity monitoring requirement there will be far less impacts to soundscape, soils, vegetation, and potentially wildlife by using a UAS.

Applicable mitigations for this project are described in the Tamiami Trail Next Steps EIS Record of Decision (ROD), pages 10 – 15. Additional procedures and methods for conducting the work are included in the project’s Erosion and Turbidity Control Plans, and UAS Operation Plan. Each document is included in the project’s PEPC file (#71150).

Adherence to all project mitigation measures are assigned to project leader, Charles Borders.

E. Conclusion

I certify that the existing NPS NEPA document has been reviewed and there are no substantive differences between the current proposal and its associated environmental impacts and the proposal and impacts as described in the existing NEPA document and associated decision document.

Superintendent:  **Date:** 5/25/17
Pedro Ramos