

**Indian River County, Florida
Department of Utility Services
Board Memorandum**

Date: September 14, 2023

To: Indian River County Board of County Commissioners

Through: John A. Titkanich, Jr., County Administrator
Sean C. Lieske, Director of Utility Services

From: Howard G. Richards, PE, Manager - Capital Projects

Prepared by Richard Meckes, Utilities Operations Manager

Subject: Osprey Marsh 27th Avenue Canal Intake Station Pump Replacement

Descriptions and Conditions:

Indian River County Department of Utilities Services (IRCDUS) owns and operates the Oslo Water Treatment Plant (WTP), which has been providing potable water for the south county service area since 1981. The Oslo WTP utilizes a nanofiltration water treatment process to treat raw water withdrawn from Floridan aquifer production wells. The Oslo WTP produces a brine byproduct, or reject water, known as demineralization concentrate (DC). The DC is blended with canal water, which is then treated by a manmade nutrient removal system (Osprey Marsh) before the treated effluent is discharged to offsite surface water. Treatment of the DC is achieved in the following mechanisms: 1) aeration treatment of the DC at the Oslo WTP; 2) dilution of the DC by blending with canal water at the headworks on the Osprey Marsh site; 3) removal of nutrients and other pollutants in the blended inflow through an attached algae growth process; and, 4) subsequent polishing of the processed effluent through a series of engineered channels before final discharge.

Analysis:

The canal water used for dilution of the DC is supplied from an intake station located at the South Relief Canal on 27th Avenue. The intake station has duplex pumps, operated as one duty and one standby. One of the pumps (Pump #2) has failed, and the other pump (Pump #1) is operating in suboptimal condition. As such, there is no standby pump. Due to the importance of this intake station to the operation of Osprey Marsh and the treatment of the DC discharged from the Oslo WTP, the pump manufacturer, Xylem Water Solutions USA Inc. (Xylem), was issued an emergency purchase order to evaluate both pumps. Pump #2 was removed from service and sent to the Xylem facility for root-cause failure analysis, and an estimate for repair. Pump #1 was evaluated and returned to service although it was visibly in a condition of imminent failure but still operational. The Pump #1 was required to be returned to service to allow the continued operation of the Oslo WTP.

Consent Item

The repair estimate of Pump #2 has been received and it is beyond economical repair. Considering that Pump #1 is in a condition of imminent failure, both pumps require replacement for continued reliable operation and permit compliance of the Oslo WTP and the Osprey Marsh site. Xylem provided a quotation for two (2) pumps at a cost of \$245,676.60.

Funding:

On September 15, 2023, the County Administrator provided interim approval of the purchase, due to a long lead time for the pumps.

Expenses, in the amount of \$245,676.60, for this project will be recorded in the Utilities/WIP/27th Ave Canal Intake Pump Replacement account, number 471-169000-23554. Since this is an operating capital project, the funds will come from fund balance. Operating funds are derived from water and sewer sales.

Description	Account Number	Amount
Utilities/WIP/27 th Ave Canal Intake Pump Replacement	471-169000-23554	\$245,676.60

Recommendation:

Staff recommends that the Board of County Commissioners (BCC) approve the unbudgeted capital purchase of \$245,676.60, and ratify the County Administrator's approval of the purchase of two (2) new pumps for the Osprey Marsh Canal Intake Station from the BCC-approved sole source vendor, Xylem Water Solutions USA Inc., in the said dollar amount.

Attachments:

IRC Pump Replacement Quote