

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

Date: April 5, 2023

To: John A. Titkanich, Jr., County Administrator

From: Sean C. Lieske, Director of Utility Services

Prepared by: Harrison Youngblood, PE, Utilities Engineer, Utility Services

Subject: Change Order #3 to TLC Diversified, Inc., for the South County Water Treatment Plant Membrane and Retrofit Project.

Background:

On June 15, 2021, the Board of County Commissioners (BCC) awarded the bid to TLC Diversified (TLC) for the South Water Treatment Plant (SWTP) Membrane and Retrofit Project in the amount of \$10,665,515.65. On August 16, 2022, Change Order No. 1 was executed for \$483,563.83, bringing the project total to \$11,149,079.48. On December 6, 2022, Change Order No. 2 was executed for \$150,020.17, bringing the project total to \$11,299,099.65.

During the construction phase of this project, deficiencies related to components of the treatment plant that were not originally part of the project were discovered. The components related to this change order that are deficient are summarized as follows: the feed pumps and feed pump bases, transfer pump motor, insufficient electrical circuits for the updated lab, and conduits related to chemical storage and electrical fiber. The County's Engineer of Record on the project, Kimley-Horn and Associates (KHA), recommended replacement of the deficient components to ensure they are updated along with the rest of the upgrades to the plant.

Analysis:

The SWTP distributes potable water to our county customers through a series of pumps and valves that ensure adequate pressure is maintained. The feed water pumps provide the membranes with adequately pressured water to ensure the treatment process is economically performed, while the suction valves eliminate cavitation while allowing for isolation of pumps in order to perform maintenance operations. Due to these pumps and valves being at the end of their useful life and new treatment membranes being installed during this project, it is imperative that the pumps and suction valves be replaced to keep and maintain the most economical treatment possible while also ensuring the new treatment membranes are not damaged by cavitation caused by inadequate valves or pumps.

The transfer pump and motor are also a crucial part of the treatment/distribution process of the plant. The transfer motor and pump has been recently causing issues in this process and needs replacement. It was found that the motor exhibited signs of failure in the near future and has been deemed insufficient for the requirements and needs of the SWTP.

During the construction of the updated lab, it was found that the electrical circuitry contained in the record drawings for the old lab was not accurate and would be insufficient for what was required for the lab update. In order for the lab to function as it has been designed, there would be a need for additional circuits to be added to allow for the proper allocation of electricity to the newly configured lab.

After investigation was performed into the conduit routing for the fiber feed to the wells, it was found to be broken, missing, and/or inadequate. The same was also found during the investigation into the chemical storage conduits. In order for the plant to receive information from the data collectors at the well sites, and for the chemical storage to be properly fed and blended, these conduits need to be replaced or installed.

Funding:

Funds in the amount of \$387,037.72 for this project are derived from the Utilities/South WTP Membrane/South R/O Membranes & Retrofit account, number 471-169000-19503, in the Utilities operating fund. Utilities operating funds are generated from water and sewer sales. Additionally, \$6,000,000 in American Rescue Plan (ARP) funding will be utilized to fund a portion of the overall project. Those funds will be added as a reimbursement to the Utilities fund.

| Description | Account Number | Amount |
|---|------------------|--------------|
| Utilities/South WTP Membrane/South R/O Membranes & Retrofit | 471-169000-19503 | \$387,037.72 |

Recommendation:

Staff recommends that the Board of County Commissioners approve the change order in the amount of \$387,037.72, leaving a revised total agreement with TLC Diversified, Inc., in the amount of \$11,686,137.37, and authorize the Chairman to execute the change order on their behalf.

Attachment:

1. Change Order 3 to TLC Diversified, Inc.