



MEMORANDUM

To: Mayor and City Council

From: Kent Collins, P.E., Director of Public Works
Jamie Brierton, Capital Programs Administrator

Date: November 10, 2020

Reference: On-Call Temporary River Pumping to North Lake

2040: Pillar 0: Sustainable City Government
Goal 3: Well-maintained City Infrastructure

General Information:

- The City has a contractual obligation to operate North Lake within a specified water elevation of a 1 foot “operating pool depth” and a contractual obligation to provide irrigation water for the property surrounding North Lake
- In 2017, the City completed a planning-level Northlake Water Supply Study with Brown & Gay Engineering recommending a raw water pumping solution by rehabilitating the inoperable power plant intake pump station and existing 42” pipeline. Subsequent analysis of the project by Kimley-Horn Associates determined that the cost to rehabilitate the pump station and pipeline was significantly greater than anticipated and alternative approaches were developed.
- City staff and Kimley-Horn collaborated to develop a more economical operational solution that does not require significant infrastructure rehabilitation cost. This solution utilizes temporary contract pumping services to refill the lake on an as-needed basis using the existing pipeline.
- The continuation of this on-call pumping solution, in combination with the minor intake pump station site improvements, was in lieu of permanent replacement of the existing intake facility, which had been estimated to cost \$7.2 million plus additional pumping energy and pump station maintenance costs.
- This on-call pump was installed in 2019 and has been in place, tested and is ready to pump when Northlake levels drop to an elevation near the 1-foot operating pool depth agreement.
- To date, The City of Coppell has not had to operate the pump, as rainwater has kept the lake within the contractually-required levels.

Introduction:

This agenda item is being presented to approve to continue the contract with Barco Pump for On-Call Temporary River Pumping based on the specification associated with the North Lake Untreated Water System.

History:

North Lake was built in 1957 by Dallas Power and Light (later known as Luminant) as a cooling pond for a steam electric generating plant. In 2010, the power plant was decommissioned and by 2012, ownership was transferred to the City of Coppell. Cypress Waters soon began to develop around the lake. In the agreement with Cypress Waters, the City was responsible for lowering the pool elevation by 25 feet, constructing a new spillway, and lowering the elevations of the main and saddle dam. Construction of these modifications by the City was complete in 2014.

North Lake has a normal pool elevation of 485-ft. The City had a commitment to maintain the elevation of the water surface of North Lake by summer 2018. The City also has a commitment to provide up to 1250 acre-feet of water annually to Cypress Waters for irrigation purposes. An analysis of water supply alternatives identified untreated water pumped from the Elm Fork of the Trinity River as the preferred alternative (compared to purchased potable water or drilling water wells). Further analysis identified this on-call pumping solution as a more cost-effective delivery method compared to the replacement of the existing intake/pump station. The City approved the original On-Call Pumping solution August 28, 2018. Following the construction of the site improvements, the pump was installed and tested.

Analysis:

This project was awarded to Barco Pump in 2018 in the amount of \$174,963.00, which included mobilization, fuel allowances, 12 months of pump rental/monitoring and demobilization. The Contractor did set a skid-mounted pump adjacent to the existing intake on the Elm Fork of the Trinity River. This pump skid will continue to monitor pump performance, the river levels, alarm conditions and operating systems via an internet connection accessible to City staff. When North Lake reaches a pre-determined water elevation, the City directs the contractor to begin pumping from the river. This water flows into the existing 42-inch pipeline and exits via the existing outfall structure at North Lake until the desired lake level met, at which time pumping operations is stopped. This is a request for the continuation of the On-Call pumping (monthly monitoring and rental) services for fiscal year 2020-2021.

Legal Review:

The City Attorney has reviewed the original contract.

Fiscal Impact:

The fiscal impact of this Agenda item is \$127,524.00 as provided in CIP funds.

Recommendation:

The Public Works Department recommends approval of this item.