

Item Title: USGS Monitoring at Wake County Flood Control Sites

Specific Action Requested:

That the Board of Commissioners approves the County Manager to enter into a multi-year services agreement with the United States Department of the Interior - U.S. Geological Survey to expand water level monitoring services to all ten Wake County flood control sites subject to terms and conditions approved by the County Attorney.

Item Summary:

Purpose: Multi-year service agreements require the Board of Commissioners' approval.

Background: Wake County currently manages ten flood control structures within the Crabtree Creek Watershed. In July 2024, Wake County GSA worked with USGS to install the first water level monitoring and telemetry system at Lake Crabtree. A one-year agreement was executed with USGS to serve as a trial period for the monitoring system. After successful installation and operation of the Lake Crabtree monitoring system, GSA intends to proceed with the installation of monitoring at the remaining nine flood control sites.

Strategic Plan: This action supports standard County operations.

Fiscal Impact: The proposed five-year USGS monitoring agreement for all ten sites will cost \$60,000 for FY26, \$62,000 for FY27, \$64,000 for FY28, \$66,000 for FY29 and \$68,000 for FY30. In addition, the five-year agreement has allowed the USGS to provide \$300,000 in cooperative matching funds (CMF), which provides for the cost of all hardware and a portion of the monitoring amount. The FY26 funding will be appropriated as part of the FY26 General Fund Operating Budget Ordinance.

Additional Information:

The ten Crabtree Creek flood control structures were constructed by the Federal Government (USDA-NRCS) in the 1970's and 1980's. Wake County signed an Operations and Maintenance Agreement with USDA-NRCS in 1975 to serve as the local sponsor and to perform routine maintenance and management responsibilities. Since completion, the dams have been managed with no active water level monitoring system. Wake County GSA performed an analysis of potential monitoring solutions and determined that an agreement with USGS would best serve the County. For monitoring contracts, the USGS provides the installation of all hardware, hardware inspection and calibration every six to eight weeks, data collection and storage, and replacement of all hardware for any reason.

The installation of this hardware will allow Wake County staff to better manage the water level within the various reservoirs and ultimately minimize the risk of overtopping and dam failure. Recorded data will also result in more accurate hydraulic and hydrologic modeling efforts required for future improvement projects. Lastly, the monitoring system will tie in with the City of Raleigh Flood Early Warning System and will allow for more accurate flood information and improved emergency response.

A one-year agreement with USGS was signed during FY24 and monitoring hardware installed at Lake Crabtree in July 2024. This site was used as a trial to further evaluate the services provided by USGS. The past eight months of USGS operation and calibration of the hardware has confirmed the reliability of this monitoring solution.

USGS provides both an annual agreement and five-year agreement options. An annual agreement requires payment for the hardware and installation cost, which is \$15,000 per site. A current and temporary benefit of the five-year agreement is that USGS will waive the \$15,000 per site hardware and installation cost. Due to this benefit, Wake County GSA desires to enter into the five-year agreement.

Attachments:

1. USGS Cost Summary