

WSF 2017 Status Report # 5195

PROJECT: LLNRD Columbus Area Recharge Project –
WSF Application #5195 (awarded November 28, 2017)

DATE: MARCH 30, 2018
(FIRST ANNUAL REPORT DUE ON
OR BEFORE APRIL 1, 2018)

See Application 5195 Section D - #2 For Project Tasks Summary and Timeline

PROJECT PROGRESS APRIL 2017 TO APRIL 2018:

This is the first annual report. The LLNRD has worked with the City of Columbus to develop a Columbus Area Water Resource Assessment to study the current water resources and determine feasibility of a recharge project. The LLNRD and the City are working with Archer Daniels Midland Company (ADM) to develop a recharge project. Two locations – the Lost Creek Channel and Christopher's Cove - were found to be good locations to pond water to recharge declining aquifer levels through infiltration. Water from the Tailrace Canal, in an amount equal to or less than return water from ADM, would be used as the source water, creating a sustainable water source. A hydrogeologic evaluation with the study included some preliminary engineering and design derived this recharge project in 2017. Field reconnaissance has been conducted at the recharge site as well as drone footage used in the analysis.

ANTICIPATED ACTIVITIES FROM NOW UNTIL NEXT ANNUAL REPORT DUE APRIL 1, 2019:

The proposed recharge project is to be designed starting in 2018 with construction taking place in 2019. The following activities will be performed this coming calendar year:

- Evaluate the utility alignment conflicts to determine the most effective route
- Design the pump and pipeline hydraulics based on the required total dynamic head
- Coordinate with the power utility to get sufficient power to the pump station
- Evaluate the electrical system to allow for remote operation and monitoring
- Develop draft plans and specifications
- Develop final plans and specifications.

An interlocal agreement is being developed between all the funding partners. Access easements are being secured for construction.

ANTICIPATED CASH FLOW FOR REMAINDER OF THE PROJECT:

\$1,224,000 - The LLNRD and its partners and WSF have funding obligations towards this project (\$2,040,000 total project costs) under grant award #5195.

April 2018 to October 2018 – Survey, geotechnical investigation, preliminary and final design \$310,000.

November 2018 to March 2019 – Permit coordination, field work (wetland delineation), application, and technical support \$70,000.

April 2019 to July 2019 – Bid notice, assistance and award \$10,000.

August 2019 to December 2019 – Construction administration \$80,000.

Construction Cost \$1,570,000.

LIKELIHOOD THAT BENEFITS PROJECTED IN APPLICATION 5195 WILL BE REALIZED:

From the 5195 WSF Application: Tangible benefits of the project include reduced pumping costs from area groundwater wells and avoided emissions, specifically criteria air contaminants (CAC) and greenhouse gas (GHG) emissions associated with the production of electricity used to power groundwater well pumps. The resulting benefits and energy calculations for each entity were calculated as follows:

- The downtown City wellfield pumping water levels were reduced by 1 foot from 35 to 34 feet
- Irrigation pumping water levels were reduced by 10 feet from 65 feet to 55 feet
- ADM pumping water levels were also reduced by 10 feet from 65 feet to 55 feet
- The recharge project could save up to 223,580 kilowatt hours per year for a total savings of \$5.7 million over 50 years.