

QUARTERLY PROGRESS REPORT NO. 3 (CY 2017)

NBU ASR Demonstration Project

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From: Fred M. Blumberg

Date: October 27, 2017 ARCADIS Project No.: 40256004.0000

Subject:

Quarterly Progress Report for the NBU ASR Demonstration Project (**Contract No. 1600011957**) for **July 1, 2017 through September 30, 2017**.

Introduction:

The New Braunfels Utilities (NBU) Aquifer Storage and Recovery (ASR) Demonstration Project is being partially funded by the Texas Water Development Board (TWDB) under Rider 25 to HB 1 (General Appropriations Act) of the 84th Legislature. The "Project" generally consists of: coordination with TCEQ; design for wireline coring in the brackish Edwards Aquifer; wireline coring; design of a monitor well in the brackish Edwards Aquifer; construction of the monitor well and collection of data; preparation of draft and final reports; and presentations on the Project.

The Project Contractor is the Edwards Aquifer Authority (EAA) and the primary Project Participant is NBU. The Project consulting and engineering team consists of Arcadis U.S., Inc.; ASR Systems, LLC; and INTERA, Inc. (the "Arcadis Team").

The purposes of this Quarterly Progress Report are to explain what work has been accomplished during the reporting period, and to describe any potential or anticipated challenges.

Work Completed:

<u>Task 1: Project Management</u>. During this reporting period project management activities included communication with EAA and NBU, and among the Arcadis team. A TWDB demonstration project kickoff meeting has not been held pending completion of land acquisition.

For the purposes of the Project, the interlocal agreement is necessary because it is considered by EAA to be, and functions as, a permit for the recharge and recovery of water from the Edwards Aquifer as required in EAA's enabling act. The EAA Board of Directors approved the interlocal agreement on June 13, 2017. The NBU Board of Trustees subsequently approved the agreement on June 29, 2017.

NBU continues working on the authorizations necessary to use the New Braunfels Regional Airport as the location for the wireline coring and the monitor well. In addition to the Regional Airport, NBU is also negotiating for an additional property in the immediate area in case the authorizations take longer than the schedule will allow.

On September 6, 2017 NBU, EAA and the Arcadis Team held the first Work Group meeting required under the EAA-NBU Interlocal Agreement. The objective of the first meeting was to discuss the monitoring requirements in the Agreement, and to begin discussions on implementation of the Agreement.

Task 2: Coordination with TCEQ. No work on this task has been completed in this reporting period.

<u>Task 3: Coring Design</u>. ASR Systems completed work on the draft specifications and has continued contacting potential drilling contractors with experience in wireline coring for ASR projects. NBU and EAA began their review of the draft specifications. An NBU-EAA work group meeting was held on September 6, 2017 to discuss the draft specifications and logging procedures.

Task 4: Wireline Coring. No work on this task has been completed in this reporting period.

<u>Task 5: Monitor Well Design</u>. INTERA completed the draft specifications. NBU and EAA began their review of the draft specifications. An NBU-EAA work group meeting was held on September 6, 2017 to discuss the draft specifications and logging procedures.

Task 6: Monitor Well Construction and Data Collection. No work on this task has been completed in this reporting period.

Task 7: Draft and Final Reports. No work on this task has been completed in this reporting period.

<u>Task 8: Presentations</u>. On August 17, 2017 Fred Blumberg made a presentation on "ASR in Texas" that included information on the TWDB funding, scope of work and status of the NBU ASR project. The information was presented to the North Central Texas chapter of the American Water Works Association in Euless, Texas. In September 2017 Fred Blumberg submitted an abstract for a presentation on the ASR demonstration projects to *Texas Water 2018*.

Challenges Identified:

NBU's land acquisition activities at the Regional Airport have taken longer than anticipated. On January 25, 2017 NBU and the City of New Braunfels submitted an application to the Texas Department of Transportation (TXDOT) Aviation Division. After the TXDOT review, the application has been forwarded to the Federal Aviation Administration (FAA) for final approval.

Because of the delays to date, Arcadis has not prepared an updated schedule for the Project. A request for an amendment to the schedule in the Contract between the TWDB and the EAA was submitted by EAA on September 8, 2017. To expedite the completion of the Project, the Arcadis Team began preparing the specifications for the wireline coring and monitor well in advance of NBU having the final interlocal agreement or the property.