




Corpus Christi Aquifer Storage
& Recovery Conservation District

1201 Leopard St.
Corpus Christi, TX 78401

QUARTERLY PROJECT PERFORMANCE REPORT

Date: September 19, 2018

Reporting Period: Q2 CY18, April 1 – June 30, 2018

Recipient:  Corpus Christi Aquifer Storage and Recovery Conservation District
Larjai Francis, CCASRCD Project Manager
1201 Leopard Street
Corpus Christi, Texas 78401-2825

Executive Administrator

Designee: Matthew Webb, TWDB Project Manager

Subject: Research Contract between the Corpus Christi Aquifer Storage and Recovery Conservation District and the Texas Development Board, Contract No. 1600011956

Project: Corpus Christi ASR Feasibility Study

Work Completed:

Pursuant to Section II, Article II, subsection 3 of the Contract this progress report represents a summary of work completed during the 2nd Quarter 2018 for the Corpus Christi ASR Feasibility Study. Exhibit B of the TWDB contract includes the Scope of Work. Exhibit B contain six (6) distinct tasks with subtasks. An update to these tasks is provided overleaf and thus serves as the update mechanism for this contract. The drilling program began on 10/10/17 and activities have been proceeding according to the project plan, scope, and budget without any major or notable problems encountered this period. During this period there was an immense amount of coordination among City/District, Driller and Analysis subconsultants. The team started to finish out the Drilling program and prompted the collection of necessary deliverables per the bidding specs required from the Driller. At the same time the Geochemical Analysis has been underway and awaiting the results. The team has also started on preliminary set-up of the Field Scale Groundwater Model and ASR Operating principles.

Project Financial Update

The Corpus Christi Aquifer Storage and Recovery Conservation District have incurred cumulative expenditures for the Project in the amount of \$1,028,295.83. The responsibility for this expenditure has been distributed between the District and TWDB and is reflected on the payment request form for this quarter.



HDR Engineering, Inc.
Austin, TX 78741
Phone: (512) 912-5100

Invoice

HDR Invoice No. 1200122133
Invoice Date 5/29/2018
Month Ending 4/28/2018

Corpus Christi ASR Feasibility Study - Invoice #17

Task 1 - Formulate Program

No Work This period.
Problems Encountered this period: None

Task 2 - Exploratory Test Drilling Program

Field program and coordination between HDR, City PM, and driller on exploratory testing and scheduling.
Design of Site 3 MW.
Follow-up with TWDB and City Staff on progress reports/updates.
Began compiling and preparing draft technical memorandum.
Problems Encountered this period: None

Task 3 - Geochemical Analysis

Continued coordination with laboratories and receipt of water quality and core data, as available. Follow-up with laboratories and confirmation of testing parameters.
Coordination with geochemists and transfer of laboratory data for PHREEQC model analysis.
Problems Encountered this period: None

Task 4 - Field Scale Groundwater Model

Project team meeting to kick-off modeling effort. Transfer field water quality data and available site information.
Problems Encountered this period: None

Task 5 - ASR Operating Policies

No Work This period.
Problems Encountered this period: None

Task 6 - TWDB Coordination, Draft/Final Deliverables and Meetings

No Work This period.
Problems Encountered this period: None

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HDR Engineering, Inc.
Austin, TX 78741
Phone: (512) 912-5100

Invoice

HDR Invoice No. 1200130725
Invoice Date 7/19/2018
Month Ending 5/26/2018

Corpus Christi ASR Feasibility Study - Invoice #18

Task 1 - Formulate Program

No Work This period.
Problems Encountered this period: None

Task 2 - Exploratory Test Drilling Program

Field program and coordination between HDR, City PM, and driller on completion and receipt of data for exploratory test program.
Follow-up with driller team on submittals. Preparation of summary of items needed.
Mapping of borehole and monitoring well coordinates and follow-up with driller for confirmation and revision.
Continued compiling data and preparing technical memorandum.
Equipment rental of Level trol and water quality meter for Site 3 testing.
Problems Encountered this period: None

Task 3 - Geochemical Analysis

Coordination with laboratory on water quality results for O.N. Stevens WTP sample collected 3/8/18 and additional parameters tested for Greenwood WWTP and groundwater samples collected during field program.
Continued coordination with laboratories and receipt of water quality and core data, as available. Follow-up with laboratories and confirmation of testing parameters.
Performed geochemical modeling of potential recharge sources and native groundwater, including geochemical compatibility analysis and PhreeqC modeling.
Began preparing draft technical memorandum.
Problems Encountered this period: None

Task 4 - Field Scale Groundwater Model

Follow-up with geophysical team for LAS files of logging results. Provided additional water quality data and available site information to modeling team.
Problems Encountered this period: None

Task 5 - ASR Operating Policies

No Work This period.
Problems Encountered this period: None

Task 6 - TWDB Coordination, Draft/Final Deliverables and Meetings

Follow-up with TWDB and City Staff on progress reports/updates.
Problems Encountered this period: None

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7/26/18



Invoice

HDR Engineering, Inc.
Austin, TX 78741
Phone: (512) 912-5100

HDR Invoice No. 1200138537
Invoice Date 9/4/2018
Month Ending 6/30/2018

Corpus Christi ASR Feasibility Study - Invoice #19

Task 1 - Formulate Program

No Work This period
Problems Encountered this period: None

Task 2 - Exploratory Test Drilling Program

Field program and coordination between HDR, City PM, and driller on completion and receipt of data for exploratory test program.
Follow-up with driller (and driller's subconsultant) on submittals. Two additional updates and requests for summary of items needed.
Continued compiling data and preparing technical memorandum.
Problems Encountered this period: None

Task 3 - Geochemical Analysis

Continued preparing draft of geochemical portion of technical memorandum.
Review of draft technical memorandum and submittal of comments to subconsultant team member.
Problems Encountered this period: None

Task 4 - Field Scale Groundwater Model

Internal meeting with groundwater modeling team to discuss approach and schedule.
Problems Encountered this period: None

Task 5 - ASR Operating Policies

Review of draft pump test results and water quality of Site 1 intermediate/deep results to evaluate operational considerations.
Problems Encountered this period: None

Task 6 - TWDB Coordination, Draft/Final Deliverables and Meetings

Follow-up with TWDB and City Staff on progress reports/updates.
Problems Encountered this period: None

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9/5/18