



JOINT FUNDING AGREEMENT No. 17-865-AM
BETWEEN THE
EDWARDS AQUIFER AUTHORITY
AND
UNITED STATES DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
FOR HYDROSTRATIGRAPHIC MAPPING OF THE EDWARDS AND TRINITY
AQUIFERS: PHASE 3, MEDINA COUNTY, TEXAS
Agreement No.: 18CMTX043010000
Customer No.: TX043
Project No.: SJ00FJ3
Tax ID No. 74-6026194

This Joint Funding Agreement ("Agreement") for hydrostratigraphic mapping of the Edwards and Trinity Aquifers: Phase 3, Medina County, Texas, is made and entered into effective as of the 1st day of October, 2017, by and between the EDWARDS AQUIFER AUTHORITY ("EAA"), a political subdivision of the State of Texas, with its principal place of business located at 900 E. Quincy Street, San Antonio, Texas 78215, and the UNITED STATES GEOLOGICAL SURVEY ("Survey"), a bureau of the Department of Interior, and part of the United States Government, with an office located at 1505 Ferguson Lane, Austin, Texas 78754 (collectively, the "Parties", or individually, "Party"). The Survey's legal authority to enter into this Agreement is 43 USC 36C; 43 USC 50, and 43 USC 50b.

For and in consideration of the mutual promises and benefits contained herein, the sufficiency of which is hereby acknowledged, the EAA and the Survey agree as follows:

ARTICLE I
DESCRIPTION OF WORK

Subject to the terms and conditions of this Agreement, the Survey agrees to perform the work set forth in the Scope of Work, a copy of which is attached hereto as Exhibit A, and is incorporated herein for all purposes, and is a part of this Agreement. The Survey accepts such engagement and agrees to devote its best talents, efforts, and abilities and furnish all labor, machinery, equipment, tools and transportation necessary in the furtherance of its engagement under this Agreement. The Scope of Work specifically identifies the work to be performed by the Survey over the term of this Agreement and contains a schedule for performance of the work and a budget broken down by the three (3) specific tasks that make up the Scope of Work ("Tasks"). In exchange, the EAA agrees to fund a portion of the costs incurred by the Survey, as set forth in more detail in Article II below. The EAA may request changes or additions to the Scope of Work during the term of this Agreement, and upon mutual agreement, the EAA and the Survey will make the necessary written revisions to the Statement of Work and project schedule to reflect such requested changes as set forth in Articles III and VI below.

ARTICLE II JOINT FUNDING

A. For the term of this Agreement, the total costs for each of the Survey Fiscal Years (October 1st to September 30th) as enumerated in Exhibit A are estimated to be as follows:

Survey FY 2018	\$151,575.
Survey FY 2019	\$176,250.
<u>Survey FY 2020</u>	<u>\$134,175.</u>
Total:	\$462,000.

The Survey agrees to be directly responsible for the payment of any invoices, costs or expenses incurred by it or any of its contractors or subcontractors in the performance of this Agreement.

B. The EAA agrees to reimburse the Survey for a portion of the costs the Survey incurs in performing the yearly tasks enumerated in Exhibit A, in the following amounts for each Calendar Year:

	<u>EAA Contribution</u>	<u>Survey Contribution</u>	<u>Total Contribution</u>
CY 2017	\$ 31,075.		\$ 31,075.
CY 2018	\$120,000.	\$30,000.	\$150,000.
CY 2019	\$155,500.	\$30,000.	\$185,500.
<u>CY 2020</u>	<u>\$ 65,425.</u>	<u>\$30,000.</u>	<u>\$ 95,425.</u>
TOTAL	\$372,000.	\$90,000.	\$462,000.

C. As a prerequisite to receiving such reimbursement from the EAA, the Survey shall deliver to the EAA separate, quarterly invoices at the end of each December, March, June, and September which demonstrate successful completion of the Tasks outlined in this Scope of Work and the costs and expenses incurred by the Survey in the previous quarter for each Task identified in Exhibit A. Payments of invoices are due within sixty (60) days after the billing date of the approved reimbursement request. If not paid by the due date, then to the extent required and permitted by applicable law, Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982 will be charged for each thirty (30) day period, or portion thereof that the payment is delayed beyond the due date. (31 USC 3717; Comptroller General File B-212222, August 23, 1983). The EAA's contribution for this Agreement will be \$372,000. The Survey's contribution for this Agreement will be \$90,000.

ARTICLE III ALTERATIONS TO AGREEMENT AND STATEMENT OF WORK

Either Party may request, in writing, changes or additions to the Scope of Work during the term of this Agreement. Upon such request, the Survey will propose the necessary revisions to the specific Tasks, associated schedule and costs. These revisions must be accepted by both Parties in writing. No amendments to this Agreement shall be considered valid unless the amendments have been approved by both Parties in writing.

ARTICLE IV COMPLETION OF WORK

The Survey shall have until September 30, 2020, to complete all work identified in the Scope of Work. All work shall be completed in compliance with the schedule of Tasks and budget as set forth in the Scope of Work.

ARTICLE V TERM OF JOINT FUNDING AGREEMENT

This Agreement shall be effective on the date indicated in the first paragraph above and shall continue in effect through September 30, 2020. This Agreement is subject to annual appropriations by the Survey and the EAA, but the Survey and the EAA represent that they will use their reasonable best efforts to obtain the proper appropriations to fund this Agreement as necessary for any future year or portion thereof during which this Agreement will be in effect. The Parties acknowledge that subsequent phases of the Scope of Work beyond the term of this Agreement may be desirable. If so, the Parties may, by written agreement, contract for additional services to continue other subsequent phases upon terms and or such consideration as may be mutually agreed upon by the Parties at such time.

ARTICLE VI INSPECTION AND TERMINATION

During the term of this Agreement, all operations of the Survey pertaining to the Scope of Work shall be open to the inspection of the EAA, and if the work is not being carried out in a mutually satisfactory manner, the EAA may terminate this Agreement upon the failure of the Survey to cure the unsatisfactory condition within sixty (60) days after receipt of written notice to the Survey. Either Party may, with or without cause, terminate this Agreement by giving thirty (30) days' written notice to the other. In the case of any termination of this Agreement, the Survey will be reimbursed by the EAA for the EAA's pro rata share of costs incurred up to the time of termination in accordance with Article II above. In the event of early termination, insofar as possible, all work in progress will be brought to a logical termination point and a final settlement of payments shall be made. Copies of all finished and unfinished documents, data, studies, surveys, drawings, maps, reports, photographs, and other materials prepared by the Survey will be delivered to the EAA and will become the property of the EAA. If applicable, the Survey shall be entitled to receive from the EAA, the EAA's pro rata share of reasonable compensation for any additional costs associated with terminating Tasks prior to completion.

ARTICLE VII DATA SHARING

- A. The Parties agree to freely share with each other all data generated from the performance of the Scope of Work. The Survey shall furnish to the EAA copies of reports of the results of investigations performed by the Survey under the Scope of Work for internal use and review upon completion of necessary review. Review of report manuscripts by the EAA and the Survey shall be completed expeditiously. Both Parties shall have the privilege of publishing the maps, reports, and report manuscripts provided that all publications by either Party shall contain a statement of the cooperative relations between the Parties. Original tracings of all drawings and illustrations, which are a part of these reports, shall be furnished to the EAA to permit their reproduction for publications and reports by the EAA.
- B. The original data and maps generated by each individual Task conducted under the terms of this Agreement shall be retained by the Survey. Copies of all such data shall be furnished to the EAA.
- C. When requested by the EAA, the Survey shall make reasonable efforts to allow and accommodate EAA staff or representatives to accompany or observe Survey personnel in carrying out the Scope of Work.

ARTICLE VIII SURVEY PERSONNEL AND CONTRACTORS

- A. The Survey will provide any personnel necessary for its performance of the Scope of Work. The Survey will be responsible for its employees in all respects, including, without limitation, its compliance with applicable laws and their safety, including without limitation, all Occupational Safety and Health Administration (OSHA) standards, requirements and regulations.
- B. The Survey will be responsible for its contractors and subcontractors in all respects, including without limitation, their compliance with applicable law and their safety, including without limitation, OSHA standards, requirements, and regulations.

ARTICLE IX EQUAL EMPLOYMENT OPPORTUNITY

In the performance of this Agreement, the Survey will comply with the provisions of Title VI of the Civil Rights Act of 1964 (42 U.S.C. 200d), and Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794). The Survey shall not discriminate on the grounds of race, color, national origin, sex, religion, marital status, age, creed, Vietnam-Era or Disabled Veterans status or the presence of any sensory, mental or physical handicap.

ARTICLE X
NOTICES

- A. All notices and communications under this Agreement to be mailed or delivered to the EAA shall be sent to the EAA's principal place of business as follows, unless and until the Survey is otherwise notified:

EDWARDS AQUIFER AUTHORITY
900 E. QUINCY STREET
SAN ANTONIO, TEXAS 78215
ATTN: ROLAND RUIZ, GENERAL MANAGER

- B. All notices and communications under this Agreement to be mailed or delivered to the Survey shall be sent to the address as follows, unless and until the EAA is otherwise notified:

UNITED STATES GEOLOGICAL SURVEY
TEXAS WATER SCIENCE CENTER
1505 FERGUSON LANE
AUSTIN, TEXAS 78754-4733
ATTN: MEGHAN ROUSSEL, ACTING DIRECTOR

- C. Any notices and communications required to be given in writing by one Party to the other shall be considered as having been given to the addressee on the date the communication is posted by the sending Party.

ARTICLE XI
RECORDS AND RIGHTS TO MATERIALS

- A. The Survey and the EAA will collaborate as provided herein and as may be otherwise required for proper performance. The Survey will, upon request by the EAA, at any time, provide the EAA with all financial information necessary to enable the EAA to determine the financial condition of work efforts covered by this Agreement.
- B. The Survey shall retain a record or copies of all data developed in the course of performing the Scope of Work and said materials will be supplied to the EAA upon request after expiration or termination of this Agreement.

ARTICLE XII
GENERAL

- A. Entire Agreement. This Agreement constitutes the entire agreement between the Parties regarding the Scope of Work, and there are no representations, warranties, agreements or commitments between the Parties except as set forth herein. No amendments to this Agreement shall be binding on the Parties unless in writing and signed by both Parties.

- B. Non-Waiver. The waiver by either Party of a breach of any term or provision of this Agreement shall not be construed as a waiver of any subsequent breach.
- C. Governing Law. This Agreement is deemed to have been made and to be performable in the State of Texas, and all questions relating to this Agreement shall be governed by the applicable laws of the United States (i.e., federal law) and the State of Texas (i.e., state and local law).
- D. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.
- E. Binding Effect. The provisions of this Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors and assigns; provided, however, that the Survey may not assign any of its rights nor delegate any of its duties hereunder without prior written EAA consent.
- F. Validity. The invalidity of any provision or provisions of this Agreement shall not affect any other provision of this Agreement, which shall remain in full force and effect, nor shall the invalidity of a portion of any provision of this Agreement affect the balance of such provision.
- G. Captions. The captions of the various sections of this Agreement are for descriptive purposes only and shall not alter or affect the terms and conditions of this Agreement.
- H. Independent Party. Nothing in this Agreement will be construed to constitute either Party as a partner, employee or agent of the other Party, nor will either Party have the authority to bind the other in any respect. Each Party will remain an independent Party responsible for its own actions except as otherwise specifically provided herein.

IN WITNESS WHEREOF, the Parties have executed this Agreement in duplicate counterparts, both having equal force and effect, on the date first above written.

EDWARDS AQUIFER AUTHORITY

UNITED STATES
GEOLOGICAL SURVEY
TEXAS WATER SCIENCE CENTER

By: _____
Roland Ruiz Date
General Manager

By: _____
Meghan Roussel Date
Acting Director

ATTEST:

By: _____
Jennifer Wong-Esparza
Assistant to the Board Secretary

APPROVED AS TO FORM:



Darcy Ann Frowmelter
General Counsel
Edwards Aquifer Authority

EXHIBIT A

SCOPE OF WORK

This Scope of Work is a continuation of the region-wide effort to refine existing and develop new geologic maps of the Edwards and Trinity Aquifers at the 1:24,000 scale. Current maps of Edwards-related hydrostratigraphy are in need of refinement, whereas the rock formations that comprise the Trinity Aquifer are largely unmapped in adequate detail region-wide. Phase 1 of this project focused on making these refinements and mapping efforts in Bexar and Comal Counties. Phase 2 of this project is ongoing and focused on mapping in Hays County. This current Phase 3 will focus on Medina County.

The Survey will be responsible for conducting and completing the following tasks:

Task 1 - Data Compilation: The Survey will analyze and compile pre-existing geophysical borehole data. Data sources may include files at the USGS Texas Water Science Center South Texas Program Office, the Edwards Aquifer Authority, San Antonio Water Systems, and other local groundwater conservation districts. The Survey will review existing reports, geologic literature, maps, and field mapping investigations of the geology in Medina County to aid in mapping of the hydrostratigraphic units. Digital orthophoto quadrangles (DOQs), satellite imagery, and other aerial photographs may be used to identify human activities and/or subaerial geologic expressions. Human activities may include road cuts, quarries or gravel pits, land clearings for development, new roads or widening of roads associated with new land developments, and excavation of trenches for water lines or pipelines. Subaerial geologic expressions include areas of bare rock or rock ledges. If these features are not apparent on topographic maps, they may be detected on remotely sensed imagery.

Task 2 - Field Mapping: The Survey will remap the Edwards and Trinity Aquifers outcropping in the study area of Medina County. Hydrostratigraphic unit identifications will be based on previous work, such as Maclay and Small (1985), Hanson and Small (1995), Clark and others (2009), and Wierman and others (2010). Mapping efforts will target the identification of physical features such as faults. Faults will be located and their displacements approximated by identification of juxtaposed rock units. This is critical, as faults and fractures represent a primary means of recharge to the Edwards and Trinity Aquifers. Types of porosity will be identified, which will aid future geologic and hydrogeologic investigations. Porosity identification of the Edwards and Trinity Aquifers will be based on the Choquette and Pray (1970) classification of carbonate rock porosity. The Survey will use pre-existing geophysical borehole data identified in Task 1 to determine the thickness of the hydrostratigraphic units and to assist in determining fault displacement in complexly faulted areas or where rocks are poorly exposed or inaccessible.

The field mapping activities for this Scope of Work will be focused in Medina County. However, additional properties in the Edwards Aquifer Recharge Zone may become available for inspection. Up to two weeks of time per year will be allocated for mapping these selected areas as they become available. Depending on the size and scope of the priority areas, the timelines may be adjusted to accommodate the newly identified mapping areas. The priority of mapping these areas will be set in conjunction with EAA.

Task 3 - Analysis and Reporting: The Survey will produce a county scale hydrostratigraphic map and an accompanying report-style write-up as a USGS Scientific Investigations Map (SIM) series. The SIM will show the hydrostratigraphy, faulting, and significant geologic characteristics within the Edwards and Trinity Aquifer outcrops in Medina County, Texas. In addition, the 7.5-minute quadrangle [1: 24,000 scale] geology and geospatial data will be included in the USGS ScienceBase data catalog (<https://www.sciencebase.gov>). Draft mapping products and regular project updates will be provided to EAA.

The Survey will employ quality assurance and quality control (QA/QC) measures to ensure the quality, precision, accuracy, and completeness of the data generated during the Scope of Work. The quality assurance objectives for the collection and assemblage of data are to provide data that will:

- Withstand scientific scrutiny and stand the test of time for the mapping;
- Be obtained by methods appropriate for its intended use; and
- Be of known precision, accuracy, completeness, representative, and comparability.

The Scope of Work will be reviewed by USGS management on a quarterly basis to ensure timelines and objectives are met. All data will be reviewed by the Survey's Texas Water Science Center personnel to ensure proper documentation, and will be subject to the review, approval, and release requirements of the Survey's Fundamental Science Practices.

Budget for the Scope of Work

USGS Fiscal Year

	FY18				FY19				FY20			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Data compilation												
Field mapping												
Analysis and reporting												
EAA	\$121,075				\$146,750				\$104,175			
USGS	\$30,000				\$30,000				\$30,000			
Total	\$151,075				\$176,750				\$134,175			

EAA Fiscal Year

	FY 2017	FY 2018	FY 2019	FY 2020
EAA	\$31,075	\$120,000	\$155,500	\$65,425
USGS		\$30,000	\$30,000	\$30,000
Total	\$31,075	\$150,000	\$185,500	\$95,425