



STATE OF TEXAS  
COUNTY OF TRAVIS

TWDB Contract No. 1800012225  
General Revenue  
**Halff Associates, Inc.**

This Contract, (hereinafter "CONTRACT"), between the Texas Water Development Board (hereinafter "TWDB") and **Halff Associates, Inc.** (hereinafter "CONTRACTOR"), is composed of two parts, SECTION I. SPECIFIC CONDITIONS AND EXCEPTIONS TO THE STANDARD AGREEMENT and SECTION II. STANDARD AGREEMENT. The terms and conditions set forth in SECTION I will take precedence over terms and conditions in SECTION II.

**SECTION I. SPECIFIC CONDITIONS AND EXCEPTIONS  
TO STANDARD AGREEMENT**

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**ARTICLE I. DEFINITIONS**

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For the purposes of this CONTRACT, the following terms or phrases shall have the meaning ascribed therewith:

1. TWDB – The Texas Water Development Board, or its designated representative
2. CONTRACTOR – Halff Associates, Inc.
3. EXECUTIVE ADMINISTRATOR – The Executive Administrator of the TWDB or a designated representative
4. DELIVERABLES – Required deliverable defined in each task order as referenced in Exhibit B
5. TWDB APPROVAL DATE – January 22, 2018
6. DEADLINE FOR CONTRACT EXECUTION – March 15, 2018
7. CONTRACT INITIATION DATE – January 22, 2018
8. CONTRACT EXPIRATION DATE – September 9, 2019
9. TOTAL CONTRACT AMOUNT – Not to exceed \$328,961.00
10. TWDB SHARE OF THE TOTAL PROJECT COSTS – not to exceed \$328,961.00

11. PAYMENT SUBMISSION SCHEDULE –Monthly
12. OTHER SPECIAL CONDITIONS AND EXCEPTIONS TO STANDARD AGREEMENT OF THIS CONTRACT –

All work to be performed will be assigned by the TWDB Contract Manager. The TWDB will issue a negotiated Task Order and Notice to Proceed for each task to be performed under this CONTRACT.

## **SECTION II. STANDARD AGREEMENT**

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### **ARTICLE I. RECITALS**

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Whereas, on TWDB APPROVAL DATE, the TWDB considered procuring a CONTRACTOR to perform Task Orders as needed related to the Cooperating Technical Partners Program;

Whereas, the CONTRACTOR is the entity who will act as administrator of this CONTRACT will be responsible for the execution of this contract;

Whereas, on the TWDB APPROVAL DATE, the TWDB approved a contract to the CONTRACTOR;

Now, therefore, the TWDB and the CONTRACTOR, agree as follows:

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### **ARTICLE II. PROJECT DESCRIPTION AND SERVICES TO BE PERFORMED**

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1. The TWDB enters into this CONTRACT pursuant to Water Code § 16.093; Exhibit A, the statement of qualifications, and Exhibit G, the original request for qualifications, which is incorporated herein and made a permanent part of this CONTRACT; and this CONTRACT.
2. The CONTRACTOR will prepare deliverables, as delineated and described in each task order issued by the TWDB as identified in Exhibit B, Scope of Work, Task Order No. 1.
3. A progress report, including results to date, will be provided to the EXECUTIVE ADMINISTRATOR monthly, throughout the CONTRACT. Special interim reports on special topics and/or results will be provided as appropriate. Instructions for the progress report are shown in Exhibit E, TWDB Guidelines for a Progress Report.

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### **ARTICLE III. CONTRACT TERM, SCHEDULE, REPORTS, AND OTHER PRODUCTS**

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1. The CONTRACTOR has until the DEADLINE FOR CONTRACT EXECUTION to execute this CONTRACT or the CONTRACT will be rescinded.
2. The term of this CONTRACT shall begin and the CONTRACTOR shall begin performing its obligations hereunder on the CONTRACT INITIATION DATE and shall expire on the CONTRACT EXPIRATION DATE. Delivery of acceptable deliverables for each task order shall constitute completion of the terms of this CONTRACT.
3. If applicable, the CONTRACTOR shall submit the following reports, if applicable and stated in each task order of this CONTRACT.

4. The CONTRACTOR will complete each task order will deliver four (4) double-sided copies of the text portion of the draft report and one (1) electronic copy of the all other information including the appendices to the EXECUTIVE ADMINISTRATOR, if applicable, no later than the date designated in the task order. The draft report will include the scope of work; developed under the task order of this CONTRACT; analysis of the results; conclusions and recommendations; a list of references, a Table of Contents, List of Figures, List of Tables, an Executive Summary, and any other pertinent information. Each draft report shall have an authorship list of persons responsible for the studies: firm or agency names as authors will not be acceptable. The draft report shall be sealed as required by Texas Occupation Code, Title 6, Chapter 1002. The TWDB logo must not be used as part of the report. All reports should be prepared according to Exhibit D, Guidelines for Authors Submitting Contract Reports to the Texas Water Development Board. After a 30-day review period, the EXECUTIVE ADMINISTRATOR will return review comments to the CONTRACTOR.
5. The CONTRACTOR will consider incorporating comments from the EXECUTIVE ADMINISTRATOR and other commentors on the draft report into a final report. The CONTRACTOR will include a copy of the EXECUTIVE ADMINISTRATOR's comments in the final report. The CONTRACTOR will submit one (5) electronic copies of the entire final report in Portable Document Format (PDF) and five (5) bound double-sided copies of the text portion of the final report to the EXECUTIVE ADMINISTRATOR no later than thirty (30) days following receipt of the TWDB comments. . In compliance with Texas Administrative Code Chapters 206 and 213 (related to Accessibility and Usability of State Web Sites), the digital copy of the final report will comply with the requirements and standards specified in statute. After a 30-day review period, the EXECUTIVE ADMINISTRATOR will either accept or reject the final report. If the final report is rejected, the rejection letter sent to the CONTRACTOR shall state the reasons for rejection and the steps the CONTRACTOR need to take to have the final report accepted and the retainage released for that task order
6. The CONTRACTOR will submit the most recent progress report with submittal of payments according to the PAYMENT SUBMISSION SCHEDULE. Progress reports shall be in written form and shall include a brief statement of the overall progress made since the last status report; a brief description of any problems that have been encountered during the previous reporting period that will affect the study, delay the timely completion of any portion of this CONTRACT, inhibit the completion of or cause a change in any of the study's products or objectives; and a description of any action the CONTRACTOR plans to take to correct any problems that have been encountered.
7. The EXECUTIVE ADMINISTRATOR can extend the CONTRACT up to two additional one-year terms. The CONTRACTOR shall notify the EXECUTIVE ADMINISTRATOR in writing and the CONTRACT MANAGER in person immediately if any problems

encountered while performing the task order that will delay the timely completion of any portion of this CONTRACT.

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**ARTICLE IV. COMPENSATION AND REIMBURSEMENT**

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1. The TWDB agrees to compensate and reimburse the CONTRACTOR in a total amount not to exceed the TOTAL CONTRACT AMOUNT for costs incurred and paid by the CONTRACTOR pursuant to performance of this CONTRACT. The TWDB shall reimburse the CONTRACTOR for ninety percent (90%) of each invoice pending the CONTRACTOR's performance, completion of the task order, and written acceptance of said task order by the EXECUTIVE ADMINISTRATOR, at which time the TWDB shall pay the retained ten percent (10%) to the CONTRACTOR.
2. The CONTRACTOR shall submit payments and documentation for reimbursement billing according to the PAYMENT SUBMISSION SCHEDULE and in accordance with the approved task and expense budgets contained in each task order to this CONTRACT. The CONTRACTOR has budget flexibility within task and expense budget categories to the extent that the resulting change in amount in any one task or expense category does not exceed 35% of the total authorized amount by this CONTRACT for the task or category. Larger deviations shall require approval by EXECUTIVE ADMINISTRATOR or designee which will be documented through an Approved Budget Memorandum to the TWDB contract file. The CONTRACTOR will be required to provide written explanation for the overage and reallocation of the task and expense amount.

For all reimbursement billings including any subcontractor's expenses, the EXECUTIVE ADMINISTRATOR must have determined that the contracts or agreements between the CONTRACTOR and the subcontractor are consistent with the terms of this CONTRACT. The CONTRACTOR is fully responsible for paying all charges by subcontractors prior to reimbursement by the TWDB.

3. The CONTRACTOR and its subcontractors shall maintain satisfactory financial accounting documents and records, including copies of invoices and receipts, and shall make them available for examination and audit by the EXECUTIVE ADMINISTRATOR. Accounting by the CONTRACTOR and its subcontractors shall be in a manner consistent with Generally Accepted Accounting Principles.
4. By executing this CONTRACT, the CONTRACTOR accepts the authority of the State Auditor's Office, under direction of the legislative audit committee, to conduct audits and investigations in connection with any and all state funds received pursuant to this contract. The CONTRACTOR shall comply with and cooperate in any such investigation or audit. The CONTRACTOR agrees to provide the State Auditor with access to any information the State Auditor considers relevant to the investigation or audit. The CONTRACTOR also agrees to include a provision in any subcontract related to this contract that requires the subcontractor to submit to audits and

investigation by the State Auditor's Office in connection with any and all state funds received pursuant to the subcontract.

5. The CONTRACTOR shall submit a progress report as described in Article II, Item 3 and the following documentation which documents the total costs for the reporting period even if the total costs for the period is zero for reimbursement by the TWDB to the CONTRACTOR and shall be submitted by the CONTRACTOR to [Invoice@twdb.texas.gov](mailto:Invoice@twdb.texas.gov) for reimbursement billing:
  - A. The CONTRACTOR shall submit a signed and completed payment request using the current spreadsheet located at : [http://www.twdb.texas.gov/about/contract\\_admin/index.asp](http://www.twdb.texas.gov/about/contract_admin/index.asp) or you can contact [Contracts@twdb.texas.gov](mailto:Contracts@twdb.texas.gov) for a personalized  
The completed and signed Payment Request Checklist includes the following:
    - 1) TWDB CONTRACT Number;
    - 2) Task Order Number;
    - 3) Billing period; beginning (date) to ending (date);
    - 4) Total Expenses for this period;
    - 5) Amount of retainage to be withheld for the billing period;
    - 6) Total costs to be reimbursed by the TWDB for the billing period; and
    - 7) Certification, signed by the CONTRACTOR's authorized representative, that the expenses submitted for the billing period are a true and correct representation of amounts paid for work performed directly related to this contract.
  - B. For direct expenses incurred by the CONTRACTOR other than subcontracted work:
    - (1) Copies of detailed, itemized invoices/receipts for other expenses (credit card summary receipts or statements are not acceptable)
  - C. For direct expenses incurred by the CONTRACTOR for subcontracted work:
    - (1) Copies of invoices from the subcontractors to the CONTRACTOR; and
    - (2) Copies of detailed, itemized invoices/receipts for other expenses (credit card summary receipts or statements are not acceptable.)
  - D. For travel expenses for the CONTRACTOR and/or subcontractor(s) –
    - (1) Names, dates, work locations, time periods at work locations, itemization of subsistence expenses of each employee, limited, however, to travel expenses authorized for state employees by the General Appropriations Act, Tex. Leg. Regular Session, 2017, Article IX, Part 5, as amended or superceded. Receipts required for lodging;
    - (2) Copies of invoices or tickets for transportation costs or, if not available, names, dates, and points of travel of individuals; and
    - (3) All other reimbursable travel expenses -- invoices or purchase vouchers showing reason for expense with receipts to evidence the amount incurred.
6. Incomplete requests will be returned to the CONTRACTOR if deficiencies are not resolved within ten (10) business days.

7. If for some reason the reimbursement request cannot be processed due to the need for an amendment to the CONTRACT, the CONTRACTOR will be required to resubmit the Payment Request Checklist dated after the execution of the amendment.
8. The CONTRACTOR is responsible for any food or entertainment expenses incurred by its own organization or that of its subcontractors, outside that of the travel expenses authorized and approved by the State of Texas under this CONTRACT.
9. A compliance report in accordance with Texas Administrative Code (TAC) Title 1, Part 5, Chapter 111, Subchapter B, Rule §111.14. The CONTRACTOR shall maintain business records documenting its compliance with the approved Historically Underutilized Business subcontracting plan in the format prescribed by the Texas Procurement and Support Services (Exhibit F). The compliance reports must include payment information on all HUB and non-HUB subcontractors. Submittal of these monthly compliance reports is required as a condition of payment.

The TWDB will monitor the HUB subcontracting plan monthly to ensure the value of the subcontracts meets or exceeds the HUB subcontracting provisions specified in the contract. The CONTRACTOR who fails to implement the HUB subcontracting plan in good faith will be reported to Texas Procurement and Support Services. The TWDB may revoke the contract for breach of contract and make a claim against the CONTRACTOR.

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#### **ARTICLE V. INTELLECTUAL PROPERTY: OWNERSHIP, PUBLICATION, AND ACKNOWLEDGEMENT**

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1. "Use" of a work product, whether the CONTRACTOR Works, a Subcontractor Works or otherwise, shall mean and include, without limitation hereby, any lawful use, copying or dissemination of the work product, or any lawful development, use, copying or dissemination of derivative works of the work product, in any media or forms, whether now known or later existing.
2. "No Compensation Obligation" shall mean there is no obligation on the part of one co-owner or licensee of a work, whether a the CONTRACTOR Works, a Subcontractor Works or otherwise, to compensate other co-owners, licensees or licensors of the work for any use of the work by the using co-owner or licensee, including but not limited to compensation for or in the form of: royalties; co-owner or licensee accounting; sharing of revenues or profits among co-owners, licensees or licensors; or any other form of compensation to the other co-owners, licensees or licensors on account of any use of the work.
3. "Dissemination" shall include, without limitation hereby, any and all manner of: physical distribution; publication; broadcast; electronic transmission; internet

- streaming; posting on the Internet or World Wide Web; or any other form of communication, transmission, distribution, sending or providing, in any forms or formats, and in or using any media, whether now known or later existing.
4. The TWDB shall have an unlimited, unrestricted, perpetual, irrevocable, non-exclusive royalty-free right to access and receive in usable form and format, and to use all technical or other data or information developed by the CONTRACTOR and Subcontractor in, or otherwise resulting from, the performance of services under this CONTRACT.
  5. For purposes of this Article, "CONTRACTOR Works" are work products developed by the CONTRACTOR and Subcontractor using funds provided under this CONTRACT or otherwise rendered in or related to the performance in whole or part of this CONTRACT, including but not limited to reports, drafts of reports, or other material, data, drawings, studies, analyses, notes, plans, computer programs and codes, or other work products, whether final or intermediate.
    - a. It is agreed that all CONTRACTOR Works shall be the joint property of the TWDB and the CONTRACTOR.
    - b. The parties hereby agree that, if recognized as such by applicable law, the CONTRACTOR Works are intended to and shall be works-made-for-hire with joint ownership between the TWDB and the CONTRACTOR as such works are created in whole or part.
    - c. If the CONTRACTOR Works do not qualify as works-made-for-hire under applicable law, the CONTRACTOR hereby conveys co-ownership of such works to the TWDB as they are created in whole or part. If present conveyance is ineffective under applicable law, the CONTRACTOR agrees to convey a co-ownership interest of the CONTRACTOR Works to the TWDB after creation in whole or part of such works, and to provide written documentation of such conveyance upon request by the TWDB.
    - d. The TWDB and the CONTRACTOR acknowledge that the copyright in and to a copyrightable CONTRACTOR Work subsists upon creation of the CONTRACTOR Works and its fixing in any tangible medium. The CONTRACTOR or the TWDB may register the copyrights to such Works jointly in the names of the CONTRACTOR and the TWDB.
    - e. The TWDB and the CONTRACTOR each shall have full and unrestricted rights to use a CONTRACTOR Works with No Compensation Obligation.
  6. For purposes of this Article, "Subcontractor Works" include all work product developed in whole or part by or on behalf of Subcontractors engaged by the CONTRACTOR to perform work for or on behalf of any CONTRACTOR under this CONTRACT (or by the Subcontractors' Subcontractors hereunder, and so on). The CONTRACTOR shall secure in writing from any Subcontractors so engaged:
    - a. unlimited, unrestricted, perpetual, irrevocable, royalty-free rights of the TWDB (and, if desired, of the CONTRACTOR) to access and receive, and to use, any and all technical or other data or information developed in or resulting from the performance of services under such engagement, with No Compensation Obligation; and either

- b. assignment by the Subcontractor to the TWDB (and, if desired by them, jointly to the CONTRACTOR) of ownership (or joint ownership with the Subcontractor) of all Subcontractor Works, with No Compensation Obligation; or
  - c. grant by Subcontractor of a non-exclusive, unrestricted, unlimited, perpetual, irrevocable, world-wide, royalty-free license to the TWDB (and, if desired by them, the CONTRACTOR) to use any and all Subcontractor Works, including the right to sublicense use to third parties, with No Compensation Obligation.
- 7. No unauthorized patents. The CONTRACTOR Works and Subcontractor Works or other work product developed or created in the performance of this CONTRACT or otherwise using funds provided hereunder shall not be patented by the CONTRACTOR or their Subcontractor unless the EXECUTIVE ADMINISTRATOR consents in writing to submission of an application for patent on such works; and provided that, unless otherwise agreed in writing, any application made for patent shall include and name the TWDB (and, as applicable and desired by them, the CONTRACTOR) as co-owners of the patented work:
  - a. no patent granted shall in any way limit, or be used by the CONTRACTOR or Subcontractor to limit or bar the TWDB's rights hereunder to access and receive in useable form and format, and right to use, any and all technical or other data or information developed in or resulting from performance pursuant to this CONTRACT or the use of funds provided hereunder; and
  - b. the TWDB (and, if applicable, the CONTRACTOR) shall have No Compensation Obligation to any other co-owners or licensees of any such patented work, unless otherwise expressly agreed in writing.
- 8. The CONTRACTOR shall include terms and conditions in all contracts or other engagement agreements with any Subcontractors as are necessary to secure these rights and protections for the TWDB; and shall require that their Subcontractors include similar such terms and conditions in any contracts or other engagements with their Subcontractors. For the purposes of this section, "Subcontractors" includes independent contractors (including consultants) and also employees working outside the course and scope of employment.
- 9. Any work products subject to a TWDB copyright or joint copyright and produced or developed by the CONTRACTOR or their Subcontractor pursuant to this CONTRACT or using any funding provided by the TWDB may be reproduced in any media, forms or formats by the TWDB or the CONTRACTOR at their own cost, and be disseminated in any medium, format or form by any party at its sole cost and in its sole discretion. The CONTRACTOR may utilize such work products as they may deem appropriate, including Dissemination of such work products or parts thereof under their own name, provided that any TWDB copyright is noted on the materials.
- 10. The CONTRACTOR agrees to acknowledge the TWDB in any news releases or other publications relating to the work performed under this CONTRACT.

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**ARTICLE VI. AMENDMENT, TERMINATION, AND STOP ORDERS**

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1. This CONTRACT may be altered or amended by mutual written consent or terminated by the EXECUTIVE ADMINISTRATOR at any time by written notice to the CONTRACTOR. Upon receipt of such termination notice, the CONTRACTOR shall, unless the notice directs otherwise, immediately discontinue all work in connection with the performance of this CONTRACT and shall proceed to cancel promptly all existing orders insofar as such orders are chargeable to this CONTRACT. The CONTRACTOR shall submit a statement showing in detail the work performed under this CONTRACT to the date of termination. The TWDB shall then pay the CONTRACTOR promptly that proportion of the prescribed fee, which applies to the work, actually performed under this CONTRACT, less all payments that have been previously made. Thereupon, copies of all work accomplished under this CONTRACT shall be delivered to the TWDB.
2. The EXECUTIVE ADMINISTRATOR may issue a Stop Work Order to the CONTRACTOR at any time. Upon receipt of such order, the CONTRACTOR shall discontinue all work under this CONTRACT and cancel all orders pursuant to this CONTRACT, unless the order directs otherwise. If the EXECUTIVE ADMINISTRATOR does not issue a Restart Order within 60 days after receipt by the CONTRACTOR of the Stop Work Order, the CONTRACTOR shall regard this CONTRACT terminated in accordance with the foregoing provisions.

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**ARTICLE VII. SUBCONTRACTS**

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Each Subcontract entered into to perform required work under this CONTRACT shall contain the following provisions:

1. a detailed budget estimate with specific cost details for each task or specific item of work to be performed by the Subcontractor and for each category of reimbursable expenses;
2. a clause stating that the Subcontract is subject to audit by the Texas State Auditor's Office and requiring the Subcontractor to cooperate with any request for information from the Texas State Auditor, as further described in Article X, Section 1, Paragraph D hereof;
3. a clause stating that payments under the Subcontract are contingent upon the appropriation of funds by the Texas Legislature, as further described in Article X, Section 1, Paragraph A hereof;
  - a. a clause stating that ownership of data, materials and work papers, in any media, that is gathered, compiled, adapted for use, or generated by the Subcontractor or the CONTRACTOR shall become data, materials and work owned by the TWDB and that Subcontractor shall have no proprietary rights in such data, materials and work papers, except as further described in Article V hereof;

- b. a clause stating that Subcontractor shall keep timely and accurate books and records of accounts according to generally acceptable accounting principles as further described in Article X, Section 2, Paragraph G;
- c. a clause stating that Subcontractor is solely responsible for securing all required licenses and permits from local, state and federal governmental entities and that Subcontractor is solely responsible for obtaining sufficient insurance in accordance with the general standards and practices of the industry or governmental entity; and
- d. a clause stating that Subcontractor is an independent contractor and that the TWDB shall have no liability resulting from any failure of Subcontractor that results in breach of CONTRACT, property damage, personal injury or death.

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**ARTICLE VIII. LICENSES, PERMIT, AND INSURANCE**

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1. For the purpose of this CONTRACT, the CONTRACTOR will be considered an independent contractor and therefore solely responsible for liability resulting from negligent acts or omissions. The CONTRACTOR shall obtain all necessary insurance, in the judgment of the CONTRACTOR, to protect themselves, the TWDB, and employees and officials of the TWDB from liability arising out of this CONTRACT.
2. The CONTRACTOR shall be solely and entirely responsible for procuring all appropriate licenses and permits, which may be required by any competent authority for the CONTRACTOR to perform the subject work.
3. Indemnification. The CONTRACTOR shall indemnify and hold the TWDB and the State of Texas harmless, to the extent the CONTRACTOR may do so in accordance with state law, from any and all losses, damages, liability, or claims therefore, on account of personal injury, death, or property damage of any nature whatsoever caused by the CONTRACTOR, arising out of the activities and work conducted pursuant to this CONTRACT. The CONTRACTOR is solely responsible for liability arising out of its negligent acts or omissions during the performance of this CONTRACT.

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**ARTICLE IX. SEVERANCE PROVISION**

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Should any one or more provisions of this CONTRACT be held to be null, void, voidable, or for any reason whatsoever, of no force and effect, such provision(s) shall be construed as severable from the remainder of this CONTRACT and shall not affect the validity of all other provisions of this CONTRACT which shall remain of full force and effect.

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## ARTICLE X. GENERAL TERMS AND CONDITIONS

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### 1. GENERAL TERMS.

- a. No Debt Against the State. This CONTRACT does not create any debt by or on behalf of the State of Texas and the TWDB. The TWDB's obligations under this CONTRACT are contingent upon the availability of appropriated funds and the continued legal authority of the TWDB to enter into this CONTRACT.
- b. Independent Contractor. Both parties hereto, in the performance of this contract, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.
- c. Procurement Laws. The CONTRACTOR shall comply with applicable State of Texas procurement laws, rules and policies, including but not limited to competitive bidding and the Professional Services Procurement Act, Government Code, Chapter 2254, relating to contracting with persons whose services are within the scope of practice of: accountants, architects, landscape architects, land surveyors, medical doctors, optometrists, professional engineers, real estate appraisers, professional nurses, and certified public accountants.
- d. Right to Audit. The CONTRACTOR and its Subcontractors shall maintain all financial accounting documents and records, including copies of all invoices and receipts for expenditures, relating to the work under this CONTRACT. The CONTRACTOR shall make such documents and records available for examination and audit by the EXECUTIVE ADMINISTRATOR or any other authorized entity of the State of Texas. The CONTRACTOR'S financial accounting documents and records shall be kept and maintained in accordance with generally accepted accounting principles. By executing this CONTRACT, the CONTRACTOR accepts the authority of the Texas State Auditor's Office to conduct audits and investigations in connection with all state funds received pursuant to this CONTRACT. The CONTRACTOR shall comply with directives from the Texas State Auditor and shall cooperate in any such investigation or audit. The CONTRACTOR agrees to provide the Texas State Auditor with access to any information the Texas State Auditor considers relevant to the investigation or audit. The CONTRACTOR also agrees to include a provision in any Subcontract related to this CONTRACT that requires the Subcontractor to submit to audits and investigation by the State Auditor's Office in connection with all state funds received pursuant to the Subcontract.
- e. Force Majeure. Unless otherwise provided, neither the CONTRACTOR nor the TWDB nor any agency of the State of Texas, shall be liable to the other for any

delay in, or failure of performance, of a requirement contained in this CONTRACT caused by force majeure. The existence of such causes of delay or failure shall extend the period of performance until after the causes of delay or failure have been removed provided the non-performing party exercises all reasonable due diligence to perform. Force majeure is defined as acts of God, war, strike, fires, explosions, or other causes that are beyond the reasonable control of either party and that by exercise of due foresight such party could not reasonably have been expected to avoid, and which, by the exercise of all reasonable due diligence, such party is unable to overcome. Each party must inform the other in writing with proof of receipt within two (2) business days of the existence of such force majeure or otherwise waive this right as a defense.

- f. Interested Parties. All non-governmental CONTRACTORS are required to submit a disclosure of interested parties at the time the signed contract and submitted to the TWDB. The Certificate of Interested Parties (Form 1295) is a sworn statement by the contracting business entity and must be submitted even if there is no interested party in the transaction. The Form 1295 is available at: <https://www.ethics.state.tx.us/forms/1295.pdf> and must be submitted at the time this CONTRACT is returned to TWDB for signature.

## 2. STANDARDS OF PERFORMANCE.

- a. Personnel. The CONTRACTOR shall assign only qualified personnel to perform the services required under this CONTRACT. The CONTRACTOR shall be responsible for ensuring that any Subcontractor utilized shall also assign only qualified personnel. Qualified personnel are persons who are properly licensed or who perform services under the supervision and control of a licensed professional to perform the work and who have sufficient knowledge, skills and ability to perform the tasks and services required herein according to the standards of performance and care for their trade or profession.
- b. Professional Standards. The CONTRACTOR shall provide the services and deliverables in accordance with applicable professional standards. The CONTRACTOR represents and warrants that he is authorized to acquire Subcontractors with the requisite qualifications, experience, personnel and other resources to perform in the manner required by this CONTRACT.
- c. Antitrust. The CONTRACTOR represents and warrants that neither the CONTRACTOR nor any firm, corporation, partnership, or institution represented by the CONTRACTOR, or anyone acting for such firm, corporation, partnership, or institution has (1) violated the antitrust laws of the State of Texas under the Texas Business & Commerce Code, Chapter 15, of the federal antitrust laws; or (2) communicated directly or indirectly the proposal resulting in this CONTRACT to any competitor or other person engaged in such line of business during the procurement process for this CONTRACT.

- d. Conflict of Interest. The CONTRACTOR represents and warrants that the CONTRACTOR has no actual or potential conflicts of interest in providing the deliverables required by this CONTRACT to the State of Texas and the TWDB. The CONTRACTOR represents that the provision of services under this CONTRACT will not create an appearance of impropriety. The CONTRACTOR also represents and warrants that, during the term of this CONTRACT, the CONTRACTOR will immediately notify the TWDB, in writing, of any potential conflict of interest that could adversely affect the TWDB by creating the appearance of a conflict of interest.

CONTRACTOR represents and warrants that neither the CONTRACTOR nor any person or entity that will participate financially in this CONTRACT has received compensation from the TWDB or any agency of the State of Texas for participation in the preparation of specifications for this CONTRACT. The CONTRACTOR represents and warrants that he has not given, offered to give, and does not intend to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to any public servant in connection with this CONTRACT.

- e. Proprietary and Confidential Information. The CONTRACTOR warrants and represents that any information that is proprietary or confidential, and is received by the CONTRACTOR from the TWDB or any governmental entity, shall not be disclosed to third parties without the written consent of the TWDB or applicable governmental entity, whose consent shall not be unreasonably withheld.
- f. Public Information Act. The CONTRACTOR acknowledges and agrees that all documents, in any media, generated in the performance of work conducted under this CONTRACT are subject to public disclosure under the Public Information Act, Government Code, Chapter 552. The CONTRACTOR shall produce all documents upon request of the TWDB within two (2) business days when the documents are required to comply with a request for information under the Public Information Act.
- g. Accurate and Timely Record Keeping. The CONTRACTOR warrants and represents that he will keep timely, accurate and honest books and records relating to the work performed and the payments received under this CONTRACT according to generally accepted accounting standards. Further, the CONTRACTOR agrees that he will create such books and records at or about the time the transaction reflected in the books and records occurs.
- h. Dispute Resolution. The CONTRACTOR and the TWDB agree to make a good faith effort to resolve any dispute relating to the work required under this CONTRACT through negotiation and mediation as provided by Government Code, Chapter 2260 relating to resolution of certain contract claims against the state. The CONTRACTOR and the TWDB further agree that they shall attempt to

use any method of alternative dispute resolution mutually agreed upon to resolve any dispute arising under this CONTRACT if this CONTRACT is not subject to Chapter 2260.

- i. Contract Administration. The TWDB shall designate a PROJECT manager for this CONTRACT. The PROJECT manager will serve as the point of contact between the TWDB and the CONTRACTOR. The TWDB's contract manager shall supervise the TWDB's review of the CONTRACTOR's technical work, deliverables, draft report, the final report, payment requests, schedules, financial and budget administration, and similar matters. The PROJECT manager does not have any express or implied authority to vary the terms of the CONTRACT, amend the CONTRACT in any way or waive strict performance of the terms or conditions of the CONTRACT.

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## ARTICLE XI. CORRESPONDENCE

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All correspondence between the parties shall be made to the following addresses:

For the **TWDB**:

**Contract Issues:**

Texas Water Development Board  
Attention: Contract Administration  
P.O. Box 13231  
Austin, Texas 78711-3231  
Email: [contracts@twdb.texas.gov](mailto:contracts@twdb.texas.gov)

**Payment Request Submission:**

Texas Water Development Board  
Attention: Accounts Payable  
P.O. Box 13231  
Austin, Texas 78711-3231  
Email: [invoice@twdb.texas.gov](mailto:invoice@twdb.texas.gov)

**Physical Address:**

Stephen F. Austin State Office Building  
1700 N. Congress Avenue  
Austin, Texas 78701

For the **CONTRACTOR**:

**Contract Issues:**

Cindy Engelhardt, P.E., C.F.M.  
Half Associates, Inc.  
9500 Amberglen Blvd., Bldg. F, Suite 125  
Austin, Texas 78729-1102  
Email: [cEngelhardt@half.com](mailto:cEngelhardt@half.com)

**Payment Request Submission:**

Cindy Engelhardt, P.E., C.F.M.  
Half Associates, Inc.  
9500 Amberglen Blvd., Bldg. F, Suite 125  
Austin, Texas 78729-1102  
Email: [cEngelhardt@half.com](mailto:cEngelhardt@half.com)

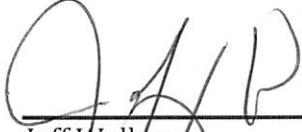
**Physical Address:**

Half Associates, Inc.  
9500 Amberglen Blvd., Bldg. F, Suite 125  
Austin, Texas 78729-1102

IN WITNESS WHEREOF, the parties have caused this CONTRACT to be duly executed in multiple originals.

TEXAS WATER DEVELOPMENT BOARD

HALFF ASSOCIATES, INC.



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Jeff Walker  
Executive Administrator



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Cindy Engelhardt, P.E., C.F.M.  
Project Manager

Date: 5.23.18

Date: 5/13/18

**EXHIBIT A**  
**ORIGINAL STATEMENT OF QUALIFICATIONS**



# TEXAS WATER DEVELOPMENT BOARD

Assistance with Program and/or Project Activities associated  
with the FEMA Cooperating Technical Partners Program

Response to RFQ #580-18-RFQ0060

NOVEMBER 29, 2017

November 29, 2017

33606

Texas Water Development Board  
1700 North Congress Avenue, 6th Floor Reception Desk  
Austin, Texas 78701

Re: **RFQ #580-18-RFQ0060, Assistance to the TWDB with Program and/or Project Activities for FEMA CTP Program**

Dear Selection Committee,

**Halff Associates, Inc.** (Halff) appreciates the opportunity to be considered for the referenced project. We have assembled a highly qualified team with a proven history of working for the Board and with the specialized CTP experience to accomplish all aspects of the project. We strategically assembled our team to provide the Board with the professional expertise, technical knowledge, and proven public outreach experience to efficiently provide and communicate flood risk-related information.

**Our Project Manager:** Our team is organized to be efficient, consistent, and accessible to TWDB staff under the leadership of Cindy Engelhardt, our designated PM. Cindy has managed, planned, and developed numerous TWDB projects; thus, she is very familiar with Board's processes, as well as the General Terms and Conditions. Cindy has a thorough understanding of the FEMA's Risk MAP programs and Guidelines and Standards for flood risk analysis and mapping. She has managed multiple successful CTP projects; thus, has an understanding and appreciation for the roles of the TWDB, the community, and FEMA.

**Our superior CTP IQ:** Halff is the leading CTP contractor in Texas, having successfully completed 27 Risk MAP projects for the TWDB, City of Austin, City of Dallas, City of Grand Prairie, City of Fort Worth, North Central Texas Council of Governments (NCTCOG), and San Antonio River Authority (SARA). Additionally, our team has a keen understanding of FEMA's projects and programs. Halff was a FEMA contractor for Map Modernization, preparing 51 county-wide Flood Insurance Studies. We are currently a member of the Compass Joint Venture FEMA Risk MAP Production and Technical Services Contract. Subsequently, we understand the resources, requirements, and expectations of FEMA Region 6 CTPs.

**Our knowledge of flood risk in Texas:** Halff has an unmatched knowledge of the river basins in Texas, having conducted more than 200 Drainage / Stormwater Master Plans and analyzed major river systems, including the Colorado, Brazos, Guadalupe-Blanco, San Jacinto, and Trinity basins. We have also successfully prepared grant applications and implemented 27 TWDB Flood Protection Studies. Our breadth of experience provides us with a unique understanding of the value of leveraging existing flood risk data to enhance CTP projects.

**Our ability to communicate flood risk information:** Our extensive CTP outreach efforts are based on developing a level of trust with communities to obtain buy-in from project stakeholders. We take a proactive approach to Discovery, with a goal of achieving 100% stakeholder participation. Our strategy is to over-communicate, using personal touches through individual phone calls and meetings to set expectations early in the process. We can quickly develop customized interactive project websites to collect and compile data, then easily display information to communicate with stakeholders.

Halff Associates, Inc. does not have and will not have any actual or potential conflict of interest and will take whatever reasonable actions necessary and prudent to avoid even the appearance of impropriety.

We appreciate your consideration to be your advocate to help you achieve your goals. We value this opportunity to share with you our qualifications and be your partner to implement the State CTP program.

Sincerely,

**HALFF ASSOCIATES, INC.**



Michael A. Moya, PE, CFM  
Vice President



Cindy Engelhardt, PE, CFM  
Project Manager

HALFF ASSOCIATES, INC.

9500 AMBERGLEN BLVD., BUILDING F, SUITE 125  
AUSTIN, TX 78729

TEL (512) 777-4600  
FAX (512) 232-8141

WWW.HALFF.COM

TWDB Contract No. 1800012225

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# CI1. EXECUTION OF STATEMENT OF QUALIFICATIONS

Texas Water Development Board  
 REQUEST FOR SOQ NO. 580-18-RFQ0060  
 Assistance with the Cooperating Technical Program  
 funded by the Texas Water Development Board

## CONTENT ITEM 1

### EXECUTION OF SOQ to the REQUEST FOR QUALIFICATIONS

Company Name: Halff Associates, Inc.

Address: 9500 Amberglen Boulevard  
Building F, Suite 125  
Austin, Texas 78729

Phone Number: (512) 777-4552

E-Mail: cengelhardt@halff.com

I, Cindy Engelhardt, am the above-referenced company's representative and I am authorized to submit this response and sign future contract documents. By signing below, the representative certifies that if a Texas address is shown as the address, the respondent qualifies as a Texas Bidder as defined in 34 TAC Rule 20.32(68).



Authorized Signature

11/29/17

Date

Project Manager

Title:



## CI2. COMPANY PROFILE SUMMARY & HISTORY

### **HALFF ASSOCIATES, INC.**

(Halff) is an employee-owned full-service engineering, architecture, and surveying firm providing services throughout the Southwest. The firm's staff of nearly 700 includes engineers, architects, analysts, planners, scientists, and surveyors. Halff is ranked #144 in *Engineering News Record* magazine's list of the top 500 design firms in the United States. Water resources has been a core service of Halff since its inception in 1950.

Our passion for the floodplain industry began with our founder Dr. Halff, when he published the first City of Dallas Flood Prevention Plan in 1968. This was one of the first watershed-based flood plans developed in the State and it helped set the standard for future flood risk reduction studies. Today, Halff preserves Dr. Halff's legacy of a company built on integrity, technical knowledge, and commitment to client service.

The Halff Team is local and offers years of positive working relationships with TWDB, Texas communities, other Texas Cooperating Technical Partners (CTPs), and FEMA. We know the FEMA programs, products and standards and have successfully executed Mapping Activity Statements (MAS) for CTPs across Texas. Our highly relevant experience includes:

### A. FEMA PROJECTS AND PROGRAMS

**2018 ACEC Texas Engineering Excellence Award: Gold Medal**  
**Project: TWDB-CTP Technical Pilot Project**

**Cooperating Technical Partners (CTP) Program:** Halff brings unmatched local FEMA CTP experience serving

as the only CTP contractor that has served all Texas CTPs [TWDB, City of Austin, Guadalupe-Blanco River Authority (GBRA), San Antonio River Authority (SARA), North Central Texas Council of Governments (NCTCOG), City of Dallas, City of Fort Worth, City of Arlington, City of Grand Prairie, and Harris County Flood Control District (HCFCD)]. We fully understand FEMA's expectations because of our extensive work - over the past seven years, we've assisted Texas CTPs in obtaining more than \$8 million in FEMA grant funds and worked on Risk MAP projects for CTPs in Texas totaling \$16 million.

**Map Modernization:** In 2002, FEMA launched the national Map Modernization Plan in an effort to update

### HALFF ASSOCIATES, INC. QUICK FACTS

#### **Name/Contact Info/Legal Status**

Halff Associates, Inc., a Texas Corporation organized in 1969, has 15 offices in Texas, Oklahoma, Louisiana, and Arkansas. Our local office at 9500 Amberglen Blvd., Bldg. F, Ste. 125, Austin, Texas 78729, (512) 777-4600 will be the primary point of contact for this project.

#### **Binding Authority / Point of Contact**

Cindy Engelhardt, PE, CFM has the authority to bind the company. For questions regarding this SOQ, please contact her at (512) 777-4552 / cengelhardt@halff.com.

the nation's flood map inventory and an enhancement of products, services, and processes. Halff was a FEMA contractor for the Map Modernization effort. The Halff team prepared 51 countywide Flood Insurance Studies including over 1,600 digital flood insurance rate map (DFIRM) panels encompassing approximately 42,200 sm and over 35,500 miles of stream.

**FEMA's Risk MAP (Mapping, Assessment, and Planning) Program:** Halff is a member of the Compass Joint Venture – a FEMA Risk MAP Production and Technical Services (PTS) Contractor. Halff team members were selected to lead FEMA Region 6's Regional Service Center (RSC) based on their intimate knowledge and strong relationships throughout Region 6. Through this role, we provide on-call support for Region 6 staff through the Standard Operations task order. Tasks included Letters of Map Change (LOMC) investigations, Congressional Correspondence support, FEMA's Coordinated Needs Management Strategy (CNMS) database updates and maintenance, Regional Standard Operations Production including Physical Map Revisions (PMRs), Post Preliminary, Levee Analysis and Mapping Procedures (LAMP) Plans, and Base Level Engineering (BLE) analysis. In addition to day-to-day support, our team provided significant disaster response support for flood events throughout Texas and Louisiana in 2015, 2016, and most recently during Hurricane Harvey.

**Levee Analysis and Mapping Procedures (LAMP):** Halff brings a strong working knowledge of FEMA's LAMP guidance and implementation strategies. As part of the Compass team support, Halff developed Levee Snapshots for all levees within Region 6 which provide an overview of the key facts and details required for

FEMA to make decisions on how a levee will proceed through the LAMP process. In addition, Halff has a long history of levee services in Texas, including design of levee systems, assessment and inspection, construction and maintenance, and preparation of Levee Certification packages that went on to receive FEMA Accreditation.

## B. FEMA FLOOD RISK PROJECTS

### Phase Zero (Investment/Base Level Engineering):

FEMA Region 6 pioneered the concept of Base Level Engineering (BLE), which has evolved significantly since the original concept of First Order Approximation. Halff, as part of the Compass Team, led the efforts for developing Region 6's BLE deliverable guidance. Halff has led or supported BLE analysis in dozens of watersheds throughout Region 6.

**Phase One (Discovery):** Halff was the first CTP contractor to perform Discovery in Texas. We developed an innovative proactive approach within the San Bernard Watershed as part of TWDB's CTP MAS No. 5. Building off of the San Bernard Watershed Discovery success, Halff has led the Discovery process for six additional large watersheds in Texas. Halff's Discovery template is now adopted by the TWDB, NCTCOG, and SARA.

**Phase Two (Risk Identification & Assessment):** Halff has the tools, resources and experience to successfully complete and deliver FEMA CTP Flood Risk Identification Projects. We have completed more than 700 miles of detailed studies through FEMA CTP Risk MAP Phase 2 projects over the past 7 years.



## C. FEMA STANDARDS

**FEMA's Guidelines and Standards for Flood Risk Analysis and Mapping:** FEMA guidelines are updated frequently, and in 2013, FEMA released a complete overhaul, unveiling their new Program and Working Standards. The Halff team worked with FEMA throughout this process and continues to keep abreast and contribute to any Program and Working Standards updates, as well as Guidance and Best-Practices document revisions. We incorporate revisions into our defined Risk MAP project workflow.

## D. TEXAS HYDROLOGY AND HYDRAULICS EXPERIENCE

**Outreach:** Our team has an enhanced engagement and outreach approach that is tailored for each task order and study area. Our customized outreach efforts involve phone calls, in-person meetings, online webinar coordination, websites, interactive web maps, and newsletters. We ensure stakeholders feel comfortable and informed with the process, goals, and objectives of the project. Subsequently, stakeholders are more likely to share valuable data about their community and available resources that may significantly impact the project.

**Hydrology and Hydraulics (H&H):** Halff's experience with regional flood risk identification is prevalent through our basin-wide studies of the Trinity River; the Lower Colorado River; the Lower Guadalupe River; the Lower Brazos River and San Bernard River. Additionally, Halff has been a FEMA Region 6 study contractor since the 1970s preparing flood risk products across Texas. Our experience is demonstrated by our analysis of more than 50 major watersheds in Texas, encompassing approximately 75% of the State's population.

**Quality Assurance / Quality Control (QA/QC):** Halff has a formal QA/QC Program that is applied to all projects and has been used on numerous FEMA CTP Projects. A project specific QA/QC Plan will be developed to ensure an independent internal review is properly conducted, reconciled, and documented. Our team's philosophy is to ensure all QC comments are properly addressed and resolved prior to TWDB's review and submittal to FEMA.

## E. GIS, SURVEY, AND MAPPING

**Geographic Information Systems (GIS):** Our professionals are knowledgeable in spatial analysis and skilled using GIS software essential to the Risk MAP process. We can integrate multiple software and database platforms to develop unique solutions to your GIS needs. We tailor each solution to meet our client's unique needs, incorporating enterprise databases, GIS, role-based security, and mobile device support. Access to information is provided through web browsers and the Halff GIS iOS app.

**Mapping Products:** Halff's strong experience performing similar FEMA projects is demonstrated by the more than 30,000 miles of FEMA stream studies completed throughout Texas. Over the past decade, the methodology has evolved for detailed hydrologic and hydraulic

modeling, incorporating a GIS-based approach that allows engineers to streamline the pre- and post-processing of FEMA mapping products.

**Survey and Remote Sensing:** Halff's skilled land surveying team includes Texas Registered Professional Land Surveyors. We use cutting-edge technology, field-to-finish data collection, and networked CADD workstations to deliver the highest-quality professional surveying solutions. Our team has remote sensing capabilities through use of digital scanners and experience with point cloud processing and contour development. Additionally, our survey team is experienced with the evolving FEMA standards and best practices.

## F. FEMA'S RISK MAP SERVICES

**FEMA's Coordinated Needs Management Strategy (CNMS):** The primary CNMS product is a geospatially driven database that provides FEMA with the necessary information for prioritizing/identifying mapping needs throughout the nation. Halff understands the CNMS nomenclature, how the data is populated and categorized, and how it drives FEMA's decisions to achieve their metrics. Halff was able to leverage the CNMS database for the development of the TWDB CTP Technical Pilot Project.

**Flood Mitigation:** Our full-service capabilities give us a holistic approach to flood mitigation. With having conducted more than 200 Master Drainage Plans and Stormwater Planning Studies in Texas, our team has the experience necessary to recommend and implement effective flood mitigation solutions.

## G. TWDB EXPERIENCE

**TWDB Flood Protection (FP) Grants:** Halff has successfully prepared grant applications and implemented 27 TWDB FP Grants, including recent large, basinwide projects in Bastrop County, Hays County, the GBRA basin, the Brazos River Authority lower basin, the San Jacinto River Authority basin, and HCFCD. Halff successfully leveraged FP information to prepare FEMA mapping products in the San Bernard and the Lower GBRA basins. *As part of TWDB's San Bernard project, Halff used available TWDB FP Data for the San Bernard River and multiple tributaries to update Flood Insurance Rate Maps in Wharton and Fort Bend Counties.*

**TWDB CTP Support:** Halff has provided multiple services for the TWDB's CTP program including development and implementation of the San Bernard Watershed Mapping

Activity Statement (MAS) No. 5, implementation of the Technical Pilot Project as a part of MAS No. 11, and attendance at the FEMA Region 6 CTP coordination meetings. As the primary contractor for Texas CTPs, we have attended and presented at the annual FEMA CTP workshop since its inception in 2013.

## HALFF CTP EXPERIENCE

Our team has successfully completed 27 Risk MAP project for Texas CTPs.

- 2 CTP Projects for TWDB (FY11 & FY12)
- 7 CTP Projects for Dallas (FY10-FY16)
- 2 CTP Projects for Grand Prairie (FY10 & FY12)
- 6 CTP Projects for NCTCOG (FY10-FY15)
- 3 CTP Projects for SARA (FY12-FY14)
- 5 CTP Projects for Austin (FY02-FY05 & FY14)
- 2 CTP Projects for Fort Worth (FY13-FY14)

We have an unsurpassed knowledge of flood risk in Texas, and a keen understanding of the FEMA CTP program to provide superior service to the TWDB. We embrace your expectations, standards, and high level of commitment to flood risk communication, identification, and resiliency and are committed to providing the Board with effective, innovative, and sustainable ideas/products.

## FINANCIAL CAPABILITY

Halff is in good financial standing and is current on payment of all taxes and fees. Halff has the financial capability and strength to serve our clients while providing opportunities for growth and investment in the firm and our staff. Our banking reference can further attest to the financial capability of the firm:

Legacy Texas Bank

Courtney Smith, Treasury Management

[Courtney.Smith@LegacyTexas.com](mailto:Courtney.Smith@LegacyTexas.com) | (972) 461-7217

## REFERENCES

The following clients committed to provide a reference describing their experience working with Halff:

AGENCY	CONTACT
North Central Texas Council of Governments (NCTCOG)	Edith Marvin, PE
City of Austin	Kevin Shunk, PE, CFM
Hays County	Clint Garza
Texas Colorado River Floodplain Coalition (TCRFC)	Mickey Reynolds



## CI3. RESUMES

Built through our years of TWDB, FEMA, USACE, and municipal work, Halff has the experience and breadth of knowledge to support the TWDB in continuing their efforts as a successful CTP. From the TCRFC and NCTCOG Map Needs Assessment projects, multiple FEMA CTP projects, TWDB's FloodFUND project, several TWDB FP grants, and many other projects; Halff's valuable experience is unsurpassed. The table below relates Halff's proposed key staff to the many projects that reflect Halff's familiarity with the TWDB's needs.

*Our personnel experience aligns with TWDB's selection/evaluation criteria*

		Phase Zero (Investment/ BLE)	Phase One (Discovery)	Phase Two (H&H)	GIS	FEMA CNMS	TWDB FP Grant Program	Key Personnel
Key Project Personnel	1. Mike Moya, PE, CFM		✓	✓			✓	
	2. Cindy Engelhardt, PE, CFM	✓	✓	✓	✓	✓	✓	
	3. Jessica Baker, PE, CFM, PMP	✓	✓	✓	✓	✓	✓	
	4. Jarred Overbey, PE, CFM	✓	✓	✓	✓	✓		
	5. Jack Young, PE, CFM	✓	✓	✓	✓	✓	✓	
	6. Samuel Amoako-Atta, GISP, CFM	✓	✓	✓	✓	✓	✓	
	7. Cindy Mosier, PE, CFM	✓	✓	✓	✓	✓	✓	
	8. Angela Davidson, PE, CFM	✓	✓	✓	✓	✓	✓	
Relevant Project Experience	City of Dallas FEMA FY10-FY16 CTP Risk MAP Projects		✓	✓	✓	✓		3, 4, 5, 6, 7
	City of Fort Worth FEMA FY13 & FY14 CTP Risk MAP Projects			✓	✓	✓		3, 5, 6, 7
	City of Grand Prairie FEMA FY10 & FY12 CTP Risk MAP Projects			✓	✓			3, 4, 5, 6, 7
	NCTCOG FEMA FY12-FY15 CTP Risk MAP Projects	✓	✓	✓	✓	✓		3, 4, 5, 6, 7
	San Antonio River Authority FEMA MAS 6 & 7 CTP Risk MAP Projects	✓	✓	✓	✓	✓		1, 2, 5, 6
	TWDB/TCRFC FEMA FY11 CTP Risk MAP Project - San Bernard Watershed		✓	✓	✓	✓	✓	1, 2, 3, 4, 6
	City of Austin FEMA MAS 2, 3 & 5 CTP Risk MAP Projects			✓	✓			1, 2, 6, 7, 8
	FEMA Risk MAP Production and Technical Services (PTS) A&E Contract - Compass Joint Venture	✓	✓	✓	✓	✓	✓	All
	TWDB/TCRFC FEMA FY15 CTP Risk MAP Project - Technical Pilot Project		✓		✓	✓		1, 2, 6
	Hays County Lower Colorado River Basin Flood Protection Planning Grant / USACE Interim Feasibility Study				✓		✓	1, 2
	Guadalupe-Blanco River Authority Flood Protection Planning Grant / USACE Interim Feasibility Study			✓	✓		✓	1, 2
	Bastrop County Flood Protection Planning Grant / USACE Interim Feasibility Study			✓	✓		✓	1, 2
	Brazos River Authority Flood Protection Grant			✓	✓		✓	7, 8


**CINDY ENGELHARDT, PE, CFM**
**Project Manager**

Ms. Engelhardt is a civil engineer who focuses on water resources engineering projects. She has conducted numerous hydrologic and hydraulic studies throughout Texas, as well as extensive public outreach. She has technical expertise with modeling and mapping software, and is well-versed with FEMA's Risk MAP program, serving as the Project Manager for three Texas CTPs.

Having worked on several TWDB projects, Ms. Engelhardt is uniquely knowledgeable with the TWDB Flood Protection grant program, as well as FEMA's Hazard Mitigation Programs. Through these projects, she has formed a trusted working relationship with TWDB staff. Additionally, having attended all of the FEMA CTP workshops, Ms. Engelhardt understands FEMA's requirements and would bring valuable expertise, leadership, and creativity for the TWDB's CTP Program.


**EDUCATION**

MS/Civil Engineering,  
Texas Tech University;

BS/Civil Engineering,  
Texas Tech University

**REGISTRATION**

Professional Engineer: TX  
#103496

Certified Floodplain  
Manager: TX #1125-06N

**PROJECT EXPERIENCE**

**FEMA CTP MAS 6 & 7, San Antonio River Authority:** Project Manager for the new detailed hydrologic and hydraulic analysis of Fort Sam Houston Tributary, Airport Tributary and the Unnamed Tributary 01 in Martinez A Creek Watershed. This project also includes the development of FEMA Technical Support Data Notebooks (TSDNs) for topographic data, base map acquisition, hydrology, hydraulics, and floodplain mapping. MAS 7 included FEMA Discovery of the Medina Watershed.

**FEMA CTP MAS 5 – Shoal, Bull and Dry Creek East Watersheds, City of Austin:** Project Manager for tasks under a \$1 million CTP FEMA grant and MAS for new modeling and mapping studies, in accordance with FEMA guidelines. This project also includes the development of TSDNs for topographic data, base map acquisition, hydrology, hydraulics, floodplain mapping, and non-regulatory products.

**FEMA CTP FY11 – San Bernard Watershed, Texas Colorado River Floodplain Coalition (TCRFC)/TWDB:** Project Manager for tasks under the \$700,000 CTP FEMA grant and MAS for modeling and mapping studies, in accordance with FEMA Risk MAP guidelines within the San Bernard Watershed. Activities include Discovery, development of hydrology, floodplain mapping, development of non-regulatory products, and DFIRM mapping.

**FEMA CTP MAS 11, Texas Water Development Board:** Project Manager for the development of a methodology that results in a determination of specific areas which may be funded for further flood risk identification and assessment. The purpose of this activity was to identify the feasibility/applicability of preparing a statewide prioritization to assist CTPs and FEMA in future project selections. In addition to developing a statewide prioritization tool, a secondary goal of the project was to develop a statewide Discovery database to assist with the Discovery efforts throughout Texas.

**Hays County Flood Protection Planning Grant / USACE Interim Feasibility Study:** Project Manager of the routing model development. Performed hydrologic updates to a previous USACE hydrologic model. Served as assistant project manager of the final hydraulic modeling of Phase IA (Onion Creek, Bear Creek, and Little Bear Creek Watersheds). Also, assisted in securing a TWDB FP grant with cost participation by USACE. The project includes coordination with the TWDB, Hays County, USACE, LCRA, GBRA, and FEMA.



MICHAEL MOYA, PE, CFM

**Principal-in-Charge**

Mr. Moya, Vice President and Halff's Water Resources Practice Leader, joined Halff Associates in August 1985. His primary area of expertise is water resources. Mr. Moya has played a critical role in the preparation of detailed stormwater management studies for numerous communities and counties throughout Texas. Additionally, he has been engaged in 27 TWDB Flood Protection Studies; he has assisted with implementation of multiple FEMA CTP MASs; and as part of FEMA's Map Modernization, he managed the development of FEMA Flood Insurance Re-Studies and Digital Flood Insurance Rate Maps (DFIRM) for 51 Texas counties. Mr. Moya was a key developer behind the NCTCOG and TCRFC Map Needs Assessment projects, where Halff worked closely with the TWDB to use FEMA's CNMS criteria, combined with TWDB's criteria, to establish a prioritization of studies within the NCTCOG and TCRFC basins.

**EDUCATION**

BS/Civil Engineering,  
Stanford University

**REGISTRATION**

Professional Engineer: TX  
#68170

Certified Floodplain  
Manager: TX #0889-05N

**FEMA CTP FY11 – San Bernard Watershed, TCRFC/TWDB:** Principal-in-Charge for TWDB/TCRFC CTP MAS 5 for the San Bernard Watershed including Austin, Colorado, Wharton, Fort Bend, and Brazoria Counties, Texas. Project tasks under the \$700,000 CTP FEMA grant included Discovery, Outreach, and modeling and mapping studies, in accordance with FEMA Risk MAP guidelines. Project included close coordination with the TWDB, TCRFC, and FEMA. A website, including a GIS-based interactive web map, was developed to communicate information, history, projects, etc.

**FEMA CTP MAS 11, Texas Water Development Board:** Principal-in-Charge for the development of a methodology that results in a determination of specific areas which may be funded for further flood risk identification and assessment. The purpose of this activity was to identify the feasibility/applicability of preparing a statewide prioritization to assist CTPs and FEMA in future project selections. In addition to developing a statewide prioritization tool, a secondary goal of the project was to develop a statewide Discovery database to assist with the Discovery efforts throughout Texas.

**FEMA CTP MAS 5 – Shoal, Bull and Dry Creek East Watersheds, City of Austin:** Project Principal for tasks under a \$1 million CTP FEMA grant and MAS for new modeling and mapping studies, in accordance with FEMA Risk MAP guidelines. Oversaw the scoping, data management, data collection, and detailed hydrologic and hydraulic analysis for 110 miles of stream. During the past five years, the City has contracted with Halff to prepare comprehensive watershed drainage studies (using GIS-based hydrology, hydraulics, and floodplain mapping). These studies resulted in new FEMA map products, regional detention facility site assessments, and flood hazard assessments.

**Texas Colorado River Floodplain Coalition (TCRFC) Map Needs Assessment & 5-Year Mapping Plan:** Principal-in-Charge for the development of a detailed map needs assessment. Project included the development of a database of map needs for the Lower Colorado River Basin. This effort included the creation of a project specific database including a collection of map needs, (obtained at TRCFC regional meetings) and existing available public data. A final database of unmet needs with prioritized map needs was completed and compiled into a 5-year mapping program.

**Guadalupe-Blanco River Authority Flood Protection Planning Grant / USACE Interim Feasibility Study:** Principal-in-Charge for preparation of Phase 1 and Phase 2 Flood Protection Planning Grant applications and supporting documentation to the TWDB, as well as development of a basin-wide study. The study included detailed hydrologic and hydraulic analysis of a 4,500 sm basin and 730 miles of stream. The project was awarded the **2016 ACEC Texas Engineering Excellence Award Gold Medal** for Water Resources.




**JESSICA BAKER, PE, CFM, PMP**
**FEMA Liaison**

Ms. Baker has been with Halff Associates since 2003 and is a Vice President of the firm. She has been involved in numerous hydrologic and hydraulic studies and floodplain mapping efforts and has extensive experience with FEMA's Risk MAP Program. Ms. Baker has a clear understanding of FEMA's Guidelines and Standards in regards to hydrology, open channel hydraulics, and floodplain mapping components. She also provides public outreach coordination for FEMA-related questions and teaches FEMA's floodplain management courses throughout the nation. Ms. Baker has a great relationship with key FEMA Region 6 staff and unsurpassed inside experience with FEMA's metrics, standards, and goals, as well as close coordination with other Texas CTPs.

Jessica has served on the TFMA Board of Directors for the last 10 years, including being elected as President in 2015-2017. In this role, Jessica was able to build relationships with flood professionals and stakeholders throughout Texas.


**EDUCATION**

BS/Civil Engineering,  
University of Texas-Austin

**REGISTRATION**

Professional Engineer: TX  
#100974

Certified Floodplain  
Manager : TX #0864-05N

Project Management  
Professional #1374689

**FEMA Risk MAP Production and Technical Services (PTS) A&E Contract – Compass Joint Venture:** Regional Technical Coordinator (RTC) for FEMA Region 6. Served as the main point of contact for providing on- call support for FEMA Region 6 staff through the Standard Operations task order. Tasks included LOMC investigation, Congressional Correspondence support, FEMA's CNMS database updates and maintenance, Regional Standard Operations Production including PMRs, Post Preliminary, LAMP Plans, and Base Level Engineering (BLE) analysis for watersheds in Region 6. During the first two years, managed more than 25 projects as part of the Standard Operations Production funding totaling more than \$4 million. Also provided significant disaster response support for flood events throughout Texas and Louisiana in 2015 and 2016, including frequency analysis at gauges and rapid response reporting for FEMA Headquarters decision-making team for disaster declarations.

**FEMA CTP FY10-FY16 Risk MAP Projects, City of Dallas:** Program Manager. Led a multi-year program for the City of Dallas' CTP efforts with FEMA Region 6. Prepared and updated Multi-year Risk MAP Plan for the City to secure nearly \$3.5 million in grant funding from FEMA. Projects included detailed hydrology and hydraulics for more than 100 stream miles. Oversaw all deliverables; facilitated CTP training efforts; directed grant funding efforts; and managed preliminary and post-preliminary tasks, including adoption of final DFIRM and FIS report.

**FEMA CTP FY12-FY15 Risk MAP Projects, NCTCOG:** Program Manager for the Discovery efforts for the Elm Fork Trinity River HUC-8, Lower West Fork Trinity River HUC-8, and limited support for the Upper Trinity River Watershed HUC-8CTP. Duties included coordination and collaboration with NCTCOG, FEMA, and participating communities for Discovery process and approach. Served as advisor for the FY13 and FY14 Flood Risk Identification Project. Duties as advisor included providing guidance to the program manager and participating in key meetings and communication.

**FEMA CTP FY10 and FY12 Risk MAP Projects, City of Grand Prairie:** Provided FEMA Guidelines and Specifications Guidance for CTP efforts with FEMA Region 6. Assisted with FEMA coordination, grant preparation, and overall project review.




**JARRED OVERBEY, PE, CFM**
**Phase One - Discovery**

Mr. Overbey's focus is on water resources engineering projects, and he has extensive knowledge of the FEMA CTP program starting from the development of a multi-year plan, though FEMA grant awards and deliverable production, to closing out the project within the Period of Performance. Mr. Overbey is well-versed in managing the FEMA Mapping Information Platform (MIP) reporting and data entry, Quarterly Performance Reports (QPRs), Quarterly Financial Reports (QFRs- FFR/SF-425), FEMA Grants Administration, FEMA Payment Accounting System (PARS), execution of Mapping Activity Statements (MAS), CTP Special Problems Report/Change Request (SPR/CR), and creation of FEMA CTP Quantities Baseline Schedule (QBS) Form.

Mr. Overbey has provided onsite/on call consultation during FEMA Grants monitoring visits. Has represented the City of Dallas for FEMA Emergency Management Institute (EMI) special topics training for CTPs and has attended multiple FEMA Region 6 CTP workshops. He has a working relationship with many of FEMA Region 6's key staff members, including project managers, MIP champion, and grants management specialist.

**FEMA CTP FY10-FY16 Risk MAP Projects, City of Dallas:** Project Manager for Flood Risk Identification Projects within the White Rock Creek, Fivemile Creek, and Mountain Creek Watersheds for more than six years. Dallas' CTP multi-year Risk MAP plan included more than 200 stream miles of detailed hydrology, hydraulics, floodplain mapping and development of non-regulatory products. Results were summarized within a Technical Support Data Notebook and supporting data was submitted to FEMA's MIP observing applicable guidelines and specifications. As Project Manager; coordination and communication with Dallas and FEMA was provided, project initiation and QBS was developed, quarterly progress was supported, PARS financial information was reported, MIP tasks were updated, CTP workshops and seminars were attended, aid was provided for monitoring visits, and billing was invoiced.

**FEMA CTP FY14-FY15 Risk MAP Projects, NCTCOG:** Technical Reviewer for the CTP FY14 Flood Risk Identification project and Deputy Program Manager for the CTP FY15 Flood Risk Identification and Discovery Projects. The FY14 Project included 27 miles of detailed studies on 26 tributaries of Bear Creek in the City of Southlake and the City of Colleyville. The FY15 Project included studies on 5 streams in Irving, Shady Shores, and Corinth and well as Discovery efforts in two watersheds. All studies included detailed Hydrology, Hydraulics, Floodplain Mapping, and Development of Non-Regulatory Products. As a technical reviewer for the CTP FY14 project, internal Quality Assurance/Quality Control comments were provided preceding independent QA/QC for hydrology, hydraulics, and floodplain mapping. Aid in project management duties, communication, and coordination was provided as deputy project manager for the CTP FY15 project.

**FEMA CTP FY11 – San Bernard Watershed, TCRFC/TWDB:** Technical Reviewer for the CTP FY11 San Bernard Watershed including Austin, Colorado, Wharton, Fort Bend, and Brazoria Counties, Texas. As a technical reviewer for the CTP FY11 project, internal Quality Assurance/Quality Control comments were provided for the limited detailed study portions of the San Bernard River Tributaries.

**FEMA Map Modernization, FEMA:** Study Engineer for a GIS-based FIS update, including floodplain re-delineation, digital conversion, DFIRM production, TSDN, and FIS report for portions of approximately 34,000 stream miles covering 50 Texas counties. Duties included digital redelineation of current effective BFE's on updated terrain, and generation of Zone A floodplains using approximate methodology.


**EDUCATION**

BS/Civil Engineering, Texas Tech University

**REGISTRATION**

Professional Engineer: TX #108798

Certified Floodplain Manager: TX #2338-12N




**JACK YOUNG, PE, CFM**
**Phase Zero - Investment**

Mr. Young, a Project Manager in Halff's Water Resources Group in Richardson, joined Halff in June 2008. He has extensive experience with hydrologic and hydraulic modeling, and floodplain mapping through work with local communities, state programs, and FEMA. He has strong technical expertise in advanced modeling software and a detailed knowledge of FEMA's Guidelines and Standards.

Mr. Young has considerable experience with FEMA's Risk MAP Program as a Project Engineer on five Texas CTP studies and a Project Manager for two. He has detailed knowledge of FEMA's Community Rating System (CRS) program as a facilitator of the North Texas CRS Users Group meetings and a consultant to the City of Dallas.

**FEMA CTP, FY13-FY15, NCTCOG:** Project Manager for the NCTCOG CTP efforts with FEMA Region 6 from 2013-Current. The FY13 Project included detailed studies for more than 13 miles of streams within the Village Creek Watershed in the City of Kennedale, City of Arlington, and Tarrant County. The FY14 Project included 27 miles of detailed studies on 26 tributaries of Bear Creek in the City of Southlake and the City of Colleyville. The FY15 Project included studies on 5 streams in Irving, Shady Shores, and Corinth and well as Discovery efforts in two watersheds. All studies included detailed Hydrology, Hydraulics, Floodplain Mapping, and Development of Non-Regulatory Products. Managed project budget and schedule as well as all reporting to FEMA Region 6 including Monthly Progress Reports, Quarterly Financial Reports, and MIP task updates.

**FEMA CTP, FY10-FY16 Risk MAP Projects, City of Dallas:** Project Engineer for the City of Dallas CTP efforts with FEMA Region 6. Worked on all tasks including survey coordination, updating and developing hydrologic and hydraulic data, floodplain mapping and QA/QC. All survey, modeling, and mapping was completed following FEMA's new Guidelines and Standards.

**FEMA Risk MAP Production and Technical Services (PTS) A&E Contract – Compass Joint Venture:** Project Manager for Standard Operation Production Projects for FEMA Region 6. Projects include Base Level Engineering, Post Preliminary Production, Appeal Resolution, and Physical Map Revision (PMR) Production.

**FEMA CTP MAS 6, San Antonio River Authority:** Project Engineer for the City of San Antonio's CTP efforts with FEMA Region 6. Worked on all tasks including survey coordination, updating and developing hydrologic and hydraulic data, and floodplain mapping. All survey, modeling, and mapping was completed following FEMA's Guidelines and Standards and FEMA's Appendix M Data Capture Standards.

**Floodplain Program Management Assistance (FPMA), City of Dallas:** Project Manager for City of Dallas Floodplain Program Management Assistance which provided the city with an on-call source of trained staff to supplement the city's staff on floodplain submittal reviews, flood problem evaluations, and other similar tasks often acting as an extension of the city's staff. Project schedules often require very fast paced results to assist the city with floodplain and stormwater projects. Lead Engineer for the City's 2014 and 2017 Cycle Visits Community Rating System (CRS) and submittal. Prepared supporting documentation for all CRS activities, including a digital data storage and submittal methodology to streamline the ISO review process.


**EDUCATION**

BS/Civil Engineering, Texas Tech University

**REGISTRATION**

Professional Engineer: TX #113401

Certified Floodplain Manager: TX #1504-08N



## SAMUEL AMOAKO-ATTA, GISP, CFM

### FEMA Standards

Since joining Halff Associates in 2005, Mr. Amoako-Atta has been involved with GIS integration and support for water resources engineering studies and applications. Mr. Amoako-Atta has a deep understanding of FEMA's Guidelines and Standards regarding floodplain mapping, flood risk products, and Data Capture Standards, and he provides effective GIS leadership support for various projects. Mr. Amoako-Atta also has developed and taught GIS- based training courses for FEMA DFIRM Products and FEMA Risk MAP Products. Additionally, Mr. Amoako-Atta was engaged by FEMA to provide comments and feedback on the new FEMA standards before their release and upload to the Knowledge Sharing Site (KSS) in 2013.



### EDUCATION

MS/Computer Science and GIS, Texas A&M; BS/ Geomatic Engineering, University of Science and Technology

### REGISTRATION

GIS Professional:  
#00057065

Certified Floodplain  
Manager: TX #1132-07N

**CTP Project, FY12-FY15, NCTCOG:** GIS Lead responsible for the Discovery efforts for the Elm Fork Trinity River HUC-8, Lower West Fork Trinity River HUC-8, and limited support for the Upper Trinity River Watershed HUC-8 and Cedar and Centon Watersheds Discovery in FY15. GIS Team Lead responsible for Base Map Data Acquisition, Field Surveys, Terrain Data Development, and creation of TINs and DEMs. Coordinated support for hydrologic and hydraulic modeling. Directed floodplain mapping efforts and compliance to FEMA's Floodplain Boundary Standard Audit certification and requirements. Coordinated the creation of final deliverables according to FEMA Data Capture Standards.

### FEMA Risk MAP Production and Technical Services (PTS) A&E Contract – Compass

**Joint Venture:** Study Manager responsible for various FEMA Physical Map Revision (PMR) Updates – Sims Bayou Watershed, Saline County, Arkansas, and Lower Brazos Watershed. Other tasks include on-call support for FEMA's Regional Service Center (RSC), LOMC investigation, support for publishing FEMA Region 6 Preliminary DFIRM data and Non-Regulatory Flood Risk Data (Vector Depth Grids), Status of Studies GIS database and Map Viewer, Flood Risk Products Inventory Tracking database support, Congressional Correspondence support, FEMA's CNMS database updates and maintenance, Regional Standard Operations Production including PMRs, Post Preliminary, LAMP Plans, and Base Level Engineering for watersheds in Region 6.

**CTP Project, FY13-FY14, City of Fort Worth:** GIS Team Lead responsible for incorporating leveraged Field Survey, Hydrology, Hydraulics, and Floodplain Mapping data. Coordinated the creation of final deliverables according to FEMA Data Capture Standards and provided support for creation of final TSDN reports.

**FEMA CTP FY10-FY16 Risk MAP Projects, City of Dallas:** GIS Team Lead responsible for Base Map Data Acquisition, Surveys, Terrain Data Development, and creation of TINs and DEMs. Coordinated support for hydrologic and hydraulic modeling. Directed floodplain mapping efforts and compliance to FEMA's Floodplain Boundary Standard Audit certification and requirements. Coordinated creation of final deliverables according to FEMA Data Capture Standards. Provided support for creation of final TSDN reports.

**FEMA CTP FY11 – San Bernard Watershed, TCRFC/TWDB:** GIS Team Lead responsible for Base Map Data Acquisition, Terrain Data Development, and creation of TINs and DEMs. Coordinated support for HEC-GeoHMS for hydrologic modeling and HEC-GeoRAS for hydraulic modeling. Directed floodplain mapping efforts and compliance to FEMA's Floodplain Boundary Standard Audit certification and requirements. Coordinated the creation of final deliverables according to FEMA Data Capture Standards. Provided support for creation of final TSDN reports.




**CINDY MOSIER, PE, CFM**
**QA/QC Lead**

Ms. Mosier is a Team Leader of one of Halff's Water Resources teams and brings more than 20 years in the design and analysis of storm drainage systems, hydrologic and hydraulic, flood control planning, floodplain management, and drainage reviews. She has a unique understanding of city and state needs through her experience with city-wide master drainage plans, FEMA projects, and Cooperative Technical Partner projects. Additionally, she leads Halff's Quality Control Program.

**FEMA Risk MAP Production and Technical Services (PTS) A&E Contract –  
Compass Joint Venture – FY15 Guadalupe Blanco River Basin Physical Map**

**Revision:** Assisted with Quality Control for the development of 350 miles of detailed study. Reviewed 26 multiple profile and floodway hydraulic models including revised FEMA floodplains based on the hydraulic models. The models were checked using the Halff Quality Assurance checklists and Check-RAS software to verify that the models met FEMA Standards.

**FEMA CTP FY14 Risk MAP Project, Fort Worth:** Team Leader for the Flood Risk Project that included risk identification and assessment of the West Fork Trinity River Crestwood Sump, Summer Creek Watershed and Whites Branch Watershed. Project included the development of models for the 10-square-mile watershed. Evaluated the quality of current effective data and assembled a connectivity model based on 40 existing LOMRs for the Whites Branch watershed.

**FEMA CTP, FY13-FY15, NCTCOG:** Task Manager for the NCTCOG FY13 CTP Project and Internal QA/QC Coordinator for the FY14 Project. The FY13 Project included detailed studies for more than 13 miles of streams within the Village Creek Watershed in the City of Kennedale, City of Arlington, and Tarrant County. The FY14 Project included 27 miles of detailed studies on 26 tributaries of Bear Creek in the Cities of Southlake and Colleyville.

**Lower Brazos Flood Protection Planning Study, Brazos River Authority:** Team Leader responsible for conducting drainage studies. A detailed hydrologic model is being developed for the Lower Brazos River below reservoirs encompassing approximately 10,000 square miles. The study includes calibration to nine historical storm events at 19 USGS gage locations. A detailed unsteady hydraulic model will be developed for the Brazos River from the Grimes/Waller County Line to the Gulf of Mexico.

**Guadalupe-Blanco River Authority Flood Protection Planning Grant / USACE Interim Feasibility Study:** QA/QC Lead for development of a basin wide study. The study includes a detail hydrologic and hydraulic analysis of a 4,500 sm basin and about 730 miles of stream. The project was awarded the **2016 ACEC Texas Engineering Excellence Award Gold Medal** for Water Resources.

**FEMA CTP MAS 5 - Shoal, Bull and Dry Creek East Watersheds, City of Austin:** QA/QC Lead for tasks under a \$1 million CTP FEMA grant and MAS for new modeling and mapping studies, in accordance with FEMA guidelines. This project also includes the development of TSDNs for topographic data, base map acquisition, hydrology, hydraulics, floodplain mapping, and non-regulatory products.


**EDUCATION**

BS/Civil Engineering,  
University of Texas-  
Arlington

**REGISTRATION**

Professional Engineer: TX  
#85527

Certified Floodplain  
Manager: TX #1132-07N


**ANGELA DAVIDSON, PE, CFM**
**Risk Identification**

Since joining Halff Associates in June 2004, Ms. Davidson has participated in hydrologic and hydraulic computer models, flood control planning, erosion studies, floodplain management, grant applications, and TWDB loan applications. She has obtained formal training in HEC-RAS, HEC-HMS, HEC-GeoRAS, and SWMM, and has had extensive hands-on experience using HEC-HMS, HEC-1, HEC-2, HEC-DSS, HEC-RAS, HEC-ResSIM, and other hydrologic-hydraulic programs. She is familiar with TP40, HYRDO35, and other hydrologic/hydraulic programs, procedures, and references.

**Hazard Mitigation Grant Program (HMGP) Application, City of Kennedale:** Assisted the City in the preparation of the FEMA Hazard Mitigation Grant Program Application for funding assistance for the acquisition of certain floodprone properties. The grant effort involved the development of the necessary Texas Department of Emergency Management and FEMA forms, preparing a scope of work, budget and schedule.

**Texas Community Rating System Three-Year Cycle Review, City of Dallas:** Assisted the City of Dallas with coordination for a Community Rating System three-year cycle review. A comparison of the FEMA's 2009 CRS Coordinators Manual with the revised 2013 CRS Coordinators Manual was used to document existing credit.

**FEMA Community Rating System Initial Application, City of Richland Hills:** Assisted the City of Richland Hills gain entry into the FEMA Community Rating System program. An initial CRS application was prepared using FEMA's 2013 CRS Coordinator's Manual to document credit for activities performed by the City, Tarrant County, NCTCOG, TCEQ and others that may benefit the City of Richland Hills. Coordination with FEMA, the Texas Water Development Board (TWDB) and Insurance Services Offices (ISO).

**FEMA Risk MAP Production and Technical Services (PTS) A&E Contract – Compass Joint Venture – FY15 Guadalupe Blanco River Basin Physical Map Revision:** Quality Control Manager for the development of approximately 350 miles of detailed study. 26 multiple profile and floodway hydraulic models were reviewed including revised FEMA floodplains based on the hydraulic models. The hydraulic models were developed with HEC-RAS version 4.1.0 software. The models were checked utilizing the Halff Quality Assurance checklists and Check-RAS software to verify that the models meet FEMA Standards.

**Lower Brazos Flood Protection Planning Study, Brazos River Authority:** Project manager responsible for conducting drainage studies of the Lower Brazos River. A detailed hydrologic model is being developed for the Lower Brazos River below reservoirs encompassing approximately 10,000 square miles. The study includes calibration to nine historical storm events at 19 USGS gage locations. A detailed unsteady hydraulic model will be developed for the Brazos River from the Grimes/Waller County Line to the Gulf of Mexico.

**Onion Creek Floodplain Modeling and Mapping - Phase 2 Risk Identification and Mitigation:** Provided quality control for the development for the updated detailed hydrologic model for the Onion Creek watershed.


**EDUCATION**

MS/Environmental  
Engineering, Texas Tech  
University

BS/Environmental  
Engineering, Texas Tech  
University

**REGISTRATION**

Professional Engineer: TX  
#101339

Certified Floodplain  
Manager: TX #0896-05N



## CI4. HUB SUBCONTRACTING PLAN



# HUB Subcontracting Plan (HSP)

Rev. 2/17

In accordance with Texas Gov't Code §2161.252, the contracting agency has determined that subcontracting opportunities are probable under this contract. Therefore, all respondents, including State of Texas certified Historically Underutilized Businesses (HUBs) must complete and submit this State of Texas HUB Subcontracting Plan (HSP) with their response to the bid requisition (solicitation).

**NOTE: Responses that do not include a completed HSP shall be rejected pursuant to Texas Gov't Code §2161.252(b).**

The HUB Program promotes equal business opportunities for economically disadvantaged persons to contract with the State of Texas in accordance with the goals specified in the 2009 State of Texas Disparity Study. The statewide HUB goals defined in 34 Texas Administrative Code (TAC) §20.284 are:

- **11.2 percent for heavy construction other than building contracts,**
- **21.1 percent for all building construction, including general contractors and operative builders' contracts,**
- **32.9 percent for all special trade construction contracts,**
- **23.7 percent for professional services contracts,**
- **26.0 percent for all other services contracts, and**
- **21.1 percent for commodities contracts.**

**-- Agency Special Instructions/Additional Requirements --**

*In accordance with 34 TAC §20.285(d)(1)(D)(iii), a respondent (prime contractor) may demonstrate good faith effort to utilize Texas certified HUBs for its subcontracting opportunities if the total value of the respondent's subcontracts with Texas certified HUBs meets or exceeds the statewide HUB goal or the agency specific HUB goal, whichever is higher. When a respondent uses this method to demonstrate good faith effort, the respondent must identify the HUBs with which it will subcontract. If using existing contracts with Texas certified HUBs to satisfy this requirement, only the aggregate percentage of the contracts expected to be subcontracted to HUBs with which the respondent **does not** have a **continuous contract\*** in place for **more than five (5) years** shall qualify for meeting the HUB goal. This limitation is designed to encourage vendor rotation as recommended by the 2009 Texas Disparity Study.*

### SECTION 1: RESPONDENT AND REQUISITION INFORMATION

- a. Respondent (Company) Name: Halff Associates, Inc. State of Texas VID #: 1751308699500  
 Point of Contact: Cindy Engelhardt Phone #: (512) 777-4552  
 E-mail Address: cengelhardt@halff.com Fax #: (512) 252-8141
- b. Is your company a State of Texas certified HUB?  - Yes  - No
- c. Requisition #: 580-18-RFQ0060 Bid Open Date: 11/29/2017  
(mm/dd/yyyy)

Enter your company's name here: Half Associates, Inc. Requisition #: 580-18-RFQ0060

**SECTION 2: RESPONDENT'S SUBCONTRACTING INTENTIONS**

After dividing the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, and taking into consideration the scope of work to be performed under the proposed contract, including all potential subcontracting opportunities, the respondent must determine what portions of work, **including contracted staffing, goods and services will be subcontracted**. Note: In accordance with 34 TAC §20.282, a "Subcontractor" means a person who contracts with a prime contractor to work, to supply commodities, or to contribute toward completing work for a governmental entity.

a. Check the appropriate box (Yes or No) that identifies your subcontracting intentions:

- **Yes**, I will be subcontracting portions of the contract. (If **Yes**, complete Item b of this SECTION and continue to Item c of this SECTION.)
- **No**, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources, including employees, goods and services. (If **No**, continue to SECTION 3 and SECTION 4.)

b. List all the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you <b>do not</b> have a <b>continuous contract*</b> in place for <b>more than five (5) years</b> .	Percentage of the contract expected to be subcontracted to HUBs with which you have a <b>continuous contract*</b> in place for <b>more than five (5) years</b> .	Percentage of the contract expected to be subcontracted to non-HUBs.
1		%	%	%
2		%	%	%
3		%	%	%
4		%	%	%
5		%	%	%
6		%	%	%
7		%	%	%
8		%	%	%
9		%	%	%
10		%	%	%
11		%	%	%
12		%	%	%
13		%	%	%
14		%	%	%
15		%	%	%
<b>Aggregate percentages of the contract expected to be subcontracted:</b>		%	%	%

(Note: If you have more than fifteen subcontracting opportunities, a continuation sheet is available online at <https://www.comptroller.texas.gov/purchasing/vendor/hub/forms.php>.)

c. Check the appropriate box (Yes or No) that indicates whether you will be using **only** Texas certified HUBs to perform **all** of the subcontracting opportunities you listed in SECTION 2, Item b.

- **Yes** (If **Yes**, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for **each** of the subcontracting opportunities you listed.)
- **No** (If **No**, continue to Item d, of this SECTION.)

d. Check the appropriate box (Yes or No) that indicates whether the aggregate expected percentage of the contract you will subcontract **with Texas certified HUBs** with which you **do not** have a **continuous contract\*** in place with for **more than five (5) years**, **meets or exceeds** the HUB goal the contracting agency identified on page 1 in the "Agency Special Instructions/Additional Requirements."

- **Yes** (If **Yes**, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for **each** of the subcontracting opportunities you listed.)
- **No** (If **No**, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed.)

**\*Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.

Enter your company's name here: Halff Associates, Inc.Requisition #: 580-18-RFQ0060

**SECTION 3: SELF PERFORMING JUSTIFICATION** (If you responded "No" to SECTION 2, Item a, you must complete this SECTION and continue to SECTION 4.) If you responded "No" to SECTION 2, Item a, in the space provided below **explain how** your company will perform the entire contract with its own employees, supplies, materials and/or equipment.

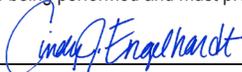
Please refer to Halff Associates, Inc.'s submittal. See the following:

- Content Item 2. Company Profile Summary and History, pages 2-4
- Content Item 3. Resumes of Individuals, pages R-i-R-ix
- Content Item 6. Technical Approach, pages 9-14

**SECTION 4: AFFIRMATION**

As evidenced by my signature below, I affirm that I am an authorized representative of the respondent listed in SECTION 1, and that the information and supporting documentation submitted with the HSP is true and correct. Respondent understands and agrees that, if awarded any portion of the requisition:

- The respondent will provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor for the awarded contract. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.
- The respondent must submit monthly compliance reports (Prime Contractor Progress Assessment Report – PAR) to the contracting agency, verifying its compliance with the HSP, including the use of and expenditures made to its subcontractors (HUBs and Non-HUBs). (The PAR is available at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/ProgressAssessmentReportForm.xls>).
- The respondent must seek approval from the contracting agency prior to making any modifications to its HSP, including the hiring of additional or different subcontractors and the termination of a subcontractor the respondent identified in its HSP. If the HSP is modified without the contracting agency's prior approval, respondent may be subject to any and all enforcement remedies available under the contract or otherwise available by law, up to and including debarment from all state contracting.
- The respondent must, upon request, allow the contracting agency to perform on-site reviews of the company's headquarters and/or work-site where services are being performed and must provide documentation regarding staffing and other resources.



Signature

Cindy Engelhardt

Printed Name

Project Manager

Title

11/29/2017

Date

(mm/dd/yyyy)

**Reminder:**

- If you responded "Yes" to SECTION 2, Items c or d, you must complete an "HSP Good Faith Effort - Method A (Attachment A)" for **each** of the subcontracting opportunities you listed in SECTION 2, Item b.
- If you responded "No" SECTION 2, Items c and d, you must complete an "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed in SECTION 2, Item b.



## CI5. OWNERSHIP OF BUSINESS ENTITY

**CONTENT ITEM 5 - OWNERSHIP OF BUSINESS ENTITY**  
**Name(s) and Social Security Number(s) of Each Person with at least**  
**25 Percent Ownership of the Business Entity Submitting the RFQ**  
(if applicable)

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N/A

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Name

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Name

---

Name

---

Name



## CI6. TECHNICAL APPROACH

### MANAGEMENT PLAN

As Principal-in-Charge, Michael Moya, will be assisted by Project Manager, Cindy Engelhardt, in leading the Half Team. Each have extensive experience with the TWDB and FEMA. They will oversee a team of professionals with specific expertise to assist the TWDB with CTP activities. Mike will ensure appropriate resources and staff are available to Cindy to deliver the project within the proposed schedule. Cindy will be the TWDB's primary point of contact. Her management philosophy is to be the TWDB's trusted advisor and to function as an extension of the State's staff. She will ensure a consistent process for all task orders from the initial receipt of the Task Order (TO) through project initiation, execution, and eventual closeout.

We understand the unpredictable tasks that might arise and have selected supporting staff based on their qualifications, previous experience, and availability. Our team is comprised of people who have worked together successfully on previous projects and who are dedicated to flood awareness and resilience.

### TECHNICAL APPROACH

The Half Team has been a leader in FEMA studies for decades and has a keen understanding of FEMA's goals and reasoning for their evolution of the flood risk project lifecycle. The following sections outline our understanding and approach for each of the potential FEMA CTP tasks, how these tasks relate to the potential scope of work, and examples of where we have successfully accomplished similar tasks. Our technical approach is organized consistent with the FEMA Mapping Activity Statements as follows:

- Project Management
- Phase Zero – Investment
- Phase One – Discovery
- Phase Two – Risk Identification



### PROJECT MANAGEMENT

Half brings extensive knowledge of FEMA's outreach and management expectations, and we will use this to effectively support TWDB in your CTP efforts.

*Half has submitted technical data, management updates, and project status reports on FEMA's Mapping Information Platform (MIP) since its deployment in 2004. This*

knowledge and lessons learned from years of experience with the MIP will allow us to support TWDB in completing the management tasks in a streamlined manner and assure that project coordination among FEMA, TWDB, participating communities, agencies and Half is seamless. Our team members recently participated in multiple training sessions on the redesigned, updated MIP. We understand the resources available on FEMA's Risk MAP SharePoint site and will assist TWDB with locating and using all templates and data available. We will also assist TWDB with updating the Regional Status of Studies (SOS) web-tracker as the projects progress. We have performed multiple Special Problem Reports/ Change Requests in support of our CTP clients, and our team has a working relationship with key FEMA Region 6 Risk Analysis Branch personnel such as the CTP Project Monitors, Risk MAP Lead, MIP Champion, Grants Administrator, and Compliance leads.

During project initiation or task order kick-off, we will use our knowledge of the FEMA CTP funding timeline to aid in preparing multi-year CTP project plan updates to be ready for the grant award period and prepare Key Decision Point (KDP) documentation. The Half Team is the only team with experience in preparing Mapping Activity Statements (MAS) and executing Quantities and Baseline Schedule (QBS) forms for Texas CTPs. Throughout the project, we can assist TWDB with SF-425 submittals on FEMA's Payment and Reporting System (PARS), MIP updates, Quarterly Progress Reports and Non-Disaster Grant Management System (ND Grants) support as required.

**Quality Assurance/Quality Control (QA/QC):** The Half Team believes the key to a successful project is having a strong QA/QC program. We have worked to refine this process over many years and numerous FEMA studies to create quality assurance guidelines and forms that will be utilized for the duration of the CTP project. We utilize an Independent QA/QC task lead for review of all models, mapping, and reporting components. Our independent QC is conducted in offices other than where production work was performed. We will work with TWDB to incorporate components of our Quality Management Plan into the Quality Plan FEMA requires of all CTPs. Our QA/QC program creates and supports accountability between all Team members and our clients. The Project Manager, Task Leaders, and QA/QC Lead all sign off on the QC

checklists, demonstrating to our clients all participants are accountable for the quality of the work.

**Engagement / Outreach:** Our extensive CTP work has demonstrated the importance of developing trusting relationships with communities to more effectively gain buy-in from project stakeholders. We have been able to couple those relationships with our strong technical reputation to create a high level of trust throughout the study process. The FEMA process can be lengthy; therefore, frequent coordination with stakeholders allows for early and continual buy-in on the project and deliverables. *When communities are engaged throughout the process they are more likely to support the project through final adoption. An example of this is the TWDB San Bernard CTP project, where maps were approved with **no appeals**.*

**PHASE ZERO - INVESTMENT**

Base Level Engineering (BLE) is a relatively new FEMA procedure to rapidly generate estimated flood hazard boundaries for all streams in a watershed. BLE is generally developed prior to the Discovery process and is used to initiate flood risk conversations with communities. *Our team led the development of the BLE Deliverable Guidance for FEMA Region 6.*

**BLE Analysis:** Automated BLE tools produce watershed-wide, model-backed (HEC-RAS) flood risk data including a seamless floodplain mapping layer for the 1% (100-yr) annual chance event (ACE). BLE will be conducted to establish estimated base flood elevations for streams that are currently designated as Zone A on the effective Flood Insurance Rate Map (FIRM) with no base flood elevations (BFEs) and for streams without any current floodplain mapping. BLE products also provide hydraulic models and water surface elevation data for the communities to use for regulation purposes. We use the most current Texas Natural Resources Information System (TNRIS) Light Detection and Ranging (LiDAR) datasets for BLE development. BLE results will be compared with the effective FIRM mapping to initiate discussions with communities regarding the accuracy of their current floodplain maps. The BLE data will be formatted to the current Region 6 BLE Guidance and submitted to the Region 6 Estimated BFE viewer.

**PHASE ONE - DISCOVERY EFFORTS**

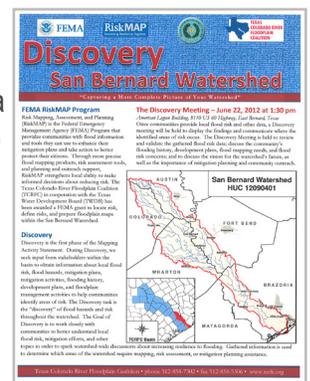
The goal of FEMA's Discovery process is to work closely with communities to better understand local flood risk, mitigation efforts and other topics to spark

watershed-wide discussions about increasing resilience to flooding. FEMA's Risk MAP Discovery process helps communities identify areas at risk of flooding and solutions for reducing that risk. Discovery information is used to determine (scope) which areas of the watershed require future mapping, risk assessment or mitigation planning assistance.

Half understands the holistic approach to Discovery, how to communicate with watershed stakeholders, and how to identify areas of need. *Through conducting multiple Discovery projects in Texas, the Half team learned the key to success is the continuous engagement of stakeholders.* Engagement strategies used for Discovery will include individual phone calls, meetings with stakeholders prior to the Discovery meetings, and broadcasting information through newsletters, websites and webinars. Half has a local presence, and we will leverage relationships developed through decades of work throughout the State. Our goal is to obtain 100% participation from all impacted stakeholders.

**Discovery Data Analysis:** Data collection and analysis are key components of the Discovery process. Effective project results depend on the coverage and accuracy of the data gathered in the watershed. *As part of Half's TWDB Technical Pilot Project, the Half Team has developed a database and inventory of GIS data collected from state and federal organizations that can be used for any watershed in Texas.* Additionally, as our firm has operated in Texas for the last 67 years, we have acquired an unrivaled understanding of the history and current flooding challenges across the state.

As part of the TWDB San Bernard CTP project, Half worked with TWDB to develop a Discovery website and webmap that was successfully deployed to all stakeholders within the watershed. Building from that success, Half developed individualized Community Backgrounders and Questionnaires for each community for our TWDB FY11 Discovery efforts. Through Half's interactive Discovery website, which was rolled out for NCTCOG FY15 Discovery efforts, we were able to collect and compile a comprehensive watershed database of community data



*Discovery Newsletter - San Bernard Watershed*

prior to Discovery meetings. Collection of this data enabled our team to better display and communicate with stakeholders during the Discovery meeting. *Halff's Discovery process was recognized by FEMA Region 6 as a successful means to communicate available data and increase community participation.*

### Discovery Meetings:

Stakeholder participation is vital to successful Discovery meetings. To encourage participation and set expectations early

Halff brought extensive knowledge of FEMA's outreach expectations and best practices to engage stakeholders and successfully complete six Discovery projects for the TWDB, SARA, NCTCOG, and FEMA Region 6.

in the process, our team will initiate "Pre-Discovery" coordination efforts with community leaders and stakeholders. We have learned that participants are more likely to participate if they are approached individually and encouraged to attend. The Pre-Discovery approach, websites, and webmaps are enhanced engagement efforts to support the Discovery meeting.

Upon entry to the meeting, each community is assigned a Community Ambassador. This ambassador can then provide a personalized approach for each community as they progress through the Discovery Meeting stations. This engagement strategy allows stakeholders to feel welcomed and ensures that the Discovery team will fully engage with them to learn as much about their flood risk/mitigation needs and actions as possible. In addition to the ambassadors, we will have staff members available to thoroughly document notes and flood risk needs identified on both hard copy and digital watershed maps.

Following the Discovery Meetings, Halff will quickly assess meeting participation and create a list of communities and stakeholders that did not attend. We will work with the TWDB to set up follow-up times for our community ambassadors to coordinate with these communities individually. The additional engagement efforts may involve phone calls, in-person meetings, or online webinar coordination. At completion, we will prepare a detailed Discovery Report and comprehensive Discovery Database and Map. Using the results from the Discovery Meetings, collected information, and the BLE analysis; our team will prioritize the watershed's needs using a ranking system developed in coordination with TWDB. The prioritization methodology integrates multiple risk-based needs to identify watershed priorities.

The prioritization list will be a road map to guide future TWDB CTP Flood Risk Identification projects. It could also be used by individual communities to prioritize and fund future Capital Improvement Projects.

*Our experience across Texas enables our team to recommend project goals and deliverables to suit the needs of communities rather than suggesting the highest level of detail and associated expense for all streams.*

### Coordinated Needs Management Strategy (CNMS)

**Updates:** Our team understands FEMA's CNMS database and how updates should be incorporated into the FEMA Region 6 regional database. CNMS is one of the main tools tracking FEMA's metrics, which is tied directly to annual funding received by each FEMA region. Therefore, accurate updates of the CNMS database is a major expectation FEMA Region 6 has for their CTP partners. Based on the knowledge of the watersheds and streams, updates and revisions to these detailed GIS files can be completed efficiently on behalf of TWDB.

*We recently populated, processed, and validated the CNMS database for two NCTCOG watersheds following Discovery efforts.* We understand the CNMS data model and geodatabase development; CNMS geodatabase population and attribution; FEMA's stream status validation; process documentation; and the use of the FEMA CNMS Geodatabase QC Tools. With our team, you can be assured that all Discovery needs collected will be properly documented and validated in the in the CNMS database.



### PHASE TWO - FLOOD RISK IDENTIFICATION AND ASSESSMENT

Flood Risk Identification is FEMA's process for performing the engineering and mapping that will eventually replace the effective studies on FEMA's FIRMs. Communities that participate with TWDB's CTP Program will benefit from the tailored, collaborative approach to identifying and mapping their flood risk. Halff has the tools, resources and experience to successfully complete and deliver FEMA CTP Flood Risk Identification Projects.

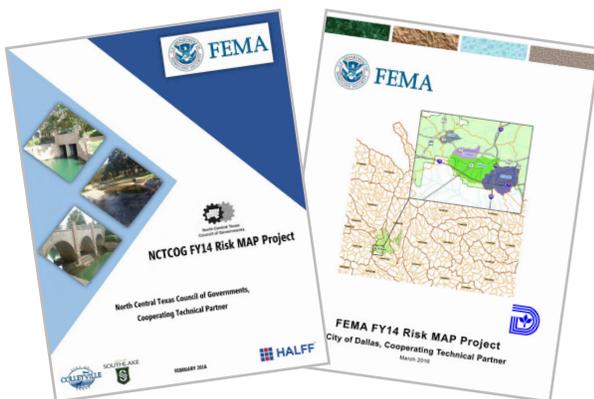
#### Topographic Data:

The Halff team has a keen understanding of remote sensing (LiDAR) products. We have guided LiDAR acquisition for FEMA

*Since the alignment of FEMA's Geospatial Data Coordination (GDC) Reporting with the Risk MAP workflow in 2010, our team has created both National Digital Elevation Program (NDEP) and GDC Tracker reports for 10 Risk MAP projects and more than 15 CTP projects.*

and multiple communities throughout Texas and have collected an inventory of current terrain datasets in coordination with TNRIS. Our team is also familiar with the QC of LiDAR datasets, ensuring their compliance with FEMA standards. The LiDAR data will be processed and supplemented with on-the-ground channel surveys and design plans for post-LiDAR developments to create the project terrain. The results will be summarized in a Technical Support Data Notebook (TSDN) containing the methodology, results, checkpoint analysis and metadata information as well as the summary of the independent QA/QC review. In addition to the FEMA submittal, communities will receive a ground surface elevation terrain dataset that they can use for other project needs.

**Field Survey:** FEMA's requirements for survey are complex and detailed; therefore, experienced surveyors are required to minimize the budget needed and streamline the completion schedule. Halff's survey crews have performed FEMA-approved field surveys since 2001. We have established an effective workflow for capturing field data and quickly processing it in accordance with FEMA's Data Capture Standards (DCS). We will ensure that the survey will be minimally intrusive and that appropriate coordination (for the right-of-entry) occurs with landowners, adjacent businesses, and homeowners. The surveyors will also use previous experience to identify reliable benchmarks throughout the study area. Halff engineers will use the terrain, field reconnaissance visits, historical imagery, and effective Flood Insurance Study (FIS) data to develop a survey plan for each task order. We will identify stream crossing and channel cross-section locations on the study streams where survey is necessary to create an accurate representation of the channel geometry, bridges, and highwater marks.

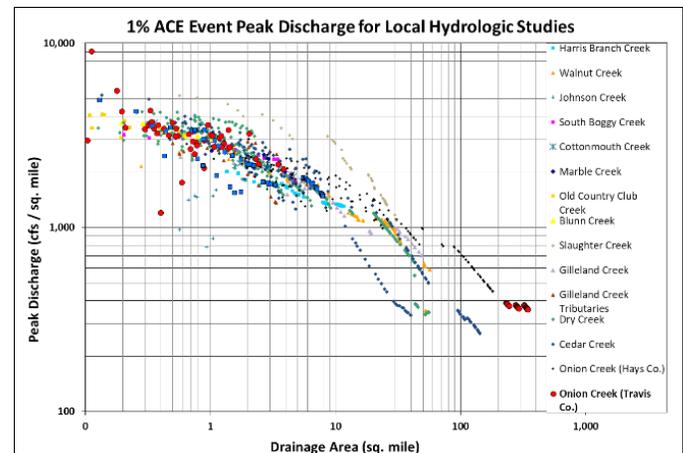


*Examples of Previous CTP Flood Risk Identification Studies Performed by the Halff Team*

Halff will compile and format all photos, text files, field notes, and sketches for each survey location to comply with FEMA guidelines and specifications. We will also submit a detailed report of the source and location of all benchmarks used in the study. The information will be summarized in a Survey TSDN containing detailed survey maps and digital data deliverables to be submitted to FEMA via the MIP.

**Hydrologic Analysis:** We will use our extensive knowledge of basin runoff characteristics of watersheds in Texas derived from decades of study as a basis for the hydrologic analysis. Our team will delineate watersheds and sub-basins using the developed terrain data along with storm sewer information and any additional data provided by participating communities.

Halff will develop accurate, defensible HEC-HMS hydrologic models for each assigned watershed. In building the models, we will work with the communities or local authorities to collect or generate the appropriate hydrologic data such as land use maps, impervious cover, soils data, rainfall data, storm drainage infrastructure, etc. The resulting hydrologic models will be used to produce discharges for the FEMA required frequency events. Halff has compiled flow rate data for basins throughout Texas.



These simulated frequency events will be the basis for FEMA's required 1%-Plus calculation. Computation of the 1%-Plus is a recent FEMA requirement. Statistical computations are used to estimate the 1%-Plus discharge rather than using the hydrologic model to illustrate the variability range that exists between the standard 1% ACE discharge and a 1% ACE discharge that includes an additional buffer to represent uncertainty of the computation. Halff has developed a process to calculate FEMA's required 1%-Plus profile using the upper 84% confidence limit calculated for the 1% ACE discharge.

Our team has the expertise to simulate and calibrate to historical storm event trends in relation to available gage records, high-water marks, and historical photographs. When historical data is not present, the hydrologic model will be validated to ensure discharges fall within acceptable limits of comparable streams with similar regional characteristics. The discharges will be compared to previous studies, historical data, and frequency analysis, then presented to the communities for validation prior to finalizing the analysis. Once finalized, hydrologic data will be submitted to FEMA's MIP following FEMA's Guidelines and Standards for Flood Risk Analysis and Mapping and all other applicable guidelines outlined in the MAS. The participating stakeholder will receive all digital files associated with the project (GIS-based watersheds and hydrologic models) along with results presented in the Hydrologic TSDN report.

**Hydraulic Analysis:** The Halff team brings extensive hydraulic analysis experience performing numerous large basin and local watershed hydraulic studies. Our engagement approach will allow us to work with communities to understand problem areas that require more detail along the study reaches, incorporate best available data, and to establish the study extents.

We will create valid, defensible HEC-RAS hydraulic models for each study stream. Our hydraulic engineers will conduct a thorough field reconnaissance and digital reconnaissance where possible to confirm model inputs such as survey data, as-built design plans, channel geometry features, and roughness values. These steps ensure the models provide an accurate representation of the channel geometry, flow of water, and resulting floodplains. Discharges from the HEC-HMS hydrologic model will be inserted into the HEC-RAS models and used to create water surface elevations and flood profiles for the FEMA required frequency events.

In potential cases where a steady state, one-dimensional model doesn't accurately reflect the complexity of the stream hydraulics, Halff will utilize advanced two-dimensional (2D) modeling programs such as InfoWorks ICM, XPSWMM or HEC-RAS 2D to simulate complex overflows. The results of the advanced hydraulic modeling will be used to refine the regulatory steady-state and unsteady HEC-RAS models for consistent results. Our team is very familiar with the development of FEMA floodways for hydraulic models. The limits of floodways for current effective models will be evaluated and used,

if appropriate. If new floodways are being added, we will use FEMA-established processes to develop a floodway that provides for the loss of equal conveyance on both sides of the channel.

The hydraulic models will pass FEMA's CHECK-RAS verification process before going through a rigorous Independent QA/QC process. The hydraulic results will be compared to previous studies and presented to the communities for validation prior to finalizing the analysis. Once finalized, hydraulic data will be submitted to FEMA's MIP following FEMA's Guidelines and Standards for Flood Risk Analysis and Mapping and all other applicable guidelines outlined in the MAS. The Hydraulic TSDN including supporting hydraulic models and GIS layers will be available for the communities to use for floodplain mapping, identification of flood risk areas and for use in floodplain management plans and development of potential mitigation strategies for future improvements.

**Floodplain Mapping:** The 1% and 0.2% ACE floodplains and floodway boundaries will be delineated on the terrain data developed for the watershed. Halff uses an automated, GIS-based process to develop floodplains such that resulting products meet FEMA's Floodplain Boundary Standard (FBS). Similar to the hydrologic and hydraulic analyses, we will also compare the floodplain mapping to any previously submitted local study or FEMA LOMCs to ensure the mapping is accurately represented based on FEMA-approved revisions to existing floodplains. Halff understands the importance of searching the Letter of Map Revision (LOMR) database and working with communities to ensure LOMRs are incorporated as appropriate. We understand the importance of community buy-in on floodplain mapping results, as this product is the #1 item to communicate flood risk results.

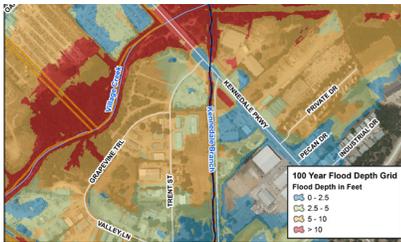
**Flood Risk Products:** Halff brings significant local experience in developing FEMA's Risk MAP Non-Regulatory Products (Flood Risk Report, Flood Risk MAP, and Flood Risk Database). Our products are customizable for CTPs to ensure that the final products are valuable tools for the stakeholders to effectively quantify and communicate flood risk as well as promote mitigation strategies that reduce these risks.

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It is difficult to describe flooding in relation to a base flood of 413 feet. Since most people can better relate to a 3-foot depth of flooding, Non-Regulatory products provide a better means to communicate risk.

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FEMA's Standards for Flood Risk Analysis and Mapping outlines key program and working standards for developing and submitting these products to FEMA's MIP. Our team has developed tools and processes to automate the creation of the Non-Regulatory products for CTPs and will work with the communities to ensure that the products developed meet their needs. Additionally, Halff developed an automated process to create a "Changes Since Last FIRM" layer demonstrating the differences between the new floodplain results and the current effective FIRMs.



*Example of Halff's Non-Regulatory Products - Depth Grids*

Water Surface Elevations Grids and Flood Depth Grids will be developed for all flood frequencies analyzed. These are great tools for communicating flood risk to the public.

FEMA's Hazus Program will be used to conduct a Level 2 analysis for each watershed to assess flood risk based on the new studies. Hazus has the ability to estimate potential physical damage and economic loss from a flooding disaster. *During the 2015 Halloween flood, Halff ran Hazus on Onion Creek in Travis County to support FEMA's understanding of potential damage.* Areas of Mitigation Interest will also be documented to note areas for future consideration of flood risk mitigation actions. This data will also be entered in FEMA's Mitigation Action Tracker, which is required of all CTPs. *The Halff Team has developed Non-Regulatory products since 2010 as part of the NCTCOG, Dallas, Fort Worth, Grand Prairie, Austin, SARA, and TWDB CTP programs.*

As a result, the TWDB can build a statewide inventory of mitigation alternatives that could be used to quantify flood risk reduction project needs and funding needs for communities to build support for more state/federal funding of mitigation projects.

**Flood Risk Review / Resilience Meeting:** Flood Risk Review and Resilience Meetings are conducted to ensure community stakeholders understand and feel confident with the study results so that they will take ownership of their flood risks. *Community engagement and coordination with project stakeholders is one of Halff's strongest qualifications for this project. During FEMA's Map Mod program, Halff worked with FEMA to coordinate more than 50 FEMA Scoping Meetings with communities throughout Texas.*

Halff encourages communities to be involved in the review process throughout the engineering study timeline. If appropriate, we can use webmap capabilities to create a portal for stakeholders to view technical information and project status as the study progresses. The webmap will allow communities access to the data online for quick review or reference and provide comments on any questions or concerns they have regarding the results. These outreach tools significantly improve communication up to and during the Flood Risk Review and Resilience Meetings. *In addition to many other Flood Risk Review and Resilience Meetings, we have supported NCTCOG staff to host the FY13, FY14 and FY15 CTP Flood Risk Review and Resilience Meetings.*

The Halff Team is committed to ensuring that community stakeholders understand the flood risk results, and we will go above and beyond the minimum requirements for communicating the results with communities. *Halff's extensive coordination efforts with project stakeholders led to two of the only Texas FEMA projects with no mapping appeals.* Involvement with these projects has reinforced the value of public outreach and community engagement for a successful project.



## PROJECT CLOSEOUT

We have assembled a highly-qualified team with a proven history of working for TWDB and with the specialized CTP experience to accomplish all aspects of your projects. We strategically assembled our team to provide TWDB with the professional expertise, technical knowledge, and proven public outreach experience to efficiently provide and communicate flood risk related information. Once project tasks are complete, data will be submitted to FEMA's MIP following FEMA's Guidelines and Standards for Flood Risk Analysis and Mapping and all other applicable guidelines outlined in the MAS. Additionally, we will coordinate with participating stakeholders to ensure they receive a copy of all digital files and reporting associated with the project for their own use in floodplain management. Our team is familiar FEMA's project closeout process and will assist the TWDB to ensure a successful closure to projects.

The Halff Team is unmatched in Texas CTP experience with Risk MAP projects, providing valuable insight to the FEMA Region 6 expectations, standards, and products. We are committed to providing the Board with innovative, sustainable, and consistent products leading to successful CTP projects.



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## EXHIBIT B

### SCOPE OF WORK-TASK ORDER NO. 1

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#### Scope of Work for Task Order No.1 will be based off Mapping Activity Statement #14

Task Order No. 1 will consist of a FEMA Phase 2 study within the Lower Colorado Cummins watershed in support of Mapping Activity Statement (MAS) No. 14. All requirements for the study and individual tasks are outlined in detail in the MAS in accordance with FEMA's Guidelines and Specifications for Flood Hazard Mapping and Technical References. The following tasks will make up this task order:

1. Perform Community Engagement & Outreach
2. Develop Topographic Data,
3. Perform Field Survey,
4. Develop Hydrologic Data,
5. Develop Hydraulic Data,
6. Perform Floodplain Mapping,
7. Develop Flood Risk Products,
  - a. HUC 8 Watershed Flood Risk Report
  - b. Flood Risk Map
  - c. Flood Risk Database, and
8. Conduct Flood Risk Review Meeting, and
9. Develop a Technical and Administrative Support Data Submittal.

Table 1.1 shows the 3 HUC 10 watersheds in the Lower Colorado Cummins watershed that will be studied and Table 1.2 shows the streams along with their associated stream miles to be studied.

**Table 1.1 Study Area Watersheds**

<b>Watershed Name</b>	<b>HUC-10 Code</b>	<b>Project Phase</b> <i>(0 – Base Level Engineering, 1 – Discovery, 2 – Risk Identification &amp; Assessment, 3 – Regulatory Product Update)</i>
Piney Creek-Colorado River	1209030102	2 – Risk Identification & Assessment
Walnut Creek-Cedar Creek	1209030103	2 – Risk Identification & Assessment
Alum Creek-Colorado River	1209030104	2 – Risk Identification & Assessment

**Table 1.2 Study Streams**

<b>ID</b>	<b>Flooding Source Name</b>	<b>Current Inventory</b> (Modernized, Paper, Not Studied/Included)	<b>Current CNMS Status</b> (Unknown, Unverified, Valid)	<b>Current Study Method</b> (BLE, Approximate, Detailed)	<b>Proposed Study Method</b> (Approximate, Limited Detail, Detailed)	<b>Total Mileage</b>
1	Alum Creek South	Modernized	Unverified	Approximate	Limited Detail	9.69
2	Bee Creek	Modernized	Unverified	Approximate	Limited Detail	4.43
3	Cat Branch	Modernized	Unverified	Approximate	Limited Detail	0.54
4	Cedar Creek	Modernized	Valid	Detailed	Detailed	7.92
5	Cedar Creek	Modernized	Unverified	Approximate	Detailed	7.09
6	Cedar Creek	Modernized	Unverified	Approximate	Detailed	6.34
7	Cedar Creek	Modernized	Unverified	Approximate	Detailed	14.52
8	Cedar Trib 1	Modernized	Unverified	Approximate	Limited Detail	2.74
9	Cedar Trib 2	Modernized	Unverified	Approximate	Limited Detail	5.27
10	Cedar Trib 2A	Modernized	Unverified	Approximate	Limited Detail	1.6
11	Cedar Trib 2B	Modernized	Unverified	Approximate	Limited Detail	1.42
12	Cedar Trib 4	Modernized	Unverified	Approximate	Limited Detail	2.8
13	Cedar Trib 5.5	Modernized	Unverified	Approximate	Limited Detail	1.47
14	Elm Creek South	Modernized	Unverified	Approximate	Limited Detail	5.07
15	Greens Creek	Modernized	Unverified	Approximate	Detailed	6.28
16	Hobbs Creek	Modernized	Unverified	Approximate	Limited Detail	6.04
17	Lentz Branch	Modernized	Unverified	Approximate	Limited Detail	10.05
18	Little Alum Creek South	Modernized	Unverified	Approximate	Limited Detail	4.25
19	Long Branch	Modernized	Unverified	Detailed	Detailed	6.51
20	Lower Elm Creek	Modernized	Unverified	Limited Detail	Limited Detail	6.04
21	Lytton Creek	Modernized	Unverified	Limited Detail	Limited Detail	8.22
22	Lytton Springs Creek	Modernized	Unverified	Detailed	Detailed	1.37
23	Maha Creek	Modernized	Unverified	Detailed	Detailed	10.53
24	Upper Elm Creek	Modernized	Unverified	Limited Detail	Limited Detail	7.99
25	Walnut Creek	Modernized	Unverified	Limited Detail	Limited Detail	19.86
26	Gazley Creek	Modernized	Unverified	Approximate	Detailed	1.86
27	Willow Creek	Modernized	Unverified	Approximate	Detailed	6.91
28	Gils Branch	Modernized	Unverified	Detailed	Detailed	1.84
29	Piney Creek	Modernized	Unverified	Approximate	Detailed	2.99

## EXHIBIT C

### TASK ORDER NO. 1, TASK AND EXPENSE BUDGETS

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#### TASK BUDGET

<b>TASK</b>	<b>DESCRIPTION</b>	<b>AMOUNT</b>
1	Perform Community Engagement and Project Outreach	\$29,668
2	Develop Flood Risk Products and Datasets (Includes QA/QC task)	72,664
3	Perform Field Survey (Includes QA/QC task)	14,900
4	Develop Topographic Data (Includes QA/QC task)	44,970
5	Develop Hydrologic Data (Includes QA/QC task)	46,095
6	Develop Hydraulic Data (Includes QA/QC task)	52,710
7	Perform Floodplain Mapping (Includes QA/QC task)	67,954
<b>TOTAL</b>		<b>\$328,961</b>

#### EXPENSE BUDGET

<b>CATEGORY</b>	<b>AMOUNT</b>
Salaries & Wages <sup>1</sup>	\$101,596.93
Fringe <sup>2</sup>	61,374.71
Travel <sup>3</sup>	500.00
Other Expenses <sup>4</sup>	500.00
Subcontract Services	0.00
Overhead <sup>5</sup>	135,174.72
Profit	29,814.64
<b>TOTAL</b>	<b>\$328,961.00</b>

<sup>1</sup> Salaries and Wages is defined as the cost of salaries of engineers, draftsmen, stenographers, surveyors, clerks, laborers, etc., for time directly chargeable to this contract.

<sup>2</sup> Fringe is defined as the cost of social security contributions, unemployment, excise, and payroll taxes, workers' compensation insurance, retirement benefits, medical and insurance benefits, sick leave, vacation, and holiday pay applicable thereto.

<sup>3</sup> Travel is limited to the maximum amounts authorized for state employees by the General Appropriations Act, Tex. Leg. Regular Session, 2017, Article IX, Part 5, as amended or superseded

<sup>4</sup> Other Expenses is defined to include expendable supplies, communications, reproduction, postage, and costs of public meetings directly chargeable to this CONTRACT.

<sup>5</sup> Overhead is defined as the costs incurred in maintaining a place of business and performing professional services similar to those specified in this contract.

## **EXHIBIT D**

### **GUIDELINES FOR AUTHORS SUBMITTING CONTRACT REPORTS TO THE TEXAS WATER DEVELOPMENT BOARD**

#### **1.0 Introduction**

The purpose of this document is to describe the required format of contract reports submitted to the Texas Water Development Board (TWDB). Our reason for standardizing the format of contract reports is to provide our customers a consistent, and therefore familiar, format for contract reports (which we post online for public access). Another reason for standardizing the format is so that we can more easily turn a contract report into a TWDB numbered report if we so choose. Remember that your report will not only be seen by TWDB staff, but also by any person interested in the results of your study. A professional and high quality report will reflect well on you, your employer, and the TWDB.

Available upon request, we will provide a Microsoft Word template (used to write these instructions) that gives the fonts, spacing, and other specifications for the headings and text of the report. Please follow this template as closely as possible.

#### **2.0 Formatting your report**

The TWDB format is designed for simplicity. For example, we use Times New Roman for all text. We use 12 point, single-spaced text, left justification for paragraph text, 18 point bold for first-level headings, and 14 point bold for second-level headings. Page numbers are centered at the bottom of the page. Other than page numbers, please refrain from adding content to the document header or footer. Page setup should use one-inch margins on all four sides.

#### **2.1 Text**

The best way to format your document is to use the styles described and embedded in the template document (Authors\_Template.dot) that is available on request from the TWDB. To use the Authors\_Template.dot file, open it in Word (make sure \*.dot is listed under Files of type) and save it as a .doc file. Advanced users can add the .dot file to their computers as a template. Make sure the formatting bar is on the desktop (to open, go to View→Toolbars→Formatting) or, to view all of the formatting at once, go to Format→Styles and Formatting and select Available Styles from the dropdown box at the bottom of the window. The formatting in the template document provides styles (such as font type, spacing, and indents) for each piece of your report. Each style is named to describe what it should be used for (for example, style names include Chapter Title, Body Text, Heading 1, References, and Figure or Table Caption). As you add to your report, use the dropdown list on the Formatting Toolbar or the list in the Styles and Formatting window to adjust the text to the correct style. The Authors\_Template.dot file shows and lists the specifications for each style.

### 2.1.1 Title

Give your report a title that gives the reader an idea of the topic of your report but is not terribly long. In addition to the general subject (for example, “Droughts”), you may include a few additional words to describe a place, methodology, or other detail focused on throughout the paper (for example, “Droughts in the High Plains of Texas” or “Evaluating the effects of drought using groundwater flow modeling”). Please capitalize only the first letter of each word except ‘minor’ words such as ‘and’ and ‘of’. Never use all caps.

Use headings to help the reader follow you through the main sections of your report and to make it easier for readers to skim through your report to find sections that might be the most interesting or useful to them. The text of the report should include an executive summary and sections outlined in 4.4 of Attachment 1. Headings for up to five levels of subdivision are provided in the template; however, we suggest not using more than three or four levels of subdivision except where absolutely necessary. Please avoid stacked headings (for example, a Heading 1 followed immediately by a Heading 2), and capitalize only the first letter of headings or words where appropriate—never use all caps.

## 2.2 Figures and photographs

To publish professional-looking graphics, **we need all originals to be saved at 300 dots-per-inch (dpi)** and in grayscale, if possible, or in the CMYK color format if color is necessary. Excessive use of color, especially color graphics that do not also work in grayscale, will prevent us from publishing your report as a TWDB numbered report (color reproduction costs can be prohibitive). Preferred file formats for your original graphics are Adobe Illustrator (.ai), Photoshop (.psd), EPS with .tiff preview, .jpg, .png, or .tiff files. Refrain from using low resolution .jpg or .gif files. Internet images at 72 dpi are unacceptable for use in reports.

All graphics shall be submitted in two forms:

1. Inserted into the Microsoft Word document before you submit your report. Ideally, inserted graphics should be centered on the page. Format the picture to downsize to 6 inches wide if necessary. Please do not upsize a graphic in Word.
2. Saved in one of the formats listed above.

### 2.2.1 Other graphics specifications

It is easiest to design your figures separately and add them in after the text of your report is more or less complete. Graphics should remain within the 1-inch page margins of the template (6.5 inches maximum graphic width). Be sure that the graphics (as well as tables) are numbered in the same order that they are mentioned in the text. Figures should appear embedded in the report after being called out in the text. Also, remember to include a caption for each graphic in Word, not as part of the graphic. We are not able to edit or format figure captions that are part of the figure. For figures and photographs, the caption should appear below the graphic. For tables, the caption should appear above.

### **2.2.2 Creating publication-quality graphics**

When designing a graphic, make sure that the graphic (1) emphasizes the important information and does not show unnecessary data, lines, or labels; (2) includes the needed support material for the reader to understand what you are showing; and (3) is readable (see Figures 1 and 2 for examples). Edward R. Tufte's books on presenting information (Tufte, 1983; 1990; 1997) are great references on good graphic design. Figures 1 through 3 are examples of properly formatted, easy to understand graphics. Do not include fonts that are less than 6 points.

For good-looking graphics, the resolution needs to be high enough to provide a clear image at the size you make them within the report. In general, 300 dpi will make a clear image—200 dpi is a minimum. Try to create your figures at the same size they will be in the report, as resizing them in Word greatly reduces image quality. Photographs taken with at least a two-megapixel camera (if using digital) and with good contrast will make the best images. Save the original, and then adjust color levels and size in a renamed image copy. Print a draft copy of your report to double-check that your figures and photographs have clear lines and show all the features that you want them to have.

Figures and photographs should be in grayscale. Color greatly adds to the cost of printing, so we are trying to keep it to a minimum. Also remember that your report may be photocopied, scanned, or downloaded and printed in black and white. For this reason, you should use symbols or patterns, or make sure that colors print as different shades in black and white. All interval or ratio data (data measuring continuous phenomena, with each color representing an equal interval) need to be displayed in a graded scale of a single color (Figure 3). This way your figures will be useful even as a photocopy.

If you need help with your graphics or have questions, please contact the TWDB graphics department at (512) 936-0129.

### **2.2.3 Using other people's graphics**

Figures and photographs (and tables) need to be your own unless you have written permission from the publisher that allows us to reprint them (we will need a copy of this permission for our records). Avoid using any figures or photographs taken off the Internet or from newspapers or magazines—these sources are difficult to cite, and it is often time-consuming and expensive to gain permission to reproduce them.

## **2.3 Tables**

Tables should be created in Microsoft Word (see Table 1). Tables should include a minimal amount of outlining or bold font to emphasize headings, totals, or other important points. Tables should be numbered separately from figures, and captions should appear above the text of the table.

**Table 1: A sample table. Note caption above table.**

Table text heading*								
Table text	1940	1950	1960	1970	1980	1990	2000	%GW
Table text	15	441	340	926	196	522	83	97.4
Table text	64	944	626	173	356	171	516	99.9
Total	79	1385	966	1099	552	693	599	

\* A footnote should look like this using 10 point Times New Roman.

%GW = percent groundwater

Be sure to describe any abbreviations or symbols, and, unlike in this table, be sure to note the units!

### **3.0 Units**

Measurements should be in English units. Metric units may be included in parentheses after the English units.

All units of geologic time should conform to the most recent geologic timescale (Gradstein and others, 2004). A summary of this timescale is available from the International Commission on Stratigraphy's website at <http://stratigraphy.org/chus.pdf>.

### **4.0 Citations and references**

It is important to give credit where credit is due. Therefore, be sure to use the appropriate citations and include references in your paper.

#### **4.1 In-text citations**

Each piece of information you use in your report that comes from an outside source must be cited within the text using the author's last name and the year of publication. If there are two authors, list the last name of each followed by the year, and if there are more than two authors, list the last name of the first author followed by "and others" and the year. For example: the end of the Jurassic Period occurred approximately 145.5 million years ago (Gradstein and others, 2004).

#### **4.2 References**

All sources that are cited within the report should be listed at the end of the paper under the heading References. The references should follow the guidelines in "Suggestions to Authors of the Reports of the United States Geological Survey" (Hansen, 1991). These are available online at [http://www.nwrc.usgs.gov/lib/lib\\_sta.html](http://www.nwrc.usgs.gov/lib/lib_sta.html) (a link to the chapter "Preparing references for Survey reports," p. 234-241, is found here). Several examples of complete reference citations are listed at the end of these guidelines. Be sure that any citations that appear in tables or figures are included in the reference list. Also, before submitting the report, please check that all the citations in the report are included in the reference list and all references in the reference list are cited in the report. If at all possible, avoid web-based citations. These materials are often transient and therefore useless to future readers.

## **5.0 Submitting your report**

Before you submit your report, proofread it. Look for spelling and grammatical errors. Also, check to see that you have structured the headings, paragraphs, and sentences in your paper so that it is easy to follow and understand (imagine you are a reader who does not already know the information you are presenting!).

## **6.0 Conclusions**

Following the instructions above and providing accurate and readable text, tables, figures, and citations will help to make your report useful to readers. Scientists may read your report, as well as water planners, utility providers, and interested citizens. If your report successfully conveys accurate scientific information and explanations to these readers, we can help to create more informed decisions about the use, development, and management of water in the state.

## **7.0 Acknowledgments**

Be sure to acknowledge the people and entities that assisted you in your study and report. For example:

We would like to thank the Keck Geology Consortium, the American Society of Civil Engineers, and the Texas Bar CLE for providing examples to use in developing these guidelines. In addition, we appreciate Mike Parcher for providing information on how to create publication-quality graphics, Shirley Wade for creating the data used in sample Figure 1, and Ian Jones for providing sample Figure 3.

## **8.0 References**

- Gradstein, F.M., J.G. Ogg, and A.G. Smith, eds., 2005, A geologic time scale 2004: Cambridge, Cambridge University Press, 610 p.
- Hansen, W.R., ed., 1991, Suggestions to authors of the reports of the United States Geological Survey (7th ed.): Washington, D.C., U.S. Government Printing Office, 289 p.
- Tufte, E. R., 1983, The visual display of quantitative information: Cheshire, C.T., Graphics Press, 197 p.
- Tufte, E. R., 1990, Envisioning information: Cheshire, C.T., Graphics Press, 126 p.
- Tufte, E. R., 1997, Visual explanations: Cheshire, C.T., Graphics Press, 156 p.

## **9.0 Examples of references**

- Arroyo, J. A., and Mullican, III, W. F., 2004, Desalination: *in* Mace, R. E., Angle, E. S., and Mullican, W. F., III, editors, Aquifers of the Edwards Plateau: Texas Water Development Board Report 360, p. 293-302.
- Bates, R. L., and Jackson, J. A., 1984, Dictionary of geological terms: Anchor Press/Doubleday, Garden City, New York, 571 p.
- Blandford, T. N., Blazer, D. J., Calhoun, K. C., Dutton, A. R., Naing, T., Reedy, R. C., and Scanlon, B. R., 2003, Groundwater availability of the southern Ogallala aquifer in Texas and New Mexico—Numerical simulations through 2050: contract report by Daniel B. Stephens and Associates, Inc., and the Bureau of Economic Geology, The University of Texas at Austin to the Texas Water Development Board, variably paginated.

Fenneman, N. M., 1931, *Physiography of Western United States* (1st edition): New York, McGraw-Hill, 534 p.

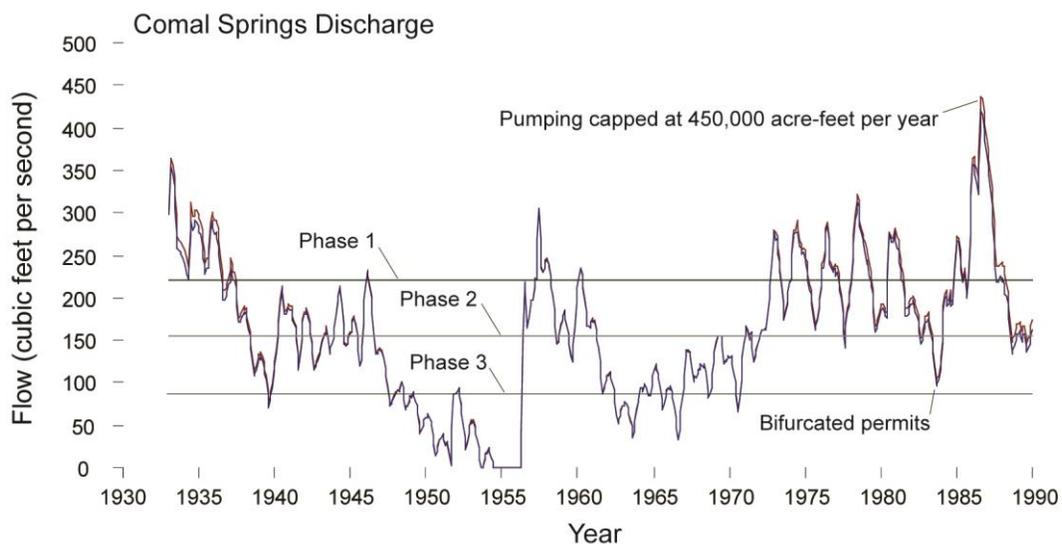
Hubert, M., 1999, Senate Bill 1—The first big bold step toward meeting Texas's future water needs: *Texas Tech Law Review*, v. 30, no. 1, p. 53-70.

Kunianski, E. L., 1989, *Precipitation, streamflow, and baseflow in West-Central Texas, December 1974 through March 1977*: U. S. Geological Survey Water-Resources Investigations Report 89-4208, 2 sheets.

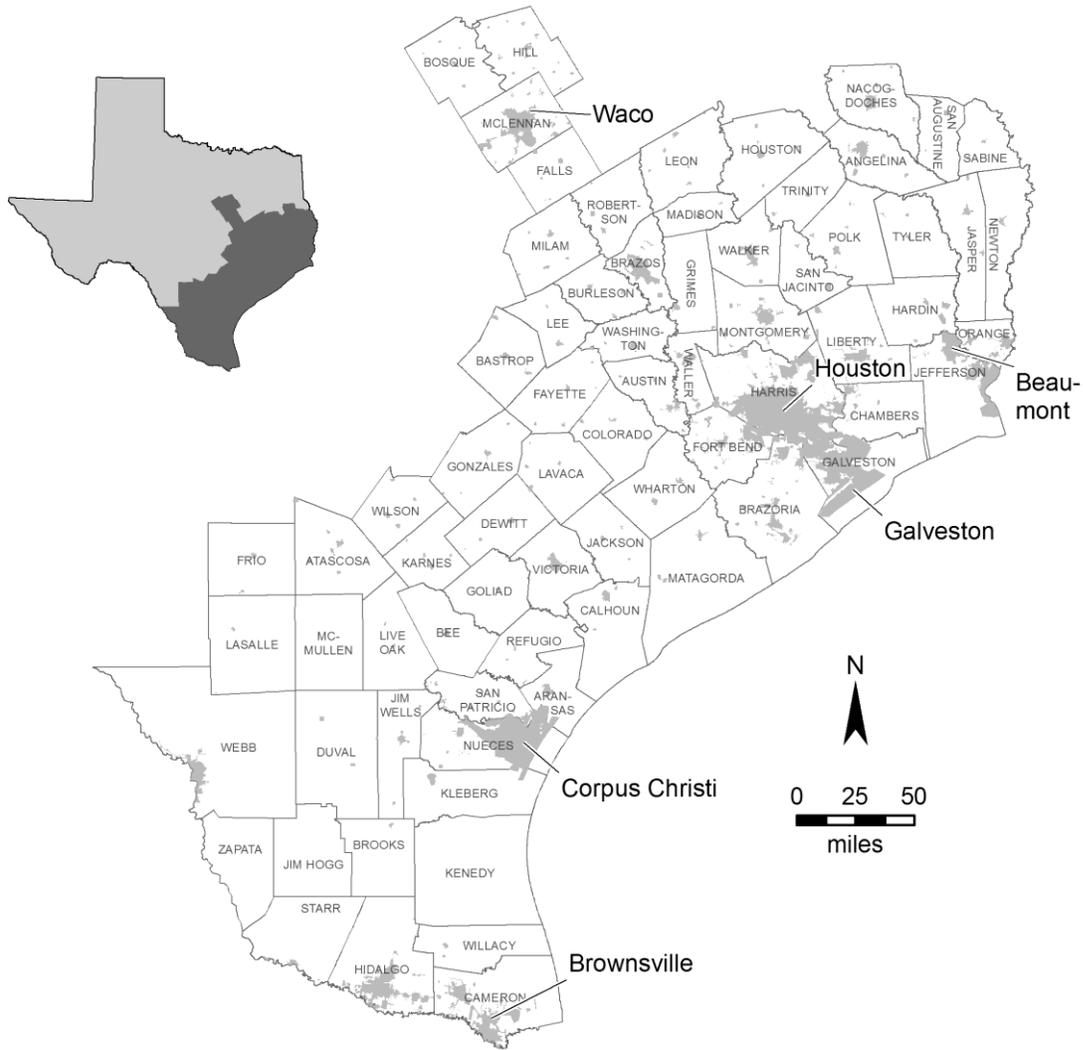
Mace, R. E., Chowdhury, A. H., Anaya, R., and Way, S.-C., 2000, *A numerical groundwater flow model of the Upper and Middle Trinity aquifer, Hill Country area*: Texas Water Development Board Open File Report 00-02, 62 p.

Maclay, R. W., and Land, L. F., 1988, *Simulation of flow in the Edwards aquifer, San Antonio Region, Texas, and refinements of storage and flow concepts*: U. S. Geological Survey Water-Supply Paper 2336, 48 p.

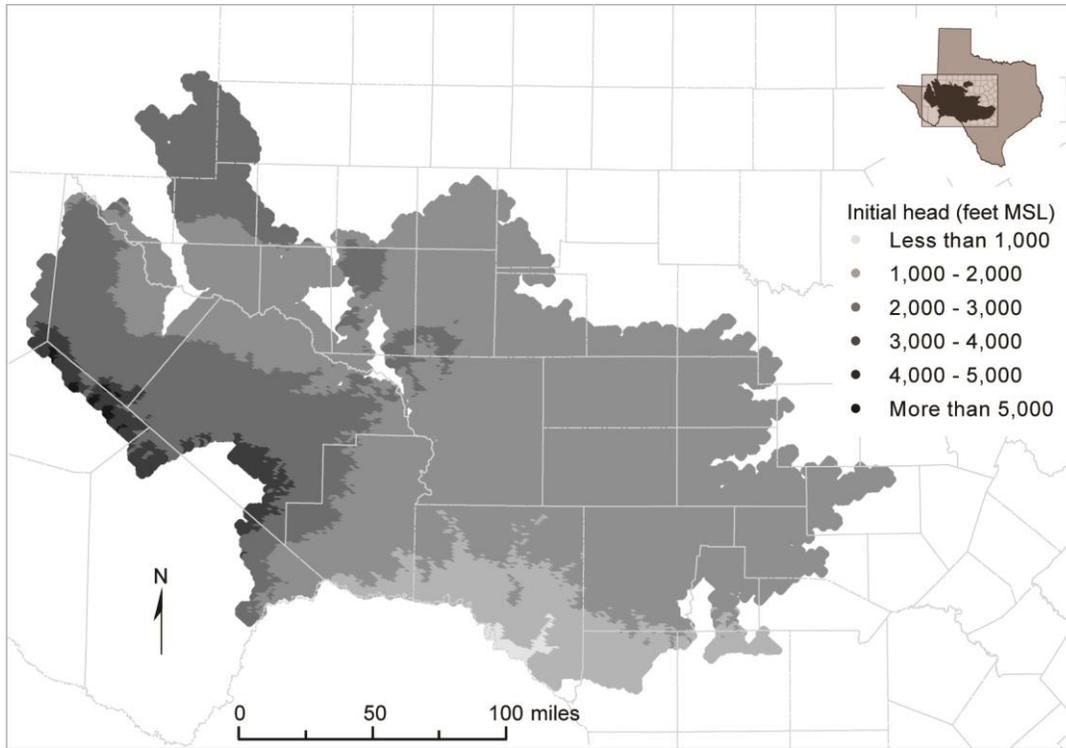
For more examples of references, see p. 239-241 of “Suggestions to Authors of the Reports of the United States Geological Survey” at [http://www.nwrc.usgs.gov/lib/lib\\_sta.html](http://www.nwrc.usgs.gov/lib/lib_sta.html).



**Figure 1. A sample figure showing only the information needed to help the reader understand the data. Font size for figure callouts or labels should never be less than 6 point.**



**Figure 2. A sample subject area map, giving the reader enough information to understand the location being discussed in this conference. For map figures, be sure to include a north arrow to orient the reader, a scale, and, if needed, a submap that places the figure in greater geographic context. Be sure that text is readable and that any citations listed on the figure or in the figure caption are included in the reference list. Font size should never be less than 6 pt.**



**Figure 3. Initial hydraulic heads used in model simulations for layer 1. Note the use of grayscale shading to show differences.**

## EXHIBIT E

### TWDB Guidelines for a Progress Report

Texas Water Development Board Contractors are required by their contracts to provide Progress Reports usually with the submission of an invoice/payment request.

The progress report should contain the following standard elements:

- Date: Date the memo is sent
- To: Name and position of the reader
- From: Name and position of the writer
- Subject: TWDB Contract Number and a clear phrase that focuses the reader's attention on the subject of the memo

Work Completed: *(The next section of a progress report explains what work has been done during the reporting period. Specify the dates of the reporting period and use active voice verbs to give the impression that you or you and your team have been busy) For Example:*

Task 1: Completed 3 draft chapters and all appendices. Met with sub consultants on their chapters.

Task 2: Completed sample collection throughout river reach.

Task 3: No work completed in reporting period.

Problems:

If the reader is likely to be interested in the glitches you have encountered along the way, mention the problems you have encountered and explain how you have solved them. If there are problems you have not yet been able to solve, explain your strategy for solving them and give tell the reader when you think you will have them solved.



**EXHIBIT G**

**Original Request for Qualifications**

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# Texas Water Development Board



TEXAS WATER DEVELOPMENT BOARD

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**REQUEST FOR QUALIFICATIONS NO. 580-18-RFQ0060**

**FOR**

Assistance to the Texas Water Development Board staff with program and/or project activities associated with the Federal Emergency Management Agency (FEMA) Cooperating Technical Partners (CTP) Program, administered by the Texas Water Development Board

TWDB Class-Item Code(s): 961.56

**RESPONSES DUE:**

**NOVEMBER 29, 2017  
2:00 P.M.**

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Texas Water Development Board  
P.O. Box 13231  
Austin, TX 78711-3231  
Contact: Tina Newstrom  
Phone: 512-463-7825  
Email: [Tina.Newstrom@twdb.texas.gov](mailto:Tina.Newstrom@twdb.texas.gov)

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**SECTION I - OVERVIEW**

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**1.1 OVERVIEW**

The Texas Water Development Board (TWDB) requests responses to this Request for Qualifications for the award of two Service contracts with the TWDB to assist staff, as directed, with program and/or project activities associated with the Federal Emergency Management Agency (FEMA) Cooperating Technical Partners (CTP) Program, administered by the TWDB.

**1.2 CONTRACT TERM**

Contracts awarded in response to this RFQ will begin upon award and will expire two years from the data of contract execution. The TWDB shall have the option to extend the contract for up to two additional one-year terms.

**1.3 BACKGROUND**

The CTP Program is a partnership between FEMA, regional agencies, State agencies, tribes, National Flood Insurance Program (NFIP) participating communities, and universities (Partners) that have the interest and capability to actively participate in the FEMA Flood Hazard Mapping program. Through the CTP program, Partners collaborate in maintaining and developing current flood hazard maps and other flood hazard information.

The TWDB desires to have in place and available, a Contractor(s) with expertise in the areas of, but not limited to, hydrology and hydraulics, Geographic Information System (GIS), survey, mapping, remote sensing, and FEMA projects and programs including minimum FEMA NFIP Regulations for floodplain management.

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**SECTION II – STATEMENT OF WORK**

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**2.1 DESCRIPTION OF SERVICES**

The selected contractors will perform engineering and related services to support the CTP program and FEMA's Risk Mapping, Assessment, and Planning (RiskMAP). Two Contractors will be selected and used on a rotating basis as needs and funds are identified. The Contractors will be rated during the course of each task order and if performance is not satisfactory, a Stop Work Order may be issued and may result in termination of the contract.

**2.2 SCOPE OF WORK**

The selected Contractors will be required to perform some or all of the following services for each Task Order (TO) based off of the corresponding Mapping Activity Statement:

- Hydrologic Analysis and Hydraulic Analysis
- GIS, Survey, Mapping, and Remote Sensing
- Floodplain Mapping
- Conduct FEMA Flood Risk production phases
  - Phase Zero (Investment/Base Level Engineering)

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- Phase One (Discovery)
- Phase Two (Risk Identification & Assessment);
- Perform community outreach, meetings, and public open houses
- Other RiskMap related services such as LiDAR collection, Geographic Information Systems (GIS), Coordinated Needs Management Strategy (CNMS) updates, Dam/Levee/Coastal Analyses, Coordination with other CTPs and Agencies in the state, Mitigation Project Support, and general Program Management support.

**2.3 REQUIREMENTS-** Respondents to this RFQ are required to demonstrate the possession of or the ability to gain the following abilities:

- A. Experience with FEMA projects and programs
  - Cooperating Technical Partners Program
  - Map Modernization
  - Risk Mapping, Assessment, and Planning
  - Levee Analysis and Mapping Procedures (LAMP);
- B. Experience with the FEMA Flood Risk project areas and production phases
  - Phase Zero (Investment/Base Level Engineering)
  - Phase One (Discovery)
  - Phase Two (Risk Identification & Assessment);
- C. Experience with FEMA's Guidelines and Standards for Flood Risk Analysis and Mapping;
- D. Experience in hydrology and hydraulics;
- E. Experience and capabilities with GIS, survey, mapping, and remote sensing;
- F. Familiarity and direct knowledge of FEMA's CNMS;
- G. Familiarity and knowledge of TWDB's Flood Protection (FP) grant program, and experience with conducting FP funded studies; and
- H. Demonstration of financial capability.
- I. References - Respondent must request at least three vendor references be sent directly to the Texas Water Development Board at PO Box 13231, Austin, TX, 78711 by the Deadline for Submission date located in Section 4.4, SCHEDULE OF EVENTS. The envelope must be marked with the RFQ number.

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### **SECTION III – DELIVERABLES**

#### **3.1 CONTRACT DELIVERABLES**

Deliverables will be identified from each Mapping Activity Statement for each project.

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### **SECTION IV – GENERAL INFORMATION**

**4.1 RFQ REQUIREMENTS** - A brief transmittal letter must accompany each Statement of Qualifications (SOQ), which summarizes the SOQ's key points and must be signed by an

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authorized representative who is responsible for committing the firm's resources. The response, including attachments, shall not exceed 20 pages. The font size must be no smaller than 12 point. Telephone, facsimile or emailed submissions will not be considered.

- A. **Submittals:** The Respondent shall submit one (1) original, four (4) copies and one (1) electronic copy of the SOQ as follows:
- 1) ORIGINAL: One (1) complete ORIGINAL SOQ (marked Original). The SOQ pages should be numbered and contain an organized, paginated table of contents corresponding to the section and pages of the SOQ.
  - 2) Four (4) complete COPIES of the SOQ (marked Copy).
  - 3) One (1) complete ELECTRONIC Portable Document Format file of the SOQ on a CD/DVD.
  - 4) Pricing shall **NOT** be included on any SOQ as it's not being used as an evaluating measure.
  - 5) SOQ must be delivered to the address noted in the RFQ.
  - 6) SOQ must be clearly marked RESPONSE TO RFQ 580-18-RFQ0060.
- B. **Contents:** The Respondent shall submit all information listed below, in the order given, separated by labeled sheets, as the SOQ to this RFQ. The SOQ will only be considered if all items are submitted as required. Incomplete/late responses to this RFQ will not be considered.
- 1) CONTENT ITEM 1: Signed/dated Execution of Statement of Qualifications to the Request for Qualifications. (one (1) page)
  - 2) CONTENT ITEM 2: Company Profile Summary and History (maximum of three (3) pages). Response should include the following:
    - a. Company name, address, phone number, and legal status (corporation, partnership, joint venture, sole proprietorship)
    - b. Name and title of person submitting the SOQ with the authority to bind the company
    - c. Name, phone number, and email address of contact person for any questions on the SOQ
    - d. Describe the general nature of previous work, the number of years in business, size and scope of operation.
  - 3) CONTENT ITEM 3: Resumes of Individuals - Submit resumes for each individual who will work on this project. ***PLEASE NOTE: Resumes do not count towards the two page maximum.***
  - 4) CONTENT ITEM 4: Historically Underutilized Businesses Subcontracting Plan. (up to nine (9) pages)
  - 5) CONTENT ITEM 5: Name(s) of Each Person with at least 25 Percent Ownership of the Business Entity Submitting the RFQ (if applicable). (one (1) page)

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6) CONTENT ITEM 6: Technical Approach. (maximum of 6 pages)

**4.2 SOQ SUBMISSION**

- A. All responses shall be received and date/time stamped by TWDB by the Deadline for Submission noted in Section 4.4, SCHEDULE OF EVENTS. TWDB will not and cannot accept late submittals.
- B. Responses should be placed in a separate envelope or package and correctly identified with the RFQ number and Deadline for Submission date/RFQ opening date and time. It is Respondent's responsibility to appropriately mark and deliver the SOQ to TWDB by the specified date and time.
- C. Telephone, facsimile or emailed responses will not be accepted.
- D. Receipt of all addenda, if applicable, to this response should be acknowledged by returning a signed copy of each addendum with the submitted response.

***NOTE: Failure to return the required items with the response will result in rejection of your SOQ.***

***TWDB will not be responsible for locating or securing information that is not included in your SOQ.***

**4.3 DELIVERY OF SUBMISSION**

SOQ may be submitted to TWDB by one of the following methods:

**U.S. Postal Service**

Texas Water Development Board  
Contracting & Purchasing  
P.O. Box 13231  
Austin, TX 78711-3231

**Overnight/Express Mail or Hand Delivery**

Texas Water Development Board  
1700 N. Congress Avenue, 6<sup>th</sup> Floor Reception Desk  
Austin, TX 78701  
Hours – 8:00 a.m. to 5:00 p.m. (CST)

**4.4 SCHEDULE OF EVENTS-** The solicitation process for this RFQ will proceed according to the following schedule:

**EVENT DATE (Central Daylight Time)**

Issue RFQ	<b>November 8, 2017</b>
Deadline for Submission	<b>November 29, 2017, 2:00 P.M.</b>
Expected Date of Award of Contract	<b>January 1, 2018</b>
Expected Contract Start Date	<b>January 1, 2018</b>

**4.5 REVISIONS TO SCHEDULE**

TWDB reserves the right to change the dates in the Schedule of Events above upon written notification to prospective Respondent(s) as an addendum posted on the Electronic State Business Daily.

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**4.6 SOQ OPENING**

SOQs will be opened at 1700 North Congress, 6<sup>th</sup> Floor, Austin, TX, at the submittal deadline. All submitted SOQs become the property of TWDB after the submittal deadline/opening date. The SOQs submitted shall constitute an offer for a period of ninety (90) days or until selection is made by TWDB, whichever occurs first.

**4.7 SOQ COSTS**

Respondents are responsible for all costs in the preparation and delivery of the SOQ to TWDB.

**4.8 TRAVEL EXPENSES**

This contract may include travel throughout the State of Texas to perform the tasks therein. Any and all travel expenses shall be in accordance with the state travel and per diem allowances detailed at <https://fmx.cpa.state.tx.us/fmx/travel/index.php>.

Any travel requirements under the contract may include travel throughout the State of Texas to perform the tasks therein. Any and all travel expenses shall be in accordance with the state travel and per diem allowances detailed at <https://fmx.cpa.state.tx.us/fmx/travel/index.php>.

**4.9 MEETINGS**

Any meetings and or/conference calls will be held on regular business days during regular business hours upon mutually agreed upon dates and times.

**4.10 INQUIRIES**

- A. All inquiries MUST be submitted in writing to the ATTENTION of TWDB Contract Administration Staff via e-mail to [contracts@twdb.texas.gov](mailto:contracts@twdb.texas.gov)
- B. Except as otherwise provided in this Section, upon issuance of this RFQ, other employees and representatives of TWDB will not answer questions or otherwise discuss the contents of this RFQ with any potential Respondent or its representatives. Failure to observe this restriction may result in disqualification of any subsequent RFQ. This restriction does not preclude discussions unrelated to this RFQ.

**4.11 SOQ EVALUATION AND AWARD**

- A. TWDB shall award the contract to the vendor whose SOQ is considered to provide the best value to the State of Texas, as defined by Texas Government Code, Title 10, Section 2155.074.
- B. TWDB will not enter into a contract with any individual who is required by Texas Government Code, Chapter 305 to register as a lobbyist as stated in Section 556.005, Employment of Lobbyist.
- C. A committee will be established by TWDB (including TWDB employees) to evaluate the SOQs.

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The evaluation committee will determine best value by applying the following criteria:

Points available	
0 – 25	Demonstrated knowledge with FEMA projects and programs
0 – 25	Experience with FEMA Flood Risk Phases
0 – 20	Experience and Knowledge of FEMA’s Guidelines and Standards for Flood Risk Analysis and Mapping
0 – 20	Experience in hydrology and hydraulics
0 – 5	Experience in mapping techniques
0 – 5	Knowledge of TWDB’s Flood Protection grant program
<b>100</b>	<b>Total Points Possible</b>

- D. The evaluation committee will determine if a Best and Final Offer (BAFO) is necessary. Award of the contract may be made without a BAFO. TWDB may, at its discretion, elect to have Respondents provide oral presentations and respond to inquiries from the evaluation committee related to their SOQ. A request for a BAFO is at the sole discretion of TWDB and will be extended in writing.
- D. Past Performance: A Respondent’s past performance will be measured based upon pass/fail criteria, in compliance with applicable provisions of §2155.074, 2155.075, 2156.007, 2157.003, and 2157.125, Gov't Code. Respondents may fail this selection criterion for any of the following conditions:
- 1) A score of less than 90% in the Vendor Performance System;
  - 2) Currently under a Corrective Action Plan through the CPA;
  - 3) Having repeated negative Vendor Performance Reports for the same reason; or
  - 4) Having purchase orders that have been cancelled in the previous 12 months for non-performance (i.e. late delivery, etc.).

Contractor performance information is located on the CPA web site at:  
[http://comptroller.texas.gov/procurement/prog/vendor\\_performance/](http://comptroller.texas.gov/procurement/prog/vendor_performance/)

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## **SECTION V – GENERAL TERMS AND CONDITIONS**

### **5.1 GENERAL TERMS AND CONDITIONS**

Any contract awarded as a result of this RFQ will contain the general terms and conditions provided in this document. Subcontractors must also comply. The contractor is required to make any information created or exchanged with the state pursuant to this contract, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public at no additional charge to the state. In addition, any contract awarded as a result of this RFQ shall be governed, construed, and interpreted under the laws of the state of Texas. The factors listed in Texas Government Code, Title 10,

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Subtitle D, Section 2155.074, 2155.144, 2156.007, and 2157.003 shall also be considered in making an award when specified. Any legal actions must be filed in Travis County, Texas.

**5.2 PATENTS OR COPYRIGHTS**

The contractor agrees to protect the State and TWDB from claims involving infringement of patents or copyrights. TWDB will not consider any RFQ that bears a copyright. RFQs will be subject to the Texas Public Information Act, Texas Government Code, Chapter 552, and may be disclosed to the public upon request. Subject to the Act, Respondents may protect trade and confidential information from public release. Trade secrets or other confidential information, submitted as part of a SOQ, shall be clearly marked on each page it appears. Such marking shall be in **boldface type at least 14 point font**.

**5.3 CONTRACTOR ASSIGNMENTS**

Respondent hereby assigns to TWDB any and all claims for overcharges associated with the contract arising under the antitrust laws of the United States 15 U.S.C.A. Section 1, et seq. (1973), and the antitrust laws of the state of Texas, TEX. Bus. & Comm. Code Ann. Sec. 15.01, et seq. (1967).

**5.4 CONTINUING PERFORMANCE**

Any contract(s) awarded as a result of this RFQ shall include reporting responsibilities related to Historically Underutilized Business (HUB) subcontracting. Awarded contractors may not change any subcontractor without submitting a revised HUB Subcontracting Plan (HSP) to TWDB. Any change to a subcontractor and revised HSP must be approved in writing by TWDB prior to implementation.

**5.5 HISTORICALLY UNDERUTILIZED BUSINESSES SUBCONTRACTING PLAN**

It is the policy of TWDB to make a good faith effort to achieve the annual program goals by contracting directly with HUBs or indirectly through subcontracting opportunities in accordance with the Texas Government Code, Chapter 2161, Subchapter F, and HUB Rules promulgated by the Comptroller of Public Accounts (CPA), 34 TAC, Chapter 20.

HUBs are strongly urged to respond to this RFQ. Under Texas law, state agencies are required to make a good faith effort to assist HUBs in receiving certain percentages of the total value of contract awards. The contractors who meet the qualifications are strongly encouraged to apply for certification as HUBs.

TWDB has determined that subcontracting is probable under any contract awarded as a result of this RFQ. **ALL CONTRACTORS RESPONDING TO THIS RFQ, INCLUDING THOSE THAT ARE HUB CERTIFIED OR THOSE WHO DO NOT PLAN TO SUBCONTRACT, MUST COMPLETE A HUB SUBCONTRACTING PLAN (HSP) IN ACCORDANCE WITH THE STATE'S POLICY ON UTILIZATION OF HUBS. THE HSP MUST BE INCLUDED AS PART OF THE PROPOSAL TO THIS RFQ. FAILURE TO COMPLETE THE HSP AS INSTRUCTED MAY RESULT IN DISQUALIFICATION OF THE PROPOSAL FROM CONSIDERATION.** Please review the HSP

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forms carefully and allow sufficient time to identify and contact HUBs and allow them to respond. Note that the contractors must demonstrate a good faith effort to contract with new HUBs if currently proposed HUBs have performed as subcontractors to the contractor for more than five (5) years. If the contractor does not plan to subcontract, the contractor must state that fact in their plan. The completed plan shall become a part of the contract that may be awarded as a result of this RFQ.

**5.6 HUB RESOURCES AVAILABLE**

A list of certified HUBs is available on the Texas Comptroller of Public Accounts (CPA) Web site at: <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. For additional information, contact the CPA's HUB program office at [Texas4hubs@cpa.state.tx.us](mailto:Texas4hubs@cpa.state.tx.us). If the contractors know of any businesses that may qualify for certification as a HUB, they should encourage those businesses to contact the CPA HUB program office.

**5.7 RESPONDENT'S AFFIRMATION**

Signing this response (CONTENT ITEM 1 - Execution of Response to the Request for Qualifications) with a false statement is a material breach of contract and shall void the submitted response or any resulting contract(s), and the Respondent shall be removed from all bid lists. By signature hereon affixed on CONTENT ITEM 1, the Respondent hereby certifies that:

- A. The Respondent has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted bid;
- B. Neither the Respondent nor the firm, corporation, partnership, or institution represented by the Respondent, or anyone acting for such firm, corporation or institution has violated the antitrust laws of this state or the Federal Antitrust Laws, nor communicated the contents of this SOQ either directly or indirectly to any competitor or any other person engaged in same line of business during the procurement process for this RFQ;
- C. Pursuant to Section 2155.004, Texas Government Code, the Respondent has not received compensation for participation in the preparation of the specifications for this RFQ;
- D. Pursuant to Section 231.006 (d), Texas Family Code, re: child support, the Respondent certifies that the individual or business entity named in this bid is not ineligible to receive the specified payment and acknowledges that the contract may be terminated and payment may be withheld if this certification is inaccurate;
- E. Under Section 2155.004 of the Texas Government Code, the Respondent certifies that the individual or business entity named in this RFQ or contract is not ineligible to receive the specified contract and acknowledges that the contract may be terminated and payment withheld if this certification is inaccurate;

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- F. The Respondent shall defend, indemnify, and hold harmless the state of Texas, all of its officers, agents, and employees from and against all claims, actions, suits, demands, proceedings, costs, damages, and liabilities, arising out of, connected with, or resulting from any acts or omissions of the contractor or any agent, employee, subcontractor, or supplier of Respondent in the execution or performance of the contract;
- G. Respondent agrees that any payments due under the contract will be applied towards any debt, including but not limited to delinquent taxes and child support that is owed to the state of Texas;
- H. Respondent certifies that it is in compliance with Section 669.003 of the Texas Government Code which states: "a state agency may not enter into a contract with the executive head of the state agency, with a person who at any time during the four years before the date of the contract was the executive head of the state agency, or with a person who employs a current or former executive head of a state agency affected by this section relating to contracting with executive head of a state agency, unless the governing body:
  - Votes, in an open meeting, to approve the contract; and
  - Notifies the Legislative Budget Board, not later than the fifth day before the date of the vote, of the terms of the proposed contract."

If Section 669.003 applies, the Respondent will complete the following information in order for the bid to be evaluated:

Name of Former Executive: \_\_\_\_\_  
Name of State Agency: \_\_\_\_\_  
Date of Separation from State Agency: \_\_\_\_\_  
Position with Respondent: \_\_\_\_\_  
Date of Employment with Respondent: \_\_\_\_\_

- I. Respondent agrees to comply with Texas Government Code Section 2155.4441, pertaining to service contract use of products produced in the state of Texas; and
- J. Respondent understands that acceptance of funds under the contract acts as acceptance of the authority of the State Auditor's Office, or any successor agency, to conduct an audit or investigation in connection with those funds. Respondent further agrees to cooperate fully with the State Auditor's Office or its successor in the conducting of the audit or investigation, including providing all records requested. Respondent will ensure that this clause concerning the authority to audit funds received indirectly by subcontractors through Respondent and the requirement to cooperate is included in any subcontract it awards.

**5.8 EXECUTIVE ORDER 13224**

The TWDB is federally mandated to adhere to the directions provided in the President's Executive Order (EO) 13224, Executive Order on Terrorist Financing – Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism, effective 9/24/2001 and any subsequent changes made to it via cross-

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referencing Respondents/Contractors with the Federal General Services Administration's Excluded Parties List System (EPLS, <http://www.sam.gov>), which is inclusive of the United States Treasury's Office of Foreign Assets Control (OFAC) Specially Designated National (SDN) list.

**5.9 FAMILY CODE REQUIREMENTS**

Pursuant to Section 231.006 (c), Texas Family Code, the bid must include the names and social security numbers of each person with at least 25 percent ownership of the business entity submitting the bid. Enter name and social security numbers for each person.

**5.10 ADDITIONAL TERMS**

Any terms and conditions attached to your SOQ will not be considered unless specifically referred to on this RFQ and may result in disqualification of your SOQ.

**5.11 DISPUTE RESOLUTION**

The dispute resolution process provided for in Chapter 2260 of the Texas Government Code must be used by the TWDB and the Respondent to attempt to resolve all disputes arising under the contract.

**5.12 NON-APPROPRIATION OF FUNDS**

The state's funds are contingent on the availability of lawful appropriations by the Texas Legislature. If the Texas Legislature fails to continue funding for the payments due under an order referencing the contract, the order will terminate as of the date that the funding expires, and TWDB will have no further obligation to make any payments.

**5.13 PUBLIC INFORMATION ACT**

Information, documentation, and other material in connection with this solicitation or any resulting contract may be subject to public disclosure pursuant to Chapter 552 of the Texas Government Code (the "Public Information Act"). Any part of the SOQ that is of a confidential or proprietary nature must be clearly and prominently marked as such by the Respondent.

**5.14 TECHNOLOGY ACCESS CLAUSE**

The Respondent expressly acknowledges that state funds may not be expended in connection with the purchase of an automated information system unless that system meets certain statutory requirements relating to accessibility by persons with visual impairments. Accordingly, the Respondent represents and warrants to the qualified ordering entity that the technology provided to the qualified ordering entity for purchase is capable, either by virtue of features included within the technology or because it is readily adaptable by use with other technology, of:

- A. Providing equivalent access for effective use by both visual and non-visual means;
- B. Presenting information, including prompts used for interactive communications, in formats intended for both visual and non-visual use; and

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- C. Being integrated into networks for obtaining, retrieving, and disseminating information used by individuals who are not blind or visually impaired.

For purposes of this clause, the phrase "equivalent access" means a substantially similar ability to communicate with or make use of the technology, either directly by features incorporated within the technology or by other reasonable means such as assistive devices or services that would constitute reasonable accommodations under the Federal Americans with Disabilities Act or similar state or federal laws. Examples of methods by which equivalent access may be provided include, but are not limited to, keyboard alternatives to mouse commands and other means of navigating graphical displays and customizable display appearance.

### **5.15 ETHICS**

Under Section 2155.003, Texas Government Code, an individual who interacts with public purchasers in any capacity is required to adhere to the guidelines established in Section 1.2 of the state of Texas Procurement Manual, which outlines the ethical standards required of public purchasers, employees, and bidders who interact with public purchasers in the conduct of state business, and with any opinions of or rules adopted by the Texas Ethics Commission. Entities who are interested in seeking business opportunities with the state must be mindful of these restrictions when interacting with public purchasers of TWDB or purchasers of other state agencies. Specifically, a TWDB employee may not have an interest in, or in any manner be connected with a contract or bid for a purchase of goods or services by an agency of the state; or in any manner, including by rebate or gift, accept or receive from a person to whom a contract may be awarded, directly or indirectly, anything of value or a promise, obligation, or contract for future reward or compensation.

### **5.16 FRAUD STATEMENT**

Respondents understand that the TWDB does not tolerate any type of fraud. The TWDB's policy is to promote consistent, legal, and ethical organizational behavior by assigning responsibilities and providing guidelines to enforce controls. Any violations of law, agency policies, or standards of ethical conduct will be investigated, and appropriate actions will be taken. Providers are expected to report any possible fraudulent or dishonest acts, waste, or abuse to the agency's Internal Audit division at 512-463-7978 or [Nicole.Campbell@twdb.texas.gov](mailto:Nicole.Campbell@twdb.texas.gov).

### **5.17 CONFLICT OF INTEREST**

A respondent will not be selected if they have a conflict of interest that will or may arise during the performance of its obligations under the contract. For this reason, the submission in response to this RFQ must disclose all business interests and all relationships that could reasonably be considered to pose possible conflicts of interest in the respondent's performance of the contract obligations. In addition, respondents must represent and warrant in its response to this RFQ and in the contract that in the performance of services under the contract, (1) Respondent does not have and will not have

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any actual or potential conflict of interest, and (2) Respondent will take whatever reasonable actions may be necessary and prudent to avoid even the appearance of impropriety.

**5.18 RIGHT TO AUDIT**

The contractor and its subcontractors shall maintain all financial accounting documents and records, including copies of all invoices and receipts for expenditures, relating to the work under the contract. The contractor shall make such documents and records available for examination and audit by the Executive Administrator or any other authorized entity of the state of Texas. The contractor's financial accounting documents and records shall be kept and maintained in accordance with generally accepted accounting principles. By executing the contract, the contractor accepts the authority of the Texas State Auditor's Office to conduct audits and investigations in connection with all state funds received pursuant to the contract. The contractor shall comply with directives from the Texas State Auditor and shall cooperate in any such investigation or audit. The contractor agrees to provide the Texas State Auditor with access to any information the Texas State Auditor considers relevant to the investigation or audit. The contractor also agrees to include a provision in any subcontract related to the contract that requires the subcontractor to submit to audits and investigation by the State Auditor's Office in connection with all state funds received pursuant to the subcontract.

**5.19 CONTRACT ADMINISTRATION**

The TWDB shall designate a project manager for the contract. The project manager will serve as the point of contact between the TWDB and the selected contractor. The TWDB's project manager shall supervise the TWDB's review of the contractor's technical work, deliverables, draft reports, final report, payment requests, schedules, financial and budget administration, and similar matters. The project manager does not have any express or implied authority to vary the terms of the contract, amend the contract in any way, or waive strict performance of the terms or conditions of the contract.

**5.20 CONTRACT AMENDMENT/TERMINATION**

This contract may be altered or amended by mutual written consent or terminated by the Executive Administrator at any time by written notice to the contractor. Upon receipt of such termination notice, the contractor shall, unless the notice directs otherwise, immediately discontinue all work in connection with the performance of the contract and shall proceed to cancel promptly all existing orders insofar as such orders are chargeable to the contract. The contractor shall submit a statement showing in detail the work performed under the contract to the date of termination. The TWDB shall then pay the contractor promptly that proportion of the prescribed fee, which applies to the work actually performed under the contract, less all payments that have been previously made. Thereupon, copies of all work accomplished under the contract shall be delivered to the TWDB.

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**5.21 STOP WORK ORDER**

The Executive Administrator may issue a Stop Work Order to the contractor at any time. Upon receipt of such order, the contractor shall discontinue all work under the contract and cancel all orders pursuant to the contract, unless the order directs otherwise. If the Executive Administrator does not issue a Restart Order within 60 days after receipt by the contractor of the Stop Work Order, the contractor shall regard the contract terminated in accordance with the foregoing provisions.

**5.22 CONTRACTOR PERFORMANCE**

State agencies shall report a contractor's performance on any purchase of \$25,000 or more from contracts administered by the TWDB or any other purchase made through an agency's delegated

authority or a purchase made pursuant to the authority in Government Code, Title 10, Subtitle D or a purchase exemption from CPA/TPASS procurement rules and procedures.

**5.23 DEFAULT**

If the contractor is found to be in default under any provision of the contract, TWDB may cancel the contract without notice and either re-solicit or award the contract to the next best responsive and responsible Respondent. In the event of abandonment or default, the contractor will be responsible for paying damages to TWDB including but not limited to re-procurement costs, and any consequential damages to the state of Texas or TWDB resulting from the contractor's non-performance. The defaulting contractor will not be considered in the re-solicitation and may not be considered in future solicitations for the same type of work, unless the specification or scope of work is significantly changed.

**5.24 FORCE MAJEURE**

Neither the contractor nor TWDB shall be liable to the other for any delay in, or failure of performance, of any requirement included in the contract resulting from this RFQ caused by force majeure. The existence of such causes of delay or failure shall extend the period of performance until after the causes of delay or failure have been removed provided the non-performing party exercises all reasonable due diligence to perform. Force majeure is defined as acts of God, war, fires, explosions, hurricanes, floods, failure of transportation, or other causes that are beyond the reasonable control of either party and that by exercise of due foresight such party could not reasonably have been expected to avoid, and which, by the exercise of all reasonable due diligence, such party is unable to overcome. Each party must inform the other in writing, with proof of receipt, within three (3) business days of the existence of such force majeure, or otherwise waive this right as a defense.

**5.25 OWNERSHIP/INTELLECTUAL PROPERTY, INCLUDING RIGHTS TO DATA, DOCUMENTS AND COMPUTER SOFTWARE**

For the purposes of the contract, the term "Work" is defined as all reports, statistical analyses, work papers, work products, materials, approaches, designs, specifications, systems, documentation, methodologies, concepts, research, materials, and intellectual

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property or other property developed, produced, or generated in connection with the contract. All work performed pursuant to the contract is made the exclusive property of TWDB. All right, title and interest in said property shall vest in TWDB upon creation and shall be deemed to be a work for hire and made in the course of the services rendered pursuant to the contract. To the extent that title to any such work may not, by operation of law, vest in TWDB, or such work may not be considered a work made for hire, all rights, title and interest therein are hereby irrevocably assigned to TWDB. TWDB shall have the right to obtain and to hold in its name any and all patents, copyrights, registrations, or such other protection as may be appropriate to the subject matter, and any extensions and renewals thereof. The contractor must give TWDB and/or the state of Texas, as well as any person designated by TWDB and/or the state of Texas, all assistance required to perfect the rights defined herein without any charge or expense beyond those amounts payable to the contractor for the services rendered under the contract.

The contractor shall maintain and retain supporting fiscal and any other documents relevant to showing that any payments under the contract funds were expended in accordance with the laws and regulations of the state of Texas, including but not limited to, requirements of the Comptroller of the state of Texas and the State Auditor. The contractor shall maintain all such documents and other records relating to the contract and the State's property for a period of four (4) years after the date of submission of the final invoices or until a resolution of all billing questions, whichever is later. The contractor shall make available at reasonable times, upon reasonable notice, and for reasonable periods, all documents and other information related to the "Work" as defined as work products developed by the contractor and subcontractor using funds provided under the contract or otherwise rendered in or related to the performance in whole or part of the contract, including but not limited to reports, drafts of reports, or other material, data, drawings, studies, analyses, notes, plans, computer programs and codes, or other work products, whether final or intermediate. The contractor and the subcontractor shall provide the State Auditor with any information that the State Auditor deems relevant to any investigation or audit. The contractor must retain all work and other supporting documents pertaining to the contract, for purposes of inspecting, monitoring, auditing, or evaluating by TWDB and any authorized agency of the state of Texas, including an investigation or audit by the State Auditor.

The contractor shall cooperate with any authorized agents of the state of Texas and shall provide them with prompt access to all of such State's work as requested. The contractor's failure to comply with this Section shall constitute a material breach of the contract and shall authorize the TWDB and the state of Texas to immediately assess appropriate damages for such failure. Pursuant to Government Code, §2262.003 the acceptance of funds by the contractor or any other entity or person directly under the contract, or indirectly through a subcontract under the contract, shall constitute acceptance of the authority of the State Auditor to conduct an audit or investigation in connection with those funds. The contractor acknowledges and understands that the acceptance of funds under the contract shall

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constitute consent to an audit by the State Auditor, Comptroller, or other agency of the state of Texas. The contractor shall ensure that this paragraph concerning the state's authority to audit funds received indirectly by subcontractors through the contractor and the requirement to cooperate is included in any subcontract it awards. Furthermore, under the direction of the legislative audit committee, an entity that is the subject of an audit or investigation by the State Auditor must provide the State Auditor with access to any information the State Auditor considers relevant to the investigation or audit.

#### **5.26 DRUG-FREE WORK PLACE POLICY**

The contractor shall comply with the applicable provisions of the Drug-Free Work Place Act of 1988 (Public Law 100-690, Title V, Subtitle D; 41 U.S.C. 701 ET SEQ.) and maintain a drug-free work environment; and the final rule, government-wide requirements for drug-free work place (grants), issued by the Office of Management and Budget and the Department of Defense (32 CFR Part 280, Subpart F) to implement the provisions of the Drug-Free Work Place Act of 1988 is incorporated by reference and the contractor shall comply with the relevant provisions thereof, including any amendments to the final rule that may hereafter be issued.

#### **5.27 SMOKE FREE POLICY**

The TWDB also has a policy of being a smoke free agency. The policy reflects our commitment to providing a healthy environment for all our employees and visitors. This policy prohibits smoking within any state building or on the grounds. Contractor, by acceptance of this contract, agrees to abide by this policy when on the property of TWDB.

#### **5.37 REMEDIES**

All remedies available to TWDB for breach or anticipatory breach of the contract by the contractor are cumulative and may be exercised concurrently or separately and the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies. Liquidated damages, actual damages, cost projections, injunction relief and/or performance bonds may also be invoked either separately or combined with any other remedy in accordance with applicable law.

#### **5.38 INTERESTED PARTIES**

All non-governmental CONTRACTORS are required to submit a Certificate of Interested Parties at the time the signed contract is submitted to the TWDB. The Certificate of Interested Parties (Form 1295) is a sworn statement by the contracting business entity and must be submitted even if there is no interested party in the transaction. The Form 1295 and instructions for completing and submitting the form are available at: <https://www.ethics.state.tx.us/tec/1295-Info.htm>. The TWDB is prohibited from executing a contract unless the contracting business entity submits a completed Form 1295. Any contract resulting from a TWDB procurement with a business entity will be void if the Certificate of Interested Parties is not submitted within 30 days of submitting an executed contract.

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**5.39 PROHIBITION ON CONTRACTS WITH COMPANIES BOYCOTTING ISRAEL**

TWDB is prohibited from entering into a contract with a company for goods or services unless the contract contains a written verification from the company that it does not boycott Israel and will not boycott Israel during the term of the contract.

**5.40 CONFIDENTIALITY AND SECURITY**

Contractor must maintain and protect any information it receives, compiles, or creates as a result of the Contract in accordance with any federal, state, or local laws and regulations that apply. Contractor must establish a method to secure the confidentiality of records and other information relating to the TWDB in accordance with applicable federal and state laws, rules, and regulations.

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**CONTENT ITEM 1**

**EXECUTION OF SOQ  
to the  
REQUEST FOR QUALIFICATIONS**

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Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone Number: \_\_\_\_\_

E-Mail: \_\_\_\_\_

I, \_\_\_\_\_, am the above-referenced company's representative and I am authorized to submit this response and sign future contract documents. By signing below, the representative certifies that if a Texas address is shown as the address, the respondent qualifies as a Texas Bidder as defined in 34 TAC Rule 20.32(68).

\_\_\_\_\_  
Authorized Signature \_\_\_\_\_ Date

\_\_\_\_\_  
Title:

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**CONTENT ITEM 2  
COMPANY PROFILE SUMMARY AND HISTORY**

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(To be provided by Respondent)

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**CONTENT ITEM 3  
RESUMES OF INDIVIDUALS**

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(to be provided by Respondent)

## **CONTENT ITEM 4**

### **Historically Underutilized Businesses Subcontracting Plan**

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Please see SECTION IV, GENERAL INFORMATION, 4.1.B, Item 4

All HUB Subcontracting Plan Forms must be completed and submitted with the Response.

The forms are entitled and can be found at:

<http://comptroller.texas.gov/procurement/prog/hub/hub-subcontracting-plan/>

HUB Subcontracting Plan Form

HUB Subcontracting Plan Form, SECTION 2 continuation sheet

HUB Subcontracting Plan Good Faith Effort - Method A (Attachment A)

HUB Subcontracting Plan Good Faith Effort - Method B (Attachment B)

HUB Subcontracting Opportunity Notification Form

**CONTENT ITEM 5 – OWNERSHIP OF BUSINESS ENTITY**  
**Name(s) and Social Security Number(s) of Each Person with at least**  
**25 Percent Ownership of the Business Entity Submitting the RFQ**  
(if applicable)

---

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name