

State of Texas

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County of Galveston

## **AGREEMENT FOR ENGINEERING SERVICES**

### **PARTIES**

This Agreement for Engineering Services (the “Agreement”) is made and entered into by and between the County of Galveston, a political subdivision of the State of Texas, acting by and through its Galveston County Commissioners Court (the “County”), and DE Corp (the “Engineer”), each of whom is a Party hereto and who are collectively referred to herein as the Parties. This Agreement is to perform engineering services for Bacliff Drainage Improvements within the County (the “Project”), which is further described herein and which such services are within the scope of the practice of engineering

### **RECITALS**

The County conducted a Request for Qualifications, Number RFQ #B221001, entitled “PROFESSIONAL ENGINEERING SERVICES FOR AMERICAN RESCUE PLAN ACT DRAINAGE PROJECTS” (the “RFQ”), to procure professional engineering services to perform the Bacliff Drainage Improvements (the “Project”), which is further described herein and which such services are within the scope of the practice of engineering. The terms of the RFQ are fully incorporated herein as part of the contract as if fully stated in this document.

The Engineer timely submitted a statement of qualifications in the RFQ, is a licensed engineer in the State of Texas, and wishes to perform said services.

**Now Therefore**, for and in consideration of the covenants and agreements contained herein, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

### **CONTRACTUAL UNDERTAKINGS**

#### **SECTION I RETENTION OF ENGINEER**

The County, by and through this Agreement, retains the Engineer to perform professional engineering services in connection with the Project, and the Engineer, by and through this Agreement, agrees to perform said professional engineering services in connection with the Project.

#### **SECTION II CHARACTER AND EXTENT OF SERVICES**

The Engineer shall render professional engineering services necessary for the development of the Project, limited to the following and performed in accordance with existing local, State and Federal regulations, as set out in the Scope of Services attached hereto as Exhibit A through F.

The Scope of Services and Response attached hereto as Exhibit A through F is also made a part of this Agreement for all purposes. But, if any terms of Exhibit A through F conflicts with any

existing State of Texas, Texas Department of Transportation, local, or Federal laws, rules or regulations, the State, Federal or local laws, rules or regulations shall control.

The character and extent of services outlined above shall be considered complete upon approval by County, acting by and through its County Engineer, of the various drawings, data and tasks outlined in Exhibit A through F.

All Services provided by Engineer shall be of good quality and shall be performed in a professional manner. The standard of care for all professional engineering and related Services performed or furnished by Engineer and the Response under this Agreement will be the care and skill ordinarily used by other competent engineers practicing under the same or similar circumstances and professional license. Engineer will re-perform any Services not meeting this standard without additional compensation. Engineer will perform its services as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer.

Additional services that may be required after approval of these documents by the County, or required by State or Federal regulations published in the State or Federal Register after the date of execution of this Agreement, shall not be considered as covered by the initial price and scope of this agreement. If the foregoing occurs or for any other required changes in scope, County and Engineer will attempt to negotiate a change order first on a flat fee basis. If a flat fee cannot be negotiated due to the nature of the work involved, with the approval of the County Engineer, work may be performed on a time and materials basis according to the schedule in Exhibit A through F, subject to the maximum amount payable in Section V. County may, but is not required, to negotiate with Engineer for a change in the maximum amount payable to accommodate changes in the work.

### **SECTION III PERIOD OF SERVICES**

This Agreement shall be effective upon execution by the County and by the Engineer, with the date of the Party signing last in time, and shall remain in force until satisfactory completion of all services described herein or termination under the provisions hereinafter provided in section VIII.

After execution of Agreement, Engineer shall submit a Project Time Schedule to the County Engineer, which shall be diligently followed during performance of services. It is understood by the County that the Engineer will make every effort to expedite completion of the Project.

### **SECTION IV COORDINATION WITH THE COUNTY**

The Engineer agrees to perform the services diligently after authorization to proceed. The Engineer agrees to perform all other services diligently and within the agreed upon time schedule.

The Engineer shall hold periodic conferences with the County Engineer to the end that the Project, as perfected, shall have full benefit of the County's experience and knowledge of existing needs and facilities and be consistent with the County's current policies and construction standards. To implement this coordination, the County Engineer shall make available to the Engineer for use in the Project, all existing plans, maps, field notes, statistics, computations and other data in its possession relative to the Project. Engineer shall submit a monthly progress report of project status to the County Engineer and the County Engineer is the County's designated point of contact for this

Agreement.

## **SECTION V THE ENGINEERS'S COMPENSATION**

As set forth in Exhibit A through F attached hereto, the County shall compensate the Engineer for services performed under this Agreement per the compensation amounts shown in Exhibit A through F for design and construction phase services.

Notwithstanding the foregoing, the maximum amount payable under this Contract is \$630,975.00 including expenses which the Engineer exceeds at its own risk. The maximum amount payable may be revised in the event of changes in extent, complexity, or character of work requiring such revisions upon the prior mutual, written agreement by the County and the Engineer. No revisions in the maximum amount payable will be permitted unless previously authorized in writing by the County.

Payments to the Engineer for authorized services will be made by the County within 45 calendar days upon presentation of monthly statements by the Engineer to the County reflecting Engineer's performance of such services, unless disputed by the County. Additionally, the County agrees that it shall review the monthly statements and if disputing, shall notify the Engineer of the County's dispute no later than thirty (30) days after the County's receipt of the monthly statement. All remittances shall be mailed or delivered to Engineer's office. Engineer further agrees that all monthly statements shall detail its services under this Agreement and, if this Agreement is funded through Federal dollars, comply with applicable Federal requirements associated with costs.

## **SECTION VI OWNERSHIP OF DOCUMENTS**

Original documents, plans, designs and survey notes ("Documents") belong to and remain the property of the County, in consideration of which it is mutually agreed that the County will use them solely in connection with the Project or as required by law, save with the express consent of the Engineer. The Engineer may retain copies of such Documents.

County contracts are subject to all legal requirements provided by county, state or federal statutes, rules and regulations.

Engineer acknowledges that Galveston County is a governmental entity which conducts its meetings in accordance with the Texas Open Meetings Act and whose certain records are available to the public under the Texas Public Information Act. In accordance with Title 5, Chapters 551 and 552 of the Texas Government Code, this Agreement is an open record under the Public Information Act and as such, will be discussed and voted upon in a public meeting. Any request made to either inspect or acquire a copy of this Agreement or the Documents produced as a result of this Agreement will not violate the terms of this Agreement.

## **SECTION VII DISPUTE RESOLUTION**

If a dispute arises out of or relates to a breach of this Agreement, and if the dispute cannot be

settled through negotiation, then the Engineer and the County agree to submit the dispute to mediation. In the event the Engineer or the County desires to mediate any dispute, it shall notify the other Party in writing of the dispute desired to be mediated. If the Parties are unable to resolve their differences within ten days of the receipt of such notice, such dispute shall be submitted for mediation in accordance with the procedures and rules of the American Arbitration Association (or any successor organization) then in effect. The deadline for submitting the dispute to mediation can be changed if the Parties mutually agree in writing to extend the time between receipt of notice and submission of mediation. The expenses of the mediator shall be shared 50 percent by the Engineer and 50 percent by the County. This requirement to seek mediation shall be a condition required before filing an action at law or in equity.

## **SECTION VIII TERMINATION**

The County may terminate the Agreement with or without cause, or for convenience by giving to the Engineer at least thirty (30) calendar days' advance notice in writing. Upon receipt or delivery of such notice, the Engineer shall discontinue all services in connection with the performance of this Agreement and shall proceed to cancel promptly all existing orders and contracts insofar as such orders or contracts are chargeable to this Agreement. As soon as practicable after receipt of notice of termination, the Engineer shall submit a statement showing in detail, the services performed under this Agreement to the date of termination.

The County shall then pay the Engineer promptly for that portion of the prescribed charges which the services actually performed under this Agreement bear to the total services called for under the Agreement, less such payments on account of the charges as have been previously made. Copies of all completed or partially completed surveys, reports, designs, plans, specifications and all other documents prepared under this Agreement shall be delivered to the County Engineer when and if this agreement is terminated, but subject to the restrictions, as to their use, as set forth in Section VI.

## **SECTION IX INSURANCE**

The Engineer shall obtain and maintain, throughout the term of the Agreement, insurance of the types and in the minimum amounts set forth below.

The Engineer shall, upon request by the County, furnish certificates of insurance to the County evidencing compliance with the insurance requirements herein. Certificates shall indicate name of the Engineer, name of insurance company, policy number, and terms and limits of coverage. The Engineer shall cause its insurance companies to provide the County with at least thirty (30) days' prior written notice of any reduction in the limit of liability by endorsement of the policy, cancellation or non-renewal of the insurance coverage required under this Agreement. The Engineer shall obtain such insurance from such companies having a Best's rating of B+/VII or better, licensed or approved to transact business in the state in which the Services shall be performed, Texas, and shall obtain such insurance of the following types and minimum limits.

a. Workers' Compensation insurance in accordance with the Laws of the State of Texas , or state of hire/location of Services, and Employer's Liability coverage with a limit of not less than

\$500,000 each employee for Occupational Disease; \$500,000 policy limit for Occupational Disease; and Employer's Liability of \$500,000 each accident.

b. Commercial General Liability insurance including coverage for Products/Completed Operations, Blanket Contractual, Contractors' Protective Liability, Broad Form Property Damage, Personal Injury/Advertising Liability, and Bodily Injury and Property Damage with limits of not less than:

\$2,000,000	general aggregate limit
1,000,000	each occurrence, combined single limit
1,000,000	aggregate Products, combined single limit
1,000,000	aggregate Personal Injury/Advertising Liability
50,000	Fire Legal Liability
5,000	Premises Medical

c. Business Automobile Liability coverage applying to owned, non-owned and hired automobiles with limits not less than \$1,000,000 each occurrence combined single limit for Bodily Injury and Property Damage combined.

d. Umbrella Excess Liability insurance written as excess of Employer's Liability, with limits not less than \$1,000,000 each occurrence combined single limit.

e. Professional Liability insurance with limits not less than \$1,000,000 each claim/annual aggregate.

The County and the County's agents and employees shall be added as additional insureds to all coverages required above, except for those requirements in paragraphs "a" and "e". All policies written on behalf of the Engineer shall contain a waiver of subrogation in favor of the County and the County's agents and employees, with the exception of insurance required under paragraph "e". Additionally, the Contractor's commercial general liability insurance must provide any defense provided by the policy to Galveston County, its officials, employees, and agents.

## **SECTION X VENUE AND CHOICE OF LAW**

This Agreement shall be construed and enforced for all purposes pursuant to the laws of the State of Texas. Venue shall lie exclusively in a court of competent jurisdiction in Galveston County, Texas.

## **SECTION XI ADDRESS OF NOTICES AND COMMUNICATIONS**

All notices and communications under this Agreement to be mailed or delivered to Engineer shall be to the following address:

Name: Chris Sallese, PMP  
Title: Division Manager  
Mailing Address: 3100 West Alabama St.  
Houston, TX 77098

All notices and communications under this Agreement to be mailed or delivered to the County shall be to the following address:

Mark Henry, Galveston County Judge  
Galveston County Courthouse  
722 Moody, 2nd Floor  
Galveston, Texas 77550

With a copy to:

Michael Shannon, PE, CFM,  
Galveston County Engineer  
722 Moody, 1<sup>st</sup> Floor  
Galveston, Texas 77550

## **SECTION XII SECTION CAPTIONS**

Each section under the contractual undertakings has been supplied with a caption to serve only as a guide to the contents. The caption does not control the meaning of any section or in any way determine its interpretation or application.

## **SECTION XIII SUCCESSORS AND ASSIGNS**

The County and the Engineer each binds itself and its successors, and assigns to the other Party of this Agreement and to the successors, and assigns of such other Party in respect to all provisions of this Agreement. Except as above, neither the County nor the Engineer shall assign, subcontract, or otherwise transfer their interest in this Agreement without the prior written consent of the other Party. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body which may be a party thereto.

## **SECTION XIV ADDITIONAL TERMS**

### **14.1 PROCUREMENT REQUIREMENTS**

Engineer shall comply with all applicable local, State, and Federal laws, rules, regulations, orders, and ordinances. This includes, but is not limited to, that Engineer shall comply with the Galveston County Purchasing Policies & Procedures Manual approved by Order of the Commissioners Court on March 7, 2018, including without limitation, applicable provisions within Chapter Nine of said Manual as this contract is made pursuant to a federal award.

### **14.2 CONFLICT OF INTEREST**

- a. No member of the County's governing body, and no employee, officer, or agent of

the County shall participate in the selection or in the award of administration of a subcontract supported by grant funds if a conflict of interest, real or apparent, would be involved. Such a conflict of interest would arise when: 1.) the employee, officer, or agent, 2.) any member of his or her immediate family, 3.) his or her partner, or 4.) any organization which employs, or is about to employ any of the above; has a financial or other interest in the firm or person selected to perform the subcontract.

b. In all cases not governed by Subsection (a) of this Section, no person specified in subsection (c) of this Section, who exercises any functions or responsibilities in connection with the planning and carrying out of the project, or who are in a position to participate in decision making process or gain inside information with regard to activities under this Agreement as Amended, may obtain a financial interest or benefit from the activity, or have an interest or benefit from the activity, or have any interest in any contract, subcontract, or agreement with respect thereto, or the proceeds thereunder, either for themselves or those with whom they have family or business ties during their tenure or for (1) year thereafter.

c. The conflict of interest provisions of Subsection (b) apply to any person who is an employee, agent, consultant, officer, elected official, or appointed official of the County or of the Contractor.

#### 14.3 AUTHORITY TO BIND

Each Party represents and warrants for itself that the individual executing this Agreement on its behalf has the full power and authority to do so and to legally bind the Party to all the terms and provisions of this Agreement and that this Agreement constitutes the legal, valid, and binding agreement of each Party hereto.

#### 14.4 IMMUNITY RETAINED

The County does not waive or relinquish any immunity or defense on behalf of itself, its trustees, officers, employees, and agents as a result of its execution of this Agreement and performance of the covenants contained herein. The County specifically reserves any claim it may have to sovereign, qualified, or official immunity as a defense to any action arising in conjunction with this Agreement.

#### 14.5 NO THIRD PARTY BENEFICIARY

This Agreement inures only to the benefit of Galveston County and Contractor. This Agreement does not create, is not intended to create, and shall not be deemed or construed to create, any rights or benefits in third parties.

#### 14.6 SEVERABILITY

If a provision contained in this Agreement is held invalid for any reason by a court of competent jurisdiction, the invalidity shall not affect other provisions of the Agreement that may be given effect without the invalid provision, and to this end the provisions of this Agreement are severable.

14.7 VALIDITY/ENFORCABILITY

If any current or future legal limitations affect the validity or enforceability of a provision of this Agreement, then the legal limitations are made a part of this Agreement and shall operate to amend this Agreement to the minimum extent necessary to bring this Agreement into conformity with the requirements of the limitation, and as so modified, this Agreement shall continue in full force and effect.

**This Agreement is hereby EXECUTED by the Parties hereto in triplicate (three (3)) counterparts, each of which shall constitute an original, to be effective upon full execution with the date of the Party signing last in time.**

**Galveston County**

**DE Corp.**

By   
**Mark Henry**  
**County Judge**

By **Christophe**  
**W. Sallese**  
**Chris Sallese**  
**Division Manager**  
Digitally signed by  
Christopher W. Sallese  
Date: 2022.02.23  
16:03:14 -06'00'

**Date Signed:** March 7, 2022

**Date Signed:** \_\_\_\_\_

**Attest:** \_\_\_\_\_

**Dwight D. Sullivan,**  
**Galveston County Clerk**

By  Deputy  
**Mae Ross**





DE Corp.

3100 West Alabama, Houston, TX 77098, P.O. BOX 22292 Houston, Texas 77227 (713) 520-9570

February 24, 2022

Michael C. Shannon, PE, CFM  
County Engineer  
Galveston County  
722 Moody Avenue, 1<sup>st</sup> Floor  
Galveston, TX 77550

Re: Proposal for Design, Bid, and Construction Services for ARPA – Bacliff Drainage Improvements;  
Galveston County, Texas

Dear Michael:

DECorp. (Engineer) would like to submit this proposal for design, bid, and construction services for the ARPA – Bacliff Drainage Improvements project in Galveston County (County), Texas. We appreciate the opportunity to serve the County on this important project. Also included is an estimate of the preliminary construction cost. Certain assumptions were made during the development of this proposal. For example, full construction management and inspection was assumed with at least one (1) personnel present at the site every day. A total construction duration of 8 months was assumed. The preliminary estimate of construction cost included a contingency of 30% as we have limited information at this time. We can discuss these assumptions further and address any questions or comments you may have. The scope of services, fees and schedule are included in **Exhibit A** through **Exhibit G**. The preliminary estimate of construction cost is included in **Exhibit H**. The fees and preliminary construction cost are broken down by project components and summarized in **Table 1**.

If you have any questions or require additional information, please call me at 281-433-3505.

Sincerely,

**DECorp.**

A handwritten signature in blue ink, appearing to read "AW" with a stylized flourish.

Ashish Waghra, PE, CFM  
**Project Manager**

**TABLE 1: FEES AND PRELIMINARY CONSTRUCTION COSTS SUMMARY**

	Project		Project Components		
	Total		10th Street	15th Street	N-16 Ditch
<b>Total cost</b>	<b>\$2,023,515</b>		<b>\$307,364</b>	<b>\$192,150</b>	<b>\$1,524,001</b>
<b>Design Services</b>	<b>\$348,795</b>		<b>\$52,319</b>	<b>\$34,880</b>	<b>\$261,596</b>
Basic Services	\$197,380		\$29,607	\$19,738	\$148,035
Additional Services	\$106,285		\$15,943	\$10,629	\$79,714
Drainage Evaluation	\$45,130		\$6,770	\$4,513	\$33,848
<b>Construction Services</b>	<b>\$282,180</b>		<b>\$42,327</b>	<b>\$28,218</b>	<b>\$211,635</b>
Bid Phase Services	\$7,380		\$1,107	\$738	\$5,535
Construction Phase Services	\$60,240		\$9,036	\$6,024	\$45,180
Construction Management and Insp.	\$214,560		\$32,184	\$21,456	\$160,920
<b>Preliminary Construction Cost</b>	<b>\$1,392,540</b>		<b>\$212,717</b>	<b>\$129,053</b>	<b>\$1,050,770</b>
Contingency 30 %	\$321,355		\$49,089	\$29,781	\$242,485
Base Bid	\$1,071,185		\$163,629	\$99,271	\$808,285

**ARPA - Bacliff Drainage Improvements  
Galveston County, Texas  
Exhibit A  
Scope of Work**

DECORP. (Engineer) has been selected by the Galveston County (County) to prepare plans, specifications, and estimate (PS&E) and perform bid phase and construction phase services (CPS) for drainage improvements in Bacliff, Texas. The PS&E will be supported by a preliminary drainage evaluation to ensure the proposed improvements will perform as expected without adversely impacting adjacent properties and residents. The project includes the following improvements: culvert replacement at 15<sup>th</sup> Street, culvert removal and low water crossing construction at 10<sup>th</sup> Street, and improvements to N-16 ditch and the drop structure/weir along the ditch. The current proposal is divided into two sections: (i) PS&E, bid phase, and CPS services and (ii) drainage evaluation in support of the PS&E. The fee to perform the above mentioned tasks is included in **Exhibit B**, and the schedule is included in **Exhibit C**. In addition to the proposal, the County has requested the Engineer to prepare a preliminary cost estimate. The preliminary construction cost is included in **Exhibit H**.

**I. DESIGN SERVICES**

**1. BASIC SERVICES**

**1.1 Project Management**

The project manager responsibilities shall include the following tasks:

- a) Coordinate a project kickoff meeting with Galveston County and other entities, as needed, and provide meeting minutes after the meeting.
- b) Coordinate four project progress meetings with Galveston County and other entities, as needed, following the submittal of the 30%, 60%, 90% and 100% deliverables and provide meeting minutes after the meeting.
- c) Coordinate with the surveyor, SUE consultant, geotechnical consultant and environmental consultant.
- d) Track project progress and monitor schedule and budget.
- e) Prepare and submit monthly status reports and invoices.

**1.2 Data Collection**

DEC will collect relevant data for the project and perform a field visit. The additional tasks to be performed are presented in detail below.

- a) Prepare a request for survey, which will include survey of existing drainage structures, ditch cross sections, and a couple of finished floor elevations in the project area.
- b) Prepare request for geotechnical, environmental and SUE investigations, which will include the N-16 channel, the channel along 10<sup>th</sup> Street, and the N-16 crossing at 15<sup>th</sup> Street.
- c) Gather the utility lines locations, existing construction plans, and surveyed utilities and topography.
- d) Collect models, plans, reports, and GIS data from Galveston County, and other entities.
- e) Perform a field visit to the project site. Observe and document the existing drainage conditions, drainage patterns, culverts, pipelines, and utilities, etc.

### 1.3 Plans, Specifications, and Estimate

The Engineer shall perform engineering services required for the preparation of the PS&E for the proposed drainage improvements. The PS&E will include the following components: culvert replacement at 15<sup>th</sup> Street, culvert removal and low water crossing construction at 10<sup>th</sup> Street, and improvements to N-16 ditch and the drop structure/weir along the ditch. The PS&E will include the following:

- a) General notes & Legend
- b) Survey control
- c) Overall Project Layout and Alignment
- d) Existing Conditions and Topographic
- e) Proposed Grading
- f) Channel Plan and Profiles
- g) Cross Sections (N-16 Channel, Weir Improvements, 10<sup>th</sup> Street Improvements, Low Water Crossings, 15<sup>th</sup> Street Culvert Improvements)
- h) Drainage and Structural Details
- i) Storm Water Pollution Prevention Plan and Details
- j) Traffic Control Plan and Details
- k) Boring Logs
- l) Quantities
- m) Cost Estimates
- n) Specifications

### 1.4 Project Deliverables

DEC will produce and submit a full PS&E set at 30%, 60%, 90% and final (100%) levels as shown below. Drawings will be submitted on 22" x 34" sheets, or as requested by the County.

- a) Preliminary Plan Layout (Redline Design) - 30% Submittal and Approval
  - Prepare preliminary design drawings. (Layout, project control, Channel plan and profile, Crossing and Weir Improvements)
  - Prepare preliminary quantities and cost estimate.
  - Perform internal review and prepare the 30% submittal
  - Submit USACE NWP application
- b) Preliminary Plan Layout - 60% Submittal and Approval
  - Address 30% comments
  - Prepare 60% construction plans, cost estimate and draft specifications.
  - Perform internal review and prepare the 60% submittal
- c) Final Plan Review - 90% Submittal and Approval
  - Address 60% comments
  - Prepare 90% construction plans, cost estimate and draft specifications.
  - Perform internal review and prepare the 90% submittal
  - Submit plans for signatures from utility and/or pipeline companies, other governmental agencies or municipalities.

d) Final Plan Approval - 100% Submittal and Approval

- Address 90% comments
- Submit Final Plans in PDF format and two hard copies, signed and sealed by a Professional Engineer.
- Submit Project manual and specifications in PDF format and two hard copies, signed and sealed by a Professional Engineer.
- Submit opinion of cost.
- Perform internal review and prepare the 100% submittal

The front-end documents for the project manual shall be provided by Galveston County, if required.

## 2. ADDITIONAL SERVICES

### 2.1 Surveying

The Engineer will sub-contract Weisser Engineering to perform topographic in the project area. The survey will include drainage structures, ditch cross sections, finished floor elevations at selected locations. The survey proposal is included in **Exhibit D**.

### 2.2 Geotechnical Assessment

The Engineer will sub-contract Terracon to perform Geotechnical Investigation for the project area. The field exploration will include Five (5) geotechnical test borings to a depth of 15-ft below existing grade around the project area. The geotechnical investigations proposal is included in **Exhibit E**.

### 2.3 Environmental Assessment

The Engineer will sub-contract Holloway Environmental to perform an environmental investigation for the project area. The primary task of environmental assessment will include jurisdictional delineation of Waters of the United States, delineation of field work, and USACE Field Verification. The full environmental assessment proposal is included in **Exhibit F**.

### 2.4 SUE Assessment

The Engineer will sub-contract RODS Subsurface Utility Engineering (SUE) to perform the SUE services for the project area. The SUE scope will include Quality Levels D& C. Quality Levels B&A will be optional and complete upon approval from the county. The full SUE assessment proposal is included in **Exhibit G**.

## 3. DRAINAGE EVALUATION

The Engineer will perform a preliminary drainage evaluation to evaluate the existing flow conditions along N-16 ditch and to divert additional flow across the drop structure towards West Bayshore Drive and into the bay in order to provide relief to the 10<sup>th</sup> Street ditch. The study will also ensure that the proposed improvements will perform as expected without adversely impacting adjacent properties and residents. Preliminary models will be developed to provide a basic understanding of the existing and proposed drainage conditions. The task to be performed are described below.

### 3.1 Model Development

The Engineer will develop preliminary and coarse hydrologic and perform the following tasks to develop and analyze hydrologic and hydraulic models:

- a) Hydrology: Delineate sub-basins, evaluate hydrologic parameters and compute peak flows and hydrographs based on Atlas 14 rainfall.
- b) Hydraulics – Existing Conditions
  - i. Create a coarse and basic 1D unsteady or 2D HEC-RAS model for the project area using the topographic survey and LiDAR data.
  - ii. Input drainage structures based on survey and record drawings.
  - iii. Include flows from the hydrologic model. Perform the hydraulic analysis for the 5-year, 25-year, and 100-year storm events per the County's drainage criteria manual.
- c) Hydraulics – Proposed Conditions
  - i. Update the model with proposed improvements.
  - ii. Optimize the proposed N-16 ditch cross section and modifications to the drop structure/weir to provide best flood benefits.
  - iii. Evaluate hydraulic impacts, if any, of the proposed improvements. If adverse hydraulic impacts are observed, evaluate two (2) alternatives to eliminate adverse impacts.

### 3.2 Documentation and Deliverables

The Engineer will prepare a letter report to document the findings of the drainage evaluation and address the County's comments on the letter report. The following tasks will be performed:

- a) Prepare letter report, exhibits, appendices, and model outputs.
- b) Address County's comments and resubmit the report for approval.
- c) Deliver models, digital and GIS data, and supporting documents.

## II. CONSTRUCTION SERVICES

### 1. BID PHASE SERVICES

The Engineer will coordinate with the County and assist in preparation of the bid package. The following services will be provided to assist the County with awarding bid:

- a) Attend the Pre-bid meeting
- b) Respond to bidders' questions and prepare addendums
- c) Prepare Bid Tabulation and Recommendation Letter

### 2. CONSTRUCTION PHASE SERVICES

- a) Provide plan revisions as requested by the County.
- b) Project Close-out and Record drawings

### 3. CONSTRUCTION MANAGEMENT AND INSPECTION

- a) The Engineer will function as the County's construction manager and full-time construction inspector for the duration of the construction.

- b) Will schedule and conduct periodic construction progress meetings at a maximum interval of one per month, more frequently if required. Up to 8 meetings will be conducted.
- c) Will provide onsite construction inspection for the duration of the project for up to 8 months
- d) Will track construction quantities and provide daily observation logs of construction progress.
- e) Will review and approve for payment the contractor's monthly invoice.
- f) Will coordinate material sampling and testing with the appropriate testing companies.
- g) Will provide the County with a weekly progress report and a list of anticipated construction activities for the following week.
- h) Will notify the County of any traffic interruptions during construction.
- i) Will perform wage compliance interviews with the contractor's personnel.
- j) Terracon Consultants, Inc. will provide the services of material sampling and testing.



**ARPA - BACLIF DRAINAGE IMPROVEMENTS**  
**GALVESTON COUNTY, TEXAS**  
**EXHIBIT B - FEE ESTIMATE**

	Sr. Project Manager	Project Manager	Engineer IV	Engineer III	CAD	Admin	Sub-Total	Sub-Total (By Task)	No. of Hours	% Budget
Labor Cost	\$300.00	\$200.00	\$150.00	\$140.00	\$120.00	\$90.00	-			
TASK	LABOR (HOURS)						-			
<b>I. DESIGN SERVICES</b>										
<b>1. BASIC SERVICES</b>										
Task 1.1: Project Management								\$13,350	77	4%
a. Kickoff Meeting	2	2	3	2			\$1,730		9	
b. Progress Meetings (4)	4	4	8			4	\$3,560		20	
c. Coordination With Sub Contractors	2	8		8			\$3,320		18	
d. Monthly Status Reports		12	12			6	\$4,740		30	
Task 1.2: Data Collection								\$8,460	56	29%
a. Subcontractor Reports										
i. Report Requests		1		2	4		\$960		7	
ii. Review Subcontractor Reports	1	2	4	12	4		\$3,460		23	
b. Collect and review Existing Plan Data		2	8	4	4		\$2,640		18	
d. Field Trip		4	4				\$1,400		8	
Task 1.3: Plans, Specifications and Estimate								\$115,410	856	33%
Surface Design			2	8	60		\$8,620		70	
1- Cover Sheet & Index			1	1	4		\$770		6	
2- General Notes		1	1	6	4		\$1,670		12	
3- Project Legend		1	1	2	4		\$1,110		8	
4- Survey Control Map		1	1	1	8		\$1,450		11	
5- Project Alignment /Overall Layout(Approx. 2 Sheets)		1	1	2	5		\$1,230		9	
6- Existing Conditions (Approx. 4 Sheets)		1	1	2	8		\$1,590		12	
7- Clearing and Grubbing/Demolition (Approx. 4 Sheets)		1	1	2	6		\$1,350		10	
8- Grading Layout (Approx. 5 Sheets)	1	2	4	12	36		\$7,300		55	
9- Grading Point Table	1	2	4	8	12		\$3,860		27	
10- Channel Plan and Profile (Approx. 4 Sheets)	2	6	8	24	60		\$13,560		100	
11- Channel Cross Sections (Approx. 2 Sheets)	2	2	4	6	36		\$6,760		50	
12- 10th Street Low Water Crossing	2	4	4	8	42		\$8,160		60	
13 -10th Street Water Crossing Improvements	2	2	4	8	24		\$5,600		40	
14- N-16 Weir Improvements	2	2	6	8	32		\$6,860		50	
15 - 15th Culvert Improvements Plan and Profile	2	4	8	24	48		\$11,720		86	
16- Storm Sewer Inflow Laterals (Approx. 4 Sheets)	1	2	4	12	40		\$7,780		59	
17- Miscellaneous Details (Approx. 6 Sheets)	1	4	6	12	36		\$8,000		59	
18- Traffic Control (Approx. 2 Sheets)	1	4	6	12	24		\$6,560		47	
19- Traffic Controls Details		1	2	4	8		\$2,020		15	
20- SWPPP (Approx. 3 Sheets)		4	4	8	24		\$5,400		40	
21- SWPPP Details		1	2	4	8		\$2,020		15	
22- Boring Logs (Approx. 3 sheets)		1	2	4	8		\$2,020		15	



**ARPA - BACLIF DRAINAGE IMPROVEMENTS  
GALVESTON COUNTY, TEXAS  
EXHIBIT B - FEE ESTIMATE**

	Sr. Project Manager	Project Manager	Engineer IV	Engineer III	CAD	Admin	Sub-Total	Sub-Total (By Task)	No. of Hours	% Budget
Labor Cost	\$300.00	\$200.00	\$150.00	\$140.00	\$120.00	\$90.00	-			
TASK	LABOR (HOURS)						-			
Task 1.4: Project Deliverables								\$60,160	434	17%
30% Cost Estimate		2	2	4	8		\$2,220		16	
QAQC of (PS&E) @ 30%		2	3	4	4		\$1,890		13	
Preparation of Submittals (PS&E) @ 30%			4	8	8		\$2,680		20	
Submittal Coordination/Response		2	3	4	4		\$1,890		13	
60% Cost Estimate		2	2	4	12		\$2,700		20	
QAQC of (PS&E) @ 60%		2	8	12	18		\$5,440		40	
Preparation of Submittals (PS&E) @ 60%			4	8	8		\$2,680		20	
Submittal Coordination/Response		2	8	10	12		\$4,440		32	
90% Cost Estimate		2	6	12	12		\$4,420		32	
90% Specifications		2	8	20	0		\$4,400		30	
QAQC of (PS&E) @ 90%		2	8	12	18		\$5,440		40	
Preparation of Submittals (PS&E) @ 90%			4	8	8		\$2,680		20	
Submittal Coordination/Response		2	8	10	12		\$4,440		32	
100% Cost Estimate		2	4	6	4		\$2,320		16	
100% Specifications		2	8	12	0		\$3,280		22	
QAQC of (PS&E) @ 100%		2	4	6	12		\$3,280		24	
Preparation of Submittals (PS&E) @ 100% and Approval			4	8	8		\$2,680		20	
Submittal Coordination/Response		2	4	6	12		\$3,280		24	
<b>TOTAL BASIC SERVICES</b>								<b>\$197,380</b>		
<b>2. ADDITIONAL SERVICES</b>										
Task 2.0: Additional Services								\$106,285		30%
2.1 Surveying							\$39,985			
2.2 Geotechnical							\$14,700			
2.3 Environmental										
Basic Tasks							\$13,750			
Optional Tasks (Upon County Approval)							\$16,850			
2.4 SUE										
Levels D&C							\$11,250			
Levels B&A (Upon County Approval)							\$9,750			
<b>TOTAL ADDITIONAL SERVICES</b>								<b>\$106,285</b>		

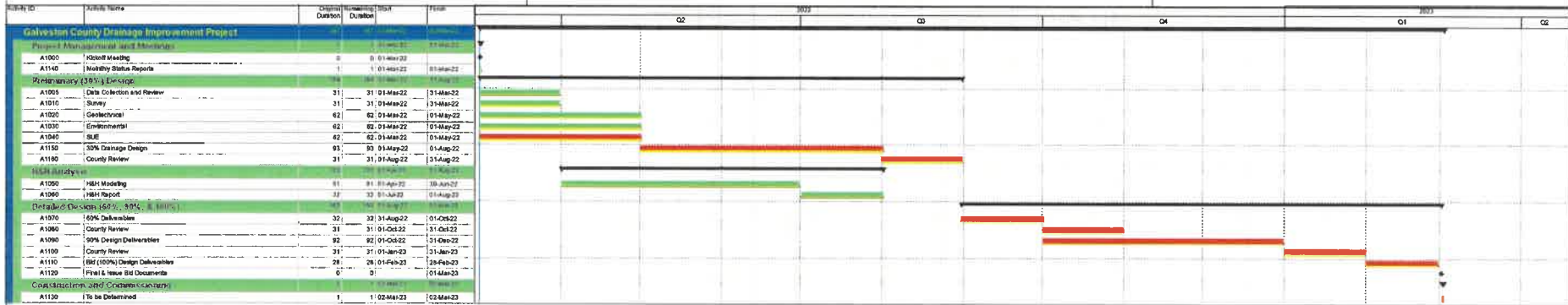
**ARPA - BACLIF DRAINAGE IMPROVEMENTS**  
**GALVESTON COUNTY, TEXAS**  
**EXHIBIT B - FEE ESTIMATE**

	Sr. Project Manager	Project Manager	Engineer IV	Engineer III	CAD	Admin	Sub-Total	Sub-Total (By Task)	No. of Hours	% Budget
Labor Cost	\$300.00	\$200.00	\$150.00	\$140.00	\$120.00	\$90.00	-			
TASK	LABOR (HOURS)						-			
<b>3. DRAINAGE EVALUATION</b>										
Task 3.1: Model Development								\$32,800	225	9%
a. Hydrology										
i. Delineate drainage areas	1	1	4	8	8		\$3,180		22	
ii. Develop hydrologic parameters		1	4	8	8		\$2,880		21	
iii. Develop flows and hydrographs (3 frequencies)		1	4	12			\$2,480		17	
b. Hydraulics - Existing Conditions										
i. 1D HEC-RAS Setup	1	2	12	16	12		\$6,180		43	
ii. Import Existing Structures	1	1	4	16			\$3,340		22	
iii. Run the three storm events		1	8	8			\$2,520		17	
c. Hydraulics - Proposed Conditions										
i. Update With Proposed Improvements		2	8	16	8		\$4,800		34	
ii. Optimize Improvements	1	2	8	16			\$4,140		27	
iii. Evaluate Hydraulic Impacts		2	8	12			\$3,280		22	
Task 3.2: Project Deliverables								\$12,330	83	4%
a. Letter Report										
- Text	1	2	12	6		4	\$3,700		25	
- Exhibits			2	4	16		\$2,780		22	
- Appendices		1	4	4			\$1,360		9	
b. County Review and Response										
- County Review and Approval	2	4	8	8			\$3,720		22	
c. Deliver Models, Digital Data, GIS Data, and Supporting Documents		1	1	3			\$770		5	
<b>TOTAL DRAINAGE EVALUATION</b>								<b>\$45,130</b>		
<b>TOTAL DESIGN SERVICES</b>								<b>\$348,795</b>		<b>100%</b>
<b>II. CONSTRUCTION SERVICES</b>										
<b>1. BID PHASE SERVICES</b>										
Task 1: Bid Phase Services								\$7,380	44	3%
a. Attendance at Pre-Bid Meeting		2	2				\$700		4	
b. Preparation of Bid Addendums	1	2	8	4			\$2,460		15	
c. Bid Tabulation and Recommendation	2	5	10	8			\$4,220		25	
<b>TOTAL BID PHASE SERVICES</b>								<b>\$7,380</b>		

**ARPA - BACLIFF DRAINAGE IMPROVEMENTS  
GALVESTON COUNTY, TEXAS  
EXHIBIT B - FEE ESTIMATE**

	Sr. Project Manager	Project Manager	Engineer IV	Engineer III	CAD	Admin	Sub-Total	Sub-Total (By Task)	No. of Hours	% Budget
Labor Cost	\$300.00	\$200.00	\$150.00	\$140.00	\$120.00	\$90.00	-			
TASK	LABOR (HOURS)						-			
<b>2. CONSTRUCTION PHASE SERVICES</b>										
Task 2: Construction Phase Services								\$60,240	316	21%
a. Construction Meeting Attendance (8 meetings)	24		24			8	\$11,520		56	
b. Walk through Inspections (Substantial / Final)		8	8				\$2,800		16	
c. Response to RFIs.	2	8	24		20	8	\$8,920		62	
d. Response to Submittals.	2	8	24		20	8	\$8,920		62	
d. Plan Revisions (As Needed)	4	24			48		\$11,760		76	
e. Project Close-out and Record Drawings	4	24			80	8	\$16,320		116	
<b>TOTAL CONSTRUCTION PHASE SERVICES</b>								<b>\$60,240</b>		
<b>3. CONSTRUCTION MANAGEMENT AND INSPECTION</b>										
Task 3: Construction Management and Inspection								\$214,560	1440	76%
a. Construction Inspection	48				1280		\$168,000		1328	
b. Construction Meeting Attendance (8 meetings)					24		\$2,880		24	
c. Review Contractor Pay Applications	8		8		16	8	\$6,240		40	
d. Coordinate Material sampling and testing	2		4		12		\$2,640		18	
e. Wage Compliance verification	2	12			12	4	\$4,800		30	
f. Mileage to Construction Site (ODC)							\$15,000			
f. Material Sampling and Testing - Terracon (ODC)							\$15,000			
<b>TOTAL CONSTRUCTION MANAGEMENT AND INSPECTION</b>								<b>\$214,560</b>		
<b>TOTAL CONSTRUCTION SERVICES</b>								<b>\$282,180</b>		<b>100%</b>
<b>TOTAL DESIGN AND CONSTRUCTION SERVICES</b>								<b>\$630,975</b>		

By Project Area	Design Services	Construction Services	Subtotal
10th Street	\$ 52,319.00	\$ 42,327.00	\$ 94,646.00
15th Street	\$ 34,880.00	\$ 28,218.00	\$ 63,098.00
N-16 Ditch	\$ 261,596.00	\$ 211,635.00	\$ 473,231.00
Total	\$ 348,795.00	\$ 282,180.00	\$ 630,975.00

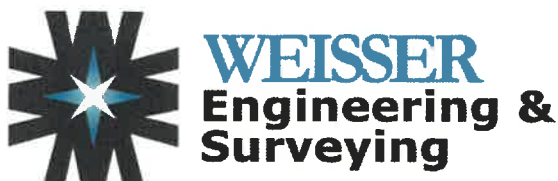
ARPA - BACLIFF DRAINAGE IMPROVEMENTS  
EXHIBIT C - SCHEDULEData Date: 19-Jan-22 11:33  
Schedule Run Date: 19-Jan-22

Remaining Level of Effort  
Actual Level of Effort  
Project Baseline Bar  
Primary Baseline  
Actual Work  
Remaining Work

Critical Remaining Work  
Milestone  
Summary



## Exhibit D - Survey Scope and Fee



TBPLS Reg. No. 10194324  
TBPE Reg. No. F-68

### PROPOSAL AGREEMENT FOR PROFESSIONAL SERVICES

Effective Date: January 17, 2022

Ashish Waghray  
DE Corporation  
3100 West Alabama Street  
Houston, TX 77098  
713-527-6345  
[Ashish.waghray@decorp.com](mailto:Ashish.waghray@decorp.com)

Proposal for Professional Services in Connection With: Galveston County Baccliff Improvements Project

Weisser Engineering & Surveying is pleased to submit this proposal and terms of service (together, the "Agreement") to DE Corporation (the "Client").

#### I. SCOPE OF SERVICES

Weisser Engineering & Surveying will provide the following services ("Services") to Client:

##### A. 10<sup>th</sup> Street Crossing Limits

Survey Limits begin approx. 100 feet north of the existing 10<sup>th</sup> Street Culvert and proceed south to approx. 50 feet south of the existing low water crossing. Also includes Limited TOPO at the intersection of the Channel and Chase Park Drive. (Limits shown on attached Aerial Image)

- 1) Provide a recoverable baseline with TBM's on-site. TBM's shall be tied to the Texas State Plane Coordinate System, South Central Zone (NAD 83) and NAVD 88.
- 2) Deed and Easement research will be performed to establish Right-of-way and Property lines for the Survey Limits.
- 3) Topographic Survey will include, but not limited to, Cross-Sections obtained at 100-foot intervals throughout Survey Limits, location and elevation of drainage structures, improvements (pavement, fences, etc.), above ground visible utilities with rim and flowline elevations, tops, toes, and flowlines of ditches and swales, water surface elevation, and size and flowline elevations of any pipes or culverts outfalling into the channel.
- 4) Limited Topographic Survey at the intersection of the Channel and Chase Park Drive will include Horizontal and Vertical location of culverts, wingwalls, headwalls, guardrails, drainage structures, centerline of street, and edges of pavement.
- 5) Prepare a continuous map of the field data in AutoCAD format showing topographic and cross-section data, baseline geometry, monumentation, all temporary benchmarks, and the project benchmarks.
- 6) Final submittal shall consist of an AutoCAD file, Signed and Sealed PDF's (24"x36"), and CSV point file.

##### B. 15<sup>th</sup> Street Crossing Limits

Survey Limits begin at the intersection of 15<sup>th</sup> Street and the existing ditch, then proceed approx. 100 feet northeast (DS) and southwest (US) along the existing ditch and approx. 100 feet northwest and southeast along 15<sup>th</sup> Street. (Limits shown on attached Aerial Image)

- 1) Provide a recoverable baseline with TBM's on-site. TBM's shall be tied to the Texas State Plane Coordinate System, South Central Zone (NAD 83) and NAVD 88.

- 2) Deed and Easement research will be performed to establish Right-of-way and Property lines for the Survey Limits.
- 3) Topographic Survey will include, but not limited to, Cross-Sections obtained 100-foot Upstream and Downstream and at the Flowline of the Culverts at the Crossing, location and elevation of drainage structures, improvements (pavement, fences, etc.), above ground visible utilities with rim and flowline elevations, tops, toes, and flowlines of ditches and swales, water surface elevation, and size and flowline elevations of any pipes or culverts outfalling into the channel.
- 4) Prepare a continuous map of the field data in AutoCAD format showing topographic and cross-section data, baseline geometry, monumentation, all temporary benchmarks, and the project benchmarks.
- 5) Final submittal shall consist of an AutoCAD file, Signed and Sealed PDF's (24"x36"), and CSV point file.

#### C. N-16 Ditch Limits

Survey Limits begin 100 feet southwest of the intersection of Ditch N-16 and 10<sup>th</sup> Street and proceed northeast along Ditch N-16 approx. 5,000 feet to the existing Outfall to Galveston Bay. Includes the Crossing of N-16 and 10<sup>th</sup> Street, the Dirt Road/Easement Crossing approx. 100 feet Downstream of the intersection of N-16 and 10<sup>th</sup> Street, and 1 cross section of the existing channel approx. half way between 10<sup>th</sup> Street and 15<sup>th</sup> Street. (Limits shown on attached Aerial Image)

- 1) Provide a recoverable baseline with TBM's on-site. TBM's shall be tied to the Texas State Plane Coordinate System, South Central Zone (NAD 83) and NAVD 88.
- 2) Prepare and submit Survey Control Maps, in an acceptable format, signed and sealed by a Registered Professional Land Surveyor.
- 3) Deed and Easement research will be performed to establish Right-of-way and Property lines for the Survey Limits.
- 4) Topographic Survey from beginning of the Survey Limits to the existing Weir/Drop Structure (approx. 3,100 feet, will include, but not limited to, Cross-Sections obtained at 200-foot intervals throughout Survey Limits, location and elevation of drainage structures, improvements (pavement, fences, etc.), above ground visible utilities with rim and flowline elevations, tops, toes, and flowlines of ditches and swales, water surface elevation, and size and flowline elevations of any pipes or culverts outfalling into the channel.
- 5) Limited Topographic Survey from existing Weir/Drop Structure to Outfall at Galveston Bay will include 4 evenly spaced Cross-section between the Weir and FM 646, location and elevation of culvert crossing at FM 646, one cross-section evenly spaced between FM 646 and Galveston Bay, Finished Floor Elevations of the two houses, one on each side of the channel, between FM 646 and Galveston Bay, and location and elevation of Outfall at Galveston Bay.

**TOTAL COST: \$39,985.00 (non-taxable)**

The Client will provide the following:

Site access

#### II. ~~TERMS AND CONDITIONS~~

1. ~~This Agreement may only be modified by a writing acknowledging agreement of modification by both parties.~~
2. ~~The Responsible Party signing this Agreement agrees to be fully responsible for the timely and complete payment for Services within thirty (30) days of invoicing. Any requests for modification of~~

this provision must be signed by an officer or department director of Weisser Engineering & Surveying.

3. Weisser Engineering & Surveying is an independent contractor. Nothing in this Agreement forms a partnership, joint venture, employment, franchise, master-servant, or agency relationship between Client and Weisser Engineering & Surveying.
4. WEISSER ENGINEERING & SURVEYING SHALL ONLY BE LIABLE FOR DAMAGE OR LOSS TO ANY PERSON OR PROPERTY TO THE EXTENT SUCH DAMAGE OR LOSS IS CAUSED BY WEISSER ENGINEERING & SURVEYING'S NEGLIGENT ACT OR OMISSION IN CONNECTION WITH THE SERVICES. WEISSER ENGINEERING & SURVEYING'S LIABILITY TO CLIENT OR ANY OTHER PARTY FOR CLAIMS OF ANY KIND, WHETHER BASED ON CONTRACT OR TORT OR OTHERWISE RELATING TO THIS AGREEMENT, SHALL NOT EXCEED THE COMPENSATION PAID OR OWED TO WEISSER ENGINEERING & SURVEYING FOR SERVICES UNDER THIS AGREEMENT.
5. Client shall not solicit Weisser Engineering & Surveying employees for purposes of employment during the course of the Agreement or for a period of twelve (12) months thereafter. Client acknowledges and agrees that breach of this provision may result in irreparable and continuing damage to Weisser Engineering & Surveying, for which there would be no adequate remedy at law, and that, in the event of such breach, Weisser Engineering & Surveying may be entitled to equitable or injunctive relief and/or a decree for specific performance, in addition to all such other and further relief as may be available at law, in equity, or otherwise.
6. Upon request, Weisser Engineering & Surveying may make electronic files of its CAD drawings available to Client on an "as is" basis for informational purposes only that may not be relied upon for any other purpose. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND WITH REGARD TO ELECTRONIC FILES ARE DISCLAIMED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. Since revisions or additions to design file drawings may occur at any time, Client agrees to indemnify, defend and hold harmless Weisser Engineering & Surveying, its officers, directors, agents, shareholders, and employees from and against any and all claims, suits, losses, damages or costs, including reasonable attorney's fees, arising from the use of outdated or amended design file drawings by Client or any third party, and such indemnification shall survive acceptance of said file(s) by Client or the termination of this Agreement. Client promises to notify any third party that the third party may not reasonably rely on electronic files, drawings, or documents not directly provided to such third party by Weisser Engineering & Surveying.
7. This Agreement shall be deemed entered into in Texas and shall be governed by and construed and interpreted in accordance with the laws of the State of Texas, without reference to any rules of conflict of laws. Venue shall be in Houston, Harris County, Texas.
8. In the event that any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions, and the Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained in it.
9. This Agreement may be executed by facsimile or scanned and electronically transferred signatures. A copy of this Agreement bearing such a signature or signatures shall have the same force and effect as an original agreement with inked original signatures. Once signed, any reproduction of this Agreement made by reliable means (e.g., photocopy, scan, facsimile) is considered an original.
10. Client's failure to sign and return this Agreement to Weisser Engineering & Surveying within fifteen (15) days of Effective Date renders the Agreement voidable by Weisser Engineering & Surveying.
11. Notwithstanding anything to the contrary in this Agreement or any other ancillary documents, Weisser Engineering & Surveying shall not be responsible for delays caused by factors beyond Weisser Engineering & Surveying's reasonable control, including but not limited to delays because of strikes, lockouts, work slowdowns or stoppages, government ordered industry shutdowns, power or server outages, acts of nature, widespread infectious disease outbreaks (including, but not limited to

epidemics and pandemics), failure of any governmental or other regulatory authority to act in a timely manner, failure of the Client to furnish timely information or approve or disapprove of Weisser Engineering & Surveying's services or work product, or delays caused by faulty performance by the Client or by contractors of any level. When such delays beyond Weisser Engineering & Surveying's reasonable control occur, Client agrees that Weisser Engineering & Surveying shall not be responsible for damages, nor shall Weisser Engineering & Surveying be deemed in default of this Agreement or any other agreement.

We appreciate the opportunity to provide this proposal. If you have any questions or comments, please do not hesitate to contact John Harvill, RPLS ([jharvill@weissereng.com](mailto:jharvill@weissereng.com)).

The Client, by signing below, represents that he or she has the authority to enter into this Agreement, agrees to the terms and conditions in this Agreement, is willing to be the Responsible Party, promises to pay the invoiced amount within thirty (30) days of invoicing, and authorizes Weisser Engineering & Surveying to proceed with the Services as described above.

**CLIENT**

DE Corporation

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

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

Date of Acceptance: \_\_\_\_\_

**WEISSER ENGINEERING & SURVEYING**

By:  \_\_\_\_\_

Printed Name: Walter P. Sass

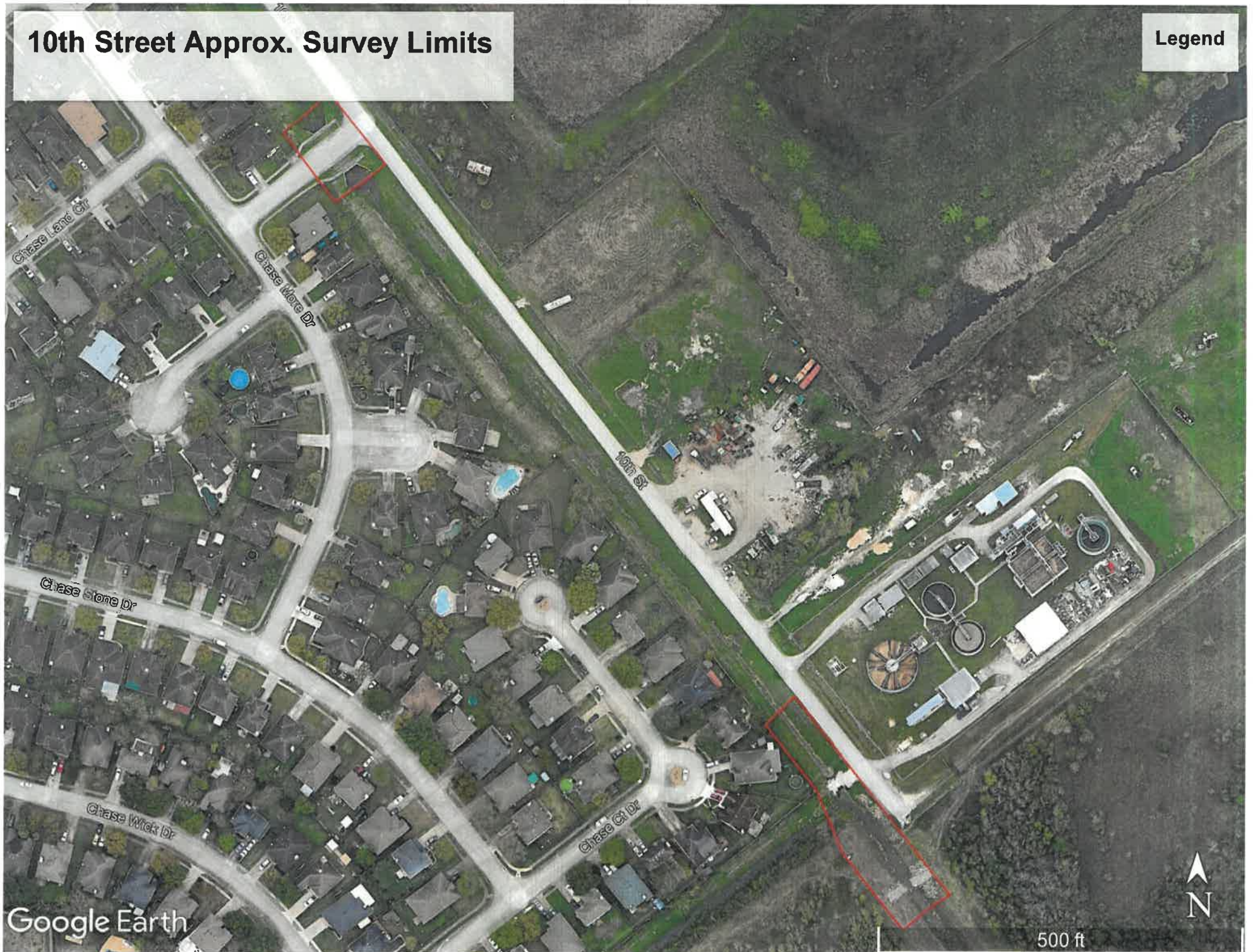
Title: Principal

Date of Acceptance: 1/17/2022



# 10th Street Approx. Survey Limits

Legend





# 15th Street Approx. Survey Limits

Legend



Google Earth

200 ft

Chase Dr  
N



## N-16 Approx. Survey Limits

Red = Topographic Limits

Purple = Limited Topographic Limits

Legend



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
3	DEC																		
4	January 17, 2022																		
5	Badliff																		
6	Culvert Crossings and Ditch N-16																		
7	Galveston County, TX																		
8																			
9																			
10	Task Description	Principal	Sr Project Manager (RPLS)	Survey/Project Manager	Project Supervisor	Civil / Design Engineer	Consulting Engineer (PE)	Engineering Technician	Survey Tech	Records Research	CADD Designer	CADD Operator	Field Crew Coordinator	3-Person Survey Crew	2-Person Survey Crew	Clerical	HSE Compliance	Total reimbursables from below	Estimated Total Project Cost, Including Reimbursable Expenses
11	Hourly Rate	\$195.00	\$155.00	\$140.00	\$130.00	\$145.00	\$165.00	\$105.00	\$105.00	\$80.00	\$95.00	\$90.00	\$100.00	\$165.00	\$140.00	\$60.00	\$135.00		
12																			
13	% of Cost	0%	10%	0%	0%	0%	0%	0%	16%	6%	0%	19%	3%	45%	0%	1%	0%		
14	10th Street Cost		4.0						12.0	8.0		20.0	3.0	25.0		2.0			
15	Dollar amounts for Area 1	\$0.00	\$620.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,280.00	\$640.00	\$0.00	\$1,800.00	\$300.00	\$4,125.00	\$0.00	\$120.00	\$0.00	\$0.00	\$6,865.00
16	15th Street Cost		2.0						6.0	4.0		8.0	2.0	14.0		2.0			
17	Dollar amounts for Area 2	\$0.00	\$310.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$630.00	\$320.00	\$0.00	\$720.00	\$200.00	\$2,310.00	\$0.00	\$120.00	\$0.00	\$0.00	\$4,610.00
18	Ditch N-16 Cost		20.0						44.0	16.0		56.0	8.0	70.0		2.0			
19	Dollar amounts for Area 3	\$0.00	\$3,100.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$4,620.00	\$1,260.00	\$0.00	\$5,040.00	\$800.00	\$11,550.00	\$0.00	\$120.00	\$0.00	\$0.00	\$26,510.00
20	Separate Items																		
21	Dollar amounts for SEPARATE ITEMS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22	Reimbursables																		
23	TOTAL ESTIMATED COST	\$0.00	\$4,030.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6,510.00	\$2,240.00	\$0.00	\$7,560.00	\$1,300.00	\$17,985.00	\$0.00	\$360.00	\$0.00	\$0.00	\$19,985.00
24	Total hours	0.00	26.00	0.00	0.00	0.00	0.00	0.00	62.00	28.00	0.00	84.00		109.00	0.00	6.00	0.00		



## Exhibit E - Geotechnical Scope and Fee



January 19, 2022

DEC, Inc.  
3100 W. Alabama  
Houston, Texas 77098

Attn: Mr. Ashish Waghray, P.E., CFM

Re: Cost Estimate for Geotechnical Engineering Services  
Bacliff Drainage Improvements  
10th Street and 15th Street  
Bacliff, Texas  
Terracon Document No. P91225002.Revision1

Dear Mr. Waghray:

Terracon understands we have been selected based on qualifications to submit this document to DEC, Inc. to provide Geotechnical Engineering services for the above referenced project. The following are exhibits to this document.

Exhibit A	Project Understanding
Exhibit B	Scope of Services
Exhibit C	Compensation and Project Schedule
Exhibit D	Site Location
Exhibit E	Anticipate Exploration Plan

Our base fee to perform the scope of services described in this document using all-terrain vehicle (ATV) mounted drilling equipment is **\$29,700**. See **Exhibit C** for consideration of additional services.

We understand the client will authorize our services by issuing a "Contract for Professional Engineering Services". This contract will be reviewed by our legal department prior to commencement of work.

Sincerely,

**Terracon Consultants, Inc.**  
(Texas Registration No. F-3272)

A handwritten signature in black ink, appearing to read 'Ruofan Chu'.

Ruofan Chu, P.E.  
Project Manager

A handwritten signature in black ink, appearing to read 'Patrick M. Beecher'.

For: Bobbie Sue Hood, P.E.  
Principal

## EXHIBIT A - PROJECT UNDERSTANDING

Our scope of work is based on information obtained from email correspondence with the client. Aspects of the project that are undefined or assumed are highlighted as shown below. We request the design team provide input to verify this information prior to our initiation of field exploration activities.

### Site Location

Item	Description
Site location	The project site is located along the existing drainage areas along 10th Street and 15th Street in Bacliff, Texas.
Existing improvements and site access	Existing drainage features are located within the right-of-ways. We expect the site and exploration locations remain accessible with our ATV-mounted drilling equipment during normal business hours at the time of authorization.

### Planned Construction

Item	Description
Proposed improvements	<ul style="list-style-type: none"><li>■ Approximately 3,800 linear feet of drainage channel is planned to be deepened to a maximum depth of 8 feet (N-16 ditch). The sideslopes of the canals are planned to be either 4H:1V or 5H:1V.</li><li>■ Replacement of the 15<sup>th</sup> Street culvert.</li><li>■ Removal and replacement of existing crossing at 10<sup>th</sup> Street - erosion recommendations, bedding recommendations for new low water crossing, rehabilitation of existing low water crossing, and articulated blocks.</li></ul>

We understand the improvements are planned to be designed and constructed in general accordance with Harris County Flood Control District (HCFCD) guidelines.

## EXHIBIT B - SCOPE OF SERVICES

Our proposed scope of services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

### Field Exploration

The field exploration program is planned to consist of the following:

Number of Borings	Planned Boring Depth (feet) <sup>1</sup>	Planned Location
6	15	East of 10 <sup>th</sup> Street
2	15	Along 10 <sup>th</sup> Street
1	15	15 <sup>th</sup> Street

<sup>1.</sup> Below existing grade.

The total drilling footage is planned to be 135 feet.

**Boring Layout and Elevations:** We understand that the client will layout and provide survey information for the proposed locations.

**Subsurface Exploration Procedures:** We advance soil borings with ATV-mounted drilling equipment using continuous flight auger and wash rotary drilling methods. Seven samples are obtained to termination depth of 15 feet. Soil sampling is typically performed using open-tube and/or split-barrel sampling procedures. The split-barrel samplers are driven in accordance with the standard penetration test (SPT). The samples will be placed in appropriate containers, taken to our soil laboratory for testing, and classified by a Geotechnical Engineer. In addition, we will observe and record groundwater levels during drilling and sampling.

Our exploration team will prepare field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials observed during drilling, and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the Geotechnical Engineer's interpretation, and include modifications based on observations and laboratory tests.

**Property Disturbance:** We will backfill borings with auger cuttings upon completion. Our services do not include repair of the site beyond backfilling our borings. Excess auger cuttings are dispersed in the general vicinity of the borings. Because backfill material often settles below the surface after a period, we recommend borings be checked periodically and backfilled, if necessary. We can provide this service or grout the holes for additional fees, at your request.

## **Laboratory Testing**

The project engineer will review field data and assign laboratory tests. Based on our understanding of the project, assigned tests may include the following.

- Moisture content
- Unit weight
- Atterberg limits
- Percent finer than No. 200 Sieve
- Unconfined compressive strength
- Crumb tests
- Double hydrometer tests

Our laboratory testing program includes examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we describe and classify soil samples in accordance with the Unified Soil Classification System (USCS).

## **Safety**

Terracon is currently not aware of any environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our scope of services does not include any level of environmental site assessment services, but identification of unusual or unnatural materials encountered while drilling will be noted on our logs and discussed in our report.

Exploration efforts require borings into the subsurface, therefore Terracon complies with local regulations to request a utility location service through Texas 811. We consult with the owner/client regarding potential utilities, or other unmarked underground hazards. Based upon the results of this consultation, we consider the need for alternative subsurface exploration methods, as the safety of our field crew is a priority.

Private utilities should be marked by the owner/client prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities not disclosed to us. If the owner/client is unable to accurately locate private utilities, Terracon can assist the owner/client by coordinating or subcontracting with a private utility locating services. Fees associated with the additional services are not included in our current Scope of Services and will be forwarded to our client for approval prior to initiating, if requested. The detection of underground utilities is dependent upon the composition and construction of the utility line; some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private utility locate service would not relieve the owner of their responsibilities in identifying private underground utilities.



Consultant will be responsible for supervision and site safety measures for its own employees, but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site. In addition, Consultant retains the right to stop work without penalty at any time Consultant believes it is in the best interests of Consultant's employees or subcontractors to do so in order to reduce the risk of exposure to the coronavirus. Client agrees it will respond quickly to all requests for information made by Consultant related to Consultant's pre-task planning and risk assessment processes. Client acknowledges its responsibility for notifying Consultant of any circumstances that present a risk of exposure to the coronavirus or individuals who have tested positive for COVID-19 or are self-quarantining due to exhibiting symptoms associated with the coronavirus.

**Site Access:** By acceptance of this estimate, without information to the contrary, we consider this as authorization to access the property for conducting field exploration in accordance with the scope of services.

## **Engineering and Project Delivery**

Results of our field and laboratory programs will be evaluated by a professional engineer. The engineer will develop a geotechnical site characterization, perform the engineering calculations necessary to evaluate foundation alternatives, and develop appropriate geotechnical engineering design criteria for earth-related phases of the project.

Your project will be delivered using our **GeoReport®** system. Upon initiation, we provide you and your design team the necessary link and password to access the website (if not previously registered). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. The typical delivery process includes the following:

- Project Planning – Estimate information, schedule and anticipated exploration plan will be posted for review and verification
- Site Characterization – Findings of the site exploration
- Geotechnical Engineering – Recommendations and geotechnical engineering report

When utilized, our collaboration portal documents communication, eliminating the need for long email threads. This collaborative effort allows prompt evaluation and discussion of options related to the design and associated benefits and risks of each option. With the ability to inform all parties as the work progresses, decisions and consensus can be reached faster. In some cases, only minimal uploads and collaboration will be required, because options for design and construction are limited or unnecessary. This is typically the case for uncomplicated projects with no anomalies found at the site.

## Cost Estimate for Geotechnical Engineering Services

Bacliff Drainage Improvements ■ Bacliff, Texas

January 19, 2022 ■ Terracon Document No. P91225002.Revision1



When services are complete, we upload a printable version of our completed geotechnical engineering report, including the professional engineer's seal and signature, which documents our services. Previous submittals, collaboration and the report are maintained in our system. This allows future reference and integration into subsequent aspects of our services as the project goes through final design and construction.

The geotechnical engineering report will provide the following:

- Site plan and exploration plan;
- Computer generated boring logs with field and laboratory data;
- Stratification based on visual soil classification;
- Groundwater levels observed in borings during drilling and at 5-minute intervals for 15 minutes; and
- Drainage improvement construction considerations:
  - Slope stability analysis up to three cases (a case is defined as one cross section with one soil profile),
  - Temporary groundwater control and excavation considerations,
  - Erosion control, and
  - Bedding requirements for culvert replacement.

## EXHIBIT C - COMPENSATION AND PROJECT SCHEDULE

### Compensation

Based upon our understanding of the site, the project as summarized in **Exhibit A** and our planned scope of services outlined in **Exhibit B**, our base fee is shown in the following table:

Task	Lump Sum Fee
Subsurface Exploration, Laboratory Testing, Geotechnical Consulting & Reporting	\$14,700
Materials Testing	\$15,000
<b>Total:</b>	<b>\$29,700</b>

We understand the client is asking for a fee for materials testing. At this time, construction details and specification are not available, and we can only offer a preliminary estimate of \$15,000, based on the scope of the geotechnical investigation.

We request an opportunity to review and revisit our estimate once the project construction documents are available.

Our scope of services does not include services associated with surveying of boring locations, special equipment for wet ground conditions, or repair of damage to existing landscape. If such services are desired by the owner/client, we should be notified so we can adjust our scope of services.

Additional consultation (such as attendance on a project conference call, engineering analysis, review of project documents, etc.) requested will be performed on a time-and-materials basis. The fee to provide additional consultation services will be in excess of the above provided fee to complete the geotechnical services and will not be incurred without prior approval of the client.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this document. If conditions are encountered that require scope of work revisions and/or result in higher fees, we will contact you for approval, prior to initiating these services. A supplemental document stating the modified scope of services as well as its effect on our fee will be prepared. We will not proceed without your authorization, as evidenced by your signature on the Supplemental Agreement for Services form.

### Project Schedule

We developed a schedule to complete the scope of services, based upon our existing availability and understanding of your project schedule. However, this does not account for any delays in field exploration beyond our control, such as weather conditions, permit delays, or lack of

**Cost Estimate for Geotechnical Engineering Services**

Bacliff Drainage Improvements ■ Bacliff, Texas

January 19, 2022 ■ Terracon Document No. P91225002.Revision1



permission to access the boring locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.

<b>GeoReport Stage</b>	<b>Posting Date from Notice to Proceed <sup>1,2</sup></b>
Project Planning	5 working days from Notice to Proceed
Site Characterization	15 working days from completion of field work
Geotechnical Engineering	20 working days from completion of field work

1. Upon receipt of your notice to proceed we will activate the schedule component of our **GeoReport** website with specific, anticipated working dates for the three delivery points noted above as well as other pertinent events such as field exploration crews on-site, etc.
2. We will maintain a current calendar of activities within our **GeoReport** website. In the event of a need to modify the schedule, the schedule will be updated to maintain a current awareness of our plans for delivery.



## EXHIBIT D - SITE LOCATION

Bacliff Drainage Improvements ■ Bacliff, Texas

January 19, 2022 ■ Terracon Document No. P91225002.Revision1

Terracon



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS



## EXHIBIT E - ANTICIPATED EXPLORATION PLAN

Bacliff Drainage Improvements ■ Bacliff, Texas

January 19, 2022 ■ Terracon Document No. P91225002.Revision1

Terracon

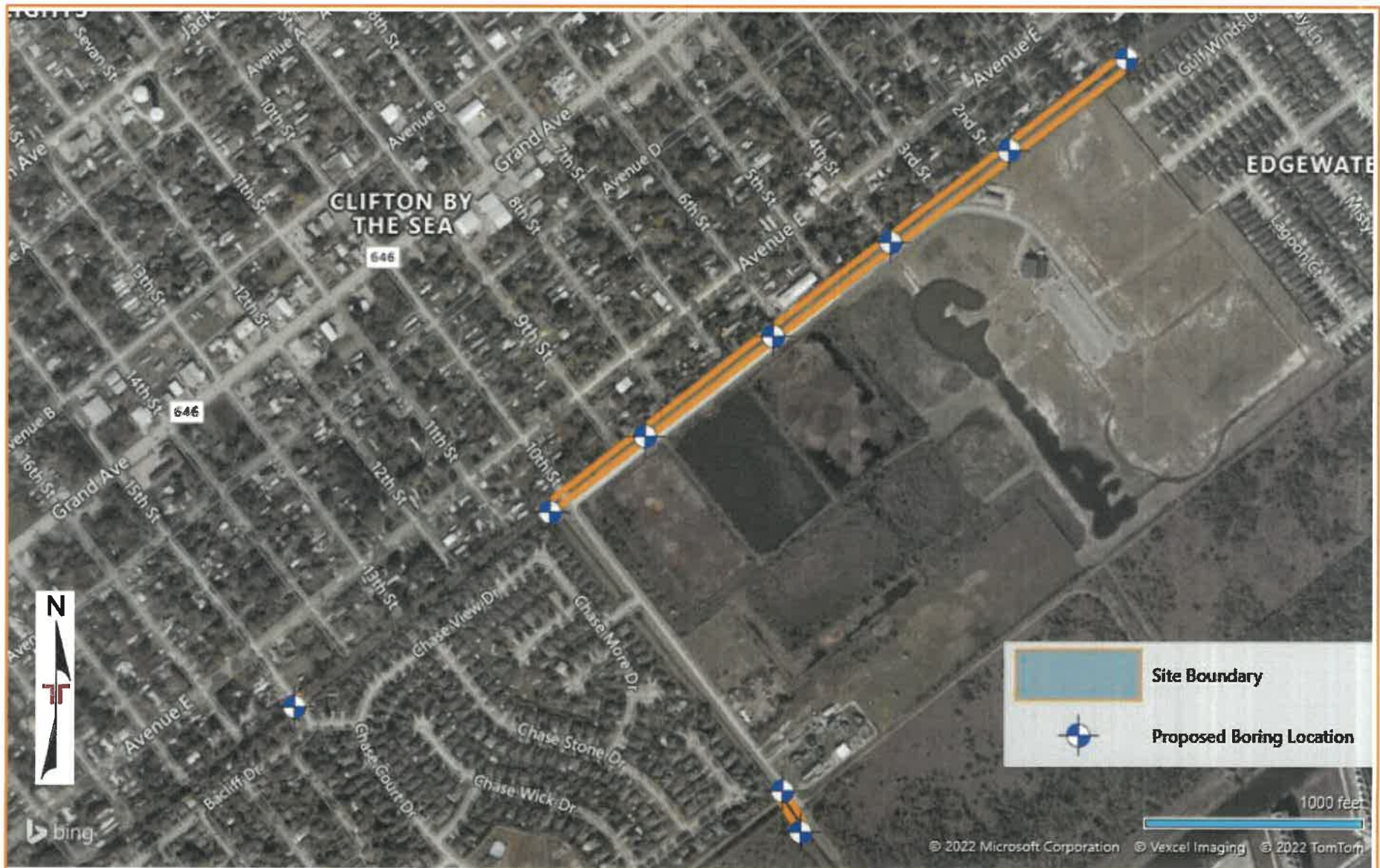


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS



January 17, 2022

Mr. Ashish Waghray  
Project Manager  
DEC Engineering Excellence  
3100 West Alabama Street  
Houston, Texas 77098

**RE: Environmental Services Proposal  
Bacliff Drainage Improvements  
Galveston County, Texas**

Dear Mr. Waghray:

Thank you for allowing Hollaway Environmental + Communications Services, Inc. (Hollaway) the privilege of submitting a proposal to DEC (Client), on behalf of Galveston County, for Environmental Services for the Bacliff Improvements Project (project) located in Galveston County, Texas (Project Area). The project involves drainage improvements including culvert replacements. The Project Area is approximately 5.50 acres, measuring approximately 4,100 linear feet. This Scope of Work is based on a virtual scoping meeting with the Client on January 6, 2022. Hollaway proposes to begin with collecting data to support a jurisdictional determination. That will determine if the optional tasks will be needed. If it is determined that jurisdictional waters will be impacted and a permit is required, the tasks described as optional below would be required to comply with the Clean Water Act.

This letter constitutes our proposed scope and lump sum cost for the project and includes the following tasks:

**Basic Tasks**

- 1.0 Jurisdictional Delineation of Waters of the United States (WOTUS), Including Wetlands
  - 1.1 Delineation Fieldwork and Reporting
  - 1.2 U.S. Army Corps of Engineers (USACE) Field Verification

**Optional Tasks**

- 2.0 Listed Threatened and Endangered (T&E) Species Habitat Assessment
- 3.0 Cultural Resource Desktop Survey
- 4.0 Clean Water Act (CWA) Permitting

## SCOPE OF WORK

### Basic Tasks

#### Task 1.0 – Jurisdictional Delineation of Waters of the United States, Including Wetlands

In order to determine if any potentially jurisdictional WOTUS exist on the Project Area, Hollaway will delineate the boundaries of all aquatic features and determine their potential jurisdictional status through records and literature review, intensive field surveys, and coordination with the USACE and the Environmental Protection Agency (EPA).

#### ***Task 1.1 - Delineation Fieldwork and Reporting***

All wetlands will be delineated in accordance with the procedures mandated in the USACE *1987 Wetland Delineation Manual* (Manual) and November 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain* (Version 2.0). The Ordinary High Water Mark (OHWM) of all waterbodies will be delineated in accordance with standard procedures set forth by the USACE. The delineation will adhere to industry standards utilized on similar projects in similar areas by qualified wetland scientists. All boundaries shall be surveyed with sub-meter Global Positioning System (GPS) technologies that are consistent with the methodologies generally accepted by the USACE. Should the Client require a registered survey of the delineated areas to be performed by a licensed surveyor, this survey must be contracted separately under an additional cost proposal.

Hollaway will draft a WOTUS Delineation Report. The report will include a discussion of the natural resources found on the Project Area, including vegetation, hydrology, and soils, along with the results of the field investigation for jurisdictional wetlands and waters. The report will include:

- Wetland determination data sheets
  - Project Area map indicating the size and location of wetlands based on GPS measurements
  - Approved Jurisdictional Determination (AJD) forms
  - Minimum of 10 Project Area photographs
  - Vicinity map
  - FEMA 100-year floodplain map
  - United States Geological Survey (USGS) topographic maps
  - Natural Resources Conservation Service (NRCS) soils map
  - Historical aerial photographs
  - Infrared imagery
  - Map with United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and USGS National Hydrography Dataset (NHD)
  - Light Detection and Ranging (LiDAR) map
  - Table listing physical characteristics of all waterbodies, including length of feature, width of OHWM, width of high bank to high bank, substrate composition, water flow direction, and permanence

Following Client review, Hollaway will submit the report to Galveston County. Once all comments are addressed, Hollaway will submit the report to the USACE for review and jurisdictional determination.



### **Task 1.2 - USACE Field Verification**

The USACE and/or EPA will verify the boundaries of those areas delineated that may be within their jurisdiction utilizing the draft Jurisdictional Delineation Report. This verification may be conducted from their offices (desk audit) or performed in the field at the proposed Project Area. Hollaway assumes that the verification will consist of a field inspection for this project.

Hollaway will accompany a USACE representative in the field during the verification process. It is assumed that one USACE verification meeting will be required that will last no longer than one nine-hour day. Additional verification meetings can be performed at additional cost through a separate cost proposal.

### **Optional Tasks**

#### **Task 2.0 – Listed Threatened and Endangered (T&E) Species Habitat Assessment**

A Memorandum of Agreement (MOA) between USFWS, EPA, and National Marine Fisheries Service (NMFS) requires an assessment of potential affect to state and federally listed species protected under the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA) and the Clean Water Act (CWA). To comply with federal and state regulations and to support the USACE permitting process, Hollaway will conduct a T&E species habitat assessment.

Qualified Hollaway biologists will review publicly available information from state and federal agencies to determine which state or federally listed species, or suitable habitat for these species could be present on the Project Area. As part of this task, Hollaway will review the following information:

- A Texas Parks and Wildlife Department (TPWD) Natural Diversity Database (NDD) and literature review to determine the state and federally listed species that potentially occur on or adjacent to the Project Area
- Review of species lists for Galveston County available through the USFWS and the TPWD
- Database search of USFWS Information Planning and Consultation (IPaC) Trust Resources Report
- 50 CFR 10.13 for USFWS's region specific list of birds protected by the MBTA
- USGS topographic maps
- Aerial photographs
- NRCS soil survey data for Galveston County

Qualified Hollaway biologists will perform meandering pedestrian surveys to verify the presence or absence of suitable habitat for state or federally listed T&E species on or adjacent to the Project Area. Habitat types and current land use will be documented. The report will also provide recommendations for Best Management Practices (BMPs), as needed.

#### **Task 3.0 – Cultural Resources Desktop Survey**

Hollaway will work with a qualified archeologist to conduct a desktop cultural and historical resources review of the proposed Project Area. The goals of the desktop review will be to gather all available information regarding previously conducted cultural resources surveys, previously documented cultural resources including archaeological sites, cemeteries, and above-ground historical resources, and identify

the potential for these resources to affect the current development, and determine management recommendations to satisfy all applicable federal or state cultural resource laws.

The desktop review will begin with a background archaeological literature and records search of the proposed Project Area. Other critical factors that will be examined include the level of previous ground disturbances, types of soils, and any obvious standing structures that appear on USGS topographic maps. Once the records review is complete, a report will be prepared detailing the findings of the desktop review. The report will document the methodology used in the investigations, the presence and condition of any previously recorded sites and/or surveys revealed in the literature review and provide estimates on the level of future archeological work, if any, that may be necessary to satisfy potentially applicable federal or state cultural resource laws.

A draft of the report will be provided to the Client and Galveston County for review and approval, followed by a final report incorporating comments and suggestions, as appropriate. Comments from Galveston County will be incorporated into the Final Report. The archeologists will submit the Final Report to the Texas Historical Commission (THC) for concurrence electronically via eTrac.

#### **Task 4.0 – Clean Water Act Permitting**

Based on the results of **Task 1.0**, CWA permitting may be required. The type of permit required is determined by the type of activity. For example, a Nationwide Permit (NWP) 3 is for maintenance activities. Culvert replacements may fall under this category. The planned drainage improvements may qualify for a NWP 13 for bank stabilization. Hollaway will meet with the Client and conduct a review of the proposed plans to determine which NWP is best suited for the proposed project.

The USACE determines the level of required permitting by calculating impacts by acres, cubic yards (CY) per running foot, and/or linear feet, see **Table 1**. Based on a preliminary review of the project, Hollaway assumes that the project will fit a NWP with Preconstruction Notification (PCN) and that a Standard Permit (SP) would not be required. If it is determined that the proposed impacts will exceed the NWP thresholds, Hollaway can provide a revised cost estimate for the completion of a SP at that time.

***Table 1: USACE Permitting Thresholds and Estimated Timeframes***

<b>USACE Permit</b>	<b>Acres of Impact Threshold</b>	<b>Estimated Timeframe*</b>
NWP	Up to 0.5 acre of non-tidal waters	6-8 months
	Up to 0.3 acre of tidal waters	
SP	If NWP thresholds are exceeded	12-18 months

\*This is an estimate of the permitting timeline and cannot be guaranteed. Time frames are dependent on USACE staffing and schedules.

The PCN will include information needed to quantify impacts to WOTUS, including wetlands (if applicable). The report developed in **Task 1.0** will be submitted with the PCN, along with permit drawings and exhibits depicting the proposed project (engineering drawings provided by the Client). It is also assumed that Hollaway will receive pertinent engineering information from the Client including BMPs, cut/fill calculations, detailed design drawings, and associated structures that may require evaluation and permitting and that the Client will provide these drawings in GIS or a compatible format that is georeferenced before a draft PCN will be written. Hollaway will also prepare and submit a Texas Commission on Environmental Quality (TCEQ) Tier I Checklist to obtain TCEQ 401 certification, if required. Consistency with the Coastal

Management Program will also be required. Hollaway will prepare this form with project specific information provided by the client. Several forms in this package will require a signature from the designated Applicant. The client will identify who the preferred Applicant will be.

The PCN will include a brief narrative on potential threatened and endangered species and cultural resources. These analyses are included in this proposal as **Task 2.0** and **Task 3.0**, respectively.

## LUMP SUM COST PROPOSAL

The following are lump sum costs for each task described above in the Scope of Work.

Task	Basic Tasks Cost	Optional Tasks Cost	Initials for Authorization	Date
<b>Basic Tasks</b>				
1.0 – Jurisdictional Delineation of WOTUS, Including Wetlands	—	—		
1.1 – Delineation Field Work and Reporting	\$11,550.00	—		
1.2 – USACE Field Verification	\$2,200.00	—		
<b>Optional Tasks</b>				
3.0 – Listed T&E Species Habitat Assessment	—	\$5,950.00		
4.0 – Cultural Resources Desktop Survey*	—	\$2,800.00		
5.0 – CWA Permitting	—	\$8,100.00		
<b>TOTAL</b>	<b>\$13,750.00</b>	<b>\$16,850.00</b>		

\*Qualified subcontractors will be used for these tasks

## DELIVERABLES

A draft copy of all reports will be provided electronically to the Client for review. Upon incorporating and addressing Client comments, a draft report will be submitted to Galveston County for comment. After addressing all comments, a final draft will be sent electronically to both the Client and Galveston County. Hardcopies can be provided upon request.

## ASSUMPTIONS

This proposal presents the normal elements of environmental work that are typically required to complete this type of project. No project task will be performed without the prior approval of the Client and only those costs associated with each task will be billed. Hollaway makes the following assumptions regarding this proposal:

- Hollaway will be granted right-of-entry to the Project Area prior to beginning fieldwork.
- Hollaway will be provided shapefiles and/or KMZ files of the Project Area that are georeferenced in a mutually agreeable electronic format prior to completing fieldwork.

- Should the project designs be revised during or after fieldwork is complete, a change order will be required to reassess any new impacts and incorporate findings into the reports.
- It is assumed that this proposed project will not require a registered survey of the delineated areas to be performed by a licensed surveyor.
- Hollaway will conduct field survey(s) during reasonable working hours, daylight hours, and only during safe weather conditions.
- Hollaway assumes only one (1) field mobilization will be required.
- Hollaway assumes one (1) meeting will be required for USACE Field Verification. If additional meetings and agency coordination are required, this work can be accomplished at additional cost per the attached **2022 Hollaway Standard Billing Rate Schedule**.

Items not included within this proposal:

- Phase II ESA
- ~~Archaeology Pedestrian Survey~~
- National Environmental Policy Act (NEPA) documentation
- Public Involvement or Outreach

All items not included in this proposal can be performed, if required, through a separate cost proposal.

## SCHEDULE

Hollaway can begin the work outlined above within two (2) weeks of receipt of the finalized survey boundaries and Notice to Proceed. It is anticipated that these tasks would be completed within sixteen (16) weeks of receipt of Notice to Proceed. The USACE Field Verification is subject to USACE workload and manpower.

If you approve Hollaway to proceed with the services outlined in this proposal, please sign and return an executed copy of this entire document to Hollaway indicating which tasks are initially authorized. Additional signed proposals indicating additional authorized tasks can be submitted at a later date.

Thank you for allowing Hollaway to submit a cost proposal in support of this very important project. If you have any questions or concerns, please contact me at [jenny@hollawayenv.com](mailto:jenny@hollawayenv.com) or (713) 868-1043.

Sincerely,



Senior Environmental Scientist

Approved and Accepted by:

\_\_\_\_\_  
Client Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

Enclosures:

Client-provided map of Project Area  
Hollaway Project Location Map  
2022 Hollaway Standard Billing Rates



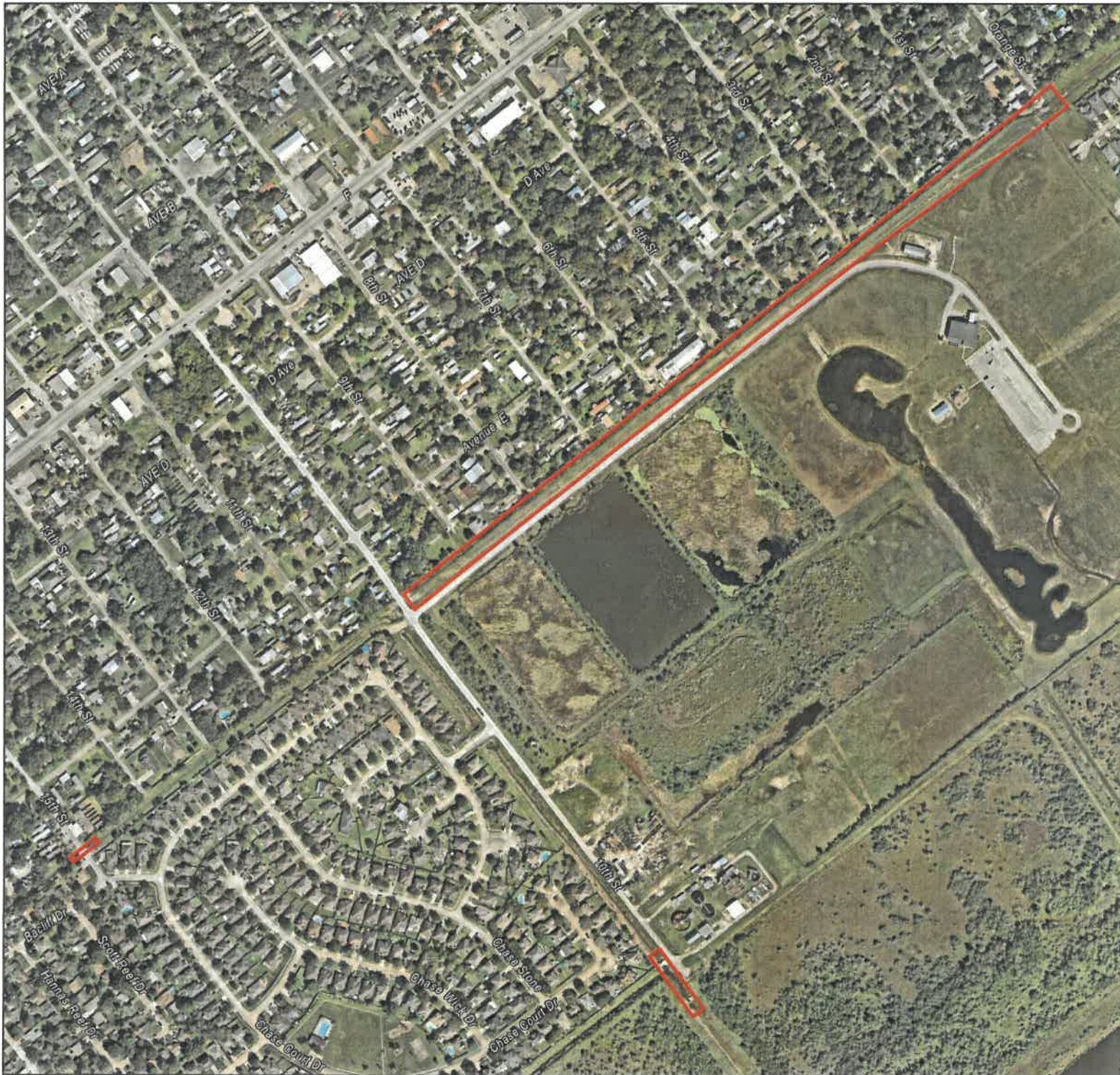


N-16 Ditch

15th Street Culvert  
Replacement

10th Street Outfall Ditch





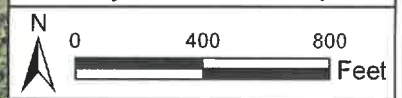
**HOLLAWAY**  
ENVIRONMENTAL + COMMUNICATIONS

Bacliff Drainage Improvements  
Galveston County, Texas

**LEGEND**

 Project Area

**Project Location Map**



**NOTES**

- Centroid Coordinates: 29.501537, -94.984070  
- Aerial Photograph Date: 10/07/2021





# Standard Billing Rate Schedule

## Environmental Regulatory Compliance, Communications, and General Services:

Title	Hourly Rate*
<b>Project Management</b>	
Senior Principal	\$ 225.00
Managing Principal	\$ 205.00
Project Director	\$ 180.00
Senior Project Manager	\$ 160.00
Project Manager	\$ 140.00
<b>Environmental</b>	
Environmental Technical Expert	\$ 140.00
Senior Environmental Planner/Scientist	\$ 130.00
Environmental Planner/Scientist	\$ 115.00
Associate Environmental Planner/Scientist	\$ 100.00
Assistant Environmental Planner/Scientist	\$ 90.00
Environmental Technician	\$ 75.00
<b>Communications</b>	
Communications Technical Expert	\$ 140.00
Senior Communications Specialist	\$ 130.00
Communications Specialist	\$ 115.00
Associate Communication Specialist	\$ 100.00
Assistant Communication Specialist	\$ 90.00
Communications Technician	\$ 75.00
<b>GIS Support</b>	
Senior GIS Specialist	\$ 130.00
GIS Specialist	\$ 115.00
Associate GIS Specialist	\$ 100.00
Assistant GIS Specialist	\$ 90.00
GIS Technician	\$ 75.00
<b>Graphic Support</b>	
Creative Director	\$ 140.00
Senior Graphic Designer	\$ 130.00
Graphic Designer	\$ 100.00
Assistant Graphic Designer	\$ 75.00
<b>Economics</b>	
Senior Economist	\$ 225.00
<b>Additional Support Services</b>	
Technical Editor	\$ 150.00
Account Manager	\$ 125.00
Associate Account Manager	\$ 90.00
Clerical	\$ 65.00

## **Direct Costs, Travel, and Equipment**

Item	Unit Price
<b>Printing and Mailing</b>	
Photocopies (Color 8.5x11 / 11x17)	\$1.00 / \$1.50/ ea.
Photocopies (Black and White 8.5x11 / 11x17)	\$0.15 / \$0.20/ ea.
Postage	Standard Rates
<b>Equipment</b>	
Drone	\$1,500/ day
Boat and Motor (including trailer), plus direct fuel cost	\$1,400/ day
ATV (including trailer)	\$200/ day
Global Positioning System (Trimble GeoXT)	\$140/ day
Vehicle Milage	\$0.585/ mi. Or current IRS 2022 Standard Mileage rates
<b>Audio/Video Equipment</b>	
Video camera (video + audio recordings)	\$300/ day
PA (full system with microphone)	\$100/ day
Projector/ Screen	\$75/ day
Digital camera (photographs)	\$75/ day
Projector	\$50/ day
Microphone only	\$50/ day
Speakers only	\$50/ day
Pop-up screen only	\$35/ day
Digital monitor + Multimedia players	\$25/ day



January 17, 2022

Ashish Waghray, P.E.  
DE Corp.  
3100 West Alabama St.  
Houston, Texas 77098  
Email: ashish.waghray@decorp.com  
Phone: 281-433-3505

RE: Proposal for Quality Level D & C SUE  
with Optional/Additional Quality Level B SUE Designation & Quality Level A SUE Testholes  
Galveston County ARP Drainage Improvements

Dear Mr. Waghray:

We are pleased to submit the following proposal for the above referenced project.

### **Scope & Limits**

We understand the scope of work to consist of providing Quality Levels D & C SUE with Quality Levels B & A as Optional/Additional Services per ASCE Standard 38-02. This includes:

- **SUE Quality Level D** involves preliminary site visit, research to determine utility owners, contacting the utility companies to request the existing utility records, and drawing the information obtained into a utility base map.
- **SUE Quality Level C** involves correlating the Quality Level D information obtained from existing utility record investigation with the visible surface features obtained from a topographic survey performed by Weisser Surveying. Limitations of a C&D investigation include utilities that have been sold or abandoned with no record or surface features.
- **Utility Conflict Table & Utility Contact List** will be developed per Galveston County Engineering Department standards.
- **Optional/Additional Services – SUE Quality Level B** involves the designation, recording, and marking the horizontal location of the existing utility facilities using non-destructive surface geophysical techniques, per APWA color standards. When data is reliable, cover shots indicating top of utility will be included at every 100 feet. Limitations of designation include signal bleed over due to congested utilities or utilities made of non-conductive material such as PVC or concrete. Where designation is not effective, probing will be attempted. Probing utilizes a metal probe to pierce the ground in attempt to contact the utility and can give an approximate depth of cover, however the utility cannot be visually verified. QLB SUE and probing are to be performed in a limited capacity only on this project in order to assist in locating the QLA SUE testholes.
- **Optional/Additional Services – Quality Level A test holes** will be excavated via non-destructive vacuum excavation. In order to perform the field work, the following will also be completed: contact Texas One Call agency to notify of digging intent and perform on-site field inspection and designate the desired utility to determine exact location. Air-vacuum excavation will be utilized to determine orientation, size, depth, material and condition of the intended utility. The testholes will then be surveyed in by RODS Surveying using survey control provided by Weisser Surveying. Signed and sealed Test Hole Data Sheets will be produced for the excavated locations, depicting top, side and plan views, and detailing survey information as well as size, material and depth of utilities found.

Note that 3 testholes were estimated for this project due to where the 16" abandoned Praxair pipeline, shown from the Texas Railroad Commission in Appendix D, and the Bacliff MUD waterline, assumed to be located north of the N-16 Ditch, could potentially conflict with the proposed ditches and culvert removal.

### **Project Location**

The project consists of three locations, including the 15<sup>th</sup> St culvert, the N-16 Ditch and the 10<sup>th</sup> St outfall in Bacliff, Texas, as shown on the project vicinity map in Attachment C.

### **Schedule**

Record Research will commence upon notice to proceed and will take approximately 4 weeks depending on the response from the utility companies.

If the Optional/Additional services are selected, RODS SUE will submit an 811 One Call upon notice to proceed and then SUE fieldwork will begin 48 hours after the One Call has been submitted, in accordance with 811 policies, and deliverables will be submitted within 7 business days of completed fieldwork and survey. All field work is dependent on the ability of RODS SUE being able to access the project location. Weather and soil conditions may inhibit our access to the project and cause delays. Right-of-Entry is the responsibility of DE Corp and will be supplied to RODS SUE before field work commences.

### **Deliverable**

- Digital CADD file in Auto CAD format in 1:1 model space suitable for 1-inch = 20-feet drawings with call outs showing the SUE Quality Levels D, C differentiated by symbology.
- Utility Conflict Table & Contact List
- Optional/Additional Services - Signed and sealed Quality Level A Test Hole Data Sheets for excavated locations.
- Optional/Additional Services – The CADD file will be updated to include the SUE Quality Level B information, differentiated by symbology, and the SUE Quality Level A Test Hole locations with summarized utility information.

### **Subsurface Utility Engineering Estimated Cost**

This project will be billed on a specified rate and unit cost basis, not to exceed the total shown below. See Attachment B: Estimated Fees for additional information.

<b>Total for SUE Quality Levels D &amp; C Services:</b>	<b>\$ 11,250.00</b>
<b>Optional/Additional Services – SUE Quality Level B &amp; Probing Services:</b>	<b>\$ 3,000.00</b>
<b>Optional/Additional Services – SUE Quality Level A Test Holes:</b>	<b>\$ 6,750.00</b>

Should you have any questions or require additional information, please feel free to contact me. We look forward to working with you on this project.

Sincerely,



Hilda S. Obregón Lease, P.E.  
President  
RODS Subsurface Utility Engineering

DE Corp.

Approved By: \_\_\_\_\_

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

Date: \_\_\_\_\_

Signature \_\_\_\_\_

**ATTACHMENT B - FEE SCHEDULE**  
**GALVESTON COUNTY - ARP DRAINAGE IMPROVEMENTS**  
**SUE QUALITY LEVELS D, C, B & A**

PRIME PROVIDER NAME: DE Corp.

January 17, 2022

SUBCONSULTANT NAME: RODS Subsurface Utility Engineering, Inc.

TASK DESCRIPTION	SUE PROJECT MANAGER	SUE SUPPORT ENGINEER	SUE GRADUATE ENGINEER	SUE ENGINEERING TECHNICIAN	3-PERSON DESIGNATION CREW	TOTAL LABOR HOURS & COSTS
<b>SUE Quality Levels D &amp; C Services</b>						
1. QLD - One Call, Site Visit & Records Research		2	12	16		\$3,160
2. Creation of QLC&D CADD Utility Base Map		4	16	20		\$4,280
3. Utility Conflict Table & Utility Contact List	2	4	12	16		\$3,810
HOURL SUBTOTALS	2	10	40	52	0	104
LABOR RATE PER HOUR	\$175.00	\$150.00	\$105.00	\$100.00	\$225.00	
TOTAL LABOR COSTS	\$350.00	\$1,500.00	\$4,200.00	\$5,200.00	\$0.00	\$11,250.00
<b>SUBTOTAL OF LABOR FOR QL D &amp; C SERVICES</b>						<b>\$11,250.00</b>
<b>Optional/Additional Services: SUE Quality Level B Designation &amp; Probing</b>						
1. SUE QLB Field Designation & Probing in support of QLA Testholes (Does not include survey)		2			12	\$3,000
HOURL SUBTOTALS	0	2	0	0	12	14
LABOR RATE PER HOUR	\$175.00	\$150.00	\$105.00	\$100.00	\$225.00	
TOTAL LABOR COSTS	\$0.00	\$300.00	\$0.00	\$0.00	\$2,700.00	\$3,000.00
<b>SUBTOTAL OF OPTIONAL/ADDITIONAL QL B SUE &amp; PROBING SERVICES</b>						<b>\$3,000.00</b>
<b>Optional/Additional Services: SUE Quality Level A Services</b>						
Non-Destructive Test Holes (per vertical depth)		Rate	Unit	Estimated		
0.00-4.99 FT.		\$1,400.00	each			\$0.00
5.00-7.99 FT.		\$1,650.00	each	2		\$3,300.00
8.00-12.99 FT.		\$1,950.00	each	1		\$1,950.00
13.00-19.99 FT.		\$2,400.00	each			\$0.00
> 20.00 FT. (Per vertical foot deeper than 20 ft in addition to the 13-19.99 ft rate)		\$205.00	Vertical Feet	0		\$0.00
Coring and Pavement Replacement		\$255.00	Each	0		\$0.00
Traffic Control Devices (Per Day As Needed)		\$1,500.00	day	1		\$1,500.00
<b>SUBTOTAL OPTIONAL/ADDITIONAL QUALITY LEVEL A TESTHOLES</b>						<b>\$6,750.00</b>

Notes:

- Project to be invoiced on a specified rate & unit cost basis not to exceed total shown above.
- Right-of-Entry is the responsibility of DE Corp. and will be supplied to RODS SUE before fieldwork commences.
- Testholes will be invoiced according to the depth actually excavated.
- Test hole unit cost includes excavation, survey, CADD and engineering of test hole data sheet.
- Testholes will be attempted at the top center of the utility.
- Excavation to be performed via non-destructive excavation.
- If needed, lane closure permits will be coordinated with Galveston County. We assume that any permit fees will be waived as this is a Galveston County project.
- Survey of QLA testholes to be performed by RODS Surveying using survey control provided by Weissner Surveying. QLA survey costs are included in the testhole rates.

3                      # of testholes  
\$2,250.00              Price Per Testhole







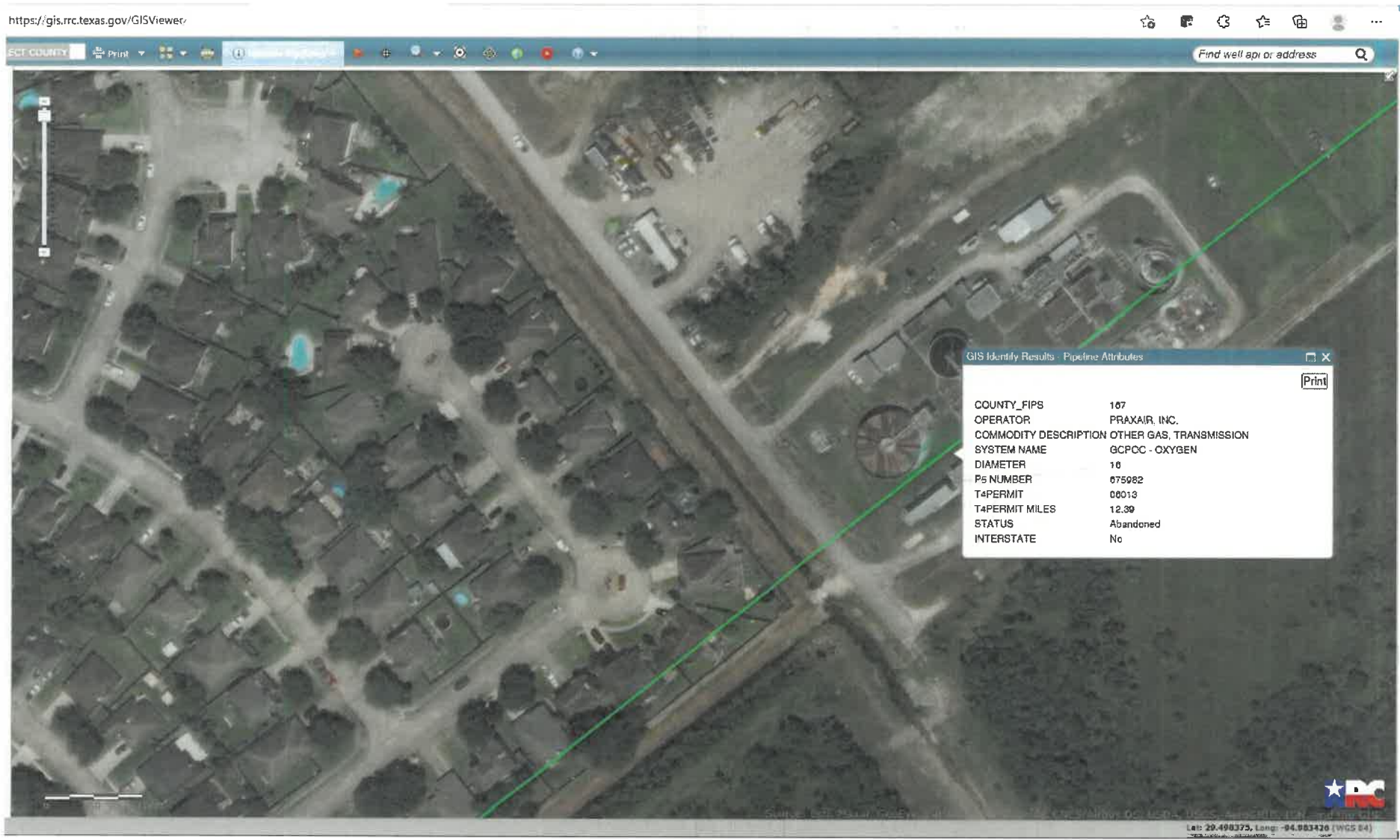




ATTACHMENT C – PROJECT VICINITY MAP



ATTACHMENT D – RAILROAD COMMISSION MAP OF PIPELINES





## Exhibit H - Preliminary Estimate of Construction Cost

ARPA - BACLIFF DRAINAGE IMPROVEMENTS GALVESTON COUNTY, TEXAS EXHIBIT H - PRELIMINARY CONSTRUCTION COST						
BID ITEM NO.	SOURCE	DESCRIPTION	UNIT	QUANTITY	DEC Engineers Estimate	
					Price	Total
<b>SECTION 1 - DEMOLITION QUANTITIES</b>						
1	HCFCF (2200-07)	SITE PREPARATION & RESTORATION, INCLUDING CARE AND CONTROL OF WATER	LS	1	\$ 40,000	\$ 40,000
2	TxDOT (01046031)	Weir Notch Removal (used headwall removal) estimated at 32' length 2' width and 4' tall)	CY	10	\$ 500	\$ 5,000
3	TxDOT (01056021)	REMOVE STAB BASE AND ASPH PAV (0-4"	SY	257	\$ 18	\$ 4,626
4	TxDOT (05426001)	REMOVE METAL BEAM GUARD FENCE	LF	83	\$ 25	\$ 2,075
5	HCFCF (2233-01)	Clearing and grubbing	AC	3	\$ 5,505	\$ 15,414
6	HCFCF (2120-11)	Rem. & Dis. of Concrete Rubble	CY	153	\$ 24	\$ 3,672
7	TxDOT (05446003)	GUARDRAIL END TREATMENT (REMOVE)	EA	4	\$ 269	\$ 1,077
8	HCFCF (2120-04)	REMOVE & DISPOSE OF ALL PIPE (10th & 15th)	LF	161	\$ 15	\$ 2,415
<b>SUBTOTAL SECTION 1 - DEMOLITION QUANTITIES (Bid Items 1 - 8):</b>						<b>\$ 74,279</b>
<b>SECTION 2 - PROPOSED ITEMS</b>						
9	HCFCF (Detail)	Back Slope Inlets	EA	4	\$ 4,000	\$ 16,000
10	HCFCF (2928-02)	HYDROMULCH TURF GRASS SEEDING	SY	13,359	\$ 1	\$ 13,359
11	HCFCF (2378-23)	RIPRAP GRADATION NO. 2	SY	319	\$ 95	\$ 30,305
12		CULVERT MODIFICATION	LS	15,000	\$ 1	\$ 15,000
13	HCFCF (2120-20)	Excavation & off-site disposal	CY	23,248	\$ 25	\$ 581,200
14	TxDOT	4'x2' RCB	LF	120	\$ 300	\$ 36,000
15	HCFCF (2840-02)	METAL BEAM GUARD FENCE TURNDOWNS	EA	4	\$ 1,375	\$ 5,500
16	HCFCF (2840-01)	METAL BEAM GUARD FENCE	LF	83	\$ 35	\$ 2,905
17	TxDOT (0466005)	Headwalls (CH-FW-0) (dia = 24IN)	EA	2	\$ 9,000	\$ 18,000
18	TxDOT (02606007)	COMPLETE ROADWAY (LIME TRT (NEW BASE) (6"), PLANE ASPH CONC PAV (1.5"), and CEMENT TREAT (NEW BASE) (8"))	SY	257	\$ 40	\$ 10,280
19	TxDOT (40146001)	Articulated Block	SF	11,772	\$ 9	\$ 105,948
20	HCFCF (2376-04)	8" Channel Lining	SY	240	\$ 110	\$ 26,400
<b>SUBTOTAL SECTION 2 - PROPOSED ITEMS (Bid Items 9-20 ):</b>						<b>\$ 860,897</b>
<b>SECTION 3 - TRAFFIC CONTROL AND MISCELLANEOUS</b>						
21		BARRICADES, SIGNS AND TRAFFIC HANDLING	LS	1	\$ 5	\$ 20,000
22		SWPPP	LS	1	\$ 1	\$ 15,000
23		UTILITY RELOCATION	LS	1	\$ 1	\$ 50,000
24		MOBILIZATION (5%)	LS	1	\$ 1	\$ 51,009
<b>SUBTOTAL SECTION 3 - TRAFFIC CONTROL AND MISCELLANEOUS (Bid Items 21 - 24):</b>						<b>\$136,009</b>
<b>SECTION 1- DEMOLITION QUANTITIES (ITEMS 1-9)</b>						<b>\$74,279</b>
<b>SECTION 2- PROPOSED QUANTITIES (ITEMS 10-20)</b>						<b>\$860,897</b>
<b>SECTION 3- TRAFFIC CONTROL AND MISCELLANEOUS QUANTITIES (ITEMS 21-24)</b>						<b>\$136,009</b>
<b>TOTAL BASE BID (Sections 1 through 3)</b>						<b>\$1,071,185</b>
					<b>CONTINGENCY (30%)</b>	<b>\$321,355</b>
					<b>TOTAL</b>	<b>\$1,392,540</b>

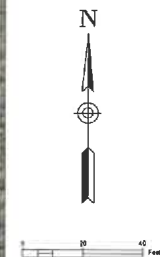
Prices by location	
10th Street	\$ 137,228
15th Street	\$ 81,671
N-16 Ditch	\$ 676,278
All Locations	\$ 176,009
Total	\$ 1,071,185
Contingency - 30%	\$ 321,355
Total	\$ 1,392,540



ARTICULATED BLOCK 11,772 SQ YD

REMOVE CRUSHED CONCRETE 116 CU YD  
AND 3 PIPES - 81 LF  
REPLACE WITH 8" CHANNEL LINING  
87 SQ YD

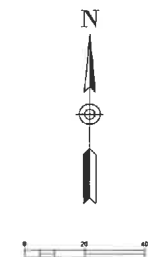
REMOVE CRUSHED CONCRETE 37 CU YD  
REPLACE WITH 8" CHANNEL LINING  
163 SQ YD



SCALE = 1" = 40'

10TH STREET





SCALE 1" = 40'

**15TH STREET CROSSING**





1" = 200'

DITCH