PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT # 1
FOR
PECAN STREET INTERSECTION IMPROVEMENTS PROJECT

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

This Supplemental Agreement No. 1 to a contract for Professional Services is made by and between the City of Pflugerville, Texas ("City") and Pacheco Koch Consulting Engineers, Inc. ("Consultant"). City and Consultant may be referred to herein singularly as "Party" or collectively as the "Parties."

WHEREAS, the City and Consultant executed an Agreement for Professional Services ("Agreement") on the 5th day of March, 2019 for the Pecan Street Intersection Improvements Project ("Project") in the amount of $213,650.00; and

WHEREAS, the City and Consultant desire to enter into a Supplemental Agreement # 1 for Professional Services for the Project in the amount of $416,276.55, to add Intersection Improvements at Pecan Street and Dessau Road along with coordinated signal timing plans to the Agreement; and

WHEREAS, it has become necessary to amend the Agreement to modify the provisions for the Term of the Agreement, Scope of Services, Work Schedule, and Compensation; and

WHEREAS, it is necessary for the City to amend its agreements from time to time to comply with changes in state law relating to contracts of municipalities.

NOW, THEREFORE, premises considered, the City and the Consultant agree that said Agreement is amended as follows:

I.

Article II. Term shall be amended by changing the term of the Agreement to terminate on May 31, 2022, with the ratification and incorporation of the remaining terms of the Agreement.

Article III. Scope of Services and Exhibit A, shall be amended as set forth in the attached addendum to Exhibit A.

Article III. Work Schedule and Exhibit B, shall be amended as set forth in the attached addendum to Exhibit B.

Article IV. Compensation to Consultant and Exhibit C (Fee Schedule), shall be amended by increasing by $416,276.55 the amount payable under the Agreement for a total of $629.926.55 , as shown by the attached Addendum to Exhibit C (Fee Schedule).

2.

Except as amended hereby as indicated above, the terms of the Agreement shall remain unchanged and in full force and effect.

EXECUTED and **AGREED** to as of the dates indicated below.

CITY OF PFLUGERVILLE		**PACHECO KOCH CONSULTING ENGINEERS, INC.**	
(Signature)		*(Signature)*	
Printed Name:	Sereniah Breland	Printed Name:	Mark A. Pacheco, P.E., R.P.L.S.
Title:	City Manager	Title:	President
Date:		Date:	January 16, 2020

APPROVED AS TO FORM:

Charles E. Zech
City Attorney
DENTON NAVARRO ROCHA BERNAL & ZECH, P.C.

Attachment A to Supplemental Agreement #1 between the City of Pflugerville, Texas (OWNER) and Pacheco Koch Consulting Engineers, Inc., (CONSULTANT) for Consulting Services

ATTACHMENT 'A' – SCOPE OF SERVICES

PECAN STREET INTERSECTION IMPROVEMENTS PROJECT

PROJECT DESCRIPTION:

The project consists of the design of a displaced left turn and signal improvements at the intersection of Pecan Street and Dessau Road and coordinated signal timing plans. (PROJECT)

SA1 Task 1: Pecan Street/Dessau Intersection Improvements Project

A. Project Management, Coordination & Permitting

A. Manage the Team:
- Lead, manage and direct design team activities
- Ensure quality control is practiced in performance of the work
- Communicate internally among team members
- Allocate team resources

B. Communications and Reporting:
- Attend a pre-design project kickoff meeting with OWNER staff to confirm and clarify scope, understand OWNER objectives, and ensure economical and functional designs that meet OWNER requirements.
- Research lessons learned from other similar intersection designs under operation
- Conduct review meetings with the OWNER at the end of each design phase.
- Prepare meeting minutes for all meetings attended.
- Prepare and submit monthly invoices in the format acceptable to the OWNER.
- Prepare and submit monthly progress reports.
- Prepare and submit baseline Project Schedule initially and Project Schedule updates.
- Coordinate with other agencies and entities as necessary for the design of the proposed infrastructure and provide and obtain information needed to prepare the design.
- With respect to coordination with permitting authorities, CONSULTANT shall communicate with permitting authorities such that their regulatory requirements are appropriately reflected in the designs. CONSULTANT shall work with regulatory authorities to obtain approval of the designs and make changes necessary to meet their requirements.

C. Permit Coordination:
CONSULTANT will provide coordination with the railroad, USCOE and/or TxDOT or other required agency for Permitting of the proposed infrastructure construction. Included in this item are:
- Coordination of submittal of Application for Permit.
- Research and provide appropriate design specifications.
- Coordination for final plan approval.
- Up to three (3) coordination meetings, if required.
- Application and Permitting fees and special insurance premiums are not included.

D. LGPP Coordination
CONSULTANT will provide coordination with TxDOT as the OWNER's Representative to handle documentation required for the AFA. Included in this item are:
- Review Master Advance Funding Agreement (MAFA)
- Assist OWNER with Advance Funding Agreement (AFA)
- Assist OWNER to request and obtain State Letter of Authority
- If federal funds added, PK will assist to obtain a federal project authorization and agreement (FPAA)
- Review Bid Documents for Federal and State Requirements
- Evaluate Contractors for Compliance (DBE, etc.)
- Assist OWNER to review potential bidders to ensure they are prequalified by TxDOT
- Prepare all bid information for compliance with TxDOT standards and Procedures
- Perform Bid Analysis
- Contract Administration to include:
  - Organize Records and set up system for TxDOT Audits
  - Perform weekly and monthly audit of records

E. Constructability Review:
- Prior to the 60 percent review meeting with the OWNER, the CONSULTANT shall schedule and attend a project site visit with the OWNER Project Manager and Construction personnel to walk the project. The CONSULTANT shall summarize the OWNER's comments from the field visit and submit this information to the OWNER in writing.
- The site visit will include pictures of the area and verify the existing illumination and signal equipment locations as well as their respective electrical service locations.

F. Utility Clearance:
- The CONSULTANT will consult with the OWNER, public utilities, private utilities and government agencies to determine the approximate location of above and underground utilities, and other facilities (current and future) that have an impact or influence on the

project. CONSULTANT will design OWNER facilities to avoid or minimize conflicts with existing utilities, and where known and possible consider potential future utilities in designs.

- CONSULTANT will provide plans to and coordinate with utility owner related to the relocation efforts of franchise utilities that remain in conflict with the proposed construction.

B. Preliminary Design (60% Submittal)

A. Prepare preliminary construction plans. Prepare the following sheets at the engineering scale requested by the City and/or TxDOT:
   - Cover Sheet/Index of Sheets
   - General Notes
   - Quantity Sheet
   - Project Layout & Control Sheet
   - Roadway Typical Sections
   - Roadway plan and profile sheets
   - Drainage plan and profile sheets
   - Illumination Layout Sheets (based on modifications necessary from new intersection design)
   - Existing conditions and removals plan sheet
   - Traffic Signal Design plan sheets
   - Traffic Signal design summary tables and charts
   - Traffic Control Plan
   - Pavement Marking and Signage Plans
   - Erosion Control Plans
   - Detail sheets
   - Cross Sections sheets

   Information required can be combined on sheets if the information can be clearly shown and is approved by OWNER's project manager.

B. Assemble OWNER's standard construction contract documents and modify special technical specifications, if needed, for the project (if any).

C. Prepare an estimate of construction quantities and develop the preliminary opinion of probable construction costs.

D. Submit two (2) half sized 11"x17" sets of preliminary 60% plans, one (1) set of preliminary construction contract documents, special conditions and preliminary opinion of probable construction costs to the OWNER for review.

C. Final Design (90% & 100% Submittals)

A. Revise preliminary plans incorporating comments from the OWNER.

B. Submit two (2) half sized 11”x17” sets of 90% plans, one (1) set of 90% construction contract documents and 90% opinion of probable construction costs for OWNER review.
C. Incorporate final OWNER review comments into the plans and construction contract documents to finalize construction plans for proposed improvements.
D. Finalize construction contract documents including OWNER standard specifications, special technical specifications and special conditions (if any).
E. Estimate of final construction quantities and final opinions of construction cost.
F. Submit (1) sealed (100%) set of final plans and construction documents.

D. Bid & Construction Phase Services
CONSULTANT will support the bid phase of the project as follows.

A. Bid Advertisement:
1. CONSULTANT shall prepare and submit to OWNER a draft Bid Advertisement for publishing by the OWNER.

B. Bid Document Distribution:
1. The OWNER will post all Bid Documents to CivCast.

C. Bidder Assistance:
2. The OWNER will receive all bidders’ questions and requests for additional information through CivCast. The CONSULTANT will provide technical interpretation of the contract bid documents and will prepare proposed responses to all bidders’ questions and requests, in the form of addenda.
3. Prepare for and lead the prebid conference in support of the OWNER. This will include preparation of the pre-bid conference agenda, pre-bid conference sign-in sheet, and summary of pre-bid conference.
4. Prepare for and lead the bid opening in support of the OWNER.

D. Bid Analysis and Recommendation of Award:
5. The CONSULTANT will tabulate and review all bids received for the construction project, assist the OWNER in evaluating bids, and recommend award of the contract.
6. The CONSULTANT will assist the OWNER in determining the qualifications and acceptability of prospective contractors, subcontractors, and suppliers.
7. The CONSULTANT shall make a recommendation of award to the OWNER.

E. Conformed Construction Documents:

1. Upon award of a contract by the OWNER, the CONSULTANT shall assist with the execution, assembly and distribution of the construction contract documents for the Project.

F. Preconstruction Conference:
   1. The CONSULTANT shall attend the preconstruction conference.

G. Site Visits:
   1. The CONSULTANT shall visit the project site at appropriate intervals as construction proceeds to observe and report on progress. It is estimated that one (1) visit per month will be made by the CONSULTANT.
   2. Time and expenses are included under the Task 5: Meetings and Site Visits.

H. Shop Drawing and Lab Report Review
   1. The CONSULTANT shall review shop and erection drawings submitted by the contractor for compliance with design concepts. The CONSULTANT shall review laboratory, shop, and mill test reports on materials and equipment.

I. Instructions to Contractor
   1. The Engineer shall provide necessary interpretations and clarifications of contract documents, provide formal RFI responses, review and prepare change orders and make recommendations as to the acceptability of the work, at the request of the OWNER.

J. Final Inspection
   1. The Engineer shall attend final inspection of the Project with representatives of the OWNER and the construction contractor.

K. Record Drawings:
   1. Prepare construction “Record Drawings” based upon mark-ups and information provided by the construction contractor(s). Submit one (1) set of the record drawings (with “record drawing stamp” bearing the signature of the Engineer and the date) to the OWNER on a CD-ROM disk or flash drive containing scanned black and white PDF images.

L. Initial Signal Timing Plans – Initial signal timing plans will be generated for the three (3) traffic signals controlling the displaced left turn intersection.
   1. Develop initial traffic signal timing plans ready for signal turn-ons. The initial timing plans will include yellow and red clearance intervals based on the latest ITE guidelines and NCHRP 731. The controller will be programmed by the Engineer in the field for free operation.
   2. The initial timing plans will be observed during three weekday peak periods and a weekend peak period to verify signal is operating correctly.

E. Direct Expenses

A. Included in this item are usual and customary expenses normally incurred during performance of the services described. These expenses could include courier delivery charges, copies of existing engineering plans and/or maps, printing and reproduction (either in-house or by reproduction company) and mileage.

F. Field Survey – boundaries are shown in Attachment A-1

1. Right-of-Entry Coordination

Research property ownership, Right-of-Entry purposes, based on the current information on file with the Travis County Appraisal District. A spreadsheet of the current property owners will be generated, and City approved Right-of-Entry letters, requesting access permission, will be mailed out to all property owners affected by the surveying efforts. Letters received will be scanned to PDF and logged into the current property owner spreadsheet.

2. Establish Survey Control

Establish survey control along each street or intersecting streets as necessary. These control points will be established based on and tied to established City horizontal and vertical control points or the State's VRS Control Network.. The horizontal control for each street in the PROJECT will be established on the State Plane Coordinate System (NAD'83 Surface Coordinates) from OWNER monumentation. Control points will be established using 5/8" iron rods, 18" long. These control points will be established using GPS and conventional surveying methods.

2. Benchmark Loop

A benchmark circuit will be established, based on the vertical control points provided or elevations derived from GPS observations made in connection with the State's VRS Control Network. These benchmarks will be located outside of the construction limits and put in such a place so that they may be easily found for future use. Benchmarks will be located at approximately 500' intervals and will be referenced. Benchmarks shall be looped in accordance with good surveying practice prior to field surveys. All control leveling work will be performed using appropriate modified second order procedures with closed loops into the PROJECT vertical control.

3. Existing Streets and Driveways

Existing streets, driveways and right-of-way will be profiled and cross-sectioned at 50' intervals and to a point at least 20' outside of the Right-of-Way line. Low points, high points and other unique features will be noted. Pavement surfacing will be determined by visual inspection only. Intersecting streets will be profiled and cross-sectioned to a point at least 50' beyond the roadway being replaced.

4. Existing Drainage Channels and Drainage Area Verification

   Existing drainage channels and swales will be profiled and cross sectioned within the immediate vicinity of the PROJECT, 100' upstream and downstream. Low points, high points and any other unique features will be noted. Additional surveying may be necessary to verify the limits of drainage areas.

5. Existing Underground and Overhead Utilities

   Utility owner's will be contacted, on an as-needed basis, and requested to assist in locating existing utilities identified for the PROJECT. Above ground features of existing utilities within the proposed Right-of-Way for the limits of the PROJECT will be field located, including elevations of sanitary manhole flowlines and water/gas valve stems. The location of utilities between above ground features will be determined from visual inspection, utility records, and/or from locations determined by the respective utility companies. The utilities will be tied to the PROJECT control points and depths determined in sufficient detail to identify potential conflicts with proposed construction. The excavation and other costs required to expose or probe the underground utilities will be the responsibility of others.

6. Right-of-Way

   Right-of-Way lines along the PROJECT will be researched and determined based on an on-the-ground survey. This information will be included on the PROJECT’s plan sheets.

7. Existing Storm Sewers and Culverts

   The size of existing culverts will be measured and tied along with existing headwalls, channels and aprons. The size, length, and flowline elevation of existing storm sewers will be surveyed. Drainage areas contributing to the PROJECT or conveying water from the PROJECT will be determined through field investigations and available topographic mapping.

8. Temporary Signs, Traffic Control, Flags, Safety Equipment, Etc.

The Surveyor will exercise care in completing this surveying assignment by using traffic control devices, flags and safety equipment when necessary.

G. Geotechnical Investigation:

1. Through a qualified subcontractor, CONSULTANT shall:
   - Perform soil investigations, including field and laboratory tests, borings, related engineering analysis and recommendations for determining soil conditions will be made.
   - Field and laboratory analysis will be made at reasonable intervals along the project alignment.
   - A pavement section design will be prepared based on the results.
   - Recommendations regarding design of trench safety and below ground structure, and suitability of pipe materials and construction technologies will be prepared based on the results.

SA1 Task 2: Pecan Coordinated Signal Timing Plans

A. Coordinated Signal Timing Plans will be created for the corridor after construction is complete.
   1. To create the timing plans we will collect:
      a. Before and after travel time runs (maximum of 6 hours for before and after runs).
      b. AM, Midday, PM, and weekend peak hour turning movement counts (8 hours total).
      c. One 7-day volume count along the corridor.
   2. The study intersections will include:
      a. Pecan/FM 1825 at Dessau/FM 685 (displaced left turn, total of 3 intersections)
      b. Pecan at Immanuel/Old Austin-Hutto
      c. Pecan at the future Pfennig
      d. Pecan at the future Project Charm Driveway 3
      e. Pecan at Biltmore
      f. Pecan at SH 130 SBFR
      g. Pecan at SH 130 NBFR
   3. A site visit will be conducted during each of the peak hours to observe driver behavior and traffic patterns within the study area. Queueing locations will also be noted and used for calibration of the model.
   4. The data collected will be used to study various cycle lengths and split options for the corridor. The seven-day counts will be utilized to determine when timing plans will turn on and off.
   5. Travel time runs will provide a measure of effectiveness for the project. CONSULTANT will be in the field to assist the OWNER in programming the controllers as well as fine-tuning the timing plans.
   6. The intersections included will be the seven signalized intersections with

the study area. This will include four (4) coordinated plans assumed to be AM peak hour, midday/off-peak plan, PM, and a weekend peak hour.

SA1 Task 3: Meetings and Site Visits

This task will include all meetings and site visits that may occur on this project within Task 1 above. Meetings held over the phone are included in the tasks above. The following items will be included in this Task.

A. Site visits during construction of the displaced left turn intersections.

B. Construction, bidding, or review meetings necessary for Task 1 above.

C. Upon request, attend neighborhood meetings, public hearings, and/or any other assembly pertaining to the Project to assist the Client in addressing matters related to prior studies or services provided by Pacheco Koch.

Services not included in this contract:

- *Scope and fee are based on a City letting. If TxDOT lets the project, additional fees may apply.*
- Construction inspection duties
- Invoice preparation for AFA reimbursement
- *Construction inspection services*
- *Public Meetings*
- *Bridge Design or modification*
- *H&H Analysis of the adjacent creek and bridge*
- *ROW and easement document preparation*
- *Pole foundations are standards and no special foundation will be designed to accommodate custom situations.*
- *As-built surveys of constructed improvements*
- *Public hearings or City Council/Commission meetings, outside what is budgeted in Task 5.*
- *Utility coordination meeting(s) to start relocation process with affected franchise utilities.*
- *Reset property corner monumentation disturbed or removed during or after construction*
- *Required application and permitting fees (LOMR) or special insurance premiums are not included*
- *Phase II Environmental Site Assessments*
- *Storm Water Pollution Prevention Plans (SWPPP)*

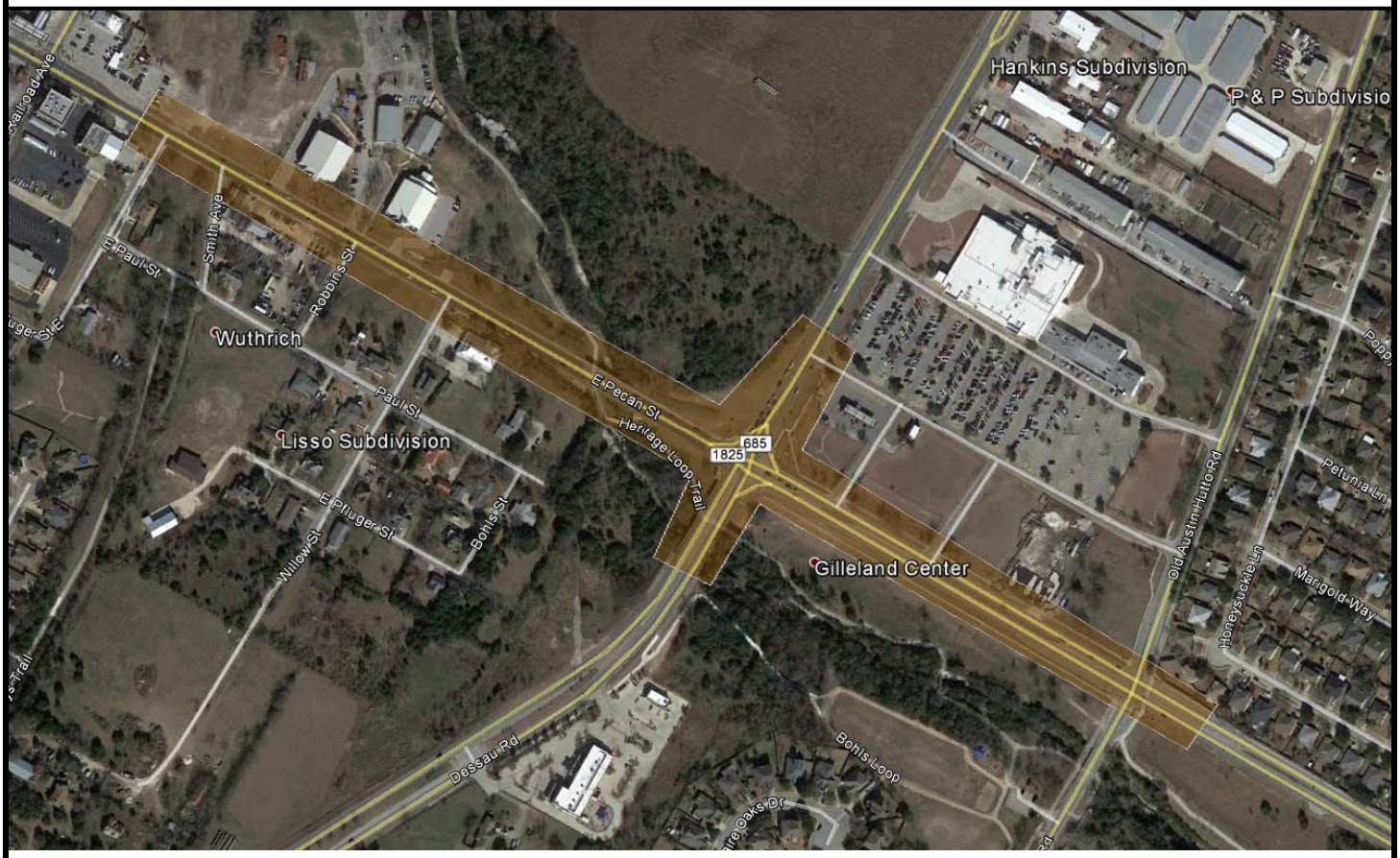
END OF EXHIBIT 'A'

EXHIBIT "A-1"

Pecan Street Improvements
Pflugerville, Texas

Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TEXAS 76109
PHONE: (817) 412-7155



LEGEND

PROJECT SITE

N.T.S.

DATUM
NAD 1983 TEXAS STATE PLANE
NORTH CENTRAL ZONE FIPS 4202

January 15, 2020

BERG ♦ OLIVER ASSOCIATES, INC.

Environmental Science & Land Use Consultants
14701 St. Mary's Lane, Suite 400, Houston, Texas 77079
(281) 589-0898 fax: (281) 589-0007
Houston ◊ Dallas/Fort Worth ◊ www.bergoliver.com

January 13, 2020

Mr. Mark Zoellner, P.E.
Pacheco Koch
4060 Bryant Irvin Road
Fort Worth, Texas 76109

Via email: zoellner@pkce.com

Re: Proposal for Environmental Services for a Displaced Left-Turn Intersection
Dessau Road & E. Pecan Street
Plugerville, Travis County, Texas
BOA Project No. 11583T

Dear Mr. Zoellner:

The following proposal is provided to Pacheco Koch, on behalf of the City of Plugerville, for environmental services for a proposed, potentially federally funded Displaced Left-Turn Intersection (DLI), located in Plugerville, Travis County, Texas. It is our understanding that the project consists of construction of a DLI intersection at Dessau Road and E. Pecan Street to address safety and mobility issues. Additional traffic signals light will be added. No additional ROW or easements are anticipated.

Berg♦Oliver Associates, Inc. (Berg♦Oliver) will provide special attention to complete the work in a timely and professional manner. We will begin the assessment upon your acceptance and execution of this proposal.

Berg♦Oliver Associates, Inc. is proposing to provide the following potential services on the Dessau Road/ Pecan Street DSI: Task I) Project Management & CE Work Plan Development, Task II) Biological Studies, Task III) Surface Water Analysis, Task IV) Hazardous Material Initial Site Assessment (ISA), and Task V) Community Impacts Assessment. **Attachment A** describes each service.

PROJECT SCHEDULE

The scope of work involved in this environmental service proposal is anticipated to be complete within sixty (60) calendar days of the receipt of an executed proposal and boundary survey/plat, or other suitable boundary map by Berg♦Oliver. The project completion schedule is the goal of all parties; it does not, however, reflect unusual delays due to forces beyond the control of Berg♦Oliver and/or modifications to the scope of work based upon actual findings or additional requests by Pacheco Koch, its agents, or governmental agency.

RIGHT OF ENTRY

Unless otherwise stated, it is assumed that the client has the authority to enter the property for purposes of conducting environmental assessments and herein grants that authority to Berg♦Oliver.

BASIC COMPENSATION AND METHOD OF PAYMENT

Berg♦Oliver proposes to provide the environmental services described in **Attachment A** to Pacheco Koch for the following hourly, not-to-exceed amounts (see rate schedule in **Attachment B**):

TASK I:	**PROJECT MANAGEMENT and WPD**	**$3,965.55**
TASK II:	**BIOLOGICAL STUDIES**	**$3,218.00**
TASK III:	**SURFACE WATER ANALYSIS**	**$1,425.00**
TASK IV:	**HAZARDOUS MATERIALS ISA**	**$4,313.00**
TASK V:	**COMMUNITY IMPACTS ASSESSMENT**	**$2,440.00**
	TOTAL:	**$ 15,361.55***

* *This initial total includes approximately 90 hours of Project Management/Mapping time. Extraordinary circumstances, such as regulatory agency reviews based upon recent policy changes, may require additional tasks or further detailed analysis not covered in the present scope of work. If this task requires more than a total of ~90 hours of Project Management/Mapping time, an addendum or change order will be submitted to the client for written approval.*

If additional tasks require more than a 15% overage (as described above), Berg♦Oliver will provide the client with an appropriate change order. Underages in one task may be utilized to cover overages in other tasks.

This cost estimate is valid for a period of six (6) months beyond the date shown below. After six (6) months, cost estimates may change due to fluctuations in fuel, subcontractors, and other sources required to complete the project.

Berg♦Oliver will begin the work described herein upon the execution of this proposal by the client. Payment of all invoices is expected within sixty (60) days of the client's receipt of the invoice submitted by Berg♦Oliver.

CONFIDENTIALITY OF ASSESSMENT

The assessment and all related work and services of Berg♦Oliver are confidential. Berg♦Oliver is hereby employed by Pacheco Koch pursuant to this contract. Under such contract relationship, all correspondence, written or oral, which relates to the findings of this study are, to the extent permitted by law, strictly confidential between the parties hereto, unless Berg♦Oliver receives a written request from the client to offer the results of this study to a third party not a part of this agreement/proposal. Environmental assessments may occasionally uncover extremely sensitive findings. It is the responsibility of Berg♦Oliver to report these findings to the authorizing client and to no other party.

PROPOSAL ACCEPTANCE AND EXECUTION

Acceptance of this proposal, including the "General Conditions for Services" found in Attachment C, will be indicated by the signatures below and will serve as authorization to proceed with the work proposed herein. The signatory below also represents that the client has, or has secured, the authority to grant permission for Berg♦Oliver personnel to enter the subject property as necessary to conduct these assessments and that such permission is granted to Berg♦Oliver by the execution of this agreement/proposal. If the client is a Corporation or a Partnership, then the signature below will also represent the personal guarantee of the individual signing on behalf of the Client.

IN WITNESS THEREOF, Pacheco Koch and Berg♦Oliver Associates, Inc. have accepted and executed this proposal for environmental services on this the _____ day of _____, 2020.

PACHECO KOCH

By: _____
Authorized Signature

BERG♦OLIVER ASSOCIATES, INC.

By: _____
Amy M. Brook
Senior Associate

ATTACHMENT A
SCOPE OF WORK

TASK I
PROJECT MANAGEMENT and WPD

The Berg♦Oliver Project Manager will be responsible for oversight and daily management of this project. Frequent and appropriate communications will be maintained between Berg♦Oliver and the client in an effort to expedite completion of the project. Berg♦Oliver has incorporated internal quality assurance/ quality control procedures, which will be used to validate the data, conclusions, and finalized written reports. Project management, quality control and assurance will occur during all phases of the project with Berg♦Oliver's contact. The following items are included in this task:

- Attend project kickoff, if requested;
- Prepare Work Plan Development (WPD) forms (formerly CE Scoping Documents), which allow TxDOT/client to determine what issues require investigation, what deliverables are to be submitted (and by whom), and what timeline will be followed for all submittals and expected project clearance;
- Coordinate the daily environmental study activities of the project;
- Provide status reports to the client as needed;
- Meet with client, as necessary; and
- Provide quality assurance for Berg♦Oliver's environmental services throughout the duration of the project.

TASK II
BIOLOGICAL STUDIES

The objective of this task is to evaluate the potential for the existence of critical or irreplaceable habitats, which are considered protected under the Endangered Species Act of 1973 and subsequent amendments and listings. Berg♦Oliver will document the project to conform with all public laws and regulations to include Endangered Species Act, Migratory Bird Treaty Act, Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat), Fish and Wildlife Coordination Act (FWCA), Triggers for Texas Parks and Wildlife Department (TWPD) Coordination, and the 2013 TxDOT-TPWD MOU, and TxDOT's Ecological Resources Environmental Handbook.

This scope and fee do not include presence/absence survey or formal coordination with USFWS regarding endangered species issues.

The biological aspects of the potential habitat will be physically reviewed and documented to determine if the habitat is desirable or reproductively useful to listed threatened and endangered species or species of greatest conservation need (SGCN). The site will be reviewed for biological indicators.

Following the completion of all research and site reconnaissance, a Species Analysis addressing federally and state listed species will be completed per TxDOT requirements. As part of this task, a Tier I Site Assessment Form will also likely be required, which addresses specific TPWD (i.e., state) requirements. All documentation will be included as appropriate. Should one of the TPWD Coordination triggers be met, Berg♦Oliver will address TPWD's comments and concerns at TxDOT's request.

TASK III
SURFACE WATER ANALYSIS

Berg♦Oliver will prepare a Surface Water Analysis to support the project. This form addresses the following: Executive Order 11990: Protection of Wetlands; Rivers and Harbors Act of 1899 (Sections 9 and 10); TCEQ's Texas Pollution Discharge Elimination System (TPDES); Municipal Separate Storm Sewer System (MS4); Impaired / Threatened Waters; and Floodplains.

Research and findings already obtained by Pacheco Koch will be utilized as applicable; Berg♦Oliver will obtain any remaining information to include in the technical form.

TASK IV
HAZARDOUS MATERIALS INITIAL SITE ASSESSMENT

A Hazardous Materials Initial Site Assessment (ISA) will be conducted to identify, to the extent feasible under the processes prescribed in ASTM E 1527-13, the potential for recognized environmental conditions; that is, the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into the ground, groundwater, or surface water of the property. The ISA will have three components, described as follows:

(1) Records Review: Obtain and review updated records that will help identify recognized environmental conditions in connection with the property. Some records will pertain to properties within an additional approximate search distance in order to help assess the likelihood of potential problems from migrating substances. Included in the records review is a review of historical aerial color and black/white photographic enlargements for selected years.

(2) Site Reconnaissance: Visually and physically inspect the property and adjoining properties, to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles, for evidence of hazardous substances or petroleum products.

(3) Evaluation and Report Preparation: The information gathered from the previous tasks will be evaluated, and the findings will be presented in TxDOT's Hazardous Materials ISA format that describes, at minimum, site and vicinity descriptions, current and past uses of the property and adjoining properties, information from records reviews, information from site reconnaissance and interviews, conclusions and opinions of impacts, if any, of recognized environmental conditions.

Should sampling/testing be required, it can be performed as an additional service.

TASK V
COMMUNITY IMPACTS ASSESSMENT (CIA)

If requested by TxDOT, Berg♦Oliver will complete the Community Impacts Assessment Technical Report Form to support the project. Berg♦Oliver will assess the potential of the proposed action to disrupt existing communities due to displacements, street closures, bisecting of existing neighborhoods, or reduced access to community services, using the most current census data from the U.S. Census Bureau and American Community Survey (ACS) for population, racial and ethnic proportions, median household income, and family poverty statistics at the census block level, if possible. For the Environmental Justice Assessment, Berg♦Oliver will also determine if affected communities are disproportionately comprised of minority or low-income populations, compared to the region and the state. Available information will also be evaluated to determine the presence of limited English proficiency (LEP) populations.

BRAUN INTERTEC
The Science You Build On.

Braun Intertec Corporation
2526 Manana Drive, Suite 109
Dallas, TX 75220

Phone: 213.351.5633
Web: braunintertec.com

January 16, 2020-revised

Proposal QTB569

Mr. Mark Zoellner, P.E.
Pacheco Koch
4060 Bryant Irving Road
Fort Worth, Texas 76109

Re: Proposal for a Geotechnical Evaluation
Pavement Replacement and Displaced Turn Lane
for Pecan Street and Dessau Road
Pflugerville, Texas

Dear Mr. Zoellner:

Braun Intertec Corporation (Braun Intertec) respectfully submits this proposal to provide a subsurface exploration and geotechnical engineering services for Pecan Street (FM 1825) and Dessau Road (FM 685) in Pflugerville, Texas.

Our Understanding of Project

It is our understanding that Pflugerville is planning to reconstruct portions of Pecan Street and Dessau Road including displaced left turn lanes consisting of approximately 4,110 linear feet. The new roadways will be constructed with Portland cement concrete (PCC).

Furthermore, we understand that the anticipated design will not impact the existing bridges within the limits of this project and retaining walls will not be utilized.

Traffic counts were not provided at the time of this proposal. We respectively request that the client provide traffic counts and loading conditions prior to completion of the field services.

Purpose and Scope of Services

The purpose of our geotechnical evaluation will be to characterize the subsurface geologic conditions at selected exploration locations and evaluate their impact on the design and construction of the proposed roadways.

The object of the geotechnical study is to obtain soil and rock samples and determine the existing condition and characteristics of the subgrade profile. The data collected will be utilized to develop design recommendations for the new pavement and traffic signal standards. All services will be performed in accordance with generally accepted engineering practices prevailing at the time of the study and in the geographical area in which the work is performed. Additionally, TxDOT requirements including the TxDOT Geotechnical Manual (revised March 2018) and/or as directed by TxDOT, will be utilized.

Site Access, Staking and Utility Clearance

We respectfully request that the client mark all **private utilities** and provide Braun Intertec right-of-entry to conduct the field exploration. Braun Intertec will contact utility locator services (TEXAS ONE CALL) to locate **public utilities**. State law requires a minimum of 48 hours after the call is made to begin field services. Braun Intertec will not be responsible for damaged utilities that are not clearly marked.

All areas are assumed to be accessible to normal truck mounted equipment. If other equipment becomes necessary or should other factors result in unforeseen changes in site accessibility, we will contact you to discuss accessibility options and associated fees. Any restrictions or special project requirements should be brought to our attention before we commence our field exploration.

Braun Intertec will stake the boring locations using normal taping procedures. GPS coordinates will be provided and based on the documentation and technology used. Precise surveying of boring locations and elevations is not included in this cost estimate; however, these services may be provided upon request at an additional fee. The boring locations will be shown on the plan of borings.

Field Exploration

Traffic control will be used to close a single lane while coring and drilling operations are occurring. Traffic control will consist of a TMA truck with a three-man crew and signage. TCP (traffic control plans) engineered and stamped drawings will be provided.

We proposed a total of eight borings will be drilled. The borings will be drilled to an approximate depth of 10 feet for the pavements. Conventional sampling will be performed to collect soil and rock samples. The recovered samples will be extruded and logged in the field, wrapped to preserve the in-situ moisture condition and returned to the laboratory for testing. The samples will be described by an engineer or senior staff member and a log of each boring will be prepared to document field activities and laboratory results.

Groundwater Measurements

If groundwater is encountered in the boreholes during or immediately after drilling, the depth where it is observed will be recorded on the boring logs.

Borehole Abandonment

After completion of the groundwater readings and observations, the borings will be backfilled with the excavated cuttings to the top of subgrade and the pavement patched with Quikset concrete.

Sample Review and Laboratory Testing

Laboratory testing of the recovered samples will be used to perform engineering analysis. The specific types and quantities of tests will be determined based on the subsurface conditions encountered and our engineering experience. We anticipate the laboratory testing could include, but is not limited to the following:

- Moisture content
- Atterberg limits
- Dry unit weight
- Percent passing the No. 200 sieve
- Unconfined compressive strength of soil
- Soluble sulfates
- Free swell

Testing will be in general accordance with ASTM or TxDOT procedures including the TxDOT Geotechnical Manual (revised March 2018). The specific types and quantities of tests will be determined based on the subsurface conditions encountered in the borings. Braun Intertec will retain the recovered samples for 90 days after completion of laboratory testing unless other arrangements are made by the client.

Reporting

Data obtained from the borings and laboratory tests will be used to evaluate the subsurface profile and groundwater conditions, perform engineering analyses prepare the geotechnical report. Information to be provided is as follows:

- Site history regarding past site development, if information is available
- A description of the site geology
- Soil and groundwater conditions encountered at the boring locations
- Seismic site classification based on the International Building Code (IBC 2017)
- Engineering properties of any fill materials encountered
- Construction considerations related to soil and groundwater conditions at the sampled locations
- Foundation design recommendations including foundation type, identification of bearing strata, allowable bearing pressure and estimated settlement for the traffic signal standards
- Pavement design recommendations, including subgrade preparation and pavement thickness
- Earthwork recommendations, including material and compaction requirements
- A plan indicating the approximate location of the soil borings
- A log of each boring identified by a specific boring number that defines the thickness of each stratum, material description, soil classification, groundwater information and laboratory test results

Additional Services

We have not included potential costs for stand-by time or work that is not included in the above Scope of Services. Costs for stand-by time (defined as time spent by our field crew due to circumstances that are beyond our control or beyond the Scope of Services indicated above) will be charged at a rate of $250 per hour if approved by the City.

Compensation

Braun Intertec will provide the services described for a lump sum fee of **$13,576.00**. Should subsurface conditions be encountered, which based on our professional judgement, warrant significant revisions in the scope of work and fees, we will contact you prior to initiating additional services. If additional services

are desired, they may subsequently be agreed upon, in writing, and rendered under this agreement for an additional negotiated compensation.

General Remarks

If this proposal is acceptable, **please return a signed copy in its entirety as our authorization to proceed.** The proposed fee is based on the Scope of Services described within and the assumption that our services will be authorized within 30 days.

We appreciate the continued opportunity to provide you with our services. If you have any questions or wish to discuss any aspect of the project, please call us. Following your authorization, we are ready to begin work and look forward to a successful project.

Sincerely,

BRAUN INTERTEC CORPORATION
TBPE Firm Registration No. F-12228

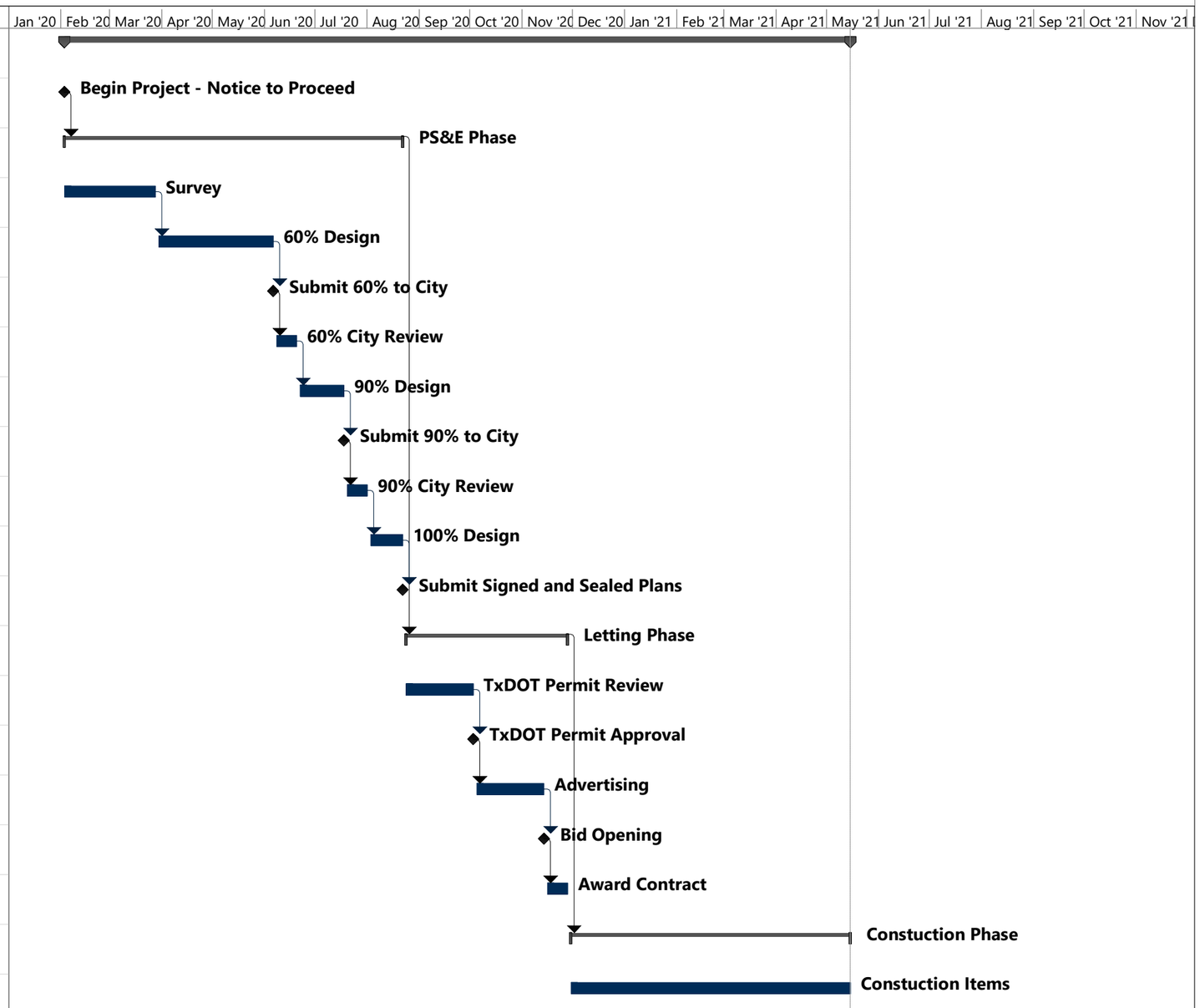
for Kim L. Macy, S.E.T, DBIA
Vice President

John A. Focht III, P.E.
Technical Leader/Principal Engineer

Attachments:
General Conditions (01/01/18)

City of Pflugerville
Displaced Left Turn
Design & Construction Schedule

ID	Task Name	Duration	Start	Finish
1	**Pflugerville - Displaced Left Turn**	**335 days**	**Mon 2/3/20**	**Fri 5/14/21**
2	Begin Project - Notice to Proceed	0 days	Mon 2/3/20	Mon 2/3/20
3	**PS&E Phase**	**145 days**	**Mon 2/3/20**	**Fri 8/21/20**
4	Survey	40 days	Mon 2/3/20	Fri 3/27/20
5	60% Design	50 days	Mon 3/30/20	Fri 6/5/20
6	Submit 60% to City	0 days	Fri 6/5/20	Fri 6/5/20
7	60% City Review	10 days	Mon 6/8/20	Fri 6/19/20
8	90% Design	20 days	Mon 6/22/20	Fri 7/17/20
9	Submit 90% to City	0 days	Fri 7/17/20	Fri 7/17/20
10	90% City Review	10 days	Mon 7/20/20	Fri 7/31/20
11	100% Design	15 days	Mon 8/3/20	Fri 8/21/20
12	Submit Signed and Sealed Plans	0 days	Fri 8/21/20	Fri 8/21/20
13	**Letting Phase**	**70 days**	**Mon 8/24/20**	**Fri 11/27/20**
14	TxDOT Permit Review	30 days	Mon 8/24/20	Fri 10/2/20
15	TxDOT Permit Approval	0 days	Fri 10/2/20	Fri 10/2/20
16	Advertising	30 days	Mon 10/5/20	Fri 11/13/20
17	Bid Opening	0 days	Fri 11/13/20	Fri 11/13/20
18	Award Contract	10 days	Mon 11/16/20	Fri 11/27/20
19	**Constuction Phase**	**120 days**	**Mon 11/30/20**	**Fri 5/14/21**
20	Constuction Items	120 days	Mon 11/30/20	Fri 5/14/21



Pacheco Koch

Exhibit C
Compensation to Consultant

City agrees to pay Consultant for all services outlined in Attachment A in accordance with the following:

SA2 Task 1: Pecan Street/Dessau Intersection Improvements Project	$308,047.55	Lump Sum
SA2 Task 2: Pecan Coordinated Signal Timing Plans	$56,149.00	Lump Sum
SA2 Task 3: Meetings and Site Visits	$52,080.00	Time and Materials, not to exceed
Supplemental Agreement Total	**$416,276.55**	**Not To Exceed**

PACHECO KOCH CONSULTING ENGINEERS, Inc.

Project No.: 4240-19.094
Client: City of Pflugerville, Texas
Project Title: Task 1 - Pecan Street/Dessau Intersection Improvements Project - Supplemental Agreement 1

FEE BUDGET ESTIMATE
BASIC DESIGN & CONSTRUCTION SERVICES

January 16, 2020

DESCRIPTION OF WORK TASK	BASIS OF MANHOUR ESTIMATE		LEVEL OF EFFORT BY CLASSIFICATION								TOTAL MH'S PER TASK	TOTAL FEE PER TASK
	QNTY	UNIT	SR PROJ MGR $210.00	SENIOR ENGR $170.00	STR/ELEC/HYD ENGR $125.00	PROJECT ENGR $125.00	DESIGN TECH/EIT $100.00	TECH. CADD $85.00	QA/QC REVIEW $180.00	ADMIN ASST $75.00		
PROJECT MANAGEMENT	10	MTH	10.0	30.0							40.0	$ 7,200.00
PROJECT START-UP AND COORDINATION												
PRELIMINARY CONFERENCE WITH CLIENT											0.0	$ -
COORDINATE WITH OUTSIDE AGENCIES (TxDOT)	1	N/A	20.0	40.0		40.0					100.0	$ 16,000.00
LGPP COORDINATION	1	N/A								80.0	80.0	$ 6,000.00
COLLECT & REVIEW EXISTING DATA	1	N/A								8.0	8.0	$ 600.00
INTERSECTION RESEARCH	1	N/A		8.0		8.0					16.0	$ 2,360.00
SITE VISIT (MOVED TO MEETINGS TASK)											0.0	$ -
											SUB-TOTAL =	**$ 32,160.00**
CONCEPTUAL DESIGN (30% SUBMITTAL)												
PAVING PLAN & PROFILE SHEETS	4	SHEET									0.0	$ -
DRAINAGE AREA MAP / CALCULATION SHEET	3	SHEET									0.0	$ -
STORM/CULVERT PLAN & PROFILE SHEETS	2	SHEET									0.0	$ -
QUANTITY TAKE-OFF AND OPINION OF COST	N/A	N/A									0.0	$ -
SITE VISITS / CLIENT CONFERENCE/REVIEW MEETING	1	EACH									0.0	$ -
											SUB-TOTAL =	**$ -**
PRELIMINARY DESIGN (60% SUBMITTAL)												
COVER SHEET / INDEX	1	SHEET		0.5		1.0		6.0			7.5	$ 720.00
PROJECT LAYOUT / LEGEND / CONTROL / QTY SHEET	2	SHEET		0.5		1.0		16.0			17.5	$ 1,570.00
GENERAL NOTES SHEET	1	SHEET		2.0		2.0	8.0	4.0			16.0	$ 1,730.00
DETAIL SHEETS	16	SHEET		2.0			8.0	20.0			30.0	$ 2,840.00
PAVING PLAN & PROFILE SHEETS	4	SHEET		8.0		16.0	40.0	60.0	1.0		125.0	$ 12,640.00
CROSS SECTION SHEETS	20	SHEET		4.0		8.0	30.0	16.0	1.0		59.0	$ 6,220.00
DRAINAGE AREA MAP / CALCULATION SHEET	3	SHEET		8.0		16.0	24.0	32.0			80.0	$ 8,480.00
STORM PLAN & PROFILE SHEETS	2	SHEET		8.0		8.0	30.0	60.0	1.0		107.0	$ 10,640.00
EROSION CONTROL PLANS	1	SHEET		1.0			20.0	40.0			61.0	$ 5,570.00
TRAFFIC CONTROL PLAN SHEETS	24	SHEET		16.0		40.0	40.0	80.0			176.0	$ 18,520.00
INTERSECTION LAYOUT SHEETS WITH PAVEMENT MARKINGS	3	SHEET		16.0		24.0	40.0	60.0			140.0	$ 14,820.00
TRAFFIC SIGNAL SHEETS	3	SHEET	2.0	8.0		8.0	4.0	50.0			72.0	$ 7,430.00
ILLUMINATION SHEETS	2	SHEET	2.0	4.0		6.0	2.0	30.0			44.0	$ 4,600.00
SIGNAL AND ILLUMINATION DETAIL SHEETS	4	SHEET	4.0	8.0		16.0	16.0	12.0			56.0	$ 6,820.00
QUANTITY TAKE-OFF AND OPINION OF COST	N/A	N/A		1.0		16.0			1.0		18.0	$ 2,350.00
SPECIFICATIONS	1	BOOK		8.0		8.0	16.0				32.0	$ 3,960.00
SITE VISIT / CLIENT CONFERENCE/REVIEW MEETING											0.0	$ -
											SUB-TOTAL =	**$ 108,910.00**
FINAL DESIGN (90% & 100% SUBMITTAL)												
COVER SHEET / INDEX	1	SHEET				2.0		4.0			6.0	$ 590.00
PROJECT LAYOUT / LEGEND / CONTROL / QTY SHEET	2	SHEET		2.0		2.0		6.0			10.0	$ 1,100.00
GENERAL NOTES SHEET	1	SHEET		1.0		2.0	2.0	4.0			9.0	$ 960.00
DETAIL SHEETS	16	SHEET		8.0			4.0	12.0			24.0	$ 2,780.00
PAVING PLAN & PROFILE SHEETS	4	SHEET		8.0		16.0	24.0	60.0	1.0		109.0	$ 11,040.00
CROSS SECTION SHEETS	20	SHEET		2.0		4.0	4.0	16.0	1.0		27.0	$ 2,780.00
DRAINAGE AREA MAP / CALCULATION SHEET	3	SHEET		2.0		4.0	8.0	8.0			22.0	$ 2,320.00
STORM PLAN & PROFILE SHEETS	2	SHEET		2.0		4.0	12.0	20.0	1.0		39.0	$ 3,920.00
EROSION CONTROL PLAN SHEETS	1	SHEET		0.5		2.0	4.0	8.0			14.5	$ 1,415.00
TRAFFIC CONTROL PLAN SHEETS	24	SHEET		2.0		4.0	8.0	20.0			34.0	$ 3,340.00
INTERSECTION LAYOUT SHEETS WITH PAVEMENT MARKINGS	3	SHEET		2.0			8.0	24.0			34.0	$ 3,180.00
TRAFFIC SIGNAL SHEETS	3	SHEET	2.0	8.0		8.0	8.0	40.0			66.0	$ 6,980.00
ILLUMINATION SHEETS	2	SHEET	1.0	4.0		8.0		24.0			37.0	$ 3,930.00
SIGNAL AND ILLUMINATION DETAIL SHEETS	4	SHEET	4.0	12.0		16.0	8.0	24.0			64.0	$ 7,720.00
QUANTITY TAKE-OFF AND OPINION OF COST	N/A	N/A		2.0		16.0			1.0		19.0	$ 2,520.00
SPECIFICATIONS	1	BOOK		4.0		4.0	4.0				12.0	$ 1,580.00
SITE VISITS / CLIENT CONFERENCE/REVIEW MEETING	1	N/A									0.0	$ -
											SUB-TOTAL =	**$ 56,155.00**

PACHECO KOCH CONSULTING ENGINEERS, Inc.

Project No.: 4240-19.094
Client: City of Pflugerville, Texas
Project Title: Task 1 - Pecan Street/Dessau Intersection Improvements Project - Supplemental Agreement 1

FEE BUDGET ESTIMATE
BASIC DESIGN & CONSTRUCTION SERVICES

January 16, 2020

DESCRIPTION OF WORK TASK	BASIS OF MANHOUR ESTIMATE		LEVEL OF EFFORT BY CLASSIFICATION								TOTAL MH'S PER TASK	TOTAL FEE PER TASK
	QNTY	UNIT	SR PROJ MGR $210.00	SENIOR ENGR $170.00	STR/ELEC/HYD ENGR $125.00	PROJECT ENGR $125.00	DESIGN TECH/EIT $100.00	TECH. CADD $85.00	QA/QC REVIEW $180.00	ADMIN ASST $75.00		
BID & CONSTRUCTION PHASE SERVICES												
BIDDING ASSISTANCE (Items A, B, D)	1	N/A		10.0		24.0	30.0	40.0			104.0	$ 11,100.00
PRE-BID MEETING	1	EA									0.0	$ -
BID OPENING	1	EA									0.0	$ -
REVIEW & ASSEMBLE CONTRACTS	1	N/A				8.0				4.0	12.0	$ 1,300.00
CONSTRUCTION ASSISTANCE (Items H and I)	1	N/A		7.0		20.0	40.0	60.0		8.0	135.0	$ 13,390.00
FINAL WALKTHROUGH											0.0	$ -
INITIAL SIGNAL TIMING PLANS											0.0	$ -
RECORD DRAWINGS	57	SHEET		1.0			8.0	32.0			41.0	$ 3,690.00
											SUB-TOTAL =	**$ 29,480.00**
HOURS SUB-TOTALS			45.0	250.5	0.0	362.0	450.0	888.0	8.0	100.0	2,103.5	**$ 226,705.00**
TOTAL LABOR COSTS			9,450.00	42,585.00	-	45,250.00	45,000.00	75,480.00	1,440.00	7,500.00	**$ 226,705.00**	
% OF TOTAL HOURS			2.1%	11.9%	0.0%	17.2%	21.4%	42.2%	0.4%	4.8%	100.0%	

PRINTING & REPRODUCTION EXPENSES					QUANTITY	UNIT PRICE	AMOUNT
PRINTING - 11 X 17 PLANS (REVIEW SETS)	12	SETS	77	PLOTS/SET	924	1.00	924.00
PRINTING - 22 X 34 PLANS (REVIEW SETS)	0	SETS	77	PLOTS/SET	0	1.50	-
PRINTING - 22 X 34 PLANS (UTILITY CLEARANCE SETS)	0	SETS	77	PLOTS/SET	0	1.50	-
PLOTTING - 22 X 34 PAPER PLOTS	0	SETS	77	PLOTS/SET	0	3.00	-
PRINTING - 22 X 34 PLANS (BID SETS)	0	SETS	77	PLOTS/SET	0	1.50	-
PRINTING - 11 X 17 PLANS (BID SETS)	8	SETS	77	PLOTS/SET	616	1.00	616.00
PRINTING - 22 X 34 PLANS (AS-BUILT SETS)	0	SETS	77	PLOTS/SET	0	3.00	-
PRINTING - 11 X 17 PLANS (AS-BUILT SETS)	1	SETS	77	PLOTS/SET	77	1.00	77.00
MYLAR PREPARATION	0	SETS	77	PLOTS/SET	0	4.00	-
PDF PREPARATION	1	SETS	77	PLOTS/SET	1	8.00	8.00
SPECIFICATIONS - 8.5 X 11 PAPER COPIES	4	SETS	100	COPIES/SET	400	0.10	40.00
SPECIFICATIONS - 8.5 X 11 PAPER COPIES (BID SETS)	5	SETS	100	COPIES/SET	500	0.10	50.00
TOTAL PRINTING & REPRODUCTION EXPENSES							**$ 1,715.00**
DIRECT EXPENSES							
PLOTTING - 11 X 17 PAPER PLOTS	5	SETS	77	PLOTS/SET	385	1.00	385.00
REPRODUCTION - 8.5 X 11 PAPER COPIES	150	COPIES			150	0.10	15.00
DELIVERY SERVICE	6	PKGS			6	15.00	90.00
AUTO EXPENSE (for signal timing)	2	TRIPS	400	MI /TRIP	800	0.55	440.00
TOTAL PER PHASE DIRECT EXPENSES							**$ 930.00**

ENGINEERING	
LABOR COSTS:	$ 226,705.00
DIRECT EXPENSES	2,645.00
TOTAL ENGINEERING (Basic Services)	**$ 229,350.00**
OTHER DIRECT COSTS - (Special Services)	
Field Survey - Pacheco Koch	$ 49,820.00
Geotechnical Investigation	$ 13,576.00
Environmental Services	$ 15,301.55
TOTAL ENGINEERING (Special Services)	**$ 78,697.55**
TOTAL DESIGN FEE	**$ 308,047.55**

PACHECO KOCH CONSULTING ENGINEERS, Inc.

Project No.: 4240-19.094
Client: City of Pflugerville, Texas
Project Title: Task 2: Coordinated Signal Timing Plans - Supplemental Agreement 2

FEE BUDGET ESTIMATE
BASIC DESIGN & CONSTRUCTION SERVICES

January 16, 2020

DESCRIPTION OF WORK TASK	BASIS OF MANHOUR ESTIMATE QNTY	UNIT	LEVEL OF EFFORT BY CLASSIFICATION: SR PROJ MGR $210.00	SENIOR ENGR $170.00	STR/ELEC/HYD ENGR $125.00	PROJECT ENGR $125.00	DESIGN TECH/EIT $100.00	TECH. CADD $85.00	QA/QC REVIEW $180.00	ADMIN ASST $75.00	TOTAL MH'S PER TASK	TOTAL FEE PER TASK
COORDINATED SIGNAL TIMING SERVICES												
Data Collection	1	N/A				2.0					2.0	$ 250.00
Site Visit (assume 2 hotel nights)	4	PK Hrs	16.0			16.0					32.0	$ 5,360.00
Basic Signal timing and Y&R calcs	5	INT		3.0		2.0	5.0				10.0	$ 1,260.00
Develop and Calibrate Corridor Model	4	PK Hrs	4.0	8.0		40.0	20.0				72.0	$ 9,200.00
Create Coordinated Timing Plans	4	PK Hrs	4.0	20.0		40.0	20.0				84.0	$ 11,240.00
Timing memo	1	N/A	2.0	8.0			16.0			8.0	34.0	$ 3,980.00
Field programming (assume 1 hotel night)	7	INT	7.0	7.0							14.0	$ 2,660.00
Fine-tuning visit (assume 2 hotel nights)	7	INT	20.0	24.0			24.0				68.0	$ 10,680.00
											SUB-TOTAL =	**$ 44,630.00**
Signal Timing Review Meeting	1	mtg	2.0			8.0					10.0	$ 1,420.00
											0.0	$ -
											0.0	$ -
											SUB-TOTAL =	**$ 1,420.00**
HOURS SUB-TOTALS			55.0	70.0	0.0	108.0	85.0	0.0	0.0	8.0	326.0	**$ 46,050.00**
TOTAL LABOR COSTS			11,550.00	11,900.00	-	13,500.00	8,500.00	-	-	600.00	**$ 46,050.00**	
% OF TOTAL HOURS			16.9%	21.5%	0.0%	33.1%	26.1%	0.0%	0.0%	2.5%	100.0%	

PRINTING & REPRODUCTION EXPENSES					QUANTITY	UNIT PRICE	AMOUNT
PRINTING - 11 X 17 PLANS (REVIEW SETS)	0	SETS	24	PLOTS/SET	0	1.00	-
PRINTING - 22 X 34 PLANS (REVIEW SETS)	0	SETS	24	PLOTS/SET	0	1.50	-
PRINTING - 22 X 34 PLANS (UTILITY CLEARANCE SETS)	0	SETS	24	PLOTS/SET	0	1.50	-
PLOTTING - 22 X 34 PAPER PLOTS	0	SETS	24	PLOTS/SET	0	3.00	-
PRINTING - 22 X 34 PLANS (BID SETS)	0	SETS	24	PLOTS/SET	0	1.50	-
PRINTING - 11 X 17 PLANS (BID SETS)	0	SETS	24	PLOTS/SET	0	1.00	-
PRINTING - 22 X 34 PLANS (AS-BUILT SETS)	0	SETS	24	PLOTS/SET	0	3.00	-
PRINTING - 11 X 17 PLANS (AS-BUILT SETS)	0	SETS	24	PLOTS/SET	0	1.00	-
MYLAR PREPARATION	0	SETS	24	PLOTS/SET	0	4.00	-
PDF PREPARATION	0	SETS	24	PLOTS/SET	0	8.00	-
SPECIFICATIONS - 8.5 X 11 PAPER COPIES	0	SETS	100	COPIES/SET	0	0.10	-
SPECIFICATIONS - 8.5 X 11 PAPER COPIES (BID SETS)	0	SETS	100	COPIES/SET	0	0.10	-
TOTAL PRINTING & REPRODUCTION EXPENSES							**$ -**

DIRECT EXPENSES							
PLOTTING - 11 X 17 PAPER PLOTS	0	SETS	24	PLOTS/SET	0	1.00	-
REPRODUCTION - 8.5 X 11 PAPER COPIES	0	COPIES			0	0.10	-
DELIVERY SERVICE	1	PKGS			1	15.00	15.00
TURNING MOVEMENT COUNTS	9	INT			8	60.00	4,320.00
7-DAY COUNT	7	DAYS				220.00	1,540.00
TRAVEL TIME RUNS (BEFORE AND AFTER)	8	PK Hrs			2	60.00	960.00
PER DIEM	8	NIGHTS				50.00	400.00
HOTEL	8	NIGHTS				160.00	1,280.00
AUTO EXPENSE	8	TRIPS	360	MI /TRIP	2,880	0.55	1,584.00
TOTAL PER PHASE DIRECT EXPENSES							**$ 10,099.00**

ENGINEERING	
LABOR COSTS:	$ 46,050.00
DIRECT EXPENSES	10,099.00
TOTAL ENGINEERING (Basic Services)	**$ 56,149.00**
OTHER DIRECT COSTS - (Special Services)	
TOTAL ENGINEERING (Special Services)	**$ -**
TOTAL DESIGN FEE	**$ 56,149.00**

PACHECO KOCH CONSULTING ENGINEERS, Inc.

Project No.: 4240-19.094
Client: City of Pflugerville, Texas
Project Title: Task 3: Meetings/Site Visits - Supplemental Agreement 2

FEE BUDGET ESTIMATE
BASIC DESIGN & CONSTRUCTION SERVICES

January 16, 2020

DESCRIPTION OF WORK TASK	BASIS OF MANHOUR ESTIMATE		LEVEL OF EFFORT BY CLASSIFICATION								TOTAL MH'S PER TASK	TOTAL FEE PER TASK
	QNTY	UNIT	SR PROJ MGR $210.00	SENIOR ENGR $170.00	STR/ELEC/HYD ENGR $125.00	PROJECT ENGR $125.00	DESIGN TECH/EIT $100.00	TECH. CADD $85.00	QA/QC REVIEW $180.00	ADMIN ASST $75.00		
DESSAU MEETINGS												
PRELIMINARY CONFERENCE WITH CLIENT	1	N/A	6.0	6.0							12.0	$ 2,280.00
SITE VISIT (6 HRS OF TRAVEL)	1	TRIPS	8.0	8.0							16.0	$ 3,040.00
PRE-BID MEETING (Dessau)	1	EA		7.0		6.0					13.0	$ 1,940.00
BID OPENING (Dessau)	1	EA		7.0							7.0	$ 1,190.00
60% SITE VISIT / CLIENT CONFERENCE/REVIEW MEETING	1	EACH	4.0	4.0		10.0					18.0	$ 2,770.00
90% SITE VISITS / CLIENT CONFERENCE/REVIEW MEETING	1	N/A	4.0	4.0		10.0					18.0	$ 2,770.00
PRE-CONSTRUCTION CONFERENCE (Item F)	1	N/A		8.0						4.0	12.0	$ 1,660.00
SITE VISITS (6 HRS OF TRAVEL) (ITEM G, Signal & Rdwy Engr)	4	MTGS	28.0	28.0							56.0	$ 10,640.00
FINAL WALKTHROUGH	1	N/A		10.0		10.0					20.0	$ 2,950.00
INITIAL SIGNAL TIMING PLANS (includes 2 hotel rooms)	3	INT	2.0	20.0		4.0	24.0				50.0	$ 6,720.00
CONTRACT ADMINISTRATION FOR LGPP COORDINATION	18	MO								180.0	180.0	$ 13,500.00
											SUB-TOTAL =	**$ 49,460.00**
HOURS SUB-TOTALS			52.0	102.0	0.0	40.0	24.0	0.0	0.0	184.0	402.0	**$ 49,460.00**
TOTAL LABOR COSTS			10,920.00	17,340.00	-	5,000.00	2,400.00	-	-	13,800.00	**$ 49,460.00**	
% OF TOTAL HOURS			12.9%	25.4%	0.0%	10.0%	6.0%	0.0%	0.0%	45.8%	100.0%	

PRINTING & REPRODUCTION EXPENSES					QUANTITY	UNIT PRICE	AMOUNT
PRINTING - 11 X 17 PLANS (REVIEW SETS)	0	SETS	24	PLOTS/SET	0	1.00	-
PRINTING - 22 X 34 PLANS (REVIEW SETS)	0	SETS	24	PLOTS/SET	0	1.50	-
PRINTING - 22 X 34 PLANS (UTILITY CLEARANCE SETS)	0	SETS	24	PLOTS/SET	0	1.50	-
PLOTTING - 22 X 34 PAPER PLOTS	0	SETS	24	PLOTS/SET	0	3.00	-
PRINTING - 22 X 34 PLANS (BID SETS)	0	SETS	24	PLOTS/SET	0	1.50	-
PRINTING - 11 X 17 PLANS (BID SETS)	0	SETS	24	PLOTS/SET	0	1.00	-
PRINTING - 22 X 34 PLANS (AS-BUILT SETS)	0	SETS	24	PLOTS/SET	0	3.00	-
PRINTING - 11 X 17 PLANS (AS-BUILT SETS)	0	SETS	24	PLOTS/SET	0	1.00	-
MYLAR PREPARATION	0	SETS	24	PLOTS/SET	0	4.00	-
PDF PREPARATION	0	SETS	24	PLOTS/SET	0	8.00	-
SPECIFICATIONS - 8.5 X 11 PAPER COPIES	0	SETS	100	COPIES/SET	0	0.10	-
SPECIFICATIONS - 8.5 X 11 PAPER COPIES (BID SETS)	0	SETS	100	COPIES/SET	0	0.10	-
TOTAL PRINTING & REPRODUCTION EXPENSES							**$ -**
DIRECT EXPENSES							
PLOTTING - 11 X 17 PAPER PLOTS	0	SETS	24	PLOTS/SET	0	1.00	-
REPRODUCTION - 8.5 X 11 PAPER COPIES	0	COPIES			0	0.10	-
DELIVERY SERVICE		PKGS			0	15.00	-
TURNING MOVEMENT COUNTS		INT			8	60.00	-
7-DAY COUNT		DAYS				220.00	-
TRAVEL TIME RUNS (BEFORE AND AFTER)		PK Hrs			2	60.00	-
PER DIEM	2	NIGHTS				50.00	100.00
HOTEL	2	NIGHTS				160.00	320.00
AUTO EXPENSE	10	TRIPS	400	MI /TRIP	4,000	0.55	2,200.00
TOTAL PER PHASE DIRECT EXPENSES							**$ 2,620.00**

ENGINEERING	
LABOR COSTS:	$ 49,460.00
DIRECT EXPENSES	2,620.00
TOTAL ENGINEERING (Basic Services)	**$ 52,080.00**
OTHER DIRECT COSTS - (Special Services)	
TOTAL ENGINEERING (Special Services)	**$ -**
TOTAL DESIGN FEE	**$ 52,080.00**

SA2 Task 1	Pecan Street/Dessau Intersection Improvements Project	$ 308,047.55
SA2 Task 2	Pecan Coordinated Signal Timing Plans	$ 56,149.00
SA2 Task 3	Meetings and Site Visits	$ 52,080.00
		$ 416,276.55
	Original Contract	$213,650.00
	SA1	$416,276.55
		$ 629,926.55

PRELIMINARY ESTIMATE OF PROJECTED MAN-HOURS AND COSTS
PECAN STREET INTERSECTION IMPROVEMENTS PROJECT
Pflugerville, Tx

PACHECO KOCH CONSULTING ENGINEERS, INC.
Prepared by: JWW
01/14/20

FIELD SURVEY	Principal (RPLS / PE)		Associate Principal (RPLS)		Project Coordinator		Senior Survey Technician		Drafter		2-Person Survey Field Crew		Research Manager		Research Coordinator		Senior Admin. Assistant		TOTAL	
	Rate	*$245.00*	*Rate*	*$210.00*	*Rate*	*$120.00*	*Rate*	*$95.00*	*Rate*	*$80.00*	*Rate*	*$150.00*	*Rate*	*$100.00*	*Rate*	*$65.00*	*Rate*	*$90.00*		
	Hrs.	Cost	Hrs.	Cost	Hrs.	Cost	Hrs.	Cost	Hrs.	Cost	Hrs.	Cost	Hrs.	Cost	Hrs.	Cost	Hrs.	Cost	Hrs.	Cost
Right-of-Entry Coordination	0.0	$ -	1.0	$ 210.00	4.0	$ 480.00	8.0	$ 760.00	0.0	$ -	2.0	$ 300.00	8.0	$ 800.00	0.0	$ -	4.0	$ 360.00	**27.0**	**$ 2,910.00**
Establish Survey Control	0.0	$ -	1.0	$ 210.00	3.0	$ 360.00	6.0	$ 570.00	16.0	$ 1,280.00	24.0	$ 3,600.00	0.0	$ -	0.0	$ -	0.0	$ -	**50.0**	**$ 6,020.00**
Benchmark Loop	0.0	$ -	1.0	$ 210.00	3.0	$ 360.00	6.0	$ 570.00	4.0	$ 320.00	12.0	$ 1,800.00	0.0	$ -	0.0	$ -	0.0	$ -	**26.0**	**$ 3,260.00**
Existing Streets and Driveways	0.0	$ -	2.0	$ 420.00	4.0	$ 480.00	8.0	$ 760.00	12.0	$ 960.00	40.0	$ 6,000.00	0.0	$ -	0.0	$ -	0.0	$ -	**66.0**	**$ 8,620.00**
Existing Drainage Channels and Drainage Area Verification	0.0	$ -	1.0	$ 210.00	2.0	$ 240.00	4.0	$ 380.00	8.0	$ 640.00	16.0	$ 2,400.00	0.0	$ -	0.0	$ -	0.0	$ -	**31.0**	**$ 3,870.00**
Existing Underground and Overhead Utilities	0.0	$ -	1.0	$ 210.00	4.0	$ 480.00	8.0	$ 760.00	12.0	$ 960.00	16.0	$ 2,400.00	1.0	$ 100.00	8.0	$ 520.00	0.0	$ -	**50.0**	**$ 5,430.00**
Right-of-Way Determination	0.0	$ -	2.0	$ 420.00	8.0	$ 960.00	16.0	$ 1,520.00	24.0	$ 1,920.00	24.0	$ 3,600.00	20.0	$ 2,000.00	16.0	$ 1,040.00	0.0	$ -	**110.0**	**$ 11,460.00**
Existing Storm Sewers and Culverts	0.0	$ -	1.0	$ 210.00	4.0	$ 480.00	8.0	$ 760.00	16.0	$ 1,280.00	16.0	$ 2,400.00	1.0	$ 100.00	8.0	$ 520.00	0.0	$ -	**54.0**	**$ 5,750.00**
Direct Expenses (Not to Exceed)																				**$ 2,500.00**
	0.0	$ -	10.0	$ 2,100.00	32.0	$ 3,840.00	64.0	$ 6,080.00	92.0	$ 7,360.00	150.0	$ 22,500.00	30.0	$ 3,000.00	32.0	$ 2,080.00	4.0	$ 360.00	**414.0**	**$ 49,820.00**

Draft Fee Schedule
Displaced Left-Turn Intersection

For: Pacheco Koch (OBO City of Plugerville)

By: Berg♦Oliver Associates, Inc.

TASK DESCRIPTION	OFFICER/ PRINCIPAL/ SR PROJ DIR	SR ASSOCIATE	PROJECT MGR / NOISE & AIR SPECIALIST	PROFESSIONAL GEOLOGIST	HEALTH SAFETY OFFICER CHEMIST	WETLANDS BIOLOGIST / ECOLOGIST	SOIL SCIENTIST	SR GIS / CADD ANALYST	FIELD TECHNICIAN	ADMIN. WORD PROCESSOR	SUB-CONSULTANTS	DIRECT EXPENSES	COST PER TASK	
TASK 1 - PROJECT MANAGEMENT														
Project Management, Scoping		10	10					4				$65.55	**$3,965.55**	
TASK 2 - ENVIRONMENTAL SETTING & EVALUATION														
Biological Resources Study		2	13					4					$2,940.00	
Surface Waters Analysis		1	7					1					$1,425.00	
Hazardous Materials Initial Site Assessment		1	1	16						3			$3,095.00	
Community Impacts Analysis		2	13										$2,440.00	Direct exp. Incl. in sub's cost
												$1,436.00	**$11,336.00**	
												SUB-TOTAL:	**$15,301.55**	**Required* Tasks Incl. Direct Expenses**
HOURS SUB-TOTALS	0	16	44	16	0	0	0	9	0	3				
LABOR RATE PER HOUR	$190.00	$180.00	$160.00	$160.00	$160.00	$120.00	$120.00	$125.00	$85.00	$65.00				
SUBTOTAL	$0.00	$2,880.00	$7,040.00	$2,560.00	$0.00	$0.00	$0.00	$1,125.00	$0.00	$195.00				

DIRECT EXPENSES	AERIAL PHOTOGRAPHY	8.5 X 11 BW COPIES	8.5 X 11 COLOR COPIES	11 x 17 COLOR COPIES	DELIVERY & OVERNIGHT MAIL	HAZ MAT DATA BASE RESEARCH	CITY DIRECTORIES	MILEAGE	TPWD TxNDD SEARCH	POSTAGE	EQUIPMENT RENTALS	**DIRECT EXPENSES**
TASK 1 - PROJECT MANAGEMENT								115				$65.55
TASK 2 - ENVIRONMENTAL SETTING & EVALUATION	1					1	1	800	1			$1,436.00
QUANTITY	1	0	0	0	0	1	1	915	1	0	0	
RATE	$80.00	$0.25	$1.00	$1.50	$25.00	$350.00	$500.00	$0.57	$50.00	$0.55	$200.00	
DIRECT EXPENSE COST	$80.00	$0.00	$0.00	$0.00	$0.00	$350.00	$500.00	$521.55	$50.00	$0.00	$0.00	**$1,436.00**

Summary - Project Services	**Cost**
Project Management - Task 1	$3,965.55
Env'l Setting & Evaluation - Task 2	$11,336.00
Required Grand Total	**$15,301.55**

Assumptions: Please see written proposal for various assumptions.

25 miles R/T to TxDOT
90 miles R/T to site (tolls accounted for)

Probability: (dropdown)	90%
Project Market Sector: (dropdown)	TRAN - HWY - Local, County, & State Aid High
Estimated Start Date	2/15/2020
Estimated End Date	4/1/2020
Project Group:(dropdown)	
Fee Schedule:(dropdown)	18SOUTH
% off 2018(enter in):	0%
Special Billing Instructions	
Billing Contact:	
Collaborator & Influencers:	
P.O. Number:	
End Owner	

Project Client Communicator:	Randy Deatherage
Principal In Charge:	Kim Macy
Estimator:	Kim Macy
Project Manager:	LeAnn Belcher
Technical Expert:	John Focht
Technical Quality Reviewer:	John Focht
Laboratory Test Reviewer:	Randy Deatherage
Project Assistant:	
Biller:	
Trip Charge (time pre trip)	
Trip Charge (Mileage one way)	
Office covering Labor work: (dropdown)	

Drill Estimate			Round Hrs up by:(Dropdown)	
One-way mileage to Job Site			On-Site Mileage per Day	
Miles per Hour			Length of Day	
Pre-drill Prep Time			Daily Prep Time	
Post-drill Prep Time			Relocation Time	

Utilities Cleared	☐	State	
Steam Cleaning	☐	Constr Record Required	☐
CADD Sketch	☐	Sealing Records	
CADD Sketch Hrs			

Seq	Drilling selection (Dropdown)	Difficulty (Dropdown)	Diameter (Dropdown)	Holes	Maximu Depth, ft.	Total Footage	Sampling interval (Dropdown)	Grout (dropdown)	Well Diameter (Dropdown)	Well Completion (Dropdown)
1	HSA	2 - Clay/Sand/Soft	3	12	20	240	Standard	None	None	None
2						0				
3						0				
4						0				

BRAUN INTERTEC
The Science You Build On.

Project Proposal

QTB

Project Name: Cedar Street and South Broad Street Pavement Replacement

Client:(hit ALT enter for next line)	Work Site Address:	Service Description:
Pacheco Koch 6100 Western Place Suite 1001 Fort Worth, Texas 76107	Pecan Street and Dessau Road Pflugerville, Texas	Geotechnical Evaluation

	Description	Quantity	Units	Unit Price	Extension	Rate - Full Fee
Phase 1	**Geotechnical Evaluation**					
Activity 1.1	**Site Reconnaissance**				**$1,160.00**	
106	Technician		Hour	107.00	$.00	107.00
118	**Staff Engineer**	8.00	Hour	120.00	$960.00	105.00
126	Project Engineer		Hour	120.00	$.00	120.00
1871	**GEO Trip Charge, (50 Mile Radius)**	2.00	Each	100.00	$200.00	75.00
Activity 1.2	**Drilling Services**				**$6,460.00**	
1087	**Mobilization/Demobilization - Truck-Mounted (50 Mile Radius)**	1.00	Each	600.00	$600.00	400.00
1087	Mobilization/Demobilization - Track-Mounted (50 Mile Radius)		Each	400.00	$.00	400.00
9200	**Traffic control, cones and signs**	1.00	Each	3,000.00	$3,000.00	275.00
1001	**Permit**	1.00	Each	200.00	$200.00	175.00
AD6110	**Drilling, Cont. Sampling Depth Below Ground Surface 0-25', per foot**	80.00	Each	20.00	$1,600.00	12.00
AD6112	Drilling, Cont. Sampling Depth Below Ground Surface 25-50', per foot		Each	14.00	$.00	14.00
AD6114	Drilling, Cont. Sampling Depth Below Ground Surface 50-75', per foot		Each	16.00	$.00	16.00
1036	Drilling, Cont. sampling (Moisture Check Borings)		Hour	20.00	$.00	20.00
1053	**TxDOT cone penetration tests (Tex-132-E)**	4.00	Each	25.00	$100.00	25.00
1043	Standard Penetration Test (SPT)		Each	23.00	$.00	23.00
6204	Rock Coring Set-up, per core		Each	100.00	$.00	100.00
1045	Rock Coring, per foot		Hour	26.00	$.00	26.00
1024	Drilling, no sampling, per foot		Each	10.00	$.00	10.00
306	Flaggers, per person		Hour	65.00	$.00	65.00
9724	Borehole abandonment, Bentonite chips, per foot		Each	7.00	$.00	7.00
9732	Borehole abandonment, Grout with bentonite, per foot		Hour	10.00	$.00	10.00
118	**Field Logger, technician or EIT, per hour**	8.00	Each	120.00	$960.00	105.00
126	Field Logger, Professional Geologist or Engineer, per hour		Each	120.00	$.00	120.00
1871	GEO Trip Charge, (50 Mile Radius)		Each	75.00	$.00	75.00
SUB-BILL	Subcontractor Billable		Each	1,000.00	$.00	#N/A
Activity 1.3	**Geotechnical Soil Tests**				**$2,170.00**	
1152	**Moisture content (ASTM D 2216), per sample**	40.00	Each	10.00	$400.00	7.00
1154	Moisture Content and Density (ASTM D 2937)		Each	25.00	$.00	25.00

	1156	**Atterberg Limits: LL and PL (ASTM D 4318), per sample**	8.00	Each	65.00	$520.00	50.00
	1162	Sieve analysis with 200 wash (ASTM D 422), per sample		Each	55.00	$.00	55.00
	2601	**200 wash (ASTM D 1140), per sample**	8.00	Each	40.00	$320.00	40.00
	1172	Mechanical (sieve)-hydrometer analysis (ASTM D 422), per sample		Each	150.00	$.00	150.00
	1174	Organic content (ASTM D 2974), per sample		Each	84.00	$.00	84.00
	1186	**Soil Unconfined compression (ASTM D 2166), per sample**	4.00	Each	65.00	$260.00	45.00
	1747	Rock Unconfined compression (ASTM D 7012), per sample		Each	75.00	$.00	75.00
	1202	**One-dimensional free swell testing (ASTM D4546, method B), per sample**	5.00	Each	100.00	$500.00	85.00
	1198	Consolidation testing, time-rate, ASTM D2435, per sample		Each	500.00	$.00	500.00
	1206	Unconsolidated-Undrained Triaxial testing, (ASTM D 2850), per sample		Each	95.00	$.00	95.00
	1208	Consolidated-Undrained Triax testing (includes pore-pressure measurements), (ASTM D4767), per point		Each	675.00	$.00	675.00
	1192	Consolidated-Drained Direct Shear Testing, (ASTM D3080), per point		Each	385.00	$.00	385.00
	1318	Standard Proctor Test(ASTM D 698)		Each	145.00	$.00	145.00
	5252	pH-Lime Series Test (TEX-121-E)		Each	275.00	$.00	275.00
	2644	**Sulfate Conductivity Test (Tex-146-E), per sample**	2.00	Each	85.00	$170.00	85.00
	1734	California bearing ratio (ASTM D 1883), per molded specimen		Each	275.00	$.00	275.00
	SUB1-BILL	Subcontractor		Each		$.00	#N/A
Activity 1.4		**Evaluation/Analysis/Reports**				**$3,786.00**	
	138	**Project Assistant**	2.00	Hour	48.00	$96.00	48.00
	371	**CAD/Drafting**	2.00	Hour	85.00	$170.00	85.00
	118	**Staff Engineer**	18.00	Hour	150.00	$2,700.00	105.00
	126	Project Engineer		Hour	120.00	$.00	120.00
	128	**Senior Engineer**	2.00	Hour	195.00	$390.00	145.00
	226	**Project Manager**	2.00	Hour	90.00	$180.00	90.00
	130	**Principal Engineer (KM proposal time)**	1.00	Hour	250.00	$250.00	185.00
			Phase 1 Total:			**$13,576.00**	

Proposal Total:	**$13,576.00**