Binkley & Barfield, Inc.
consulting engineers
Texas Registration Number F-257

July 10, 2017

Jacob Speer
Director of Public Works
City of University Park
P.O. Box 8005
University Park, Texas 75205-1711

RE: **Traffic Signal Design Proposal – Three Traffic Signals**

Mr. Speer:

At your request Binkley & Barfield, Inc. (BBI) has submitted this proposal to provide professional engineering services for the completion of traffic signal design plans and specifications for the following intersections.

- Preston Road at Villanova Street
- Preston Road at Centenary Avenue/Sherry Lane
- Hillcrest Avenue at Caruth Boulevard

SCOPE OF SERVICES

We have developed the following list of engineering services that will be performed by BBI in order to prepare traffic signal design plans for the referenced intersection.

A. Traffic Signal Warrant and Analysis – Preston Road at Centenary Avenue/Sherry Lane
    a. Data Collection
        i. BBI will collect 24-hrs of turning movement counts at the study intersection.
            1. Summer Counts
            2. Fall Counts (if needed)
        ii. BBI will request accident data for the study location from the City of University Park Police Department
    b. Analysis
        i. BBI will summarize and review the collected data.
        ii. BBI will evaluate the data per applicable TxMUTCD traffic signal warrants.
        iii. BBI will conduct a level of service analysis of the existing signalized intersection configuration
    c. Report
        i. BBI will summarize the collected data and the analysis in a report.
        ii. BBI will submit the report to the client for review in electronic format.
        iii. BBI will incorporate comments from the client.

B. Sue & Survey (See ***Attachment 1*** for full SUE and Survey Scope)
    a. Conduct Quality Level B SUE
        i. Preston Road and Villanova Street
        ii. Preston Road and Centenary Avenue/Sherry Lane
    b. Conduct topographic field survey and create base map of existing conditions utilizing AutoCAD.
        i. Preston Road at Villanova Street

ii. Preston Road and Centenary Avenue/Sherry Lane
iii. Hillcrest Road at Caruth Boulevard

C. Preliminary Plans
   a. Collect available information from the City: utility information; right-of-way information; and as-built plans to assist with survey, quality level B SUE, and base map preparation.
      i. Preston Road at Villanova Street
      ii. Preston Road and Centenary Avenue/Sherry Lane
      iii. Hillcrest Road at Caruth Boulevard
   b. Design criteria: City of University Park design criteria and the Texas Manual on Uniform Traffic Control Devices.
   c. Aspects of plans:
      i. Steel mast arm poles - 80 mph wind load design.
      ii. Paint color for poles to be Benjamin Moore #07164.
      iii. Vehicle detection and emergency vehicle pre-emption.
      iv. Signal pole foundations.
      v. Vehicle and pedestrian signal controls.
      vi. LED signal lamps for all signal head hardware.
      vii. Traffic control and ILSN signs.
      viii. Controller unit, cabinet, and foundation.
      ix. Location of City and franchise utilities.

D. Review and Field Check Preliminary Plans
   a. Submit to City for review.
   b. Field check areas of concern as needed.

E. Final Plans
   a. Revise to reflect review comments.
   b. Submit to City for approval.

F. Documentation
   a. Develop contract documents using City's standard documents.
   b. Prepare itemized cost estimate.
   c. Submit copies to City for approval.

G. Deliverables
   a. One (1) digital copy of final design plans and contract documents.
   b. One (1) original set of signed and sealed plans and documents.
   c. Ten (10) sets of plans and contract documents for bidding purposes (extra copies will be billed additionally).

H. Bid Services
   a. Attendance to pre-bid meeting.
   b. Attendance to pre-construction meeting.
   c. Prepare bid tabulations and evaluation of bidders.

I. Construction Services
   a. Field location of signal poles with City forces (as needed).
   b. Field location of power sources with City forces (as needed).
   c. Preparation of as-built plans based on Contractor's records.

J. Additional Services
   The services listed below are not included in the proposed fee. This list is not intended to be a non-exclusive list. Should these services be requested an additional scope and fee will be prepared and submitted to the City.

a. Design of utility relocations to accommodate proposed signal poles (e.g. storm, water, and sanitary sewer lines)

SCHEDULE AND COST ESTIMATE

The Consultant is prepared to begin work on this project upon your authorization to proceed. We will provide preliminary signal plans for the City's review within twelve (12) weeks of our notice to proceed. Final PS&E will be provided within three (3) weeks of the City's staff review.

We are prepared to complete the project as described in the Scope of Services section for a maximum fee not to exceed **sixty-nine thousand one hundred eight-five dollars ($69,185)**. A fee breakdown is as follows:

Task		
Survey		**$14,485**
Preston Road at Villanova Street	=	$5,100
Preston Road at Centenary Drive/Sherry Lane*	=	$5,100
Hillcrest Road at Caruth Boulevard	=	$4,285
SUE		**$12,100**
Preston Road at Villanova Street	=	$5,660
Preston Road at Centenary Drive/Sherry Lane	=	$3,440
Traffic Control Plan	=	$250
Traffic Control Single Lane Closures ($1,375 per day x 2 – As Needed)	=	$2,750
Traffic Study – Preston Road at Centenary Drive/Sherry Lane		**$5,700**
Traffic Counts – Summer	=	$1,350
Traffic Counts – Fall**	=	$1,350
Traffic Analysis and Report	=	$3,000
Design Services		**$36,700**
Engineering Design	=	$33,000
Bid Services	=	$1,850
Construction Services	=	$1,850
Direct Expenses	=	**$200**
Total Fee	=	**$69,185**

*Fee can be modified if no SUE services required.
**As needed based upon summer traffic counts and analysis.

BILLING SCHEDULE

The proposed fee is lump sum and will be billed monthly based on percent complete.

CLOSING

We appreciate this opportunity to respond to your need for traffic engineering assistance regarding this project in the City of University Park. If you have any questions concerning this proposal, please do not hesitate to contact our office.

Sincerely,

Binkley & Barfield, Inc.

Cameron L. Williams, P.E., PTOE, PTP
Project Manager

Tony Romo, P.E.
Regional Vice President

Attachment 1 –Survey and SUE Scope

Topographic Survey

The topographic survey shall consist of the following services:

1. Tie in and connect to two City of University Park Geodetic Monuments
2. Survey to include all visible physical features (i.e. light poles, power poles, guys, signal poles, ground boxes, fire hydrants, water valves, curb lines, trees, barrier free ramps, median noses, pedestrian crosswalks, and stop bars)
3. Survey limits from projection of intersection curb lines to 30 feet beyond the intersection outer curb returns. Base files will show pictorially to 100 feet beyond the outer curb return.
4. Flowline, top of curb, sidewalk elevations (from curb return to street paving) shots with elevations around the radius of the intersections to aide in designing ADA curb ramps.
5. ROW as determined by property corners. (This is not a boundary survey). Client to provide city maps and or property ownership maps if available. This proposal does NOT include Abstracting individual deeds or plats for boundary location.
6. All utility marks by Texas One Call and City of University Park will be field tied and color specified. Depth of utility will be noted if provided by others.
7. Survey field crew will NOT locate pavement striping, parking spaces and or center strips within the roadway.
8. Sewer and Drainage manholes will be located and flowlines will be obtained on those locations not in the “street”. Sewer and Drainage manholes inside the drive lanes of the street will located horizontally only and depth taken from street utility maps as provided unless the City provides a crew to block and manage traffic.
9. In use product will be a AutoCAD Civil 3-D file with line work and a 3-D surface along with a points file in either .txt or .csv format. No hard copy certified plans or maps to be supplied to client.

Subsurface Utility Engineering (SUE)
Provide an existing utility layout of all identifiable utilities within the project area.

1. Quality Level-B (QL-B) – Designate: Two-dimensional horizontal mapping. This information is obtained through the application and interpretation of appropriate non-destructive surface geophysical methods. Incorporates quality levels C and D information to produce Quality Level B Deliverable (Horizontal Alignment). Following field investigation and direct inductive methodology for accurately locating known facilities, SUE locator will perform passive sweeps in detailed paths spanning the proposed area clearing the site of unknown utilities.
2. Client to provide SUE locator with any utility records that were previously collected for the project area.
3. Only utilities made of ferrous material can be designated (plastic pipes cannot be designated)
4. Most all SUE QL-B work will be behind the curb. When applicable, man hole covers will be accessed to verify utilities and improve accuracy of locates. Traffic Control is included in the scope and will be utilized as needed and approved by the City.
5. Deliverables – Utility designating paint placed on the ground for survey to be performed by others.