PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT # 3
FOR
WEISS LANE

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

FIRM: LJA Engineering, Inc. ("Consultant")

ADDRESS: 5316 Highway 290 West, Suite 150
Austin, Texas 78735

This Supplemental Agreement No.3 to a contract for Professional Services is made by and between the City of Pflugerville, Texas, hereinafter called the "City" and LJA Engineering, Inc. , hereinafter called the "Consultant".

WHEREAS, the City and Consultant executed an Agreement for Professional Services, hereinafter called the "Agreement", on the 15th day of July, 2015 for the Weiss Lane project in the amount of $852,286.95; and a supplemental on the 1st day of February, 2016 in the amount of $641,296.00 for additional design and PS&E services; and a supplemental on the 12th day of April, 2016 for no additional compensation for additional SUE services; and

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

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

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

Article IV. Compensation to Consultant and Exhibit C (Fee Schedule), shall be amended by by increasing by $112,875.00 the amount payable under the Agreement for a total of $1,606,457.95, as shown by the attached Addendum to Exhibit C (Fee Schedule).

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

CITY OF PFLUGERVILLE	**CONSULTANT**
_____	_____
(Signature)	*(Signature)*
Printed Name: Brandon E. Wade	Printed Name: Jeff P. Collins
Title: City Manager	Title: Executive Vice President
Date: _____	Date: 04/26/16

APPROVED AS TO FORM:

_____

George Hyde
City Attorney
Denton Navarro Rocha Bernal Hyde & Zech, P.C.

Exhibit A - Scope of Services Supplemental #3

SERVICES TO BE PROVIDED BY THE ENGINEER

Roadway: Weiss Lane
County: Travis
Limits: **Schematic & PS&E:** from E. Pecan Street to Cele Road

General Supplemental Work Description:

Development of additional design and PS&E services related to the addition of the Wilbarger Creek Bridge into the Weiss Lane Project.

Previously scoped designs were done to tie to the proposed Travis County Bridge and roadway widening project along Weiss Lane. Travis County has since transferred that project to the City of Pflugerville.

The new Wilbarger Creek Bridge location will be shifted to the west to avoid the existing City of Pflugerville Force main and to allow for Weiss Lane to remain open during construction. In addition, the new Wilbarger Creek Bridge will be designed with the appropriate low chord calculated based on TxDOT criteria.

PROJECT MANAGEMENT AND COMMUNICATION PLAN

- Meetings & Coordination
  - Additional City Coordination Meetings
  - Additional Sub Coordination Meetings
  - Additional Design Team Meetings
- Public Involvement – To accommodate new south end relocation design and associated public requests for meetings with new ROW.

SPECIALTY SERVICES

- See Attached Scope for Rodriguez Engineering Laboratories – Geotechnical Services
  - Upon Review of the provided Travis County geotechnical report it is unclear which procedure was used for strength testing, SPT or TCP. In addition, the report references that a 140 lb hammer was used for the TCP test, when a 170 lb hammer should have been used. All bridge designs are based on the TCP test with a 170 lb hammer. Therefore, the attached geotechnical services are for 2 additional bore holes required to obtain the correct data for use with the bridge design.

- See Attached Scope for RIOS Group – SUE services.
  - Based on the preferred alignment chosen by the City of Pflugerville for the south end redesign and the inclusion of the Wilbarger Creek Bridge SUE services will be need to accurately locate the COP force main. The requested

SUE services will provide additional test holes to verify the location/depth of the facility from East Pecan to Wilbarger Creek. This information will be utilized during the design to ensure the proposed roadway does not interfere with the force main during construction.

PLANS, SPECIFICATIONS, AND ESTIMATE (PS&E) DEVELOPMENT
ROADWAY

Due to the addition of the Wilbarger Creek Bridge and the subsequent relocation of the roadway alignment from East Pecan to North of Wilbarger creek the following designs are to be added to the project.

ROADWAY

- Addition preliminary alterative analysis based on new bridge location to the west and city requests to modify the south end design to minimize proposed ROW.
- Update proposed Roadway design, Corridor Model, Proposed Cross Sections to match selection made by City for the new south end realignment.

DRAINAGE

- Addition preliminary alterative analysis based on new bridge location to the west and city requests to modify the south end design to minimize proposed ROW.
- Update proposed drainage design including proposed ditches and storm sewer to match selection made by City for the new south end realignment.

TRAFFIC CONTROL

- Addition preliminary alterative analysis based on new bridge location to the west and city requests to modify the south end design to minimize proposed ROW.
- Update proposed traffic control plan to include new plan from East Pecan to north of Wilbarger Creek to allow for existing Weiss to remain open during construction and match selection made by City for the new south end realignment.

STRUCTURES

Additional design and PS&E sheets required for 1 additional structure located at the crossings of Wilbarger Creek.

- Bridge

All bridge structures shall be designed for **HL 93 loading.**

- Bridge Layout

The Bridge layouts in Plan View shall contain the following information:

- Reference line, centerline, or profile grade line (bearing, location, and station).
- Horizontal curve information.
- Right of way (if required).
- Skew angle(s).
- Bearing of centerline.
- Include horizontal and vertical template information of all roadways or railroads crossed.
- Approach slab and curb returns.
- Typical bridge roadway section including preliminary proposed beam types and spacings.
- Slope for header banks and approach fills.
- Control stations at beginning and ending of bridge (with deck elevation).
- Approach pavement and crown width.
- Bridge roadway width and curbs, face of rail, shoulders or sidewalks.
- Limits and type of riprap.
- Proposed features under structure.
- Location of profile grade line.
- North Arrow.
- Cross slope and superelevation data.
- Minimum horizontal distances and vertical clearance points.
- Location of soil borings (station and offset).
- Bent stations and bearings.
- Retaining wall locations, if applicable.
- Traffic flow directional arrows and stream flow direction (if any).
- Railing types shown.
- Joint types and seal size, if used.
- Critical horizontal clearances (location of railroad tracks, nearby structures and utilities).
- Present and projected (20 years) ADT.
- Design speed and functional classification.
- Drawing scale shall be as recommended in the bridge detailing manual.
- Show National Bridge Inventory (NBI) Number.
- Locate bridge drain and bridge lighting bracket stations on plan view, when applicable.

Bridge Layouts in Elevation View should contain the following:

- Type of foundation.
- Finished grade elevations at beginning and end of bridge.
- Overall length of structure.
- Length, type of spans and units.
- Type of railing.
- Minimum calculated vertical clearance(s).
- Existing and proposed ground lines clearly marked.

- Grid elevations and stations.
- Bent numbers encircled.
- Standard Title.
- Profile grade data.
- Type of riprap.
- Fixed/expansion condition of all bents.
- Number, size and length of foundations.
- Drawing scale shall be as recommended in the bridge detailing manual.
- Floodplain elevations.

Bridge Layouts in Typical Transverse Section should contain the following:

- Widths (overall, roadway, shoulders, sidewalks, etc.).
- Profile grade line and horizontal control line.
- Cross slope.
- Type of railing.
- Beam type and numbers (if required).

The Engineer shall develop bridge layouts after the schematic refinement is approved by the City and County and submit a 100% complete bridge layout to the City and County at the 30% submittal to provide ample review and design time. The Engineer shall not proceed with detailed design until the preliminary bridge layouts are approved by the City and County.

WASTEWATER

The proposed location of the south bound bridge on the Unnamed Tributary to Wilbarger Creek sits on top of the existing City of Pflugerville 36" Wastewater line. The wastewater line will need to be adjusted form it current location west in the vicinity of the bridge to clear the bridge columns and abutments.

Services will include:

- PS&E detailing relocation of approximately 1,000 LF of existing 36-inch wastewater line between Kelly Lane and Hidden Lake Crossing.
- Detail connection and bypass pumping plan to facilitate wastewater re-route during connection to existing manholes and plugging/abandonment of re-routed wastewater line section.
- Miscellaneous wastewater manhole line adjustments (as necessitated by road design).
- Standards and Specifications

MILESTONE COMMENT RESOLUTION

Comment resolution not included. Amount detailed in original scope is adequate.

NOT INCLUDED IN THIS SCOPE

- Material Testing - anticipated to be additional services closer to design completion
- Bridge Inspection - anticipated to be additional services closer to design completion

WEISS LANE - LUMP SUM FEE ESTIMATE

EXHIBIT C
FEE SCHEDULE - Supplemental #3 Design Services for PS&E - LUMP SUM
PROJECT NAME: Weiss Lane
PRIME PROVIDER NAME: LJA Engineering, Inc.

Date: 4/21/2016

WEISS LANE PROJECT

TASK DESCRIPTION	Senior Project Manager	Senior Engineer/ Planner	Project Engineer	E.I.T.	Senior Engineering Tech	CADD Operator	GIS Analyst/ Cartography	GIS Technician	Admin	Total	Number of Sheets	Hours/Sheet
Project Management												
Additional City Coordination Meetings (2)	4.0	8.0								12.0	N/A	N/A
Additional Sub Coordination Meetings		4.0								4.0	N/A	N/A
Additional Design Team Meetings (2)		4.0	4.0	4.0	4.0					16.0	N/A	N/A
Public Involvment	8.0	8.0		4.0						20.0	N/A	N/A
HOURS SUB-TOTALS	12.0	24.0	4.0	8.0	4.0	0.0	0.0	0.0	0.0	52.0		
LABOR RATE PER HOUR	$215	$175	$145	$130	$110	$80	$110	$95	$70			
SUBTOTAL	$2,580	$4,200	$580	$1,040	$440	$0	$0	$0	$0	$8,840		

TASK DESCRIPTION	Senior Project Manager	Senior Engineer/ Planner	Project Engineer	E.I.T.	Senior Engineering Tech	CADD Operator	GIS Analyst/ Cartography	GIS Technician	Admin	Total	Number of Sheets	Hours/Sheet
Specialty Services												
GeoTch Engineering - **See REL Scope & Fee**											N/A	N/A
SUE - **See RIOS Scope & Fee**											N/A	N/A

TASK DESCRIPTION	Senior Project Manager	Senior Engineer/ Planner	Project Engineer	E.I.T.	Senior Engineering Tech	CADD Operator	GIS Analyst/ Cartography	GIS Technician	Admin	Total	Number of Sheets	Hours/Sheet
PS&E Roadway												
Additional Alternatives Analysis		4.0	4.0	8.0	24.0					40.0	N/A	N/A
Update Proposed Roadway Design and Sheets			8.0	16.0	16.0	16.0				56.0	N/A	N/A
HOURS SUB-TOTALS	0.0	4.0	12.0	24.0	40.0	16.0	0.0	0.0	0.0	96.0		
LABOR RATE PER HOUR	$215	$175	$145	$130	$110	$80	$110	$95	$70			
SUBTOTAL	$0	$700	$1,740	$3,120	$4,400	$1,280	$0	$0	$0	$11,240		

TASK DESCRIPTION	Senior Project Manager	Senior Engineer/ Planner	Project Engineer	E.I.T.	Senior Engineering Tech	CADD Operator	GIS Analyst/ Cartography	GIS Technician	Admin	Total	Number of Sheets	Hours/Sheet
PS&E Drainage												
Additional Alternatives Analysis			4.0	16.0						20.0	N/A	N/A
Update Proposed Drainage Design and Sheets			8.0	16.0		16.0				40.0	N/A	N/A
HOURS SUB-TOTALS	0.0	0.0	12.0	32.0	0.0	16.0	0.0	0.0	0.0	60.0		
LABOR RATE PER HOUR	$215	$175	$145	$130	$110	$80	$110	$95	$70			
SUBTOTAL	$0	$0	$1,740	$4,160	$0	$1,280	$0	$0	$0	$7,180		

WEISS LANE - LUMP SUM FEE ESTIMATE

TASK DESCRIPTION	Senior Project Manager	Senior Engineer/ Planner	Project Engineer	E.I.T.	Senior Engineering Tech	CADD Operator	GIS Analyst/ Cartography	GIS Technician	Admin	Total	Number of Sheets	Hours/Sheet
PS&E Traffic Control												
Additional Alternatives Analysis		8.0		16.0						24.0	N/A	N/A
Update Traffic Control Plan		4.0	8.0	16.0		16.0				44.0	N/A	N/A
HOURS SUB-TOTALS	0.0	12.0	8.0	32.0	0.0	16.0	0.0	0.0	0.0	68.0		
LABOR RATE PER HOUR	$215	$175	$145	$130	$110	$80	$110	$95	$70			
SUBTOTAL	$0	$2,100	$1,160	$4,160	$0	$1,280	$0	$0	$0	$8,700		

TASK DESCRIPTION	Senior Project Manager	Senior Engineer/ Planner	Project Engineer	E.I.T.	Senior Engineering Tech	CADD Operator	GIS Analyst/ Cartography	GIS Technician	Admin	Total	Number of Sheets	Hours/Sheet
PS&E Bridge Design												
Bridge Layouts - Wilbarger Ck												
Bridge Layout	2.0	6.0		20.0	20.0					48.0	1.0	48.0
Typical Section		1.0		4.0	6.0					11.0	1.0	11.0
Bridge Design - Wilbarger Ck												
Estimated Quantities and Bearing Seat Elevations	1.0	8.0		18.0	10.0					37.0	1.0	37.0
Abutment No. 1 Plan and Elevation	1.0	6.0		12.0	20.0					39.0	1.0	39.0
Abutment No. 3 Plan and Elevation	1.0	4.0		10.0	16.0					31.0	1.0	31.0
Abutment Details		4.0		10.0	16.0					30.0	1.0	30.0
Interior Bent No. 2 Plan and Elevation	1.0	6.0		16.0	22.0					45.0	1.0	45.0
Girder Layout	1.0	4.0		26.0	12.0					43.0	1.0	43.0
Slab Plan and Section	1.0	4.0		12.0	28.0					45.0	1.0	45.0
Prestressed Concrete I-Girder Designs	1.0	4.0		28.0	4.0					37.0	1.0	37.0
TxDOT Bridge Standard Details	1.0	2.0		8.0	8.0					19.0	15.0	1.3
HOURS SUB-TOTALS	9.0	49.0	0.0	164.0	162.0	0.0	0.0	0.0	0.0	384.0		
LABOR RATE PER HOUR	$215	$175	$145	$130	$110	$80	$110	$95	$70			
SUBTOTAL	$1,935	$8,575	$0	$21,320	$17,820	$0	$0	$0	$0	$49,650		

TASK DESCRIPTION	Senior Project Manager	Senior Engineer/ Planner	Project Engineer	E.I.T.	Senior Engineering Tech	CADD Operator	GIS Analyst/ Cartography	GIS Technician	Admin	Total	Number of Sheets	Hours/Sheet
Wastewater Line Relocation												
Plan & Profile		1.0	8.0	16.0		8.0				33.0	1.0	33.0
Connection and bypass pumping plan		8.0	8.0							16.0	1.0	16.0
Miscellaneous adjustments along Weiss Lane			4.0	4.0						8.0	1.0	8.0
Standards and specs		2.0	4.0	8.0		4.0				18.0	3.0	6.0
HOURS SUB-TOTALS	0.0	11.0	24.0	28.0	0.0	12.0	0.0	0.0	0.0	75.0		
LABOR RATE PER HOUR	$215	$175	$145	$130	$110	$80	$110	$95	$70			
SUBTOTAL	$0	$1,925	$3,480	$3,640	$0	$960	$0	$0	$0	$10,005		

WEISS LANE - LUMP SUM FEE ESTIMATE

TASK DESCRIPTION	Senior Project Manager	Senior Engineer/ Planner	Project Engineer	E.I.T.	Senior Engineering Tech	CADD Operator	GIS Analyst/ Cartography	GIS Technician	Admin	Total Cost Task
Project Management	12.0	24.0	4.0	8.0	4.0	0.0	0.0	0.0	0.0	$8,840
Roadway	0.0	4.0	12.0	24.0	40.0	16.0	0.0	0.0	0.0	$11,240
Drainage	0.0	0.0	12.0	32.0	0.0	16.0	0.0	0.0	0.0	$7,180
Traffic Control	0.0	12.0	8.0	32.0	0.0	16.0	0.0	0.0	0.0	$8,700
Bridge Design	9.0	49.0	0.0	164.0	162.0	0.0	0.0	0.0	0.0	$49,650
Wastewater Line Relocation	0.0	11.0	24.0	28.0	0.0	12.0	0.0	0.0	0.0	$10,005
SUBTOTAL LABOR EXPENSES	21	100	60	288	206	60	0	0	0	**$95,615**
DIRECT EXPENSES	Rate	Quantity	Cost							
Meals	$36.00	2	$72.00							$72
Mileage	$0.58	200	$115.00							$115
Hotel	$150.00	0	$0.00							$0
Courier Services (Deliveries)	$30.00	0	$0.00							$0
CADD Plotting (per SQ/FT)	$1.50	0	$0.00							$0
Photocopies B/W (8.5 X 11)	$0.10	0	$0.00							$0
Photocopies B/W (11 X 17)	$0.15	100	$15.00							$15
Photocopies Color (8.5 X 11)	$0.75	0	$0.00							$0
Photocopies Color (11 X 17)	$1.00	0	$0.00							$0
Plots (Color on Bond)	$2.00	0	$0.00							$0
Court Reporter	$500.00	0	$0.00							$0
SUBTOTAL DIRECT EXPENSES			$202.00							$202
LJA ENGINEERING, INC. TOTAL										**$202.00**
Milestone Comment Resolution										
SUE (RIOS)										**$7,450.00**
GEOTECHNICAL (REL)										**$9,608.00**
TOTAL - SUB CONSULTANTS:										**$17,058.00**
SUPPLEMENTAL GRAND TOTAL										**$112,875.00**

Rodriguez Engineering Laboratories

Weiss Lane Roadway Improvements
Supplemental Proposed bridge
Pflugerville and Travis County, Texas

SCOPE OF WORK

It is our understanding from information provided by LJA Engineering, Inc. (Design Engineer) that the proposed Weiss Lane project will consist of the reconstruction of Weiss Lane from East Pecan Street to Cele Road. The project consists of design and construction of a new pavement structure, drainage, and utility improvements. This project is comprised of approximately 4,300 linear feet within Pflugerville, Texas, and 11,700 linear feet within Travis County, Texas.

The roadway project will be an ultimate 4 lane divided roadway with 4'-wide shoulders constructed west of the exiting. There will also be a 10' shared used path on the west side of the roadway. The proposed road is expected to be constructed as a flexible pavement structure. Exploratory borings will be included for 4 bridges approximately 80 feet and 300 feet in length.

The scope of work for the supplemental geotechnical investigation to be performed by Rodriguez Engineering Laboratories at the above referenced project consists of two bridge borings. Care must be taken during construction to be sure that if material differs from the material encountered in our investigation more testing must be performed and reevaluation of the recommendations may be necessary. Bridge bore holes will done to 60 feet. The scope of work for the geotechnical investigation includes the following:

FIELD SAMPLE COLLECTION:

1. Rodriguez Engineering Laboratories will contact Texas One Call services for utilities location prior to starting any drilling. Selecting boring locations, staking, and legal access to the boring locations will be handled by the Design Engineer. Clearing will be charged at cost of materials plus labor if needed. Borings may need to be extended in cut areas; this will be based on survey data and will need to be determined by the Design Engineer prior to drilling.

2. Obtain soil samples from the areas to be evaluated. Two borings to a depth of 60 feet were proposed as follows:

    2.1 Drill two borings to a depth of 60 feet for proposed bridge foundations. A boring log will be recorded to document material field description and thickness of every soil strata.
        2.1.1 Obtain soil samples to determine material properties. Approximately two soil samples per every 5 feet of drilling or one soil sample per each type of material.
        2.1.2 Perform a Texas Cone Penetrometer Test (Tex-132-E) per every 5-feet of drilling.
        2.1.3 The soil samples will be properly sealed and protected from moisture evaporation.
        2.1.4 The borings will be properly backfilled after completion.

LABORATORY TESTING:

1. A testing program will be conducted on the soil and subgrade samples to aid in classification and evaluation of the engineering properties required for analysis.

2. The collected soil samples will be tested for the following properties:
    2.1. Determining Moisture Content of Soil Materials (Tex-103-E), 16 tests
    2.2. Determining Atterberg Limits of Soils (Tex-104, 105, & 106-E) , 16 tests
    2.3. Determining Sieve Analysis of Soils (Tex-110-E) , 16 tests
    2.4. Laboratory Classification of Soils for Engineering Purposes (Tex-142-E) , 16 tests

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(512) 251-4454 Fax (512) 251-1380
E-mail: rodriguezlab@aol.com
Registered Texas Engineering Firm F-1563

SCOPE OF WORK

2.5. Unconfined Compressive Strength of Soils (ASTM D2166), 4 tests
2.6. Hydrometer Analysis (ASTM D-422) for Scour Analysis, 2 tests

GEOTECHNICAL REPORT:

1. The additional geotechnical investigation report will be combined with the original report.

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Rodriguez
Engineering
Laboratories

Weiss Lane Roadway Improvements
Supplemental Proposed Bridge
Pflugerville and Travis County, Texas
Estimate for Geotechnical Investigation

	Estimated Quantity	Units	Cost/Unit		Total
Field Coordination					
Project Manager	1	hr @	$ 106.00	/hr	= $ 106.00
Graduate Engineer (Utility Clearance and Coordination)	2	hr @	$ 73.00	/hr	= $ 146.00
Field Operation					
Mobilization / Demobilization (Within 50 miles of REL Austin)	2	ea @	$ 250.00	/ea	= $ 500.00
Traffic Control, Flagging Services	2	day @	$ 850.00	/ea	= $ 1,700.00
Soil Drilling (Proposed Bridges):					
Proposed Bridges, 380 LF, Soil Drilling (2 Borings @ 25 ft)	50	lf @	$ 14.00	/ea	= $ 700.00
Proposed Bridges, 380 LF, Rock Coring (2 Borings @ 35 ft)	70	lf @	$ 19.00	/ea	= $ 1,330.00
Texas Cone Penetrometer (Tex-132-E)	24	ea @	$ 45.00	/ea	= $ 1,080.00
Patching Bores	2	ea @	$ 25.00	/ea	= $ 50.00
Laboratory					
Soil Testing (Foundation):					
Unconfined Compressive Strength of Soils (ASTM D2166)	4	ea @	$ 75.00	/ea	= $ 300.00
Hydrometer Analysis (ASTM D-422), for Scour Analysis	2	ea @	$ 104.00	/ea	= $ 208.00
Moisture Contents (Tex-103-E)	16	ea @	$ 18.00	/ea	= $ 288.00
Atterberg Limits (Tex-104, 105, & 106-E)	16	ea @	$ 65.00	/ea	= $ 1,040.00
Washed Sieve Analysis & Classification (Tex-110 & 142-E)	16	ea @	$ 65.00	/ea	= $ 1,040.00
Geotechnical Analysis and Report					
Project Engineer	6	hr @	$ 106.00	/hr	= $ 636.00
Graduate Engineer	4	hr @	$ 73.00	/hr	= $ 292.00
Secretary/Clerical	4	hr @	$ 48.00	/hr	= $ 192.00

Total Lump Sum Fee = $ 9,608.00

NOTE: If clearance for accessing the borings is needed, it will be charged separately. The above cost estimate includes recommendation for a bridge foundation The estimate does not include any permits or fees charged by the city or county. All boring locations will need to be determined by the engineer.

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THE RIOS GROUP

4201 W. Parmer Lane, Building B, #100
Austin, Texas 78727 | 512.580.5440 p

April 6, 2016

Brian Young
Senior Project Manager
LJA Engineering, Inc.
5316 Highway 290 West, Suite 150
Austin, TX 78735

RE: Subsurface Utility Engineering
Weiss Lane – Additional Test Holes – Pflugerville, TX

Dear Mr. Young:

The Rios Group, Inc. (TRG) is pleased to submit a cost proposal for Subsurface Utility Engineering (SUE) for the above referenced project. This proposal is based on the information provided via email on April 5, 2016.

Introduction

TRG will perform the SUE work required for this project in general accordance with the recommended practices and procedures described in ASCE Publication CI/ASCE 38-02 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data). As described in the above mentioned ASCE publication, four levels have been established to describe the quality of utility location and attribute information used on plans. The four quality levels are as follows:

- Quality Level D (QL"D") – Information derived from existing utility records;
- Quality Level C (QL"C") – QL"D" information supplemented with information obtained by surveying visible above-ground utility features such as valves, hydrants, meters, manhole covers, etc.
- Quality Level B (QL"B") – Two-dimensional (x,y) information obtained through the application and interpretation of non-destructive surface geophysical methods. Also known as "**designating**" this quality level provides the horizontal position of subsurface utilities within approximately one foot.
- Quality Level A (QL"A") – Three dimensional (x,y,z) utility information obtained utilizing non-destructive vacuum excavation equipment to expose utilities at critical points which are then tied down by surveying. Also known as "**locating**", this quality level provides precise horizontal and vertical positioning of utilities within approximately 0.05 feet.

It is the responsibility of the SUE provider to perform due-diligence with regard to records research (QL"D") and the acquisition of available utility records. The due-diligence provided for this project will consist of visually inspecting the work area for evidence of utilities and reviewing the available utility record information. Utilities that are not identified through these efforts will here forth be referred to as "unknown" utilities. TRG personnel will scan the defined work area using electronic prospecting equipment to search for "unknown" utilities. However, TRG is not responsible for designating and locating these "unknown" utilities.

Scope of Work

Based on information provided by LJA Engineering, Inc. (Client), TRG has developed a preliminary scope for the SUE work required for this project. This scope of work may be modified, with LJA's concurrence, during the performance of SUE fieldwork if warranted by actual field findings.

The scope of this proposal includes Quality Level "A" and "B" SUE along a 24" sanitary forcemain running along the west side of Weiss Lane in Pflugerville, TX. **Three (3) QL"A" test holes** are requested at yet-unspecified locations between Pecan Street and south of Wilbarger Creek. TRG will provide QL"B" designating of the forcemain to support the layout of the proposed test hole locations.

The survey of SUE information is also included in this scope of work. TRG will utilize control information previously provided by the Client.

Designating Procedures

Prior to beginning field designating activities, TRG's field manager will review the project scope of work and available utility records. Once these initial reviews are complete, the field manager and technicians will begin designating the approximate horizontal position of known subsurface utilities within the specified project limits. A suite of geophysical equipment (electromagnetic induction, magnetic) will be used to designate metallic/conductive utilities (e.g. steel pipe, electrical cable, telephone cable). TRG will establish routine/ordinary traffic control (cones and free standing signage, etc.) whenever required as part of our standard pricing. If non-routine traffic control measures are required (barricades, flag person, changeable message board, etc.), these services will be considered extra.

Accurate collection and recording of designated utilities is a critical component of the SUE process. TRG utilizes a proven method of collecting and recording survey information once the utilities have been designated in the field. TRG's field manager will produce detailed sketches depicting each utility as well as relevant surface features such as roadways, buildings, manholes, fire hydrants, utility pedestals, valves, meters, etc. Each utility will be labeled with a unique ID code. For example, if two different water lines exist on the project, one will be labeled W1 and the other W2. Paint and pin flags will be used to designate the utilities in the field. A labeled pin flag or paint mark will be used to mark each location where a survey shot is required. The locations will be numbered sequentially for each individual utility line. For example, if there are 10 shots required on water line W1, the points will be numbered W1-1 through W1-10.

Locating Procedures

TRG will utilize non-destructive vacuum excavation equipment to excavate test holes at the required locations. **Due to the risk of damage, TRG will not attempt to probe or excavate test holes on any AC water lines unless approval is obtained from the owner in advance.** Once each utility is located, TRG will record the utility type, size, material, depth to top, and general direction. Each test hole will be assigned a unique ID number and will be marked appropriately.

The test-hole ID number and other pertinent utility information will be painted at each test-hole location. Excavation in rock or to a depth greater than 13 feet is considered beyond the scope of this proposal and can be estimated for the Client on a case by case basis. TRG will vacuum down to obtain the required information, and then replace material removed, mechanically-tamped in 6-inch lifts. If necessary, asphalt surfaces will be repaired with asphalt cold patch and concrete cores will be epoxied back in place, flush with the surrounding surface. If restoration efforts are needed beyond what is described above, TRG shall be notified in writing prior to mobilization. TRG assumes that excavation permits from the City of Pflugerville will not be required for the completion of test holes on this project.

TRG assumes that non-routine traffic control measures will be required for the completion of test holes on this project. TRG will acquire the services of a qualified MOT Subcontractor, and ensure that adequate traffic control is provided during this phase of the project.

TRG assumes that coring of asphalt/concrete pavement will not be required for the completion of test holes on this project.

Deliverables

TRG will provide the following as final Deliverables to the Client:

- 8.5"x11" Test Hole Data Forms for all test hole locations completed. These plans will be signed and sealed by a Professional Engineer and delivered to the Client in electronic PDF form.
- A utility file in AutoCAD format depicting all designated and located utilities. The size of each utility will be presented in the utility file if this information is indicated on available record drawings. The Client will provide TRG with any required base map/topographic files for use in preparing the utility file.

Schedule

Field work can commence within approximately two (2) weeks after receipt of NTP. TRG estimates that the work can be completed in approximately one (1) week, broken down as follows:

- QL "A" and "B" field work – 2 day
- Survey and data preparation – 2 days
- Deliverable preparation – 1 day

Proposed Fees

TRG proposes to provide the services as described above for a cost of **Seven Thousand Four Hundred Fifty Dollars & 00/100 ($7,450.00)**. A breakdown of cost is included as Exhibit A of this proposal. We look forward to working with you on this project. If you have any questions, or require additional information, please feel free to contact me at any time.

Sincerely,

The Rios Group, Inc.

Ryan C. Chapin, P.E.
Project Manager

THE RIOS GROUP

Estimate for Subsurface Utility Engineering

Weiss Lane - Additional Test Holes

Exhibit A

Direct Expenses	Rate	Units	Unit Description		Sub-Total	Notes
Admin/Deliverables	$500.00	1.0	LS		$ 500.00	
Backfill	$200.00	0.0	LS		$ -	
Traffic Control	$850.00	1.0	Daily		$ 850.00	
Survey	$1,750.00	1.0	Daily		$ 1,750.00	
Sub-Total						$ 3,100.00

QL "B","C&D"	Rate	Units	Unit Description		Sub-total	
QL "B" Daily	$2,350.00	0	Daily		$ -	
Sub-Total						$ -

SUE QL "A" (Test Holes)

Depth	In Pavement Using Coring Machine	Assumed Quantity	Outside Pavement	Assumed Quantity		
0-4 ft.	$ 1,050.00	0	$ 850.00	0	$	-
4-8 ft.	$ 1,350.00	0	$ 1,150.00	0	$	-
8-12 ft.	$ 1,650.00	0	$ 1,450.00	3	$	4,350.00
12-18 ft.	$ 2,500.00	0	$ 2,300.00	0	$	-
QL "A" Daily	$ 3,300.00	0	Daily		$	-
QL "A" Sub-Total		**0**		**3**		$ 4,350.00
				Total Estimated Cost =		**$ 7,450.00**

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