EXHIBIT "A"

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

SUPPLEMENTAL CONTRACT NO. 1
TO CONTRACT FOR ENGINEERING SERVICES

FIRM: **RPS INFRASTRUCTURE, INC. ("Engineer")**
ADDRESS: **4801 Southwest Parkway, Pkwy 2, Suite 150, Austin, TX 78735**
PROJECT: **CR 112 Improvements from A.W. Grimes Boulevard to CR 117**

This Supplemental Contract No. 1 to Contract for Engineering Services is made by and between the City of Round Rock, Texas, hereinafter called the "City" and RPS Infrastructure, Inc., hereinafter called the "Engineer".

WHEREAS, the City and Engineer executed a Contract for Engineering Services, hereinafter called the "Contract", on the 5th day of December, 2019 for the CR 112 Improvements from A.W. Grimes Boulevard to CR 117 Project in the amount of $347,442.39; and

WHEREAS, it has become necessary to amend the Contract to modify the provisions for the scope of services and to increase the compensation by $663,281.84 to a total of $1,010,724.23;

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

I.

Article 1, City Services and Exhibit A, City Services shall be amended as set forth in the attached Addendum To Exhibit A.

II.

Article 2, Engineering Services and Exhibit B, Engineering Services shall be amended as set forth in the attached Addendum to Exhibit B. Exhibit C, Work Schedule shall be amended as set forth in the attached Addendum to Exhibit C.

III.

Article 4, Compensation and Exhibit D, Fee Schedule shall be amended by increasing by $663,281.84 the lump sum amount payable under the Contract for a total of $1,010,724.23, as shown by the attached Addendum to Exhibit D.

IN WITNESS WHEREOF, the City and the Engineer have executed this Supplemental Contract in duplicate.

[signature pages follow]

RPS INFRASTRUCTURE, INC.

By: _____

_____

_____

Date

CITY OF ROUND ROCK

By: _____
Craig Morgan, Mayor

_____
Date

APPROVED AS TO FORM:

_____
Stephan L. Sheets, City Attorney

ADDENDUM TO EXHIBIT A

City Services

for Roadway Improvements on CR 112 from A.W. Grimes Blvd to CR 117

Round Rock, Texas

From:	A.W. Grimes Blvd
To:	approximately 400' east of CR 117
Length:	1.18 miles
County:	Williamson
City:	Round Rock

PROJECT STATEMENT

The roadway improvements for CR 112 from A.W. Grimes Blvd to approximately 400' east of CR 117 are to widen this 1.18-mile section from a two-lane roadway to six-lane divided roadway and add pedestrian facilities per the approved schematic developed in the Preliminary Engineering Phase.

PROJECT DESCRIPTION

Existing Facility

This section of CR 112 begins at a mostly built out and signalized intersection at A.W. Grimes Blvd then tapers down to a two-lane roadway for approximately 800-feet. The next 1000-feet includes 42-feet of pavement (2-12-foot lanes, 2-9-foot shoulders). The remainder of the roadway maintains approximately 22-feet of pavement with no shoulders where the project limits end approximately 400' east of CR 117 near the future Kenny Fort Blvd. intersection. CR 117 T's into CR 112 and is stop-signed controlled. Drainage is currently maintained through road-side ditches and culverts. The existing right-of-way is 60-feet wide. The roadway has no continuous curb & gutter or sidewalk.

Proposed Facility

The proposed roadway improvements include widening the existing limits to a six-lane divided urban roadway. Curb and gutter and a drainage pipe system are anticipated to accommodate drainage needs. A 10-foot shared use path is proposed on one side of the roadway and a 6-foot sidewalk on the other. ROW will be required and is anticipated to come predominately from the north side of the roadway. Due to the future alignment of Kenny Fort Blvd approximately 800-feet east of CR 117, CR 117 will ultimately become a driveway to access the nearby church. Median cuts and roadway stub-outs for future intersections for PUD 84 will also be included.

In coordination with the services to be provided by the ENGINEER, as described in Exhibit B, the CITY shall provide the following, as available:

I. ROUTE AND DESIGN STUDIES

1. Assist in coordination with other adjacent project studies including drainage studies, alignment studies, residential, commercial, and industrial development plans, and existing roadway plans in hard copy and electronically (if possible).
2. Provide background information for design including:
    a. Approval of typical sections for all roadways (including cross streets)
    b. Approval of roadway pavement sections / design
3. The CITY shall confirm the roadway design criteria, design standards, project objectives, and local requirements of the project in conjunction with the City's Design and Construction Standards (DACS). The City's Transportation Criteria Manual, Drainage Criteria Manual, Utilities Criteria Manual, and City of Round Rock and TxDOT specifications are anticipated for use on the project.

II. RIGHT-OF-WAY DATA

1. CITY shall provide previous dedicated Rights-of-Way (ROW) parcel sketches, field notes for existing ROW (if available).
2. With direction and coordination provided by the CITY, the ENGINEER shall be responsible for utility coordination tasks. The CITY shall provide existing plans for CITY owned utilities, identified developments and facilities within the project limits.
3. City will assist with Right of Entry, as necessary, prior to field operations.

III. FIELD SURVEYING

1. The CITY shall provide all existing surveys (if available) to the ENGINEER.

IV. ROADWAY DESIGN CONTROLS

1. Traffic Volumes - The ENGINEER shall use current and projected traffic information, based on available study information (if available).
2. Pavement Design – The CITY shall review and approve ENGINEER's Geotechnical report which includes the proposed pavement design and geotechnical borings.
3. Estimate and Quantity Sheets and General Notes - The CITY will supply current specification and general notes if any for review by the ENGINEER.

The ENGINEER will incorporate into the PS&E, TxDOT and CITY specifications and general notes, as applicable.

V. DRAINAGE DESIGN

1. CITY shall provide any Drainage Impact Study information available (including the HEC-1 and HEC-2, if desired), drainage and flood control impact evaluation material, and preliminary drainage engineering information related to the Engineer's focus area for design, if available. Design shall follow ATLAS 14 requirements.

VI. SIGNING AND PAVEMENT MARKINGS

1. Standards – TxDOT standards will be used.

VII. MISCELLANEOUS

1. Agreements – With direction and coordination provided by the CITY, the ENGINEER shall be responsible for securing necessary agreements pertaining to the utilities as necessary.
2. CITY shall provide input of appropriate and applicable Standard sheets.
3. CITY shall relay approvals for local, regional, state and federal agencies and provide assistance, as necessary, to obtain necessary data, information, and approvals from the various agencies.
4. CITY will assist and sign submittals as necessary.
5. CITY shall provide reviews according to Exhibit C.

PLAN REVIEW TURN-AROUND TIMES

- 30% Submittal: 3-4 Weeks
- 60% Submittal: 3-4 Weeks
- 90% Submittal: 3-4 Weeks
- 100% / Final Submittal: 2-3 Weeks

ADDENDUM TO EXHIBIT B

Engineering Services

for Roadway Improvements on CR 112 from A.W. Grimes Blvd to CR 117

Round Rock, Texas

From:	A.W. Grimes Blvd
To:	Approximately 400' east of CR 117
Length:	1.18 miles
County:	Williamson
City:	Round Rock

PROJECT STATEMENT

The roadway improvements for CR 112 from A.W. Grimes Blvd to approximately 400' east of CR 117 are to widen this 1.18-mile section from a two-lane roadway to six-lane divided roadway and add pedestrian facilities per the approved schematic developed in the Preliminary Engineering Phase.

PROJECT DESCRIPTION

Existing Facility

This section of CR 112 begins at a mostly built out and signalized intersection at A.W. Grimes Blvd then tapers down to a two-lane roadway for approximately 800-feet. The next 1000-feet includes 42-feet of pavement (2-12-foot lanes, 2-9-foot shoulders). The remainder of the roadway maintains approximately 22-feet of pavement with no shoulders where the project limits end approximately 400' east of CR 117 near the future Kenny Fort Blvd. intersection. CR 117 T's into CR 112 and is stop-signed controlled. Drainage is currently maintained through road-side ditches and culverts. The existing right-of-way is 60-feet wide. The roadway has no continuous curb & gutter or sidewalk.

Proposed Facility

The proposed roadway improvements include widening the existing limits to a six-lane divided urban roadway. Curb and gutter and a drainage pipe system are anticipated to accommodate drainage needs. A 10-foot shared use path is proposed on one side of the roadway and a 6-foot sidewalk on the other. ROW will be required and is anticipated to come predominately from the north side of the roadway. Due to the future alignment of Kenny Fort Blvd approximately 800-feet east of CR 117, CR 117 will ultimately become a driveway to access the nearby church. Median cuts and roadway stub-outs for future intersections for PUD 84 will also be included.

The work required is described below according to each task to be performed.

PROJECT MANAGEMENT

A. Managing Contracted Services (Project Management)

a. **Coordination with CITY**: The ENGINEER will coordinate with the CITY to complete the PS&E for the project. The ENGINEER will prepare for and attend monthly coordination meetings with the CITY to discuss project progress, planned activities, key issues or items requiring decision or approval by the City. The ENGINEER shall prepare meeting minutes for all meetings and will distribute to staff for approval and record keeping. Project Management services needed to complete the design phase are anticipated to span a period of 16 months.

b. **Invoicing and Schedule Updates:** The ENGINEER will provide monthly invoices for payment to the CITY including a project status report of work completed within the reporting period, work anticipated in the next work period, and any outstanding issues or concerns. The ENGINEER will also provide design schedule updates with the monthly invoices detailing work completed and any task adjustments. Invoicing for project development anticipated to span a period of 16 months.

c. **Subconsultant Coordination, Deliverables Review and Invoices:** Monthly coordination with the team will be conducted to ensure project milestones are met. The ENGINEER will meet with Subconsultants to discuss progress, design updates, constraints, and completion schedules for key tasks. The ENGINEER shall review deliverables from Subconsultants for conformance with the approved scope and project design. Subconsultants will forward their monthly invoices directly to the ENGINEER. The ENGINEER will review, process, and combine all invoices into one deliverable and forward one copy for payment to the CITY.

d. **Coordinate with CITY's consultant for adjacent section of CR 112**: The ENGINEER will coordinate monthly with the designer of the adjacent design section to determine a proper tie-in, conveyance of drainage, traffic control and schedule for both projects.

e. **Quality Assurance / Quality Control:** The ENGINEER will develop a project specific quality control plan identifying key roles, responsibilities, record keeping procedures, and anticipated review dates and make a copy available to the CITY. The ENGINEER will provide quality control of

identified documents prior to each defined design submittal (30%, 60% 90% and Final) following established quality assurance processes.

ROADWAY DESIGN

A. Title Sheet and Index of Sheets

a. Prepare Title sheet per City of Round Rock Standard detail

b. Prepare and update Index of Sheets including standard selections

B. Typical Sections: Typical sections shall be prepared for both proposed and existing roadways. Typical sections shall include width of travel lanes, shoulders, outer separations, border widths, curb offsets, managed lanes, and ROW. The typical section shall also include PGL, centerline, pavement design, longitudinal joints, side slopes, sodding/seeding limits, concrete traffic barriers and sidewalks, if required, station limits, common proposed and existing structures including retaining walls, existing pavement removal (pavement coring shall be performed by the ENGINEER to determine existing pavement structure for removal items only), limits of embankment and excavation, and existing and proposed utilities.

C. Project Layout: Layout shall consist of a planimetric file of existing features and the proposed improvements within the existing and proposed ROW. The layout shall include the following features:

a. Existing/Proposed ROW

b. Existing/proposed horizontal alignment

c. Proposed drainage features

d. Proposed retaining walls/bridges/culverts (if applicable)

e. Begin/end project stations

f. Street names

D. Horizontal Alignment Data Sheets: Sheet includes data for the Horizontal Alignment for main lane and cross streets. Superelevation data consisting of station, slope, and begin and end transition will be provided as needed.

E. Roadway Plan & Profile: The ENGINEER will develop plan and profile (1" = 100' sheets) using the survey acquired by the ENGINEER, as well as utilizing the approved roadway design criteria.

The plan and profile will show the widening from A.W. Grimes Blvd to CR 117 and will include the basic information necessary for the proper review and evaluation of the proposed improvements.

The plan view shall contain the following design elements:

1) Calculated roadway centerlines for roadways including cross streets as applicable. Horizontal control points shall be shown.

2) Pavement edges for all improvements (main lanes, cross streets and driveways)
3) Tentative right of way and easement limits (proposed and existing)
4) Linework for proposed drainage elements
5) The geometrics (pavement cross slope, lane, and shoulder widths) and typical sections of the proposed highway roadway and crossroads
6) Horizontal and vertical roadway alignments.
7) Direction of traffic flow on all roadway lanes
8) Sidewalks/Pedestrian facilities
9) Identified utilities and providers

The profile view shall contain the following design elements:

1) Calculated profile grade for proposed main lanes (cite direction) and cross streets
2) Existing and proposed profiles along the proposed centerline of the main lanes. Maintain parallel grades for each direction of travel similar, if feasible.
3) Drawing vertical scale to be 1" =10'
4) Existing and proposed utilities, including proposed drainage crossings.

F. Intersection Layouts - Cross Streets: The ENGINEER shall provide an intersection layout detailing the pavement design and drainage design at the intersection of each cross street (3 Intersections anticipated for PUD 84). The layout shall include the horizontal and vertical alignments, curb returns, contours, geometrics, transition length, stationing, pavement, drainage details, and American with Disabilities Act Accessibility Guidelines (ADAAG) compliance items. The ENGINEER shall design for full pavement width to the ROW and provide a transition to the existing roadway.

G. Driveway Layouts: Prepare driveway layout and details including station, pavement section, width, length, radii, proposed grades, parallel culvert details (if needed) and associated temporary construction easements.

H. Removal Layouts: Provide removal layouts 1:100 scale (double bank) detailing items to be removed for project limits.

I. Pedestrian and Bicycle Facilities: The ENGINEER shall coordinate with the City to incorporate pedestrian and bicycle facilities as required or shown on the project's schematic. All pedestrian/bicycle facilities must be designed in accordance with the latest Americans with Disabilities Act Accessibility Guidelines (ADAAG), the Texas Accessibility Standards (TAS), and the AASHTO Guide for the Development of Bicycle Facilities.

J. Roadway Cross Sections: The ENGINEER shall develop a 3D design model of the project corridor using Geopak or OpenRoads to determine earthwork quantities and provide final design cross sections at 100 feet intervals. Cross sections shall be delivered in standard GEOPAK format on 11"x17" sheets or roll plots and electronic files. The ENGINEER shall provide all criteria and input files used to generate the design cross sections. Cross sections and quantities shall consider existing pavement

removals. Annotation shall include at a minimum existing/proposed right of way, side slopes (front & back), profiles, etc. Utility information will be provided where grades/elevations are available.

Cross sections shall be submitted by the ENGINEER at the 60%, 90%, and final submittals, respectively.

K. Miscellaneous Detail Sheets: Provide detail sheets (3 sheets) for miscellaneous design details.

L. Quantity Summary Sheets: Prepare and update summary sheets showing item description, item unit, and item quantity for roadway bid items. Summary sheets shall be updated at each milestone submittal.

M. Standards Selection: Include standard sheets applicable to project for roadway design elements.

DRAINAGE DESIGN

Data Collection

A. Verify field conditions: Conduct field inspections to observe current conditions and the outfall channels, the cross-drainage structures, drainage easements, and land development projects that contribute to the flow

B. Coordination with local agencies: Meet with local officials and County and/or City floodplain administrator to obtain historical flood records, interview local residents and obtain frequency of road flood concerns.

Hydrology

A. Drainage Area Updates (External & Internal): The ENGINEER will update external drainage areas that identify the offsite drainage area for each cross-drainage structure within the project limits. The drainage areas will include the acreage, calculated peak flows, and other pertinent hydrologic information. Internal drainage area maps will be prepared for the design of the inlets and storm sewer system.

B. Storm Sewer Hydraulic Tables: The ENGINEER will prepare hydraulic data using Geopak Drainage software for the proposed storm sewer system. The storm system will be designed for the 25-year event per the approved design criteria.

C. Hydraulic Modeling: The ENGINEER will analyze culvert crossings at two existing culvert locations using HEC-RAS and propose extensions or replacement of the existing configurations as necessary to meet the 100-year design storm frequency.

Storm Drains: The ENGINEER shall provide the following services:

1. Design and analyze storm drains using Geopak Drainage.
2. Size inlets, laterals, trunk line and outfall. Develop designs that minimize the interference with the passage of traffic or incur damage to the highway and local

property in accordance with the City of Round Rock Drainage Criteria Manual (DCM) and ATLAS 14.

3. Determine hydraulic grade line starting at the outfall channel for each storm drain design. Use the design water surface elevation of the outfall as the starting basis (tailwater) for the design of the proposed storm sewer system.
4. Calculate manhole head losses. Compute manhole head losses as per FHWA's HEC-22.
5. Limit discharge into existing storm drains and existing outfalls to the capacity of the existing system, which will be determined by the ENGINEER. Evaluate alternate flow routes if necessary, to relieve system overload.
6. Identify areas requiring trench protection, excavation, shoring, and de-watering.
7. Design non-standard drainage details (junction boxes, pipe connections, etc.).
8. Determine pipe strength requirements.

Cross Drainage Structures: The ENGINEER shall provide the following services:

1. Determine drainage areas and flows for cross culvert drainage systems.
2. Determine the sizing of the drainage crossings. Develop designs that minimize the interference with the passage of traffic or cause damage to the highway and local property in accordance with the City of Round Rock Drainage Criteria Manual (DCM). Cross drainage design shall be performed using HY-8 or HEC RAS.
    a. Determine Traffic Control Phasing for the construction of the cross culverts.
    b. Design inlet and outfall erosion protection at each crossing.

Ditch Design: The ENGINEER shall provide the following services:

1. Develop plans for all ditch drainage facilities necessary to convey flow to outfalls.
2. Perform shear stress calculations and determine mitigation measures as necessary.
3. Design driveway culverts to meet ditch design criteria. Driveway culvert design information will be shown on driveway tables/layouts.
4. Coordinate ditch design to be included in roadway cross-sections.

Plans Sheets for Drainage Design:
The ENGINEER shall provide the following services:

1. Prepare the PS&E package in accordance with the applicable requirements of the City's specifications, standards, and manuals. Include the following sheets and documents, as appropriate:
    a. Drainage Area Maps
    b. Hydrologic Data Sheets

c. Hydraulic Data Sheets
d. Scour Data Sheets (if applicable)
e. Culvert Layout Sheets
f. Storm Drain Plan/Profile Sheets
g. Trench Protection and Special Shoring Details

2. Prepare culvert cross sections and identify each cross-section's station location.
3. Identify areas requiring trench protection, excavation, shoring and de-watering.
4. Prepare drainage area maps.
5. If applicable, prepare plan and profile sheets for storm drain systems and outfall ditches.
6. Select any necessary standard details from City or TxDOT list of standards for items such as inlets, manholes, junction boxes and end treatments.
7. Prepare details for non-standard inlets, manholes and junction boxes.
8. Prepare drainage details for outlet protection, outlet structures and utility accommodation structures.
9. Identify pipe strength requirements.
10. Prepare drainage facility quantity summaries.
11. Identify potential utility conflicts and, if feasible, design to mitigate or avoid those identified conflicts.
12. Consider pedestrian facilities, utility impacts, driveway grades, retaining wall and concrete traffic barrier drainage impacts.
13. Identify existing ground elevation profiles at the ROW lines on storm sewer plan and profile sheets.
14. Prepare Hydraulic Data Sheets for cross drainage structures at the outfall channel and indicate site location (e.g., station and name of creek).

SIGNING AND PAVEMENT MARKING

A. Signing: The ENGINEER shall prepare drawings, specifications, and details for all signs. The ENGINEER shall coordinate with the City (and other Engineers as required) for overall temporary, interim, and final signing strategies and placement of signs outside contract limits. The ENGINEER shall:

a. Prepare sign detail sheets for non-standard signs showing dimensions, lettering, shields, borders, corner radii, etc., and shall provide a summary of large and small signs.
b. Designate the shields to be attached to guide signs.
c. Illustrate and number the proposed signs on plan sheets.
d. Select each sign foundation from City or TxDOT Standards.

B. Pavement Marking: The ENGINEER shall detail both permanent and temporary pavement markings and channelization devices on plan sheets. The ENGINEER shall coordinate with the City (and other Engineers as required) for overall temporary, interim, and final pavement marking strategies. The ENGINEER shall select Pavement markings from the latest City or TxDOT standards.

The ENGINEER shall provide the following information on sign/pavement marking layouts:

a. Roadway layout.
b. Center line with station numbering.
c. Designation of arrow used on exit direction signs
d. Culverts and other structures that present a hazard to traffic.
e. Location of utilities.
f. Existing signs to remain, to be removed, or to be relocated.
g. Proposed signs (illustrated, numbered and size).
h. Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation.
i. Quantities of existing pavement markings to be removed.
j. Proposed delineators and object markers.
k. Right-of-way limits.
l. Direction of traffic flow on all roadways.

Quantity Summary Sheets: Prepare and update summary sheets showing item description, item unit, and item quantity for temporary and permanent signing and pavement marking bid items.

C. Traffic Signals: To accommodate changes to the proposed CR 112 approach to AW Grimes, plans and details will be developed for signal modifications. The traffic signal plans shall be signed and sealed by a Texas Registered Professional Engineer. The ENGINEER shall develop all quantities, general notes, specifications and incorporate the appropriate agency standards required to complete construction. Traffic signal poles, fixtures, signs, and lighting shall be designed per City of Round Rock or TxDOT specifications and standards.

The following information shall be provided in the Traffic Signal Plans:

1. Layout
   a. Estimate and quantity sheet
      (1) List of all bid items
      (2) Bid item quantities
      (3) Specification item number
      (4) Paid item description and unit of measure
   b. Basis of estimate sheet (list of materials)
   c. General notes and specification data.
   d. Existing Condition Layout

(1) Highway and intersection design features
(2) Roadside development
(3) Existing Traffic control including illumination

e. Plan sheet(s)
(1) Existing traffic control that will remain (signs and markings)
(2) Existing utilities
(3) Proposed signal modifications

f. Notes for plan layout

g. Electrical Schedule and Phase sequence diagram(s)
(1) Signal locations
(2) Signal indications
(3) Phase diagram
(4) Signal sequence table
(5) Electric Schedule

2. General Requirements
a. Contact local utility company
(1) Confirm power source
b. Prepare governing specifications and special provisions list
c. Prepare project estimate

3. Summary of Quantities
a. Small signs tabulation

4. Sign Detail Sheets
a. All signs except route markers
b. Dimensioning (letters, shields, borders, etc.)
c. Designation of shields attached to guide signs

TRAFFIC CONTROL PLAN

Traffic Control Plan, Detours, Sequence of Construction: The ENGINEER shall prepare Traffic Control Plans (TCP) for the project. A detailed TCP shall be developed in accordance with the latest edition of the TMUTCD. The ENGINEER is to implement the current Barricade and Construction (BC) standards as applicable. The ENGINEER shall interface and coordinate phases of work, including the TCP, with adjacent Engineers. The ENGINEER shall:

1. Develop an overall phasing plan for the project showing the phasing layout for construction of the proposed improvements.
2. Provide a written narrative of the construction sequencing and work activities per phase and determine the existing and proposed traffic control devices (regulatory signs, warning signs, guide signs, route markers, construction pavement markings,

barricades, flag personnel, temporary traffic signals, etc.) to be used to handle traffic during each construction sequence.

3. Prepare a Schedule of Barricades and Advanced Warning Signs for the overall Traffic Control Phasing plan.
4. Prepare Traffic Control Phasing Layouts (3 Phases) for each phase of the project including typical sections that identify the travel lanes and work zone. The ENGINEER shall show proposed traffic control devices at grade intersections during each construction phase (stop signs, flag person, signals, etc.). The ENGINEER shall show temporary roadways, ramps, structures and detours required to maintain lane continuity throughout the construction phasing. The Phasing Layouts will include the following:

    a. Prepare each TCP in coordination with the City. The TCP shall include interim signing for every phase of construction. Interim signing shall include regulatory, warning, construction, route, and guide signs. The ENGINEER shall interface and coordinate phases of work, including the TCP, with adjacent Engineers, which are responsible for the preparation of the PS&E for adjacent projects.

    b. Maintain continuous access to abutting properties during all phases of the TCP. The ENGINEER shall develop a list of each abutting property along its alignment. The ENGINEER shall prepare exhibits for and attend meetings with the public, as requested by the City.

    c. Make every effort to prevent detours and utility relocations from extending beyond the proposed Right-of-way lines. If it is necessary to obtain additional permanent or temporary easements and Right-of-Entry, the ENGINEER shall notify the City in writing of the need and justification for such action. The ENGINEER shall identify and coordinate with all utility companies for relocations required.

    d. Describe the type of work to be performed for each phase of sequence of construction and any special instructions (e.g. storm drain, culverts, bridges, railing, illumination, signals, retaining walls, signing, paving surface sequencing or concrete placement, ROW restrictions, utilities, etc.) that the contractor should be made aware to include limits of construction, obliteration, and shifting or detouring of traffic prior to the proceeding phase.

    e. Include the work limits, the location of channelizing devices, positive barrier, location and direction of traffic, work area, stations, pavement markings, and other information deemed necessary for each phase of construction.

f. Delineate areas of wetlands on traffic control plans.

5. Design temporary drainage to replace existing drainage disturbed by construction activities or to drain detour pavement. The ENGINEER shall show horizontal and vertical location of culverts and required cross sectional area of culverts. If temporary shoring is required, prepare layouts and show the limits on the applicable TCP.
6. Quantity Summary Sheets: Provide summary sheets showing item description, item unit, and item quantity for temporary and permanent traffic control bid items.
7. Standards Selection**:** Include standard sheets applicable to project for traffic control design elements.

ILLUMINATION

Illumination: The ENGINEER shall develop construction PS&E documents for illumination of Roadway and Pedestrian facilities. The ENGINEER shall refer to TxDOT's *Highway Illumination Manual* and other deemed necessary City or State approved manuals for design of continuous lighting and safety lighting for all conventional Lighting. The ENGINEER will use AGi32 to determine proper spacing and location of illumination poles to satisfy proper uniformity, minimum and maximum lighting requirements as established by AASHTO.
Illumination Layouts will be developed for continuous roadway lighting that identify placement and type of illumination structures and locations of conduit and electrical service.

Electrical calculations and circuit diagrams will be developed to identify placement of illumination structures. Electrical details will be shown in the plans.

Quantity Summary Sheets: Provide summary sheets showing item description, item unit, and item quantity.

Standards Selection: Include standard sheets applicable to project for illumination and electrical design elements. Oncor pole standards shall be used.

STORM WATER POLLUTION PREVENTION PLANS

Stormwater Pollution Prevention Plans (SW3P): The ENGINEER shall develop SW3P, on separate sheets from (but in conformance with) the Traffic Control Phasing Plans, to minimize potential impact to receiving waterways. The SW3P shall include text describing the plan, quantities, type, phase and locations of erosion control devices and any required permanent erosion control.

Quantity Summary Sheets: Provide summary sheets showing item description, item unit, and item quantity.

Standards Selection: Include standard sheets applicable to project for temporary and permanent SW3P design elements.

PS&E PREPARATION

A. Specifications and General Notes. The ENGINEER shall identify necessary standard specifications, special specifications, special provisions and the appropriate reference items. The ENGINEER shall prepare General Notes from the City or TxDOT master list, Special Specifications and Special Provisions for inclusion in the plans and bidding documents. The ENGINEER shall provide General Notes, Special Specifications and Special Provisions in the required format as specified by the City.

B. Plans and Estimate. The ENGINEER shall independently develop the submittal package for each defined deliverable milestone. Numbering of Plan Sheets will be updated with the continued development of the project documents for each submittal. Electronic and hard copy sets of the project documents will be provided at each milestone. The construction plans will include the necessary bid and construction documentation to construct the project in standard City bid format at the specified milestones (30%, 60% & 90%) and Final PS&E submittals. The ENGINEER shall prepare a construction cost estimate at each defined milestone using latest available bid data from City or State resources.

C. Contract time determination. The ENGINEER shall prepare a detailed contract time estimate to determine the approximate time required for construction of the project in calendar and working days at the 90% and Final PS&E milestone using P6 software or Microsoft Project. The schedule shall include tasks, subtasks, critical dates, milestones, deliverables, and review requirements in a format which depicts the interdependence of the various items and adjacent construction packages. The ENGINEER shall aid the City in interpreting the schedule.

D. QA/QC Reviews: ENGINEER will provide QA/QC reviews for 30%, 60%, 90%, and 100% submittals including a construability review at the 60% submittal and review of joint bid utility plans at each submittal.

UTILITY COORDINATION

A. Utility Engineering including the identification of utility conflicts, coordination, compliance with the UAR, and resolution of utility conflicts. Coordinate all activities with the City, or their designee, to facilitate the orderly progress and timely completion of the City's design phase.

The ENGINEER shall advance the utility layout developed in Phase I using Level B information in MicroStation format. The information must be provided in a format compatible with the current Computer Automated Design and Drafting

(CADD) system. This layout shall include all existing utilities which are to remain in place or be abandoned, and all proposed adjusted utilities. These layouts are required to establish the location of the utility in plan view, the limits of the project & profile view at locations mutually agreed upon by the City. This layout shall be utilized to compare the PS&E design. The ENGINEER shall review and incorporate these locations into the utility layout file. The ENGINEER shall review all existing utility location data collected in Phase I. and reevaluate revisions made to the PS&E.

1. Coordination of engineering activities include:

    i. Utility Layout: Maintain a utility layout in the latest version of Microstation. This layout shall include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout shall be utilized to monitor the necessity and evaluate alternatives. The ENGINEER's licensed Professional Engineer (P.E.) shall utilize the layout of existing utilities as prepared, if available, and make a determination of the following.
        a. Facilities in conflict with the proposed project that are to be relocated.
        b. Facilities to be abandoned in place.
        c. Facilities to remain in service and in place as a result roadway design adjustment and meeting the current UAR
        d. The ENGINEER shall be responsible for determining if there are additional facilities, not shown in the Subsurface Utility Engineering (SUE) documents, which require relocation. Coordinate this information with the City immediately upon discovery.
        e. Utility Conflict List: The ENGINEER shall update the Utility Conflict Tracking Report Spreadsheet, generated in Phase I with QL A and QL B information.

2. Public & Individual Meetings with Utility Companies, as required, to facilitate utility conflict identification and resolution.

    i. Establish contact with all existing utilities within and adjacent to the project limits and set up utility coordination meetings to discuss concepts and options for construction.
    ii. Schedule all utility coordination meetings and assess compatibility with the schedule of the City.
    iii. Set agenda for all coordination meetings as directed by the City.
    iv. Progress Meetings: Meet with the City periodically to coordinate the work effort and resolve problems and prepare a written report of such meetings. The meetings shall review:

a. Activities completed since the last meeting
b. Problems encountered.
c. Late activities.
d. Activities required by the next progress meeting.
e. Solutions for unresolved and/or anticipated problems.
f. Information or items required from other agencies/consultants.

3. Review of Utility's Proposed Adjustments

   i. Evaluate Alternatives: Evaluate alternatives in the adjustment of utilities balancing the needs of both the City and the Utility.
   ii. Review Estimates and Schedules: Review the utility adjustment estimates for reasonableness of cost and the timely scheduling of the adjustment.
   iii. Review Plans for compliance with Utility Accommodation Rules and proposed location data. The responsibility for quality and accuracy of Utility adjustment plans shall remain with the Utility Company.
   iv. Inspect Traffic control setup. Review for compliance with the regulations of the most recent edition of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD). Obtain approval from the City concerning the proposed method of handling traffic prior to allowing commencement of work.

4. The ENGINEER shall not provide services for the sole benefit of third parties.

5. Prepare a Signed and Sealed Proposed Utility Layout in the latest version of MicroStation that can be overlaid on the base file with drainage and determine the following.

   i. Known facilities conflicts have been resolved.
   ii. All stakeholders have concurred with the various alignments.
   iii. Establish the sequence of construction for all utility relocation work whether it is included as a part of the highway construction or not
   iv. Determine which utilities shall be built as part of the contract.
   v. Determine which facilities shall be relocated prior to construction.

UTILITY DESIGN

A. Utility Design: The ENGINEER will prepare design plans for the relocation of existing City utilities within the project limits including:

   i. Approximately 460 LF of 16" Reclaimed Waterline
   ii. Approximately 570 LF of 36" Waterline

1. The ENGINEER will perform site visits (up to 4) to confirm relocation needs and maintain a utility adjustment schedule describing the proposed design elements and duration.
2. The ENGINEER will develop and update a base file of the existing and proposed utilities to be shown on the Utility Plans
3. The ENGINEER will develop proposed utility plan and profile layouts for the identified waterlines per the City's Utility Criteria Manual. The proposed relocations will mitigate conflicts with the proposed storm sewer and relocate the new utilities from underneath the proposed pavement. The plans will include existing utilities, existing and proposed ROW, drainage structures and proposed roadway design.
4. The ENGINEER will gather and incorporate the necessary utility notes and design standards into the construction documents.

SUBSURFACE UTILITY ENGINEERING (SUE)

Subsurface utility engineering services will be performed by Sub-Consultant (See attached proposal B-1)

RIGHT OF WAY

Right of way Acquisition surveying services will be performed by Sub-Consultant (See attached proposal B-2)

SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

If a CE is determined to be necessary then TxDOT CE – EDA Grant services will be performed by Sub-Consultant (See attached proposal B-3)

DELIVERABLES

The ENGINEER shall provide the following information at each submittal:

1. 30% Plans Submittal
   a. One printed set and one electronic set of 11" x 17" plan sheets (.PDF format) for City Review.
   b. Estimate of construction cost.
   c. ENGINEER's internal QA and QC markup set.
   d. Utility Conflict Matrix

2. 60% Plans Submittal:
   a. One printed set and one electronic set of 11" x 17" plan sheets (.PDF format) for the City review.
   b. Estimate of construction cost.
   c. ENGINEER's internal QA and QC marked up set.
   d. Utility Conflict Matrix

3. 90% Plans Submittal:
    a. One printed set and one electronic set of 11" x 17" plan sheets (.PDF format) for the City review
    b. List of governing Specifications
    c. General notes.
    d. Plans estimate.
    e. Contract time determination summary.
    f. ENGINEER's internal QA and QC marked-up set.
    g. Other supporting documents.

4. Final submittal (100%).
    a. Two printed sets and one electronic set of 11" x 17" plan sheets (.PDF format)
    b. Revised supporting documents from 90% review comments.

BID PHASE SERVICES

A. Prepare Bid Manual – The ENGINEER shall prepare the project bid manual including latest City front end documents, bid tabulation form (electronic and pdf), contract documents and specifications.

B. Attend Pre-bid Meeting and Furnish Documents – The ENGINEER shall be present at the pre-bid meeting and describe the project improvements and bid documents to prospective bidders. The ENGINEER shall document contractor questions and provide responses along with the meeting sign-in sheet to all attendees.

C. Respond to Bidder's Questions - During the bid period all questions submitted to the ENGINEER shall be logged and responded to in the form a comment matrix log.

D. Prepare and Distribute Addendum – The ENGINEER shall produce no more than two (2) addendums, as needed, for question response or correction to the bid documents, and distribution to bidders.

E. Attend Bid Opening – The ENGINEER shall be present at the bid opening to announce and record prospective bids received.

F. Prepare Bid Tab and Letter of Recommendation – The ENGINEER shall analyze contractor bids, prepare bid tabulation, check references, and make recommendation for award to the apparent low bidder.

Construction Phase Services

A. Pre-Construction Meeting – The ENGINEER will attend a pre-construction meeting with the Contractor, the City's project manager, and related City staff; at an agreed upon date and time.

It would be appropriate at this time to include public and private utility companies, City Planning & Engineering and Public Works representatives, and other parties responsible for oversight and/or approvals that may be directly involved in this project.

This meeting will be to discuss any project related items, including but not limited to questions related to the construction documents, the construction schedule, scheduled construction status meetings, pay requests, and communication methods (e-mail, phone, fax, etc.) available to both the Contractor, the ENGINEER, and the CITY. The ENGINEER will document meeting notes and submit to the City for inclusion into the meeting minutes.

B. Review of Contractor Submittals – The ENGINEER will review construction submittals and shop drawings relative to the project specifications and details provided by the Contractor. The Contractor is responsible for providing shop drawings that have complete project information, are clearly depicted, and are ready for the ENGINEER'S review.

The Contractor may submit Shop Drawings and/or Construction Submittals noting minor changes to the Construction Drawings, Specifications, or other information provided by the ENGINEER; and within the area of expertise of the ENGINEER; then modifications and/or approvals may be provided by the ENGINEER. A maximum of twenty (20) Construction Submittal reviews are anticipated.

C. Monthly Construction Meetings – The ENGINEER will attend monthly construction meetings at a location determined by the City. The CONTRACTOR will provide an updated construction schedule, submit any pay requests, and forward any discussions related to potential construction issues. A maximum of twelve (12) meetings are anticipated.

D. Construction Site Visits – The ENGINEER will perform periodic site visits and observations during project construction. Based on the construction schedule timeline developed by the ENGINEER, no more than six (6) visits beyond the monthly construction meetings are anticipated.

It is at the ENGINEER'S discretion as whether to notify the Contractor of a planned or anticipated visit. The ENGINEER may notify the Contractor prior to a site visit in order to meet the Contractor in the field and discuss ongoing construction operations.

The ENGINEER may request photographs and/or video be taken of specific items in the field by the Contractor. The ENGINEER may also take photographs and/or video to document construction progression, site conditions, or safety issues.

E. Requests for Information – The ENGINEER will respond to written Requests for Information (RFI's) during construction. The ENGINEER will accept written Requests for Information provided by the Contractor. The Contractor is responsible for providing complete and clearly written documents, ready for the ENGINEER'S review.

The Contractor may submit RFI's to ask for clarification of the Construction Drawings, Specifications, or other information provided by the ENGINEER for

Bidding Purposes; and within the area of expertise of the ENGINEER. A maximum of fifteen (15) RFI reviews are anticipated.

If the Contractor requests RFI's for items outside of the ENGINEER'S area of expertise; they may not be approved by the ENGINEER. The Contractor may then choose to have a Registered Engineer in the State of Texas, with that specific expertise, provide Sealed Shop Drawings for review, rather than an RFI,

F. Change Orders - The ENGINEER will provide cost adjustment information and revised construction documents for change orders provided by the Contractor. Prior to completion of any change order, the revisions to any bid documents requiring a change in price will be discussed and approved with the City prior to submitting to the contractor. Additional time for design modifications relative to new scoping items that aren't considered omissions or errors of the ENGINEER will be vetted and approved by the City before modification of the construction documents. All change orders will be prepared in accordance with City requirements and will be logged for recordkeeping purposes. Assume three (3) change orders.

G. Final Walk-Through / Punch List – The ENGINEER will accompany the City Representative and the Contractor on a final walk-through when the Contractor notifies the CITY that the project is substantially complete and ready for final inspection.

The ENGINEER may photograph and/or video the completed work, make verbal comments to the City Representative and to the Contractor during final walk-through; develop a written punch list of items yet to be completed, to be adjusted, removed and / or replaced; document incomplete or missing items; and note those items that are complete and accepted.

The ENGINEER, Contractor, and City will meet at a designated place and time to discuss the Final Walk-Through findings and Punch List. It shall be the Contractor's responsibility to complete the Punch List to the satisfaction of the City prior to acceptance of the project as being constructed in accordance with the construction documents.

Following project acceptance, the Final Acceptance Letter will be completed, and the contractor field notes will be included in as-built drawings as a part of the As-Built Plan deliverables.

H. As-Built Plans – The ENGINEER will prepare and submit final as-built plans that reflect field changes for RFI's and change order design modifications and Contractor field mark-ups for the project. One 11" x 17" as-built set along with an electronic copy of the drawings shall be submitted to the City for their records. Additionally, GIS data files will be developed from the project CADD files and submitted to the CITY for review.

I. Project Management – The ENGINEER will attend bi-weekly meetings by phone and coordinate with the CITY to comply with terms set forth in their agreement for construction related activities including contractor's responsibilities and updates to City Council. The ENGINEER will assist the CITY in updating traffic control information for public use as needed through the construction phasing. The ENGINEER will prepare monthly invoices and progress reports and implement a QA/QC program throughout the project for all construction record deliverables.

DELIVERABLES

Final Design & Bidding

1. Conformed Construction Plans, Cost Estimate meeting City of Round Rock and TxDOT Standards and Specifications
2. Project Bid Manual
3. Addendums
4. Bid Tabulation and Letter of Recommendation

Pre-Construction and During Construction:

1. Pre-Construction Meeting related documents such as:
   a. Agenda
   b. Meeting Minutes
2. Construction Submittals and Log
3. Construction RFI's and Log
4. Construction Site Visit Minutes
5. Change Order Requests
6. Construction Punch List
7. Construction Final Acceptance Letter
8. As-Built Plans & GIS files

Exclusions

- Construction Materials Testing services are excluded from this contract. These services will be performed by the CITY through other contracting measures
- Design services beyond those specifically stated in this scope and any previously approved scopes
- Additional construction surveying
- Daily or repeated Construction Inspection Services beyond field meetings established in the scope
- TAS Review and Report
- Additional Public Meetings
- 3D modeling
- Retaining Wall and Bridge Design

THE RIOS GROUP B-1

June 1, 2021
Rev1

Kevin Hoffman, PE
RPS Group
4801 Southwest Parkway
Parkway 2, Suite 150
Austin, Texas 78735
512-328-5771
Kevin.Hoffman@rpsgroup.com

RE: Subsurface Utility Engineering
City of Round Rock - CR 112 Improvements

Dear Mr. Hoffman:

The Rios Group, Inc. (TRG) is pleased to submit a revised cost proposal for Subsurface Utility Engineering (SUE) for the above referenced project. The original proposal was based on information provided via email and telephone on March 31, 2020. The revisions to this proposal are based on information provided via telephone on June 1, 2021.

Introduction

TRG will perform SUE services for this project in general accordance with the recommended practices and procedures described in ASCE publication CI/ASCE 38-02 "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." As described in the publication, four levels have been established to describe and depict the quality of subsurface utility information. The four quality levels are as follows:

- Quality Level D (QL"D") – Information obtained from existing utility records.
- Quality Level C (QL"C") – Surveyed data depicting visible above-ground features supplemented with QL"D" information.
- Quality Level B (QL"B") – Two-dimensional horizontal information obtained through the application and interpretation of non-destructive surface geophysical methods. Also known as "designating," this level incorporates QL"C" information and provides horizontal positioning of subsurface utilities to within approximately 1.0 foot.
- Quality Level A (QL"A") – Three-dimensional horizontal and vertical information obtained through non-destructive vacuum excavation equipment to expose utilities at critical points. Also known as "locating," this level incorporates QL"B" information and provides horizontal and vertical positioning of subsurface utilities to within approximately 0.05 feet.

Scope of Work

Based on information provided by RPS Group (Client), TRG has developed a proposed scope for SUE services on this project. This scope may be modified, with Client and TRG concurrence, during the performance of work if warranted by changing or unexpected field conditions.

The scope of this proposal includes ten (10) QL"A" SUE Test Holes at locations to be identified by the client along CR 112 in Round Rock, Texas. The project limits are outlined in red on Exhibit B. To layout the test holes, TRG will attempt to designate the target utility 10-feet either side of the test hole.

Additionally, this proposal includes one day of QL"B" SUE (equivalent to approximately 2,000 - 2,500 linear feet) at locations near proposed drainage structures along the southern side of CR 112. It is assumed the client will provide precise locations where QL"B" SUE is required.

The survey of SUE field markings is not included in this scope of work. It is assumed that the Client's Surveyor, Inland Geodetics, will provide SUE survey data for use in preparing the final deliverables.

Any necessary Right-Of-Entry (ROE) permits, including railroad ROE, will be provided by the Client prior to the start of field work.

TRG Procedures

QL"D" and "C" – Records Research and Surface Feature Survey

It is the responsibility of the SUE provider to perform due-diligence with regard to records research and the acquisition of available utility records. The due-diligence provided for this project will consist of contacting the applicable One Call agency and associated utility owners/municipalities, visually inspecting the work area for evidence of utilities, and reviewing available utility record information. Additional utilities not identified through these efforts will be referred to as Unknown utilities.

QL"B" – Designating

Following a review of the project scope and available utility records with the project manager, TRG field personnel will begin designating the approximate horizontal position of known subsurface utilities within the project area. A suite of geophysical equipment that includes magnetic and electromagnetic induction will be used to designate conductive utilities. Where access is available, a sonde will be inserted into non-conductive utilities to provide a medium for transmission which can then be designated using geophysical equipment. Non-conductive utilities can also be designated using other proven methods, such as rodding and probing. TRG will make a reasonable attempt to designate Unknown utilities identified during field work; however, no guarantee is made that all Unknown utilities will be designated. Utilities will be marked and labeled to distinguish type and ownership. Field data depicting the designated utilities, as well as relevant surface features, will be produced to ensure accuracy and completeness of subsequent survey data. The TRG project manager will review the collected survey data, field data, and utility records for accuracy and completeness.

QL"A" – Locating

TRG will utilize non-destructive vacuum excavation equipment to excavate test holes at the requested locations. To layout the test holes, TRG will follow the QL"B" – Designating procedures

described above. Once each utility is located, TRG will record the size, type, material, and depth. Test holes will be uniquely marked. Excavations will be backfilled by mechanical means with the appropriate material, and the original surface will be restored. If necessary, TRG can core pavement up to a depth of 12 inches. Asphalt surfaces will be repaired with an asphalt cold patch, and concrete cores will be epoxied in place, flush with the surrounding surface. TRG assumes that flowable fill will not be required when backfilling test holes and that full-section pavement repair (including sidewalks) will not be required to restore the original pavement surface. If requested, these services can be provided at an additional cost.

TRG will establish any necessary routine traffic control measures at no additional cost. However, if non-routine traffic control measures (lane closures, traffic detours, flagpersons, etc.) are required, this service will be invoiced as a direct expense. Due to the risk of damage, TRG will not attempt to probe or excavate test holes on AC water lines unless approval is obtained from the owner in advance. Additionally, excavation in rock, or to a depth greater than 18 feet, is considered beyond the scope of this proposal.

TRG has made the following assumptions with regard to the test holes on this project:

- All test holes will be accessible to truck-mounted vacuum excavation equipment.
- Right-Of-Way (ROW) permits from the City of Round Rock will not be required. If ROW permits are required, it is assumed they will be provided at no cost to TRG.
- Designed traffic control plans will not be required.
- Non-routine traffic control measures will not be required.
- The coring of pavement will not be required.

Deliverables

TRG will provide the following as a final deliverable to the Client:

- A utility file in CAD format depicting all designated and located utilities. The Client will provide TRG with any necessary background files for use in completing the final deliverables.
- A summary sheet of all test hole coordinate data and depth information.
- 8.5” x 11” 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.

Schedule

TRG can mobilize within three (3) weeks of receiving Notice-To-Proceed (NTP). TRG estimates that the SUE work can be completed in nine (9) working days, broken down as follows:

- QL“B” field work – 2 days
- QL“B” deliverable preparation – 7 days

TRG estimates that the QL"A" SUE work can be completed in thirteen (13) working days, broken down as follows:

- Layout test holes – 1 day
- Field work – 5 days
- Deliverable preparation – 7 days (following receipt of survey data from client)

Estimated Fee

The total estimated cost to complete the work described herein is **Nineteen Thousand Nine Hundred Ninety-Seven Dollars and 60/100 ($19,997.60)**. An itemized breakdown of cost is provided in Exhibit A. Please note that these pricings are based on an assumption of quantities, and that only actual quantities will be invoiced – up to the total Contract amount.

We look forward to working with you on this project. If there are any questions, please do not hesitate to call at 512.580.5440.

Respectfully,

The Rios Group, Inc.

Robby Hub
Project Manager

B-2

INLAND GEODETICS LLC
PROFESSIONAL LAND SURVEYORS

1504 Chisholm Trail Road
Suite 103
Round Rock, TX 78681
512-238-1200
512-238-1251 fax
TBPELS Firm Reg. No. 10059100

15 Mar 2021

Kevin Hoffman, PE
THRU: James Schwerdtfeger, PE
RPS North America
Senior Project Manager
4801 Southwest Parkway, Parkway 2,Suite 150
Austin, TX 78746

RECR 112 ROW Acquisition Survey

Mr. Hoffman:

Scope of Services

The Surveyor shall provide Right of Way Acquisition surveying services for the CR 112 Improvement Project between AW Grimes Blvd. and CR 117. It is understood that this proposal is for up to 5 acquisition parcels within the stated limits. **NOTE**: this proposal assumes that title abstracts will be provided prior to delivering parcel acquisition packages.

Field Surveying

1. Right-Of-Entry

A. The Surveyor understands that Right of Entry will be provided from the affected landowners along the project route. This will include landowners subject to boundary line verification or data gathering on tracts adjoining the project tracts. This number of ROEs may exceed the 5 parcels being acquired from. Copies of the signed ROE letters will be supplied to the surveyor prior to work commencing. Limitations for access will be addressed as they become known and adjustments to scope of work, fee estimates, time schedules, and other tasks will be made by supplemental proposal.

ROW Acquisition Surveys

A. The Surveyor shall generate, recover, and/or verify existing horizontal and vertical project primary control at the site, if any, and reconcile the control to known existing intersecting projects.
B. The Surveyor shall establish or densify additional secondary control as needed for the project to collect data along the length of the project.
C. The Surveyor shall, at their discretion, use 5/8" iron rods with distinguishing caps, cotton spindles (paved areas) or other durable entities for the project control as applicable.
D. Inland will perform sufficient research of property records from various sources to analyze and develop an exhibit of the record ROW and property configurations for the affected area. Inland will perform sufficient field work to recover property corners and other boundary related evidence to aid in the analysis and reconstruction of the affected properties. Final deliverables will be a signed and sealed survey plat and accompanying metes and bounds description for each parcel.
E. Title Abstracts shall be provided by the City in a timely fashion for the use of the surveyor in preparing the ROW acquisition documents.
F. Inland will monument the corners of the acquired tract of land.

Deliverables

The Surveyor shall provide:

A. ASCII point file, DGN files, and/or DWG files as appropriate.
B. Preliminary set and final survey plats with metes and bounds descriptions for 5 parcels.
C. PDF file of each Surveyor's project fieldbook if requested.

Compensation

ROW Surveying LUMP SUM FEE: **$32,760.74**

ASSUMPTIONS

The Surveyor shall notify the client prior to performing the work if:

A. Sufficient boundary monumentation cannot be recovered to re-construct the existing alignments and associated right-of-way lines along the project corridor or that sufficient evidence for adjoining boundary lines of affected properties cannot be recovered and utilized for preliminary boundary line reconstruction. NOTE: It may become necessary for extending the survey limits beyond the properties in question to satisfy the Texas Board of Professional Engineers and Land Surveyors regulations pertaining to sufficient research and investigation with regards to the reconstruction of the affected boundary lines. This may be due to ambiguous seniority evidence or conflicting adjoining calls or descriptions that may not be located on the ground.
B. Traffic Control can be managed by the Surveyor's personnel. If abnormal conditions or additional TC apparatus is required, the Surveyor will notify the appropriate personnel prior to proceeding. There may be additional costs contingent to this task.
C. The work is delayed due to weather, Right of Entry/access, or other circumstances beyond the Surveyor's direct control.

Submitted:

M. Stephen Truesdale, RPLS, LSLS
Principal
Inland Geodetics, LLC

B-3

Memorandum

To: James Schwerdtfeger, RPS

From: Jeff Hall, BGE

Date: November 19, 2020

Subject: Scope for Additional Environmental Tasks – Round Rock CIP CR 112

As requested, please find BGE's environmental scope and fee for additional services for the CR 112 project. As the project will require construction within the TxDOT right-of-way (ROW) of A.W. Grimes Boulevard, this scope includes tasks required to document a TxDOT Categorical Exclusion (CE). Additionally, the City of Round Rock is pursuing federal funding through an Economic Development Administration (EDA) grant. BGE has previously prepared and submitted the EDA grant application Environmental Narrative. The EDA may request additional environmental documentation or agency coordination. Based on EDA guidance, this scope includes additional tasks that may be requested by the EDA. The fee is broken down as individual task items, and BGE would proceed on a time and materials basis if a task is requested by the City. Additional attachments listed in the EDA Environmental Narrative not included in this scope have been determined to be not required or not applicable.

ENVIRONMENTAL STUDIES

1. **TxDOT CE* –** For work within TxDOT ROW only, based on preliminary design schematic dated 4/27/2020.
    - Submit Local Government Environmental Compliance Memorandum and THC clearance documentation to TxDOT
    - Prepare and submit the TxDOT Work Plan Development (WPD) to TxDOT
    - Prepare and submit TxDOT Species Analysis Form and Species Analysis Summary to TxDOT
    - Prepare and submit Public Involvement Analysis documentation to TxDOT
    - Coordinate with TxDOT for review and approval
    - * *All other studies and agency coordination are excluded*

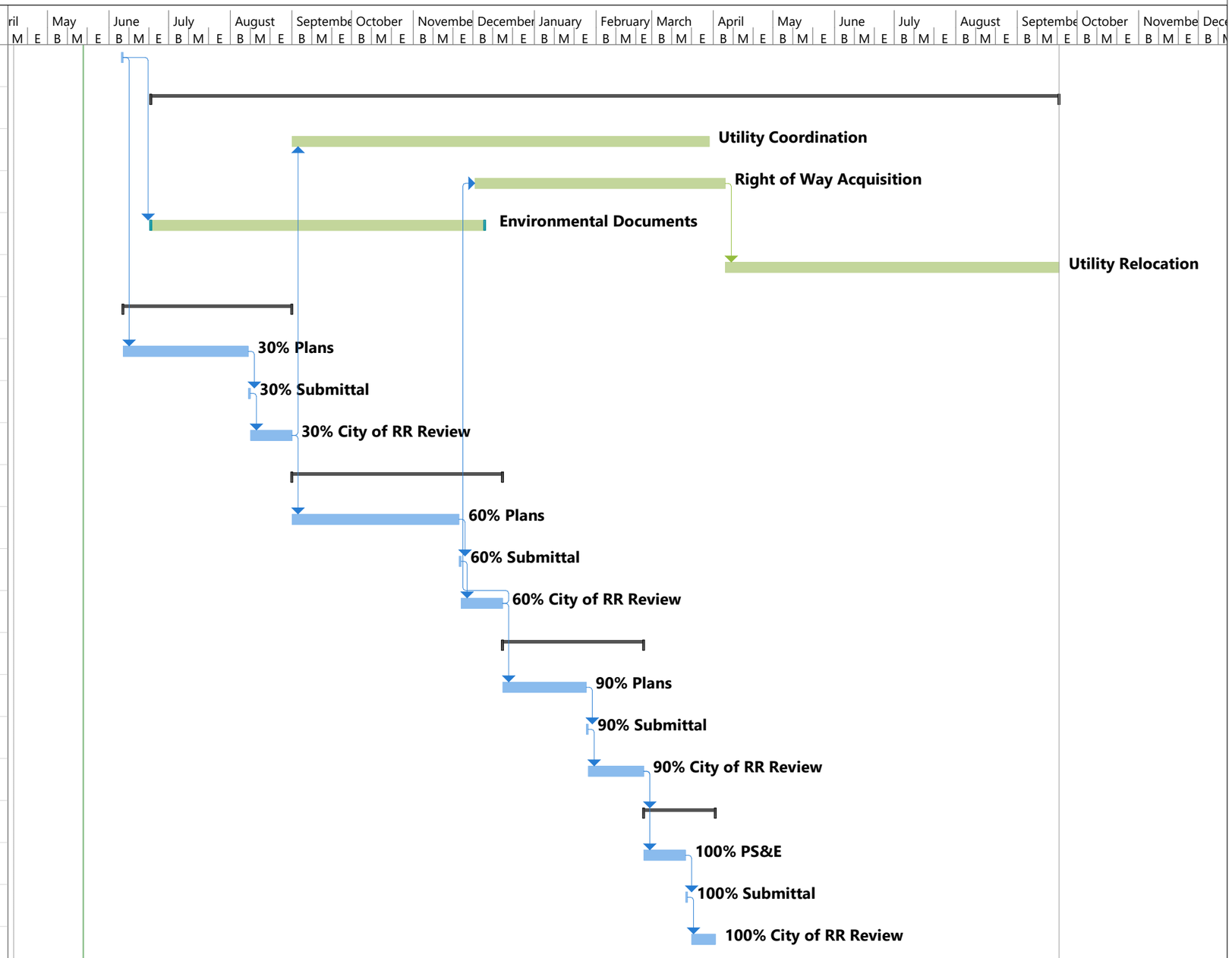
2. **EDA GRANT ADDITIONAL ENVIRONMENTAL DOCUMENTATION OR AGENCY COORDINATION**
    - Consultation letters with additional federal agencies (up to 10)
    - Public Involvement – letters to affected property owners, a public notice to be posted on the City of Round Rock website, and coordination with the City of Round Rock to document all previous public outreach
    - Phase I Environmental Site Assessment (ESA) (up to three), *Excluding Phase II ESAs*

ADDENDUM TO EXHIBIT C
Work Schedule

Attached Behind This Page

Exhibit C - Project Schedule

ID	Task Mode	Task Name	Duration
1		***CR 112 PS&E Notice to Proceed***	1 day?
2		**Project Management**	**327 days**
3		Utility Coordination	150 days
4		Right of Way Acquisition	90 days
5		Environmental Documents	120 days
6		Utility Relocation	120 days
7		**30% Design Phase**	**61 days**
8		30% Plans	45 days
9		30% Submittal	1 day
10		30% City of RR Review	15 days
11		**60% Design Phase**	**76 days**
12		60% Plans	60 days
13		60% Submittal	1 day
14		60% City of RR Review	15 days
15		**90% Design Phase**	**51 days**
16		90% Plans	30 days
17		90% Submittal	1 day
18		90% City of RR Review	20 days
19		**100% Design Phase**	**26 days**
20		100% PS&E	15 days
21		100% Submittal	1 day
22		100% City of RR Review	10 days



Project: CR 112 PS&E Work Sch
Date: Wed 5/19/21

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone

ADDENDUM TO EXHIBIT D
Fee Schedule

Attached Behind This Page

EXHIBIT D
Project: CR 112 Final Design
Fee Schedule - Lump Sum
Firm Provider: RPS

6/9/2021

Work Task	Principal	Senior Project Manager	Senior Project Engineer	Project Engineer	Associate Engineer III	Associate Engineer I / II	Senior Designer	Admin/ Clerical	Total Hours	No of DWGS	Labor hrs per sheet	Total Amount
Project Management												
Coordination with City	6	64	16	2				2	90			$19,560.00
Invoicing and Schedule updates		16	8					16	40			$6,320.00
Subconsultant Coordination, Deliverables Review and Invoices		40	32	8		8		4	92			$16,960.00
Coordination with HDR (tie-in at CR 117)		24	8				4		36			$7,480.00
QA/QC	4	12	12	8		8		8	52			$8,560.00
											Subtotal:	$58,880.00
Roadway Design												
Roadway Design												
Title Sheet		1		2			3		6	1	6	$960.00
Index of Sheets			4	4			24		32	2	16	$4,840.00
Typical Sections		2	4			18	16		40	2	20	$5,520.00
Project Layout		2	2			8	8		20	1	20	$2,880.00
Horizontal Alignment Data Sheets		1	2			2	2		7	1	7	$1,090.00
Roadway Plan & Profile Sheets		5	16		40	40	74		175	7	25	$24,370.00
Intersection Layouts - Cross Streets		4	6		16		24		50	2	25	$7,540.00
Driveway Layouts		2	4		16		16		38	3	13	$5,540.00
Removal Layouts		2	6		16		32		56	4	14	$8,280.00
Pedestrian and Bicycle Facilities		1	4		8		8		21	7	3	$3,110.00
Roadway Cross Sections		4	24		44		80		152	15	10	$22,500.00
Miscellaneous Roadway Detail Sheets		8	8				32		48	4	12	$8,000.00
Quantity Summary Sheets			4		8	16	4		32	2	16	$4,040.00
Standards selection					4		4		8	8	1	$1,100.00
											Subtotal:	$99,770.00

EXHIBIT D 6/9/2021

Project: CR 112 Final Design

Fee Schedule - Lump Sum

Firm Provider: RPS

Work Task	Principal	Senior Project Manager	Senior Project Engineer	Project Engineer	Associate Engineer III	Associate Engineer I / II	Senior Designer	Admin/ Clerical	Total Hours	No of DWGS	Labor hrs per sheet	Total Amount
Drainage Design												
Data Collection												
Verify Field Conditions		1			4				5			$730.00
Coordiantion with local agencies		1	16						17			$2,950.00
Hydrology												
Confirm current conditions with previous study		1	2		4				7			$1,070.00
Modify External Drainage areas		1			4				5			$730.00
Modify runoff calculations for design storms		1			4				5			$730.00
Develop Internal areas for storm drains		1			4		4		9			$1,330.00
Develop internal areas for ditches		1			4		4		9			$1,330.00
Storm Drains												
Design and anaylize Storm Drains	1	1	4		24				30			$4,190.00
Coordinate design with utilities, traffic and retaining walls		1	4						5			$910.00
Anaylize Hydraulic grade line		1	4						5			$910.00
Calculate manhole losses		1	4						5			$910.00
Anaylize outfall impacts		1	4						5			$910.00
Determine trench protection and special shoring		1	4		4				9			$1,410.00
Cross-Drainage Strucutres												
Design and anaylize Culverts		1	4		24				29			$3,910.00
Determine Culvert TCP phasing		1	4						5			$910.00
Design inlet and outlet erosion protection		1			8				9			$1,230.00
Ditch Design												
Ditch design details and calculations		1	6		10				17			$2,500.00
Driveway culvert design		1	2		8				11			$1,570.00
Plan Sheets for Drainage Design												
Drainage Area Maps			24		44	16	16		100	5	20	$13,740.00
Hydrologic Data sheets					4	4	2		10	1	10	$1,240.00
Hydraulic Data Sheets					8	4	4		16	2	8	$2,040.00
Culvert Layouts			4	4	35	8	24		75	3	25	$10,095.00
Storm Drain Plan & Profile		1	24		70	40	40		175	7	25	$23,460.00
Drainage Detail sheets		2	8		8	8	6		32	2	16	$4,600.00
Standards selection		2	4		4				10	5	2	$1,640.00
Trench Protection and Special Shoring Details		2	2		8		24		36	2	18	$5,400.00
											Subtotal:	$90,445.00
Signing, Pavement Markings, Signalization (Permanent)												
Signing												
Signing Layouts		1	4		8		18		31	7	4	$4,610.00
Prepare small sign details		1	2		6		16		25	2	13	$3,720.00
Prepare Quantity Summaries		1	1		4		2		8	1	8	$1,200.00
Select Standards		1			2			2	5	5	1	$640.00
Pavement Markings												
Pavement Marking Layouts			4			12	16		32	7	5	$4,400.00
Select Standards		1				2			3	4	1	$450.00
Traffic Signal												
Traffic Signal Design Modification (1 Location)		2	8	20	24				54	2	27	$7,620.00
Standards selection		2	2	2					6	8	1	$1,080.00
											Subtotal:	$23,720.00

EXHIBIT D 6/9/2021

Project: CR 112 Final Design

Fee Schedule - Lump Sum

Firm Provider: RPS

Work Task	Principal	Senior Project Manager	Senior Project Engineer	Project Engineer	Associate Engineer III	Associate Engineer I / II	Senior Designer	Admin/ Clerical	Total Hours	No of DWGS	Labor hrs per sheet	Total Amount
Traffic Control Plan												
TCP Overall Phasing Plan (3 Phases)		4		12	10	10			36	2	18	$4,950.00
TCP Narrative & Notes		2		16	2	20			40	2	20	$5,150.00
TCP Schedule of Barricades		2		4	2	2			10	1	10	$1,490.00
TCP Typical Sections		4		16	24				44	3	15	$6,160.00
TCP Phasing layouts		4		45	80		60		189	21	9	$26,220.00
TCP Culvert Phasing layouts		4		4	8		8		24	3	8	$3,680.00
Quantity summaries		2		2	2		2		8	1	8	$1,290.00
Standards selection		2		2	2			2	8	8	1	$1,150.00
											Subtotal:	$50,090.00
Illumination												
Illumination Layouts		2	28		48		48		126	7	18	$18,420.00
AGi 32 Analysis		6	36		24							$10,500.00
Circuit Diagrams		4	24		24		12		64	2	32	$9,800.00
Electrical Details		4	12		16		16		48	2	24	$7,360.00
Electric Service Coordination		4	2		8		8		22			$3,460.00
Quantity summaries		1	4		16				21	1	21	$2,910.00
Standards selection		1			4				5	4	1	$730.00
											Subtotal:	$53,180.00
Stormwater Pollution Prevention Plans (SW3P)												
SW3P Narrative				2		8	2		12	1	12	$1,460.00
Prepare SW3P Plans		6	12	32		40	40		130	21	6	$18,300.00
Standards selection				2		2			4	4	1	$500.00
											Subtotal:	$20,260.00
PS&E Preparation												
General notes (60%, 90%, 100% submittal)		4			16			2	22			$3,080.00
Specs (60%, 90%, 100% submittal)		4			16			2	22			$3,080.00
Plans and Estimates (30%, 60%, 90%, 100% submittal)		4			16			2	22			$3,080.00
Construction Time Determination				24	16				40			$5,360.00
Constructability Reviews (1) 90% review	2	4		4	4			2	16			$2,700.00
Utility engineering (Joint-Bid) (60%, 90%, 100% submittal)		6		12	12			2	32			$4,720.00
Conduct QC and QA reviews (30%, 60%, 90%, 100% submittal)	2	12	24	24	24			4	90			$14,080.00
											Subtotal:	$36,100.00
Utility Coordination												
Update existing utility exhibits				4	4		4		12	4	10	$1,660.00
Update utility conflict (tracking) list		16		16	8				40			$6,920.00
Utility conflict identification and resolution		8		8	8				24			$3,960.00
Site visit and attend utility workshop		6		6	6				18			$2,970.00
Prepare and attend util mtgs with utility owners		8		8					16			$2,960.00
Prepare and attend utility coordination meetings		8		8					16			$2,960.00
Review Utility's proposed adjustment, estimates, schedules and Evaluate Alternatives		4		8					12			$2,040.00
Prepare Proposed Utility Layout		8		8	24		24		64			$9,560.00
											Subtotal:	$33,030.00
Utility Design												
Site visits for utility relocations		2	4	8		10			24			$3,360.00
Update Proposed Utility Exhibits		4	8	4	8		12		36			$5,640.00
Prepare Water Relocation Plans		10	12	8	56		45		131	5	21	$19,210.00
Prepare Reclamied Water Relocation Plans		10	16	16	64		51		157	5	21	$22,910.00
											Subtotal:	$51,120.00
Bid Phase Services												
Prepare Bid Manual		2	6		8			4	20			$2,800.00
Prepare for and attend Pre-Bid Meeting (1)		2	2		2			2	8			$1,210.00
Address Contractor Questions			4		4				8			$1,180.00
Prepare Addendum (up to 2)		2	4		4				10			$1,640.00
Attend Bid Opening (1)		2	2						4			$800.00
Prepare Bid Tabulation and Letter of Recommendation		1	2		4			2	9			$1,230.00
											Subtotal:	$8,860.00

EXHIBIT D 6/9/2021

Project: CR 112 Final Design

Fee Schedule - Lump Sum

Firm Provider: RPS

Work Task	Principal	Senior Project Manager	Senior Project Engineer	Project Engineer	Associate Engineer III	Associate Engineer I / II	Senior Designer	Admin/ Clerical	Total Hours	No of DWGS	Labor hrs per sheet	Total Amount
Construction Phase Services												
Pre-Construction Meeting (1)		2	4		2			2	10			$1,550.00
Review Construction Submittals (up to 20)		5	20		20				45			$7,050.00
Monthly Construction Meetings (up to 12)		12	24						36			$6,840.00
Site Vistis (up to 6)		12	12						24			$4,800.00
Requests for Information (up to 15)		6	16		30				52			$7,850.00
Change Orders (up to 3)		3	9		15				27			$4,095.00
Final Walk-Through / Punch List		4	6						10			$1,940.00
As Built Plans and GIS Data Files		2	6		36		18		62			$8,680.00
Project Management	2	48	20					2	72			$15,160.00
											Subtotal:	$57,965.00
HOURS SUB-TOTALS	17	495	624	353	1156	286	857	60	3782			
Rate	$280.00	$230.00	$170.00	$140.00	$125.00	$110.00	$150.00	$80.00				
SUBTOTAL	$4,760.00	$113,850.00	$106,080.00	$49,420.00	$144,500.00	$31,460.00	$128,550.00	$4,800.00	$583,420.00			

DESCRIPTION									TOTAL COSTS BY FC
Project Management									$ 58,880.00
Roadway Design									$ 99,770.00
Drainage Design									$ 90,445.00
Signing, Pavement Markings, Signalization (Permanent)									$ 23,720.00
Traffic Control Plan									$ 50,090.00
Illumination									$ 53,180.00
SW3P									$ 20,260.00
PS&E Preparation									$ 36,100.00
Utility Coordination									$ 33,030.00
Utility Design									$ 51,120.00
Bid Phase Services									$ 8,860.00
Construction Phase Services									$ 57,965.00
Subconsultants									
Environmental (See Attached Proposal - BGE, Inc.) (if deemed necessary)									$ 26,060.00
SUE (See Attached Proposal - The Rios Group)									$ 19,997.60
Right of Way Acquisition Survey (See Attached Proposal - Inland Geodetics)									$ 32,760.74
SUBTOTAL LABOR EXPENSES									**$ 662,238.34**
OTHER DIRECT EXPENSES	**# OF UNITS**	**COST / UNIT**							
Mileage (number x current state rate)	1,200	$ 0.58							$696.00
Courier Services (Deliveries)	3	$ 25.00							$75.00
Printing (8 1/2" X 11")	100	$ 0.10							$10.00
Printing (11" X 17")	550	$ 0.25							$137.50
Plots (Color on Bond) (SF)	250	$ 0.50							$125.00
SUBTOTAL DIRECT EXPENSES									**$1,043.50**

SUMMARY	
TOTAL COSTS	$ 662,238.34
TOTAL EXPENSES	$ 1,043.50
GRAND TOTAL	**$ 663,281.84**

THE RIOS GROUP

Estimate for Subsurface Utility Engineering

City of Round Rock

CR 112 Improvements

EXHIBIT A

Hourly Office Labor	*Rate*	*Assumed Quantity*	*Unit of Measure*	*Sub-Total*
Supervisory Engineer IV (15-20)	$ 158.13	2	HR	$ 316.26
Project Manager / Professional Engineer I (4-8)	$ 137.27	6	HR	$ 823.62
Assistant Project Manager / Engineer in Training I (0-5)	$ 91.81	4	HR	$ 367.24
CADD Technician IV (15-20)	$ 79.22	10	HR	$ 792.20
Field Manager	$ 104.72	5	HR	$ 523.60
Administrative Specialist II (8-12)	$ 67.42	4	HR	$ 269.68
Sub-Total				**$ 3,092.60**

Quality Level "B" SUE and Test Hole Layout	*Rate*	*Assumed Quantity*	*Unit of Measure*	*Sub-Total*
One Designating Person	$ 145.00	20	HR	$ 2,900.00
Sub-Total				**$ 2,900.00**

QL"A" SUE Test Holes				
Unit Rate - Depth	*Outside Pavement Rate*	*Assumed Quantity*	*Unit Of Measure*	*Sub-Total*
0 - 5 feet	$ 1,205.00	4	EA	$ 4,820.00
5 - 8 feet	$ 1,470.00	5	EA	$ 7,350.00
8 - 13 feet	$ 1,835.00	1	EA	$ 1,835.00
Test Hole Total		10		
Sub-Total				**$ 14,005.00**
Total Estimated Cost				**$ 19,997.60**

CORR
CR 112 ROW ACQUISITION
INLAND GEODETICS, LLC
FEE SCHEDULE

SERVICE	2 CREW	3 CREW	4 CREW	1GPS	PM	RPLS	SEN TECH	TECH	LSLS	ADMIN	DIRECT	GPS REC.($15/Unit/Hour)		VEHICLES($60/Unit/Day)		ATV's ($55/Unit/Day)		INDIRECT	TOTAL
RATE / HOUR	$150	$170	$190	$120	$170	$166	$119	$98	$162	$68		# of Units	# of Hours	# of Units	# of Days	# of Units	# of Days		
											$ -							$ -	$ -
ADMIN MOBILIZATION					6 HRS	2 HRS	4 HRS			2 HRS	$ 1,963.36							$ -	$ 1,963.36
											$ -							$ -	$ -
PROPERTY RESEARCH					2 HRS	4 HRS	4 HRS				$ 1,479.22							$ -	$ 1,479.22
SURVEY CONTROLS	8 HRS			8 HRS		2 HRS	2 HRS				$ 2,729.90							$ -	$ 2,729.90
ROE COORDINATION					4 HRS						$ 678.84							$ -	$ 678.84
INITIAL FIELD SURVEY	20 HRS			8 HRS		4 HRS	2 HRS			4 HRS	$ 5,135.06							$ -	$ 5,135.06
BOUNDARY ANALYSIS						4 HRS	4 HRS				$ 1,139.80							$ -	$ 1,139.80
											$ -							$ -	$ -
PARCEL PREPARATION (5 P)					2 HRS	12 HRS	100 HRS			4 HRS	$ 14,521.18							$ -	$ 14,521.18
											$ -							$ -	$ -
TITLE REVIEW						2 HRS	6 HRS				$ 1,046.66							$ -	$ 1,046.66
PARCEL MONUMENTATION	16 HRS			8 HRS		2 HRS	2 HRS			2 HRS	$ 4,066.72							$ -	$ 4,066.72
											$ -							$ -	$ -
ROW ACQUSITION	44 HRS	0 HRS	0 HRS	24 HRS	14 HRS	32 HRS	124 HRS	0 HRS	0 HRS	12 HRS	$ 32,760.74		0 HRS		0 DAYS		0 DAYS	$ -	$ 32,760.74
SUB-TOTAL	44 HRS	0 HRS	0 HRS	24 HRS	14 HRS	32 HRS	124 HRS	0 HRS	0 HRS	12 HRS	$ 32,760.74	TOTAL	0 HRS	TOTAL	0 DAYS	TOTAL	0 DAYS	$ -	$ 32,760.74
REIMBURSEABLE ITEMS																			$ -
REIMBURSEABLE SERVICES																			$ -
ESTIMATED FEE	$6,600	$0	$0	$2,880	$2,376	$5,304	$14,780	$0	$0	$821			$0		$0		$0		$ 32,760.74

Cost Variables:	
GPS Receivers	$15
Vehicle	$60
ATV	$55

Reimburseable Services Include:	
	$0.00
	$0.00
	$0.00
Total:	$0.00

Reimburseable Fees Include:	
	$0.00
	$0.00
	$0.00
Total:	$0.00

Fee Estimate:

Task Description	Senior ENV ($220.00)	ENV Scientist ($135.00)	ENV Tech I ($90)	Fee
TxDOT CE	18	34		$8,550
Additional Agency Consultation Letters	8		16	$3,200
Public Involvement	10		12	$3,280
Phase I ESAs	14	32	32	$10,280
			Subtotal:	**$25,310**
Other Direct Expenses (GeoSearch for Phase I ESAs)				$750
			Total:	**$26,060**