

**PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT #3
FOR
Kelly Lane Ph 2 and 3**

**STATE OF TEXAS §
 §
COUNTY OF TRAVIS §**

This Supplemental Agreement No. 3 to a contract for Professional Services is made by and between the City of Pflugerville, Texas ("City") and Johnson, Mirmiran & Thompson, Inc. (JMT) ("Consultant"). City and Consultant may be referred to herein singularly as "Party" or collectively as the "Parties."

WHEREAS, the City and Consultant executed an Agreement with the City for Professional Services ("Agreement") on the 10th day of September, 2019 for the Kelly Lane Ph2 and 3 project ("Project") in the amount of \$1,157,068.88; and

WHEREAS, the City and Consultant executed a Supplemental Agreement #1, for alignment alternatives, to the contract for Professional Services Agreement on the 25th day of October, 2019, for Kelly Lane Ph 2 and 3 project for an increase in the amount payable of \$44,255.00 for a total contract amount of \$1,201,323.88; and

WHEREAS, the City and Consultant executed a Supplemental Agreement #2, for additional geotechnical, SUE, and traffic analysis, to the contract for Professional Services Agreement on the 10th day of March, 2020, for Kelly Lane Ph 2 and 3 project for an increase in the amount payable of \$49,058.68 for a total contract amount of \$1,250,382.56; and

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

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

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

I.

Article II. Term shall be amended by changing the term of the Agreement to terminate on July 11, 2023, with the ratification and incorporation of the remaining terms of the Agreement.

Article III. Scope of Services and Exhibit A, shall be amended as set forth in the attached addendum (Exhibit A-3) to Exhibit A.

Article IV. Compensation to Consultant and Exhibit C (Fee Schedule), shall be amended by increasing by \$455,311.85 the amount payable under the Agreement for a total of \$1,705,694.41, as shown by the attached Addendum (Exhibit C-3) to Exhibit C (Fee Schedule).

2.

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

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

**CITY OF
PFLUGERVILLE**

CONSULTANT

(Signature)



(Signature)

Printed Name: Sereniah Breland

Printed Name: Matt Werner

Title: City Manager

Title: Vice President

Date: _____

Date: July 15, 2020

APPROVED AS TO FORM:



Charles E. Zech
City Attorney

DENTON NAVARRO ROCHA BERNAL & ZECH, P.C.

EXHIBIT A-3

ENGINEERING SERVICES

Project Background

The City of Pflugerville (City) proposes widening of Kelly Lane from a two-lane roadway to an urban four-lane divided section from Falcon Pointe Drive to Moorlynch Ave (Phase 2) (The “Project”). Johnson Mirmiran Thompson, Inc. (the “Engineer”) has been approved to provide a detailed 30% schematic and a full PS&E for Phase 2. This scope of services includes preliminary design, environmental services, geotechnical studies, Plans, Specifications, and Estimate (PS&E) and construction engineering, to be performed by the prime consultant or subconsultant team. It has become necessary to supplement the contract to include design services described below:

- *Perform additional environmental activities for Phase 2*
- *Perform Floodplain studies to improve conditions at Vilamoura St. and Kelly Ln for Phase 2*
- *Perform engineering related activities for the Vilamoura culverts and four proposed retaining walls in Phase 2*
- *Perform Construction Phase Services, including materials testing, for Phase 2*

Design services during development of this project shall be performed in accordance with the 2014 City of Pflugerville Engineering Design Manual & Construction Standards, and TxDOT design manuals (where applicable) located on the TxDOT website. The development of the project shall be consistent with City of Pflugerville procedures and practices and TxDOT (where applicable). This project shall be developed utilizing Microstation V8i SS4 OpenRoads.

Basic Services:

Design Activities

- a. *Utility Coordination – individual utility meetings and property rights coordination (Phase 2)*
- b. *Geotechnical Investigation for retaining walls (Phase 2)*
- c. *Environmental Clean Water Act Section 404 Permit (Phase 2)*
- d. *Floodplain Studies (Phases 2)*
- e. *Development of plans for Vilamoura culverts, four retaining walls, and channel design for water crossing east of Falcon Pointe (Phase 2)*

Construction Activities

- f. *Construction Phase Services*
- g. *Materials Testing*

Design and Construction Activities

h. General Project Management

Special Services:

These services may or may not be needed to complete the project. A separate "Notice to Proceed" from the City will be required prior to performing this work

- a. Archaeological Survey (Phases 2)*
- b. Archaeological Survey (Phases 3)*
- c. Development of Non-Standard Culvert Headwall Detail for Crossing No. 3*

Project Team Subconsultants

- a. Inland Geodetics LLC (Field Surveying)*
- b. The Rios Group, Inc. (Utility Coordination Services)*
- c. Holt Engineering, Inc. (Geotechnical Studies)*

Basic Services

Task: Utility Coordination (Phase 2) (TRG)

- a. Coordination with design team, ROW, the City, and utility owners – up to 20 reports documenting work activities*

The Utility Coordinator originally anticipated completing services in August 2020. Based on updated schedules for Design and ROW, the extension of services is required through May 2021, an additional 10 months. This supplemental allows for continued coordination and preparation and maintenance of a coordination log for review by the City as necessary.

- b. Group Progress Meeting (1 Utility Group Meeting, 1 WebEx Progress Meeting, and 10 Internal Coordination Meetings)*

The original scope included one (1) large utility group meeting which was completed with utility and City representatives on February 6, 2020. Since then the Utility Coordinator has recognized the additional need for one (1) more large group utility meeting and this was agreed upon by City Staff. The Utility Coordinator shall notify the City at least five (5) business days in advance of each meeting to allow the City the opportunity to participate in the meeting. The Utility Coordinator shall provide and produce meeting minutes of all meetings within seven (7) business days.

Based on understanding the complexity of these coordination efforts and the extended period of 10 months, this scope includes allows for one (1) WebEx progress meeting with the City and ten (10) internal team conference calls.

c. Create & Maintain Utility Conflict Matrix and CADD Files

During the conceptual stage, the City requested the team to review three (3) alignment alternatives. The Utility Coordinator prepared a Utility Conflict Analysis for each alternative and one utility conflict layout in the latest version of Micro Station for purposes of reference in February 6, 2020 Utility Group Meeting. The layout included all existing utilities which are to remain in place or be abandoned, and all adjusted utilities.

d. Review relocation plans, options and assist with permits

The Utility Engineer originally assumed six utilities along the project. After performing record research and SUE, the Utility Engineer identified 3 additional major utilities. The Utility Engineer shall review the utility's relocation plans for up to three (3) additional plan sets and when combined with the original scope this results in a total of nine (9) plan reviews to assure compliance with the roadway plans and provide the recommendations to the design team for review and concurrence. The Engineer will also evaluate alternatives in the adjustment of utilities balancing the needs of both the City and the Utility.

Deliverables

- Utility coordination log and owner contact list
- Meeting Minutes
- Utility conflict matrix
- A utility file in CAD format depicting all designated utilities. The Client will provide TRG with any necessary background files for use in completing the final deliverables.

Task: Geotechnical Studies (Phase 2) (Holt)

In addition to the basic services described in the original contract and SWA #2, the Engineer shall perform the following work for purposes of four retaining walls between Falcon Pointe and Moorlynch Avenue:

1. Layout out the soil boring locations in the field and coordinating locating utilities (electrical, water, wastewater sewer, telephone and gas) with line locators. Due to the highly trafficked areas, a two-man crew will be necessary for all field work. Holt will secure permits from the County or City as needed for drilling in the ROW. Traffic control will be handled by a competent traffic control company.

2. Provide all necessary manpower, equipment and materials for drilling, logging and sampling 8 soil borings to depths of 20 feet each. All boreholes will be sampled using either Shelby tubes or split-spoons in cohesive and cohesionless soils.
3. Field logging to include visual classifications, standard penetration tests, pocket penetrometer tests, etc.
4. Plugging all bore holes upon completion of the drilling operations.
5. In-house logging of the samples by a geotechnical engineer.
6. Laboratory testing of selected samples for Atterberg limits, moisture contents, unconfined compression tests, minus 200 mesh sieves, and unit weights.
7. Prepare a Geotechnical Report with boring logs and data, laboratory tests, soil descriptions, and foundation recommendations including retaining wall design values.

Task: Environmental

a. Map Waters of the U.S. (Phase 2)

A remobilization is required to review parcels once the remaining ROE within the Phase 2 limits becomes available to map the Waters of the U.S. This task includes labor and mileage associated with field work.

b. Pre-Construction Notice (PCN) for NWP 14 (Phase 2)

As a result of the proposed reconstruction and widening of Kelly Lane from a two-lane roadway to an urban four-lane divided section from W. Falcon Pointe Drive to Moorlynch Avenue (Phase 2), potentially jurisdictional waters of the United States (WOTUS) were observed onsite during initial field investigations. The project design proposes to impact WOTUS, therefore a Clean Water Act (CWA) Section 404 permit will be required.

Based on the project design, it is anticipated the project will result in impacts less than 0.5 acres of jurisdictional WOTUS, including no more than 300 linear feet of stream bed, and that the project will qualify for authorization under a Nationwide Permit (NWP 14) for linear transportation projects. With this critical assumption, a preconstruction notification (PCN) would be required to be submitted to the Fort Worth District of the United States Army Corps of Engineers (USACE) prior to initiation of work in potentially jurisdictional WOTUS. Due to the presence of potentially non-jurisdictional waters, a request for an approved jurisdictional determination (AJD) will also be requested and will be expected to occur concurrent with the permit evaluation. The purpose of the AJD is to remove permitting and mitigation requirement from those waters and wetlands that are thought to be potentially non-jurisdictional.

- Assuming that the project does not impact more than 0.5 acres of non-tidal wetlands, including no more than 300 linear feet of stream bed, then a PCN for an NWP 14 will be prepared.

- The PCN will include all information necessary per the guidelines specified in General Condition 31(b) of the 2017 NWP.
 - The Fort Worth District's "Nationwide Permit (NWP) Pre-Construction Notification (PCN) Form" for NWP 14 will be completed and all required attachments will be included, including plan and cross-section drawings detailing impacts to jurisdictional WOTUS.
 - Following client review and responds to comments, a hard copy of the PCN along with a CD with all applicable associated files will be submitted to the Fort Worth District for review and processing.
 - If impacts to wetland and/or stream beds exceed 0.10 acres in size and/or 300 linear feet of stream bed, then compensatory mitigation will be required. An ecological model (Texas Rapid Assessment Methodology [TxRAM]) will be required to determine the amount of credits required to be purchased from a mitigation bank. Scope of work and a cost estimate to perform the TxRAM are included in this scope of work (see item b).
 - This scope of work does not include permitting services for impacts that exceed 0.5 acres of WOTUS, including no more than 300 linear feet of stream bed. If the project exceeds these impact thresholds, a supplemental scope of work and cost estimate will be prepared to proceed with a more intensive level of permitting.
 - This scope of work does not include any special and unforeseen studies that the USACE may require to authorize the NWP such as an alternatives analysis or economic analysis. If such unforeseen studies are required, an addendum to this scope of work will be prepared.
 - No in-person meetings are included with this scope of work.
- c. *TxRAM Assessment and Report (Phase 2, if required)*
- Proposed impacts will be evaluated using TxRAM. Field data will be collected utilizing TxRAM methodology. A report will be prepared to document existing and proposed conditions with the goal of calculating the number of mitigation credits that will be required to mitigate for project impacts to jurisdictional WOTUS.
 - All mitigation banks with a service area that covers the project site will be contacted to determine the current cost of mitigation credits. A summary of potential mitigation costs will be included in the TxRAM report.
 - Coordination with the mitigation bank to reserve and/or purchase mitigation credits is not included in this scope of work. This service can be provided under a supplemental scope of work and cost estimate.
 - If no mitigation banks are available, a permittee-responsible mitigation (PRM) plan will be required to provide compensatory mitigation. This scope of work does not include the preparation of a PRM Plan. If required, this can be accomplished with a supplemental scope of work and cost estimate.
- d. *Request for Approved Jurisdictional Determination (AJD) (Phase 2)*
- AJD forms will be completed and submitted with the PCN. A request for an AJD will be made in the PCN cover letter.
 - If the USACE requests to conduct a site visit to review the wetland delineation, Engineer's representatives will accompany them for the site review.

- If edits are required to the field delineation, they will be made in the field during/after the field verification meeting and any pertinent reporting/mapping will be revised and resubmitted.

Task: Floodplain Studies (Phase 2) (IMT)

Additional Work at Vilamoura St. and Kelly Ln. - Per our discussion with the City on December 12, 2019 regarding preliminary drainage findings, the upstream Vilamoura crossing and channel do not contain the 100-year event per the City's criteria. According to the best available data during scoping, the initial analysis focused on Kelly Lane improvements; however, it was determined that the City criteria could not be met at the Kelly Lane crossing without also incorporating changes to the Vilamoura Street crossing. To meet the criteria, the City requested revisions to the proposed conditions HEC-RAS models to incorporate improvements to the crossings at Vilamoura Street and Kelly Lane to pass the 100-year storm event on Kelly Lane. The initial recommendations will pass the 100-year event, match the existing 100-year WSEL and evaluate whether freeboard requirements are achievable in accordance with the City's criteria.

a. Hydrologic Determination

1. Revisions to the HEC-HMS Analysis Include:

- Incorporate revised grading areas into the Upstream (US) detention area between Vilamoura St. and Kelly Lane
- Determine required storage volume to maintain same peaks from opening the crossing and impacting the grading at Kelly Lane
- Vilamoura, as originally scoped, would have only been modeled for the existing condition. It became necessary to make improvements on Vilamoura and factor those improvements into the model as a proposed condition to prevent overtopping on Kelly Lane. This required determining the required storage volume to mitigate the increase in peak runoff due to the change in elevation of the proposed roadway.

b. Develop Proposed Effective Hydraulic Model Alternatives

The Engineer shall perform the following:

1. Revisions to the HEC-RAS Analysis Include:

- Raise Kelly Lane west of Vilamoura Street
- Raise Vilamoura Street/Falcon Pointe Boulevard through the Kelly Lane Intersection
- Model Bridge Alternatives at Vilamoura Street
- Provide Bridge versus Culvert alternatives for Kelly Lane
- Add additional grading/conveyance to mitigate the rise in 100-year WSEL

- The model and design work will be prepared such that the City can use the information to prepare the FEMA- a Conditional Letter of Map Revision (CLOMR) or Letter of Map Revision (LOMR) and any additional permitting requirements pertaining to jurisdiction waters of the US. JMT's scope does not include preparation of the CLOMR and LOMR documents with this work authorization.

Task: Plans, Specifications, & Estimate (Phase 2) (JMT)

Upon City approval of the Final Schematic, the Engineer began PS&E for Phase 2.

- a. *Culvert Design and Analysis at Vilamoura Street* - As a result of the schematic drainage analysis, it was determined that an upgrades to the Vilamoura bridge crossing would be needed to mitigate the increases in upstream WSEL in the golf course and without this additional crossing, the 100-year crossing capacity requirement could not be achieved at Kelly Lane; therefore, this crossing was incorporated into the limits of the project. The following was required for the Vilamoura Crossing.
 1. Hydraulic Analysis and Alternatives - A HEC-RAS analysis performed for the proposed crossing.
 2. Hydraulic Data Sheet – A hydraulic data sheet showing the comparison between the existing and proposed conditions.
 3. Culvert Layout Sheet - Culvert Layout Sheets at a scale of 1"=50' Horizontal. Plans show the location of existing and proposed culverts, roadway alignment, roadway width, utilities, and channel grading design improvements as required. Profile information for the culvert includes size, slope, proposed and existing ground lines above the culvert, and hydraulic data.
- b. *Channel Analysis and Design at Falcon Pointe* - As a result of the schematic drainage analysis, it was determined that a supplemental analysis and channel improvements/stabilization downstream of the Falcon Pointe culvert crossing are warranted to assure the culvert upgrades and discharge point does not adversely impact the property owners adjacent to the golf course in the area. The following will be required.
 1. Hydraulic Analysis – An existing HEC-RAS model will be created from downstream of the Falcon Point culvert adjacent to the existing home adjacent to the golf course. A proposed HEC-RAS (beyond the HY8 model included in the original scope) model will be created with the channel improvements incorporated to assure no adverse impacts to the property owners.
 2. Hydraulic Data Sheets – A hydraulic data sheet (beyond the culvert data sheet included in the original scope) showing the comparison between the existing and proposed conditions will be included and show the plans and results of the analysis.

3. Channel Design Sheets – A channel design detail sheet showing plan view with grades and the corresponding detail sheets for the channel improvements, velocity dissipation and erosion protection will be provided.
- c. *Retaining Walls* - The Engineer shall develop four (4) retaining wall designs and determine the location of each soil boring needed for the foundation design of each retaining wall in accordance with best geotechnical practices.

The proposed retaining walls are anticipated to be as follows:

Wall Location	Approximate Begin Station*	Approximate End Station*	Approximate Length of Wall
RWEB01	STA 57+65*	STA 60+00*	245 LF (along curve)
RWEB02	STA 61+75*	STA 65+65*	390 LF
RWWB01	STA 61+35*	STA 65+15*	380 LF
RWWB02	STA 59+60*	STA 39+95**	275 LF

* Station from centerline along Kelly Lane

** Station from centerline of Vilamoura

The Engineer shall prepare the Mechanically Stabilized Earth (MSE) retaining wall layouts showing plan and profile. The Engineer is responsible for design of geometry and wall stability. The Engineer shall incorporate a slope of 4:1 or flatter from the existing and finished ground line elevation to the face of the retaining wall.

The Engineer shall provide layouts (scale 1"=40'), elevations, quantity estimate, summary of quantities, typical cross sections and structural details of all retaining walls within the project. The Engineer shall prepare designs and plans for four (4) retaining walls.

The specific requirements for each item are as follows:

1. Layout Plan
 - a. Designation of reference line
 - b. Beginning and ending retaining wall stations
 - c. Offset from reference line
 - d. Horizontal curve data
 - e. Total length of wall
 - f. Indicate face of wall
 - g. All wall dimensions and alignment relations (alignment data as necessary)
 - h. Soil boring locations
 - i. Drainage, signing, lightning, etc. that is mounted on or passing through the wall.
 - j. Subsurface drainage structures or utilities which could be impacted by wall construction.
2. Elevation:
 - a. Top of wall elevations

- b. Existing and finished ground line elevations
- c. Vertical limits of measurement for payment
- d. Type, limits and anchorage details of railing (only if Traffic Railing foundation standard is not being used on this project)
- e. Top and bottom of wall profiles plotted at correct station & elevation.
- f. Underdrains
- g. Any soil improvement, if applicable.
- h. Drainage structures and utilities with disposition label on profile

3. Sectional View:

- e. Reinforced volume
- f. Underdrain location
- g. Soil improvements, if applicable

d. *Retaining Wall Details*-The Engineer shall prepare retaining wall details as necessary such as tying to existing retaining walls and proposed headwalls.

e. *Non-Standard Culvert Headwall Details* -The Engineer will prepare special design structural details for the concrete wingwalls at two (2) proposed box culvert locations as described below –

1. Kelly Lane, Culvert Layout Crossing No. 1, Sta. 38+28.88. At this location, four (4) - 5' wide by 3' high box culverts will be installed adjacent to a proposed 4' wide x 2' high box culvert that is located on the west side of the proposed culverts. The Engineer will prepare structural details to modify TxDOT St'd. Concrete Wingwall Type PW-1 to allow the proposed 4' wide x 2' high box culvert to outfall through the wingwall. The proposed box culverts will exit through the wingwall above the footing and will require modifying and adjusting the standard reinforcing steel around the existing box culvert. Structural details will include plan, elevation, sections, and reinforcing steel details to depict the modifications.
2. Kelly Lane, Culvert Layout Crossing No. 2, Sta. 61+85.43. At this location, 12' wide x 10' high box culverts will be installed on either side of three (3) - existing 8' wide x 6' high box culverts – five (5) new boxes on the west side and three (3) new boxes on the east side. The Engineer will prepare structural details to modify TxDOT St'd. Extended Curb Detail ECD to allow a curb height greater than the 5' standard maximum over the existing box culverts. It is assumed that the proposed modified curb height is

approximately 9' over the existing box culverts. The Engineer will investigate two (2) potential solutions –

- a. A reinforced, cast-in-place concrete “L” shaped retaining wall to be cast on top of the existing box culvert.
- b. A mechanically stabilized earth (MSE) retaining wall to be constructed on top of the existing box culvert.

For either solution, it is assumed that the short, existing curb over the existing box culverts will remain in place. Also, it is assumed that the existing box culvert can structurally accommodate the increased loads from the additional fill to be placed on top of the culvert. The Engineer will review the potential solutions with the City to select the preferred solution. Based on approval by the City, the Engineer will prepare structural details including plan, elevation, sections, and reinforcing steel details to depict the modifications for the selected solution.

3. Kelly Lane, Culvert Layout Crossing No. 3, Sta. 39+13.83. At this location, seven (7) - 10' wide x 7' high box culverts will be installed near the south end of the existing bridge and will serve as relief structures under high flow events. The Engineer will evaluate the location of the proposed box culverts with the goal of minimizing impacts to the existing golf course on the west side, inlet end of the culvert. The Engineer will evaluate two (2) potential configurations -

- a. Shifting the box culverts towards the existing bridge and using TxDOT St'd. Concrete Wingwall with Parallel Wings Type PW-1 modified to tie into the existing bridge abutment or wingwall.
- b. Locating the box culverts away from the bridge as depicted on the preliminary road plans dated 05/05/2020 and modifying TxDOT St'd. Concrete Wingwall with Flared Wings Type FW-0 to minimize the length of the wingwall.

The Engineer will develop preliminary layouts for both configurations and will develop preliminary construction cost estimates for each. The Engineer will review the results with the City to select the preferred solution.

- f. Force Main-The Engineer shall prepare Plan and Profile sheets for an 8-inch wastewater force main along Kelly Lane. The limits for design are the western intersection of Falcon Pointe Boulevard (Road Sta. 29+00) to the intersection of Falcon Pointe Boulevard/Vilamoura Street (Road Sta. 57+25) turning south and ending on Falcon Pointe Boulevard (Road Sta. 13+00).

1. Drawings shall be prepared at a scale of 1"=50' H and 1"=4" V and submitted at 60% and 95% and Final PS&E Submittals.
 - o Provide suggested sequence of construction accounting for pump station shutdown duration and pump around option at 9% PS&E submittal.
 - o Provide cost estimate at 95% a PS&E submittal.

2. Drawings shall be prepared at a scale of 1"=50' H and 1"=4" V and submitted as a Final PS&E Submittals.
 - o Provide suggested sequence of construction accounting for pump station shutdown duration and pump around option at 9% PS&E submittal.
 - o Provide cost estimate at Final PS&E submittal.
3. Review City of Pflugerville and TxDOT Standard Specifications and design guidelines and provide applicable standard sheets. Standards that require modification will be revised and sealed by the Engineer. City of Pflugerville Standard Details and TxDOT standards will be utilized, as applicable.
4. Contingent - The existing wastewater pumps at the Kennemer Lift Station will be evaluated for operation with the Force Main replacement, only upon request by the City.

Exclusions and Assumptions:

1. Local and State permitting are excluded.
2. Hydraulic modeling of the system has been excluded from the design. Design will incorporate a replacement in kind of wastewater facilities.
3. The City will provide locations of proposed tie in points to the existing system.
4. The City will provide the following wastewater system information:
5. The City will provide higher resolution scans of existing Force Main as-builts
6. The City will provide Kennemer Lift Station shutdown duration and pump around option.
7. The City will provide additional information to gain understanding of existing Force Main system configuration (i.e. redundant mains/tie-ins) to assist with sequence of construction.
8. The City will provide the lift station contact for operation.
9. The City will provide the preferred pipe material.

Task: Construction Phase Services (Phase 2) (JMT)

The Engineer shall provide Construction Phase Services for Kelly Lane Phase 2 at the written request of the City of Pflugerville's project manager.

The services include the following:

a. Bid Phase Services

The Engineer shall:

1. Attend a Pre-Bid Conference and Pre-Construction Meeting.
2. Assist City with Contractor questions.
3. Tabulate bids and prepare a contract award recommendation letter.

b. Construction and Material Submittals

1. The Engineer shall review all construction and material submittals for the project.

c. Record Drawings

The Engineer shall produce record drawings based solely on information, measurements, and mark-ups provided by the contractor and deliver to City of Pflugerville Staff. Engineer to provide City with PDF and one (1) full size (22x34) paper

1. Set of record drawings.

d. Review and approval of shop drawings submittals:

1. Retaining Walls
 - o Review MSE walls including geotechnical calculations and temporary Special Shoring calculations

e. Provide written responses to contractors' Requests for Information (RFIs), up to 36.

f. Attend up to 36 Preconstruction Meeting, Partnering Meetings, construction site progress meetings, and field reviews.

g. Revise plan sheets to support change orders as requested by the CoPf and up to a limit of 60 design hours.

h. The Engineer shall perform Quality Assurance/Quality Control to assure that the work is in accordance with City requirements and that the work is completed in a timely and efficient manner.

Task: Materials Testing (Phase 2) (Holt)

The Engineer shall provide Material Testing during the construction phase of Kelly Lane Phase 2 at the written request of the City of Pflugerville's project manager. Overtime (weekends, holidays, before 6 am, after 6 pm and greater than 8 hours per day) work will be charged at 1.5 times the hourly rate. As this on-call service cannot be anticipated, once the maximum payable amount is reached, a supplemental may need to be generated to continue providing materials testing.

The scope of services includes the following:

- o Laboratory Testing – Includes proctors, sieves, Atterberg limits, lime/pH series curves and permeabilities as per specified or requested. Samples of subgrade and each type of backfill material will be picked up on-site or from designated borrow sites and transported to the lab for testing. Please allow a minimum of 7 working days for test results.
- o Moisture/Density Field Testing – Includes moisture/density testing on subgrade, select fill, roadway base, and utility trench backfill. Tests will be made on each lift of fill prior

to placement of any subsequent lifts. The technician will verify that appropriate proctor is being used and that material used as fill (including select fill or roadway base) meets any written requirements in the plans and specifications. For lime stabilized subgrades, field sieves are performed to ensure gradation requirements are met.

- Pre-Pour Inspections and Concrete Testing – Includes a pre-pour verification of beam and footing excavations for cleanliness and reinforcement clearances, sizes, spacing, grade of steel and observation of concrete during placement including slump tests, air content, temperature and making test cylinders. Test cylinders will be made at each 50 cubic yards or fraction thereof on each day's pour or as specified in the plans. Test cylinders will be picked up and transported to the testing laboratory the following day after concrete is placed and cylinders broke at 7 days and 28 days or as specified in the plans. Unless job control is specified, concrete that is delivered to the job and is out of specifications will not be accepted or rejected by the engineering technician. The Contractor will be notified of deficiencies immediately and it will be his/her responsibility to accept or reject. If job control is specified, then the technician will take responsibility of accepting or rejecting the delivered concrete which includes controlling the amount of water added to the concrete truck.

- Asphalt Testing – Includes obtaining grab samples from the batch during each day's placement or as specified in the plans. Bag samples will be transported to an outside accredited lab for testing extraction, gradation, specific gravity and HVEEM stability. Our firm will cut cores within the following week and verify thickness and bulk specific gravity.

The scope of services excludes the following:

- Visual Observation of Proof Rolling – Includes continuous observation of proof rolling, verification of removal of soft or unstable material and verification that equipment used is per plans and specifications.

- Clay Liner Observation and Testing – Includes laboratory testing of clay liner material suitability (proctors, P.I.'s, sieves, permeabilities) prior to placement, monitoring during placement of lift thicknesses, field density testing and full-time observation during construction as directed by the project plans and specifications.

- Geosynthetic Observation and Testing – Includes subgrade observation, panel deployment, seaming observation, non-destructive testing as per the project specifications. Full-time observation may be required.

- Masonry – Verifying on-site mix proportions and making and testing compressive strength of 2 x 2 mortar cubes and 3x6 grout prisms as per plans and specifications.

It should be noted, testing and observations are conducted on a periodic basis on an “as call as needed” basis. Testing and observation services will be dependent on the Contractor and/or Owner scheduling the work. The COA Special Inspection check-list can be documented, but the inspector will need to be contacted as the various items in the check-list are being constructed. All on-site testing services must be scheduled via telephone with the office dispatch or through Randy Beaver or another designated on-call employee. In-office dispatch is available Monday through Friday 7:00 AM - 5:00 PM at 512-447-8166. Onsite scheduling, cancellations, changes or other needs made via text message, voice mail, email, fax or other methods may not be honored.

Deliverables:

Written reports will be provided that will include work performed, date, time and location of all tests and other pertinent information. Any test failures will be reported to the Contractor/Owner within 24 hours. All testing reports will be reviewed and signed by a qualified project manager.

The associated cost estimate is based on the following conditions:

1. The attached cost estimate will change based on changes or alterations to the scope of services. Additional costs may be incurred for testing that fails or does not meet specifications and must be re-tested, consultation with the Architect, Structural Engineer, and/or Contractor, Client or other representative, or for other changes or alterations to the scope of services that were not disclosed or presented at the time of this cost estimate being issued.
2. Items and costs provided in the cost estimate may be moved between the various work elements to accommodate the overall project budget.
3. Scheduling, canceling and dispatch for on-site testing is only accepted/processed via phone with a company employee. Our office phone lines are staffed from 7:00 AM to 5:00 PM at 512-447-8166 Monday through Friday with exception for some Holidays. In the event scheduling must be done outside of these hours, our Laboratory Supervisor, Randy Beaver, is available at 512-848-3647. Scheduling requests, changes, or cancellations will not be accepted via text message, voice mail, email, standard mail, fax or other means.
4. A minimum of 3 hours will be charged per technician visit to site. Cancellations not made within 4 hours of a scheduled test will be billed 3 hours of technician time and trip/mileage charge.
5. Client understands that testing and observation is not continuous or exhaustive. Our testing and observation services are meant to aid in reducing, not eliminating, project

risk. Holt is not responsible for the Contractor's means and methods, quality and completeness of work or adherence to the project documents.

Task: General Project Management (JMT)

a. *General Management*

The Engineer shall establish and maintain project schedules and budgets, develop monthly progress reports, prepare invoices and meet with the City and other entities on an as needed basis for the duration of the project design.

b. *Subconsultant Supervision*

The Engineer shall establish a schedule for the engineering services to be performed by the subconsultants at the beginning of the project. The Engineer shall be responsible for the coordination, supervision, review and incorporation of the subconsultants' work.

c. *Project Coordination Meetings*

General project coordination with the City shall consist of one meeting per month for six months.

d. *Quality Assurance/Quality Control*

The Engineer shall review all work to assure that the work is in accordance with City requirements and that the work is completed in a timely and efficient manner.

Special Services

Task: Archaeological Survey (Phase 2 and Phase 3)

Based on the proposed undertaking, JMT will provide cultural resource services on behalf of the City of Pflugerville (the city) to support the reconstruction and widening of Kelly Lane. All work will be conducted in compliance with Texas Historical Commission (THC) and Council of Texas Archeologists (CTA) Standards and Guidelines. The area of potential effect (APE) for the purposes of the archeological survey measures approximately 2 miles (3.2 kilometers) in length and between 33.5 and 38.4 meters in width, measuring a total of approximately 38.01 acres. The APE is defined by the boundaries of the proposed undertaking as provided by the city. Per Section 106 of the NHPA, as amended, and implementing regulations under 36 CFR Part 800.16[d], the APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist." The term "historic properties" refers to all potential cultural resources, including archeological sites, both historic and prehistoric in association. However, this scope of work applies to the archeological survey and historic research only.

JMT will provide the following services in association with the cultural resource assessment and inventory of the APE:

- a. Conduct a review of previously recorded sites and cultural resource survey on file with the THC;
 - o Identity appropriate survey methods based on the property's existing environmental conditions and anticipated site types;
- b. Conduct Phase I Archaeological Survey based on the above assessment (per THC and CTA guidelines);
- c. Prepare and submit a report of findings, including archaeological site forms to the city and THC for review.

JMT will coordinate with the city early in the project to provide existing condition data and ensure that the city has appropriate information for the THC to determine the level of effort to meet their anticipated requirements. At this time, it is assumed that a Phase I archeological survey is required for the current APE. JMT will conduct visual inspection and photo-documentation of the entire project area.

A linear survey via pedestrian survey and Shovel Test Pits (STPs) will be conducted along the project area for any areas outside of the existing right-of-way (ROW) and/or existing utility easements. STPs will be placed at intervals no greater than 30m. Per THC and CTA guidelines, linear projects require at least one transect for every 30m of width of fraction thereof. Given the project APE varies between 33.5 and 38.4m in width, JMT anticipates at least two transects and approximately 200 STPs will be required along the 3.2km length of the APE. However, the severity of modification and modern disturbance as a result of urban development, highway construction, and utilities installation may preclude subsurface testing in certain areas. If areas of disturbance too extensive for subsurface testing are encountered, JMT will conduct 100 percent visual and pedestrian inspection of the area and document all disturbance with field notes and photographs.

JMT conducted preliminary background research which included reference to the Texas Department of Transportation (TxDOT) Potential Archeological Liability Model (PALM), a GIS tool developed for determining the likelihood of buried prehistoric sites. According to TxDOT PALM data, approximately 75% of the project area is located in areas of moderate to high potential for shallow prehistoric sites, though portions of these areas have been impacted by modern disturbance.

Given that much of the project area is within areas of moderate to high potential for prehistoric sites and the need for up to 200 STPs, a full archeological report of the survey findings will be provided. Additionally, based on the presence of two creek crossings in and adjacent to the APE, deep testing may be necessary. No provision has been made for deep testing; however, should it be requested following consultation with the THC, a direct cost for geoarcheological investigation can be provided. If the survey results in a site potentially eligible for the National Register of the Historic Places (NRHP) and additional documentation or coordination is required, a supplement will be necessary.

The scope of work will be further revised based on pending coordination with THC.

Task: Non-Standard Culvert Headwall Details (Phase 2)

- a. The Engineer will prepare special design structural details for the concrete wingwalls at one (1) proposed box culvert, based on the results of the study at crossing No. 3 and approval by the City. The Engineer will prepare structural details including plan, elevation, sections, and reinforcing steel details to depict the modifications to the standards.

ID	Task Name	Duration	Start	Finish	Predecessors	Qtr 3, 2019	Qtr 4, 2019	Qtr 1, 2020	Qtr 2, 2020	Qtr 3, 2020	Qtr 4, 2020	Qtr 1, 2021	Qtr 2, 2021	Qtr 3, 2021	Qtr 4, 2021
1	Pflugerville Kelly Lane PH 2&3	1007 days	Mon 9/2/19	Tue 7/11/23											
2	Start Date	0 days	Mon 9/2/19	Mon 9/2/19											
3	Data Collection	342 days	Mon 9/2/19	Tue 12/22/20											
11	Draft Schematic PH 2 Design	23 days	Wed 1/1/20	Fri 1/31/20											
18	Final Schematic PH 2 Design	79 days	Mon 2/3/20	Thu 5/21/20											
28	PH 2 60% PS&E	81 days	Mon 2/3/20	Mon 5/25/20											
36	Supplemental #3	40 days	Wed 6/3/20	Tue 7/28/20											
37	Supplemental Prep	26 days	Wed 6/3/20	Wed 7/8/20											
38	Supplemental to City	0 days	Wed 7/8/20	Wed 7/8/20											
39	City Review	14 days	Thu 7/9/20	Tue 7/28/20											
40	City Council Approval	0 days	Tue 7/28/20	Tue 7/28/20											
41	PH 2 95% PS&E & Draft Bid Book	46 days	Wed 7/29/20	Wed 9/30/20											
42	95% PS&E	30 days	Wed 7/29/20	Tue 9/8/20											
43	QA/QC	10 days	Wed 8/26/20	Tue 9/8/20											
44	95% PSE Submittal Preparation	5 days	Wed 9/9/20	Tue 9/15/20											
45	95% PS&E Submittal (Plans and estimate)	0 days	Tue 9/15/20	Tue 9/15/20											
46	95% PS&E Review	10 days	Wed 9/16/20	Tue 9/29/20											
47	95% PS&E Meeting	1 day	Wed 9/30/20	Wed 9/30/20											
48	Final PS&E & Bid Book	25 days	Wed 9/16/20	Tue 10/20/20											
49	Final PS&E & Bid Book	21 days	Wed 9/16/20	Wed 10/14/20											
50	QA/QC	15 days	Thu 9/24/20	Wed 10/14/20											
51	Final PS&E & Bid Book Submittal Preparation	4 days	Thu 10/15/20	Tue 10/20/20											
52	Final PS&E & Bid Book Submittal (Bid Book, Plans and estimate)	0 days	Tue 10/20/20	Tue 10/20/20											
53	Bid Phase	15 days	Wed 5/19/21	Tue 6/8/21											
54	Advertise for bid	10 days	Wed 5/19/21	Wed 6/2/21											
55	Bids Received	0 days	Wed 6/2/21	Wed 6/2/21											
56	Bid Recommendation	5 days	Wed 6/2/21	Tue 6/8/21											
57	Construction Phase Services	520 days	Wed 6/9/21	Tue 6/23/26											
58	Public Involvement (Open House)	21 days	Wed 4/22/20	Wed 5/20/20											
61	ROW	267 days	Mon 4/6/20	Tue 4/13/21											
62	Metes and Bounds (6 Parcels)	81 days	Mon 4/6/20	Mon 7/27/20											
63	Title Research (CoPf)	41 days	Mon 4/6/20	Mon 6/1/20											
64	Appraisals (CoPf)	45 days	Tue 7/28/20	Mon 9/28/20											
65	Initial offer Letter	1 day	Tue 9/29/20	Tue 9/29/20											
66	ROW Acquisition	50 days	Wed 9/30/20	Tue 12/8/20											
67	Condemnation	90 days	Wed 12/9/20	Tue 4/13/21											
68	Utility Coordination	892 days	Fri 2/7/20	Tue 7/11/23											
69	Utility Kick Off Meeting	0 days	Fri 2/7/20	Fri 2/7/20											
70	Utility Design Start	30 days	Mon 4/6/20	Fri 5/15/20											
71	Utility Design Prelim submittal	30 days	Mon 5/11/20	Fri 6/19/20											
72	Utility Design Final Submittal	30 days	Wed 9/16/20	Tue 10/27/20											
73	Contractor Percurment	45 days	Wed 10/28/20	Tue 12/29/20											
74	Relocation Construction	155 days	Wed 12/30/20	Tue 8/3/21											
75	Project Closeout	25 days	Wed 6/7/23	Tue 7/11/23											
76	Phase 3	138 days	Tue 10/13/20	Thu 4/22/21											

Date: Wed 7/15/20

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

Exhibit C-3

- A. Basic Services: Compensation to CONSULTANT for the Basic Services in Exhibit A-3 shall be the lump sum of \$409,168.85, which includes printing, direct costs and computer charges associated with basic services scope. If CONSULTANT sees the Scope of Services changing so that additional services are needed, including but not limited to those services described as Additional Services in Exhibit A-3, CONSULTANT will notify CITY for CITY’s approval before proceeding.

The basis for compensation for Basic Services Fee shall be:

List of Basic Service Tasks	Task Cost
Environmental (Phase 2)	\$28,542.00
Floodplain Studies (Phase 2)	\$24,605.00
Plans, Specifications, & Estimate (Phase 2)	\$118,790.00
Construction Phase Services (Phase 2)	\$103,710.00
General Project Management	\$26,901.10
Utility Coordination (Phase 2)	\$11,185.00
Geotechnical Studies (Phase 2)	\$20,095.12
Materials Testing (Phase 2)	\$75,340.63
TOTAL	\$409,168.85

- B. Special Services: The total fee for Special Services in Exhibit A-3 shall be computed on the basis of the Schedule of Charges but shall not exceed \$46,143.00. If CONSULTANT sees the Scope of Services changing so that Additional Services are needed, including but not limited to those services described as Additional Services in Exhibit A-3, CONSULTANT will notify CITY for CITY’s approval before proceeding.

List of Special Service Tasks	Task Cost
Archaeological Survey (Phase 2)	\$19,831.50
Archaeological Survey (Phase 3)	\$19,831.50
Non-Standard Culvert Headwall Detail (Phase 2)	\$6,480.00
TOTAL	\$46,143.00

- C. Miscellaneous Services: The fee for Additional Services not provided herein will be negotiated based on the scope of work and included in a contract amendment.

**EXHIBIT C-3
FEE SCHEDULE**

**FOR
Johnson, Mirmiran & Thompson, Inc.**

**Kelly Lane
(Phase 2 and 3)**

For services described in the Scope of Services, we request the compensation as detailed below. Cost breakdowns for engineering services and explanation of expenses are shown on the following pages.

**LUMP SUM AMOUNT
(Basic Design Services)**

\$230,118.22

**LUMP SUM AMOUNT (Basic
Construction Services)**

\$179,050.63

**Time and Material (Special
Design Services)**

\$46,143.00

**Time and Material (Special
Construction Services)**

\$0.00

EXHIBIT C-3
Fee Schedule For Basic Services

Description of Work or Task	Cost / Task Totals
Johnson, Mirmiran & Thompson, Inc. (JMT)	
Task: Environmental (Phase 2 Design)	\$28,542.00
Task: Floodplain Studies (Phase 2 Design)	\$24,605.00
Task: Plans, Specifications, & Estimate (Phase 2)	\$118,790.00
Task: Construction Phase Services (Phase 2 Construction Support)	\$103,710.00
Task: General Project Management	\$26,901.10
JMT FEE SCHEDULE SUMMARY	\$302,548.10
The Rios Group (TRG)	
Task: Utility Coordination (Phase 2 Design)	\$11,185.00
TRG FEE SCHEDULE SUMMARY	\$11,185.00
Holt Engineering, Inc.	
Task: Geotechnical Studies (Phase 2 Design)	\$20,095.12
Task: Materials Testing (Phase 2 Construction Support)	\$75,340.63
HOLT FEE SCHEDULE SUMMARY	\$95,435.75
TOTAL FEE	\$409,168.85

EXHIBIT C-3
Fee Schedule For Special Services

Description of Work or Task	Cost / Task Totals
Johnson, Mirmiran & Thompson, Inc. (JMT)	
Task: Archaeological Survey (Phase 2 Design)	\$19,831.50
Task: Archaeological Survey (Phase 3 Design)	\$19,831.50
Task: Plans, Specifications, & Estimate (Phase 2 Design)	\$6,480.00
JMT FEE SCHEDULE SUMMARY	\$26,311.50
TOTAL FEE	\$46,143.00

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.

Description of Work or Task	Project Manager \$230.00/Hr	Senior Prof. 2 \$205.00/Hr	Sr Ecologist APR/Specialist \$190.00/Hr	Sr Project Scientist/Mgn \$185.00/Hr	Senior Prof. 1 \$180.00/Hr	Prof. 2 \$155.00/Hr	Project Scientist \$135.00/Hr	Prof. 1 \$120.00/Hr	Staff Scientist \$100.00/Hr	CAD/GIS Operator II \$88.00/Hr	Field Scientist \$85.00/Hr	Admin / Clerical \$75.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task: Environmental (Phase 2 Design)														
a. Map Waters of the U.S. (Phase 2)				10					10				20	\$2,850.00
b. Pre-Construction Notice for Nationwide Permit (Phase 2)			16						40	40			96	\$10,560.00
c. TxRAM Assessment and Report (if required) (Phase 2)			8						40	24	24		96	\$9,672.00
d. Request for Approved Jurisdictional Determination (Phase 2)			4						30		20		54	\$5,460.00
Environmental (Phase 2 Design) Subtotal	0	0	28	0	0	0	0	0	120	64	44	0	266	\$28,542.00
Task: Floodplain Studies (Phase 2 Design)														
a. Hydrologic Determination		5			6	17		29				2	59	\$8,370.00
b. Develop Proposed Effective Hydraulic Model		9			11	34		57				4	115	\$16,235.00
Floodplain Studies (Phase 2 Design) Subtotal	0	14	0	0	17	51	0	86	0	0	0	6	174	\$24,605.00
Task: Plans, Specifications, & Estimate (Phase 2 Design)														
a. Culvert Analysis and Design at Vilamoura														
1. Hydraulic Analysis	1	1			2	4		8					16	\$2,375.00
2. Hydraulic Data Sheet (1 sheet)	1	1			3	6		12					23	\$3,345.00
3. Culvert Layout Sheet incl. grading design upstream & downstream (1 sheet)	1	1			6	14		25					47	\$6,685.00
b. Channel Analysis and Design @ Falcon Pointe														
1. Hydraulic Analysis (existing and proposed)	1	1			12	20		35					69	\$9,895.00
2. Hydraulic Data Sheet (2 sheets)	1	1			6	12		24					44	\$6,255.00
3. Channel Design Sheets (2 sheets)	1	1			16	24		45					87	\$12,435.00
c. Retaining Wall Layouts (4 sheets)	1	4			4	40		44				1	94	\$13,325.00
d. Retaining Wall Details	1	2			2	4		10				1	20	\$2,895.00
e. Non Standard Culvert Headwall Details	1	6			24	48		48					127	\$18,980.00
f. Force Main Design														
1. Wastewater force main plan and profile (60% and 95%)	2	2			4	10		20					38	\$5,540.00
2. Wastewater force main plan and profile (final)	12	10			36	56		92					206	\$31,010.00
3. Standard Details, Connection Detail, and SOC	2					4		16					22	\$3,000.00
4. Evaluate pump operation/curve (Contingent)	4					6		10					20	\$3,050.00
Plans, Specifications, & Estimate (Phase 2 Design) Subtotal	29	30	0	0	115	248	0	389	0	0	0	2	813	\$118,790.00
Task: Construction Phase Services (Phase 2 Construction Support)														
a. Bid Phase Services	8	4			24							2	38	\$7,130.00
b. Construction and Materials Submittals	4	12			20			20				2	58	\$9,530.00
c. Record Drawings	2	4				20		20		40		2	88	\$10,450.00
d. Review Shop Drawings for Retaining Walls (Up to 2 submittals)	2	2				20		8					32	\$4,930.00
e. Respond to RFIs (Up to 36)	18	18				54		72				18	180	\$26,190.00
f. Project Field Meetings and Site Visits (Up to 36)	18	72				72							162	\$30,060.00
g. Revise Plan Sheets to support Change Orders (Up to 60 design hours)	4	8			20			40				2	74	\$11,110.00
h. Quality Assurance/Quality Control	2	4			16							2	24	\$4,310.00
Construction Phase Services (Phase 2 Construction Support) Subtotal	58	124	0	0	80	166	0	160	0	40	0	28	656	\$103,710.00
Task: General Project Management														
a. General Management	12	22			8	12						6	60	\$11,020.00
b. Subconsultant Supervision	2	6			12							4	24	\$4,150.00
c. Project Coordination Meetings	5	24				12						8	49	\$8,530.00
d. Quality Assurance/Quality Control	3	4			2								9	\$1,870.00
Direct Expenses														\$1,331.10
General Project Management Subtotal	22	56	0	0	22	24	0	0	0	0	0	18	142	\$26,901.10
Johnson, Mirmiran & Thompson, Inc. Summary	109	224	28	10	234	489	0	635	120	104	44	54	2051	\$302,548.10

Summary of Direct Expenses
Johnson, Mirmiran & Thompson, Inc.

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	mile	2295	\$0.58	\$1,331.10
JMT Direct Expenses				\$1,331.10

Summary of Manhours by Classification
The Rios Group, Inc.

Description of Work or Task	Project Manager \$210.00/Hr	Project Engineer \$160.00/Hr	Sr. Utility Coordinator \$160.00/Hr	Utility Coordinator \$120.00/Hr	Field Manager \$95.00/Hr	Cadd Tech \$90.00/Hr	Admin / Clerical \$65.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task: Utility Coordination (Phase 2 Design)									
a. Continued Utility Coordination and Documentation (Incl 20 reports)			4	15			5	24	\$2,765.00
b. Additional Group Meeting and Progress Mtgs (Incl 1 utility mtg, 1 webex progress mtg, and 10 internal team mtgs)			4	18		2	4	28	\$3,240.00
c. Create & Maintain Utility Conflict Matrix and accompanying CADD file (For each of 3 alternative alignment analyses)			2	8		6		16	\$1,820.00
d. Review relocation Plans, options and assist with permits (includes 3 additional plan reviews)			6	20				26	\$3,360.00
Utility Coordination (Phase 2 Design) Subtotal	0	0	16	61	0	8	9	94	\$11,185.00
The Rios Group, Inc. Summary	0	0	16	61	0	8	9	94	\$11,185.00

Summary of Manhours by Classification
Holt Engineering, Inc.

Description of Work or Task	Senior Engineer \$245.48/Hr	Geotechnical Engineer \$150.65/Hr	Drilling Coordinator \$85.00/Hr	Materials Engineer \$165.00/Hr	Materials Testing Tech \$75.00/Hr	Admin / Clerical \$69.53/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task: Geotechnical Studies (Phase 2 Design)								
a. Geotechnical Studies (Retaining Walls)	16	8	10			8	42	\$6,539.12
Direct Expenses								\$13,556.00
Geotechnical Studies (Phase 2 Design) Subtotal	16	8	10			8	42	\$20,095.12
Task: Materials Testing (Phase 2 Construction Support)								
a. Laboratory Testing of Soils				6	45	5.5	56.5	\$4,747.42
b. Field Density Testing				6	315	5.5	326.5	\$24,997.42
c. Concrete and CMU Testing				6	72	5.5	83.5	\$6,772.42
d. Asphalt Testing				6	21	5.5	32.5	\$2,947.42
Direct Expenses								\$35,875.95
Materials Testing (Phase 2 Construction Support) Subtotal	0	0	0	24	453	22	499	\$75,340.63
Holt Engineering, Inc. Summary	16	8	10	24	453	30	541	\$95,435.75

Summary of Direct Expenses
Holt Engineering, Inc.

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses: Geotechnical Studies (Phase 2 Design)				
I. Rig Mobilization	Each	1	\$500.00	\$500.00
II. Auger Drilling 0-10 Ft	LF	160	\$18.00	\$2,880.00
III. Patch Holes	Each	8	\$55.00	\$440.00
IV. Split Spoon/ Shelby Tube Samples	Each	40.0	\$25.00	\$1,000.00
V. Support Truck	Day	4	\$225.00	\$900.00
VI. Traffic Control W/ Flaggers	Day	2	\$2,000.00	\$4,000.00
VII. Moisture Contents	Each	16	\$30.00	\$480.00
VIII. Atterberg Limits	Each	16	\$80.00	\$1,280.00
IX. Sulfate Test	Each	0	\$150.00	\$0.00
X. Unit Weights	Each	12	\$38.00	\$456.00
XI. Minus 200 Sieves	Each	16	\$45.00	\$720.00
XII. Unconfined Compression Test	Each	12	\$75.00	\$900.00
Direct Expenses: Geotechnical Studies (Phase 2 Design) Subtotal				\$13,556.00
Direct Expenses: Materials Testing (Phase 2 Construction Support)				
<i>Laboratory Testing of Soils</i>				
I. Moisture Density Relationship (Proctor)	Each	15	\$235.00	\$3,525.00
II. Atterberg Limits	Each	15	\$90.00	\$1,350.00
III. Sieve Analysis (Dry Gradation)	Each	15	\$100.00	\$1,500.00
IV. Minus 200	Each	15	\$55.00	\$825.00
V. Miles	Miles	990	\$0.575	\$569.25
<i>Field Density Testing</i>				
I. Density Tests w/Nuclear Guage	Each	315	\$24.00	\$7,560.00
II. Miles	Miles	6,930	\$0.575	\$3,984.75
<i>Concrete & CMU Testing</i>				
I. Compression Test Cylinders (4 x 8)	Each	60.0	\$27.00	\$1,620.00
II. Miles	Miles	1,584	\$0.575	\$910.80
<i>Asphalt Testing</i>				
I. Coring (Minimum 3 Ea)	Each	21	\$105.00	\$2,205.00
II. Extraction/Gradation	Each	21	\$237.00	\$4,977.00
III. Specific Gravity	Each	21	\$74.00	\$1,554.00
IV. HVEEM Stability (Set of 3)	Each	21	\$80.00	\$1,680.00
V Molding Specimens (Set of 3)	Each	21	\$85.50	\$1,795.50
VI. Laboratory Density (Set of 3)	Each	21	\$74.00	\$1,554.00
VII. Miles	Miles	462	\$0.575	\$265.65
Direct Expenses: Materials Testing (Phase 2 Construction Support) Subtotal				\$35,875.95
Holt Direct Expenses				\$49,431.95

**Summary of Manhours by Classification For Special Services
Johnson, Mirmiran & Thompson, Inc.**

Description of Work or Task	Project Manager \$230.00/Hr	Senior Prof. 2 \$205.00/Hr	Sr Ecologist APR/Specialist \$190.00/Hr	Sr Project Scientist/Mgn \$185.00/Hr	Senior Prof. 1 \$180.00/Hr	Prof. 2 \$155.00/Hr	Project Scientist \$135.00/Hr	Prof. 1 \$120.00/Hr	Staff Scientist \$100.00/Hr	CAD/GIS Operator II \$88.00/Hr	Field Scientist \$85.00/Hr	Field Technician \$54.00/Hr	Admin / Clerical \$75.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task: Archaeological Survey (Phase 2 Design)															
a. Cost Not to Exceed the distribution between Phase 2 and 3															\$19,831.50
Archaeological Survey (Phase 2 Design) Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$19,831.50
Task: Archaeological Survey (Phase 3 Design)															
a. Cost Not to Exceed the distribution between Phase 2 and 3															\$19,831.50
Archaeological Survey (Phase 3 Design) Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$19,831.50
Task: Plans, Specifications, & Estimate (Phase 2 Design)															
a. Non Standard Culvert Headwall Details	1	2			8	16		16						43	\$6,480.00
Plans, Specifications, & Estimate (Phase 2 Design) Subtotal	1	2	0	0	8	16	0	16	0	0	0	0	0	43	\$6,480.00
Johnson, Mirmiran & Thompson, Inc. Summary	1	2	0	0	8	16	0	16	0	0	0	0	0	43	\$46,143.00

EXHIBIT C-4
Project Total Fee Schedule Summary
Kelly Lane Ph2 and 3

	Original Contract September 10, 2019		Supplemental #1 October 25, 2019	Supplemental #2 March 10, 2020	Supplemental #3 TBD	Supplemental #3 TBD	Total
	Basic Services	Special Services	Basic Services	Basic Services	Basic Services	Special Services	
Johnson, Mirmiran & Thompson, Inc. (JMT)	\$ 843,181.60	\$ -	\$ 44,255.00	\$ 630.00	\$ 302,548.10	\$ 46,143.00	\$ 1,236,757.70
Inland Geodetics LLC (Inland)	\$ 107,524.00	\$ 106,344.00	\$ -	\$ -			\$ 213,868.00
The Rios Group, Inc.	\$ 55,121.00	\$ 38,065.00	\$ -	\$ 19,185.00	\$ 11,185.00		\$ 123,556.00
Holt Engineering, Inc.	\$ 6,833.28	\$ -	\$ -	\$ 29,243.68	\$ 95,435.75		\$ 131,512.71
	\$ 1,012,659.88	\$ 144,409.00	\$ 44,255.00	\$ 49,058.68	\$ 409,168.85	\$ 46,143.00	\$ 1,705,694.41