K FRIESE + ASSOCIATES
A LOCHNER COMPANY

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TBPE Firm No. 6535

January 24, 2024

Ms. Terri Ruckstuhl, P.E.
City of Seguin
3027 N. Austin St.
Seguin, TX 78155

Sent Via: E-MAIL

Re: Hannah Heights 12-Inch Waterline
KFA Scope of Services

Dear Ms. Ruckstuhl:

K Friese & Associates, LLC. (KFA) is pleased to provide you with the attached Scope of Services to perform tasks for design, bid, and construction phase services for the Hannah Heights 12-inch Waterline project.

We propose to perform the tasks described in the attached documents on a lump sum basis in an amount of $384,352.00 for base services and an additional not to exceed amount of $210,320.00 of supplemental services for easement documents and subsurface utility engineering, and construction inspection, for a total authorization of $594,672.00. Additional detail and assumptions can be found in the attached Manpower Estimate and Subconsultant Scopes of Services.

Thank you very much for the opportunity to serve the City of Seguin and we look forward to working with you on this project. Please do not hesitate to contact myself at adensler@kfriese.com, or Michael Persyn at mpersyn@kfriese.com, or by phone at 512.338.1704.

Sincerely,

Allison Densler, PE
Project Manager

ATTACHMENT A – SCOPE OF SERVICES
CITY OF SEGUIN
HANNAH HEIGHTS 12-INCH WATERLINE

PROJECT DESCRIPTION

The City of Seguin (City) has identified a need to add redundancy within the water system near the Woodside and Hannah Heights neighborhoods. The proposed water line will improve service to the existing developments and ensure adequate capacity for future developments within the area. The project entails the design and construction of approximately 8,300 linear feet of 12-inch diameter water main. Also included are two trenchless crossings of Texas Department of Transportation (TxDOT) right-of-way (ROW) and seven (7) tie-ins to existing water mains. The proposed alignment begins on the west side of State Highway 123 (SH 123) and crosses north of its intersection with FM 20, and then parallels the eastern boundaries of the Woodside and Hannah Heights neighborhoods, ending at Grayson Lane.

SCOPE OF SERVICES

KFA will provide engineering services in accordance with the terms and conditions of the Contract, including:

- Preliminary Engineering Services, including:
    - Field Surveying
    - Geotechnical Investigation
    - Environmental & Archaeological Investigation
- Design Phase Services
- Bid Phase Services
- Construction Phase Services
- Supplemental Services
    - Subsurface Utility Engineering
    - Easement Acquisition

The following Scope details the items that are included in the design, bid, and construction phases of this project.

1. Preliminary Engineering Services (Lump Sum)

The City provided the preliminary alignment for the proposed 12-inch waterline, therefore 30% design plans are not a deliverable for this phase.

1.1. Project Management – This task includes routine communication with the City, including attendance at a Project Kick-off Meeting; preparation of monthly project status reports; managing subconsultants, manpower, budgets, and schedules; invoicing; implementing and monitoring QA/QC efforts; and other activities associated with managing the project.

1.2. Project Meetings – A Project Kickoff Meeting with key subconsultants is included to review the scope, schedule, and requirements of the project. KFA will hold regular project team meetings with our Staff and subconsultants as necessary to coordinate

the design effort. A total of two (2) Project Team progress meetings have been assumed.

1.3. Data Collection and Field Visits – KFA will collect available data from various sources including existing utilities, GIS data, and as-built drawings of roadway/utility improvements. KFA will also perform site visits to identify and locate utility surface features and other potential conflicts to aid in determining the final pipeline alignments.

1.4. Environmental and Cultural Resources – Raba Kistner Consultants, Inc. (RKI) will perform environmental and cultural resources investigations, reporting, and permitting for the project. See attached Scope of Services from RKI for additional information.

1.5. Design Survey – Moy Tarin Ramirez Engineers, LLC (MTR) will perform a design survey consisting of trees, surface features, property lines and 1-foot topographic lines. See attached Scope of Services from MTR for additional information.

1.6. Geotechnical Investigation – HVJ Associates will perform geotechnical borings and investigations required for the design of the proposed pipeline. See attached Scope of Services from HVJ for additional information.

Deliverables for this phase include:

- Phase 1 Environmental Site Assessment (ESA-I) Report
- Archeological Desktop Study Report
- Geotechnical Investigation Report

2. Design Phase Services (Lump Sum)

2.1. Project Management – This task includes routine communication with the City, including two (2) virtual design workshops with City Staff; preparation of monthly project status reports; managing manpower, budgets, and schedules; invoicing; implementing and monitoring QA/QC efforts; and other activities associated with managing the project.

2.2. Project Design Meetings – KFA will hold regular project team meetings with our Staff and subconsultants as necessary to coordinate the design effort. A total of twenty (20) bi-weekly thirty (30) minute meetings have been assumed for budgeting purposes.

2.3. QA/QC and Constructability Reviews – KFA will conduct both Project Design Team (PDT) and Independent Technical Review Team (ITRT) QA/QC reviews.

2.4. Plan Preparation – KFA will prepare construction plans (11"x17" sheets) suitable for public bidding to include cover, notes, quantities, project layout, plan and profile sheets, erosion control sheets, and detail sheets. Plan and profile sheets for pipelines shall be at 1”=40’ horizontal scale and 1”=10’ vertical scale. For budgeting

purposes, it is estimated that the plans will consist of 54 total sheets. KFA will submit a preliminary set of plans during the 60% design phase for the City to review and approve the alignment before the easement acquisition work begins.

2.5. Contract Documents & Technical Specifications – KFA will develop a Project Manual consisting of the Engineers Joint Contract Documents Committee (EJCDC) Standard Construction Contract Bid Documents. Technical Specifications will be based on the City of San Antonio and San Antonio Water System (SAWS). Special Provisions to the Standard Technical Specifications and Special Specifications will be developed, if required for the project.

2.6. Engineer's Opinion of Probable Construction Cost – Cost estimates will be prepared/updated and submitted with each design submittal.

2.7. Design Submittal – Progress submittals will be provided at the 60%, 90%, and Final design phases. The 60%, and 90% submittals will consist of Electronic (PDF) Copies of the following:

- Plans and Specifications
- Engineer's Opinion of Probable Construction Cost
- Updated Project Schedule
- Response to written review comments

The Final Submittal will include:

- One printed copy of Construction Plans
- One printed copy of the Project Manual
- Electronic (PDF) Copies of Plans and Project Manual
- Engineer's Opinion of Probable Construction Cost
- Project Schedule

2.8. Permitting – KFA will prepare the necessary documents for permitting the projects, including:

2.8.1. TCEQ Chapter 290 – KFA will prepare and submit the project for TCEQ Chapter 290 review. If TCEQ comments are received, KFA will address the comments for a resubmittal, as needed. It is assumed that this submittal will consist of a notification letter and a copy of the plans and specifications. No engineering report is included in this scope of work.

2.8.2. TxDOT – KFA will prepare information and exhibits/plans for obtaining a TxDOT utility crossing permit for the installations under SH 123 and FM 20. KFA will submit the documents to TxDOT via the Right of Way Utility and Leasing Information System (RULIS) online system. KFA will also coordinate with TxDOT during the design phase regarding the design of the two trenchless crossings. If TxDOT comments are received, KFA will address the comments for a resubmittal, as needed.

ATTACHMENT A – SCOPE OF SERVICES
CITY OF SEGUIN
HANNAH HEIGHTS 12-INCH WATERLINE

3. Bid Phase Services (Lump Sum)

3.1. Project Management – This task includes routine communication with the City; managing manpower, budgets, and schedules; invoicing; and other activities associated with managing the project.

3.2. Pre-Bid Conference – KFA will assist the City in conducting one (1) pre-bid conference. KFA will attend the pre-bid and present the project and assist in answering questions.

3.3. Bidder Questions – KFA will assist the City in responding to technical questions received from bidders during the bid phase of the project.

3.4. Addenda – KFA will assist the City in preparing and issuing any required Addenda to the bidders. Preparation and issuance of two (2) addenda has been assumed for budgeting purposes.

3.5. Bid Opening and Award Recommendation – KFA will attend the bid opening, perform all bid tabulation, review bids, perform reference checks, and make an award recommendation to the City. This includes attendance at one (1) City Council meeting.

4. Construction Administration (Lump Sum)

4.1. Project Management – This task includes routine communication with the City; managing subconsultants, manpower, budgets, and schedules; invoicing; reviewing monthly pay applications; and other activities associated with managing the project. It is assumed that the construction phase will have an 8-month duration for budgeting purposes.

4.2. Issue Conformed Documents – KFA will incorporate addenda items into the drawings and reissue them as "For Construction" to the City. KFA will reproduce and distribute hard copies for both the Owner (2 copies) and Contractor (1 copy).

4.3. Pre-Construction Conference – KFA will prepare an agenda and attend a pre-construction conference with the City, Contractor, and other parties as appropriate, and prepare the meeting minutes.

4.4. Construction Meetings – KFA will prepare agendas and attend regular construction meetings with the City, Contractor, and other parties as appropriate, including preparing the meeting minutes. For budgeting purposes eight (8) meetings have been assumed.

4.5. Site Visits – KFA will visit the site to check the progress of the work and verify general conformance with the project plans and technical specifications. For budgeting purposes eight (8) trips that coincide with the regular Construction Meetings have been assumed.

4.6. Submittal/Shop Drawing Review – KFA will maintain a log of all Contractor submittals, track review progress, review and approve submittals, and distribute submittals to the appropriate parties. For budgeting purposes, a total of twelve (12) separate submittals, including the initial submittal and one subsequent revised submittal, will be reviewed, and approved.

4.7. Change Orders – KFA will prepare drawing modifications for Change Orders. KFA will maintain a log of all Change Order items and review all Contractor's requests for Change Orders and provide a recommendation to the City for review and concurrence. For budgeting purposes one (1) change order with a portion requiring minor drawing revisions have been assumed.

4.8. Requests for Information – KFA will log and respond to all requests for information (RFIs) from the Contractor related to possible clarifications of plans and technical specifications. Four (4) RFIs have been assumed.

4.9. Contract Closeout – KFA will participate in one site visit to determine outstanding items and document "punch list items". KFA will also notify TCEQ and other jurisdictional agencies of substantial completion. When the project is ready for final inspection and acceptance, KFA will make a second site visit to verify completion of punch list items and if acceptable, sign the final pay application.

4.10. Prepare Record Drawings – KFA will prepare Record Drawings based on redlines provided by the Contractor and Inspector. If City comments are received, KFA will address the comments for a resubmittal, as needed.

5. Supplemental Services (Not to Exceed)

5.1. Construction Inspection – As requested by the City, an experienced inspector will provide periodic inspection of the project to verify conformance with the design plans and specifications. The inspector will have experience in construction activities and inspection and will create a written report for activities that occur while the inspector is on site. The reports will be provided to the City weekly.

5.1.1. For budgeting purposes, 48 visits have been assumed for the duration of regular construction activity, approximately 4 months. This includes an average of approximately 2 visits per week (8 visits per month) and additional site visits as needed for meetings, testing, etc. The frequency of inspection can be increased or decreased at the City's direction. Should the City request additional effort beyond the budgeted amount, this can be provided as additional services.

5.1.2. For budgeting purposes, daily site visits, 6 days a week, have been assumed for the duration of the trenchless boring under TxDOT ROW, approximately 1 month. It is assumed that the inspector does not need to be present during the excavation of the bore pits. The frequency of inspection can be increased

or decreased at the City's direction. Should the City request additional effort beyond the budgeted amount, this can be provided as additional services.

5.2. Subsurface Utility Exploration (SUE) – Level B and Level A SUE is not included in the base scope of services. This budgetary placeholder is to provide Level B or Level A SUE services to identify the location and depth of existing utilities that are deemed to be critical to the horizontal or vertical alignment in critical areas as determined by the KFA team. This budgetary placeholder includes up to seven (7) potholes. See attached Scope of Services from SoftDig Underground Services, Inc. for additional information.

5.3. Easement Acquisition – This budgetary placeholder includes preparation of up to twenty (20) separate easements (temporary or permanent) and will be billed based on the actual number of easement documents required. See attached Scope of Services from MTR for additional information.

5.4. Geotechnical Traffic Control – This budgetary placeholder is to provide traffic control during the geotechnical boring investigations as may be required to perform the drilling. See attached Scope of Services from HVJ for additional information.

Schedule:

KFA assumes the following timeframes for KFA design and QC processes.

Preliminary Design Phase	8 Weeks
60% Design Phase	12 Weeks
90% Design Phase	9 Weeks
100% Design Phase	6 Weeks
Bid Phase	10 Weeks
Construction Phase	8 Months

See attached schedule for detailed design schedule.

Estimated Fee:

The estimated fee for the basic services described above is **a lump sum total of $384,352.00 and a not to exceed total of $210,320.00**. A fee breakdown by task and subconsultant proposals are included herein.

General Assumptions:

1. Owner will provide to KFA all data in Owner's possession relating to KFA's services on the Project. KFA will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the Owner.
2. Owner will give prompt notice to KFA whenever Owner observes or becomes aware of any development that affects the scope or timing of KFA's services.

3. The Owner shall examine information submitted by KFA and render in writing or otherwise provide comments and decisions in a timely manner.
4. The Owner will obtain right-of-entry for all properties as necessary for KFA to complete the design phase of the project.
5. The project will be performed in a continuous manner without significant work stoppages or delays.
6. All review, inspection, and permit fees will be paid for directly by the Owner.
7. It is assumed that no utility relocations for water and wastewater utilities are required. No relocations of dry utilities are included in this scope of work.
8. Impacts to regulated floodplains are not anticipated.
9. Traffic control will largely be limited to single lane closures and the use of TMUTCD details.
10. It is assumed that this project will not be required to go through the Public Infrastructure Permit process, and that the only permits required are those outlined in the scope of services above.
11. The Environmental and Cultural Resources scope of work is limited to desktop reviews only. If it is determined that additional field inspections, Geological Assessments, additional karst surveys, or other efforts not included in RKI's scope of work are required, additional services will be needed.
12. This proposal does not include the preparation of the Stormwater Pollution Prevention Plan (SWPPP). It is expected that the Contractor will prepare the SWPPP. KFA can prepare a SWPPP as an additional service if requested by the City.
13. Public involvement is not included within this proposal. Any public involvement will be considered an Additional Service.
14. The construction phase scope of services has been assumed as described by the specific tasks above. If additional effort is required beyond the assumed scope, additional services will be required.
15. The design team is not budgeted to perform materials testing during construction; this service can be added at a later date if the City requests, as an additional service.

Attachment B - KFA MANPOWER/BUDGET ESTIMATE
CITY OF SEGUIN HANNAH HEIGHTS 12" WATER LINE
DESIGN, BID, AND CONSTRUCTION PHASE SERVICES

	Task	Project Principal Hours	Quality Manager Hours	Project Manager Hours	Project Engineer Hours	EIT Hours	Senior Inspector Hours	Senior CADD Operator Hours	Administration Hours	Total Labor Hours	Total Labor Cost	MTR Cost	Raba Kistner Cost	HVJ Cost	SoftDig Cost	Expenses Cost	Total Cost
	Hourly Bill Rate	$ 280.00	$ 275.00	$ 160.00	$ 140.00	$ 120.00	$ 120.00	$ 125.00	$ 90.00			Subconsultants					
1	**PRELIMINARY ENGINEERING SERVICES (LUMP SUM)**																
1.1	Project Management	2		4	6				6	18	$2,580.00						$2,580.00
1.2	Project Meetings			1	1	2				4	$540.00						$540.00
1.3	Data Collection and Site Visits			4	8	12		8	4	36	$4,560.00					$250	$4,810.00
1.4	Environmental and Cultural Resources			1	2					3	$440.00		$10,502.00				$10,942.00
1.5	Design Survey			1	2	4		8		15	$1,920.00	$66,780.00					$68,700.00
1.6	Geotechnical Investigation			1	2					3	$440.00			$22,600.00			$23,040.00
	Phase 1 Subtotal	**2**	**0**	**12**	**21**	**18**	**0**	**16**	**10**	**79**	**$10,480.00**	**$66,780.00**	**$10,502.00**	**$22,600.00**	**$0.00**	**$250.00**	**$110,612.00**
2	**DESIGN PHASE SERVICES (LUMP SUM)**																
2.1	Project Management	4		32	12				10	58	$8,820.00						$8,820.00
2.2	Project Meetings			10	10	10				30	$4,200.00						$4,200.00
2.3	QA/QC and Constructability Reviews	8	72	32	16					128	$29,400.00						$29,400.00
2.4	Plan Preparation	24		120	232	352		504		1232	$163,640.00						$163,640.00
	60% Submittal	12		56	112	176		248		604	$80,120.00						$80,120.00
	90% Submittal	8		40	72	104		152		376	$50,200.00						$50,200.00
	100% Submittal	4		24	48	72		104		252	$33,320.00						$33,320.00
2.5	Contract Documents and Technical Specifications	2		12	16	24				54	$7,600.00						$7,600.00
2.6	Engineer's Opinion of Probable Construction Cost	1		4	12	20				37	$5,000.00						$5,000.00
2.7	Design Submittals			1	2	4		4		11	$1,420.00						$1,420.00
2.8	Permitting	2		6	10	8				26	$3,880.00						$3,880.00
2.8.1	TCEQ Chapter 290	1		2	4					7	$1,160.00						$1,160.00
2.8.2	TxDOT	1		4	6	8				19	$2,720.00						$2,720.00
	Phase 2 Subtotal	**41**	**72**	**217**	**310**	**418**	**0**	**508**	**10**	**1576**	**$223,960.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$223,960.00**
3	**BID PHASE SERVICES (LUMP SUM)**																
3.1	Project Management	1		4					2	7	$1,100.00						$1,100.00
3.2	Pre-Bid Conference			2	2	4				8	$1,080.00						$1,080.00
3.3	Bidder's Questions			4	8	12				24	$3,200.00						$3,200.00
3.4	Addenda (2)			2	4	8		8		22	$2,840.00						$2,840.00
3.5	Bid Opening and Award Recommendation			4	8	12				24	$3,200.00						$3,200.00
	Phase 3 Subtotal	**1**	**0**	**16**	**22**	**36**	**0**	**8**	**2**	**85**	**$11,420.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$11,420.00**
4	**CONSTRUCTION ADMINISTRATION (LUMP SUM)**																
4.1	Project Management	4		16					8	28	$4,400.00						$4,400.00
4.2	Conformed Documents			1	2	4		4		11	$1,420.00					$300	$1,720.00
4.3	Pre-Construction Conference			2	2	4				8	$1,080.00					$100	$1,180.00
4.4	Construction Progress Meetings (8)			8		8				16	$2,240.00						$2,240.00
4.5	Site Visits (8)			16	8	8				32	$4,640.00					$800	$5,440.00
4.6	Submittal Reviews			8	12	32				52	$6,800.00						$6,800.00
4.7	Change Orders (1)			2	4	8		8		22	$2,840.00						$2,840.00
4.8	Requests for Information (4)			4	8	12		12		36	$4,700.00						$4,700.00
4.9	Contract Close-Out			4	4	8				16	$2,160.00					$200	$2,360.00
4.10	Record Drawings			4	8	16		24		52	$6,680.00						$6,680.00
	Phase 4 Subtotal	**4**	**0**	**65**	**48**	**100**	**0**	**48**	**8**	**273**	**$36,960.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$1,400.00**	**$38,360.00**
	BASE SERVICES SUBTOTALS	**48**	**72**	**310**	**401**	**572**	**0**	**580**	**30**	**2013**	**$282,820.00**	**$66,780.00**	**$10,502.00**	**$22,600.00**	**$0.00**	**$1,650.00**	**$384,352.00**
5	**SUPPLEMENTAL SERVICES (NOT TO EXCEED)**																
5.1	Construction Inspection	2		10			736			748	$90,480.00					$4,000	$94,480.00
5.1.1	Daily Construction Inspection	1		2			256			259	$31,320.00					$2,000	$33,320.00
5.1.2	Weekly Construction Inspection	1		8			480			489	$59,160.00					$2,000	$61,160.00
5.2	Subsurface Utility Exploration			1	4	8				13	$1,680.00				$32,670.00		$34,350.00
5.3	Easement Acquisition	4		12	16	32				64	$9,120.00	$69,370.00					$78,490.00
5.4	Geotechnical Traffic Control									0	$0.00			$3,000.00			$3,000.00
	SUPPLEMENTAL SERVICES TOTAL	**6**	**0**	**23**	**20**	**40**	**736**	**0**	**0**	**825**	**$101,280.00**	**$69,370.00**	**$0.00**	**$3,000.00**	**$32,670.00**	**$4,000.00**	**$210,320.00**
	PROJECT TOTALS	**54**	**72**	**333**	**421**	**612**	**736**	**580**	**30**	**2,838**	**$384,100.00**	**$136,150.00**	**$10,502.00**	**$25,600.00**	**$32,670.00**	**$5,650.00**	**$594,672.00**

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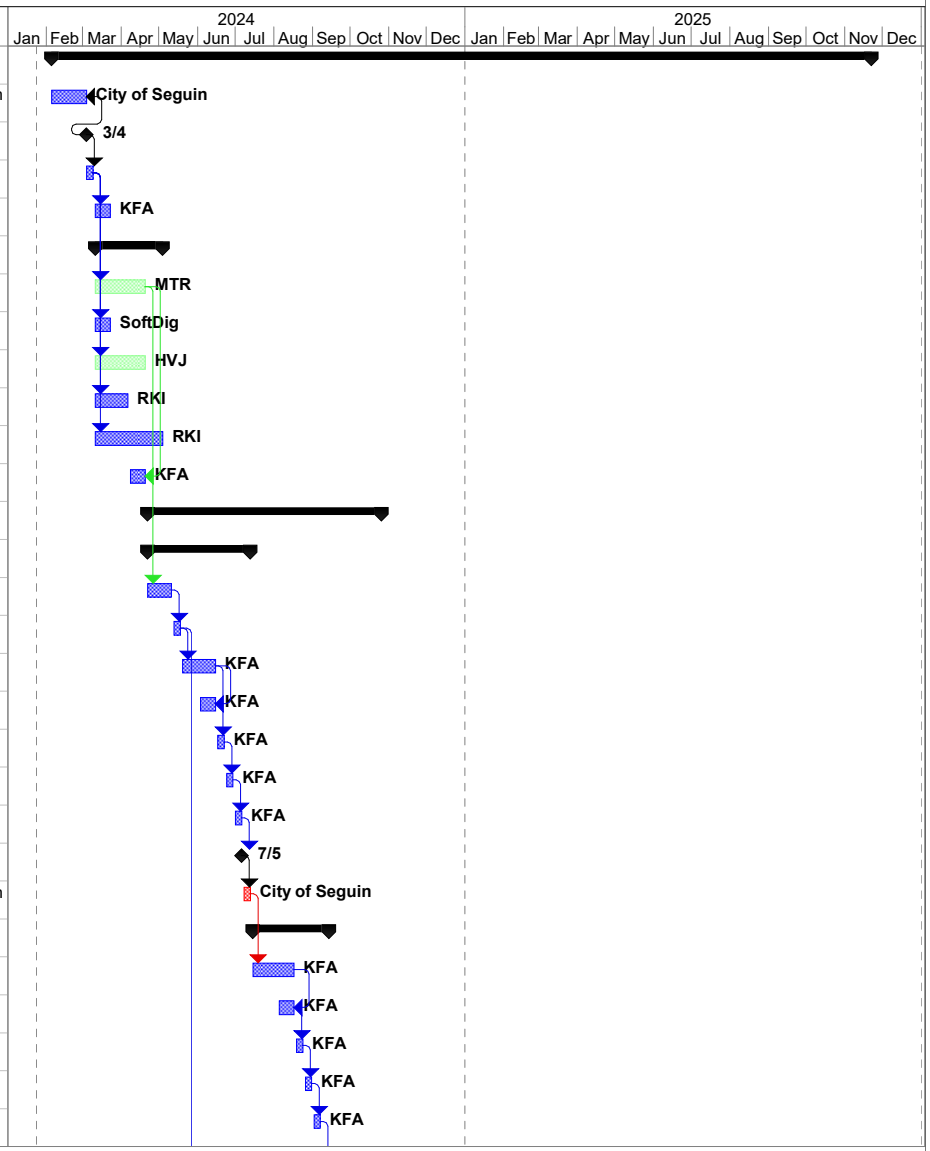
A LOCHNER COMPANY

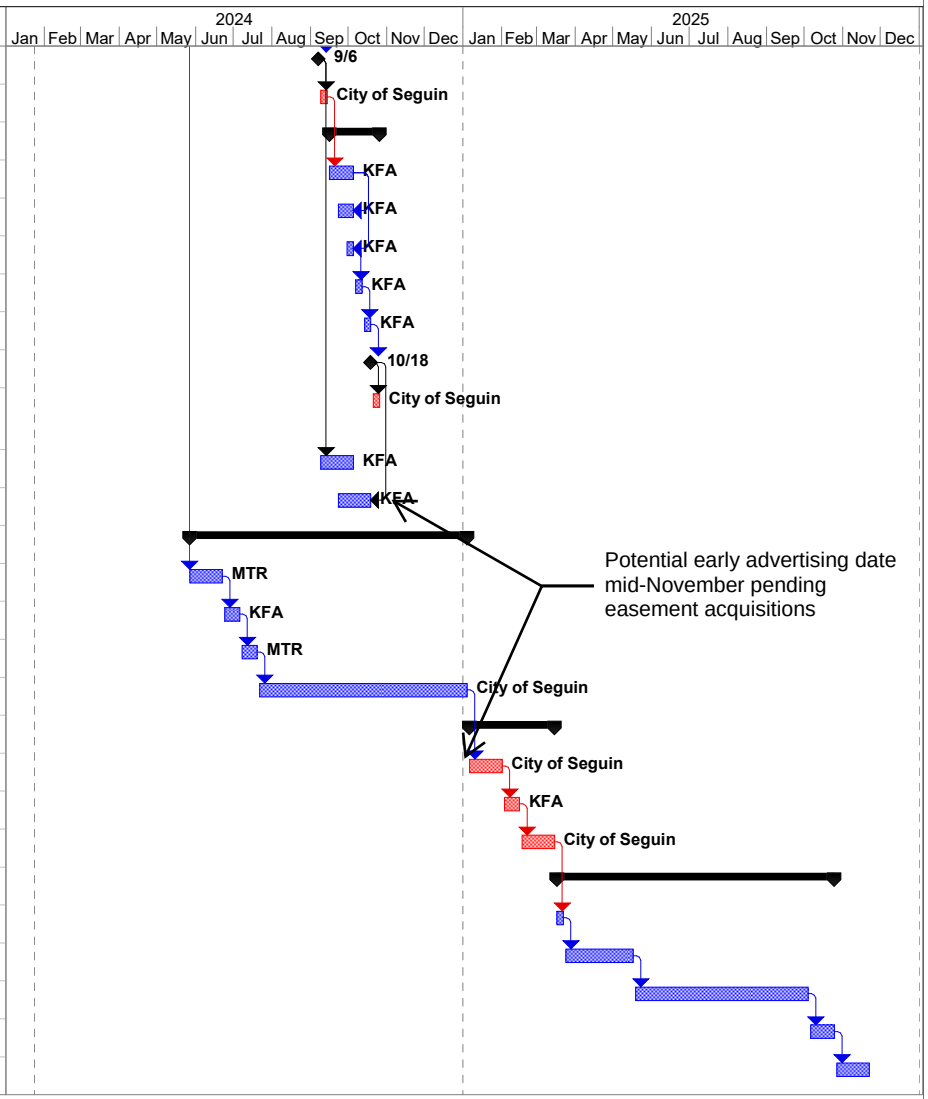
City of Seguin
Hannah Heights 12" Waterline
Design, Bid, & Construction Phase Schedule

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	**Hannah Heights 12" WL**	**94 wks**	**Mon 2/5/24**	**Fri 11/21/25**		
2	Right of Entry for Fieldwork	4 wks	Mon 2/5/24	Mon 3/4/24	3SF	City of Seguin
3	Notice to Proceed	0 wks	Mon 3/4/24	Mon 3/4/24		
4	Subcontract Agreements	1 wk	Mon 3/4/24	Fri 3/8/24	3	
5	Kick-off Meeting	2 wks	Mon 3/11/24	Fri 3/22/24	4	KFA
6	**Phase 1 - Preliminary Engineering**	**8 wks**	**Mon 3/11/24**	**Fri 5/3/24**		
7	Surveying	6 wks	Mon 3/11/24	Fri 4/19/24	4	MTR
8	SUE Level B	2 wks	Mon 3/11/24	Fri 3/22/24	4	SoftDig
9	Geotechnical Investigation	6 wks	Mon 3/11/24	Fri 4/19/24	4	HVJ
10	Environmental Investigation	4 wks	Mon 3/11/24	Fri 4/5/24	4	RKI
11	Cultural Resources	8 wks	Mon 3/11/24	Fri 5/3/24	4	RKI
12	Data Collection	2 wks	Mon 4/8/24	Fri 4/19/24	7FF	KFA
13	**Phase 2 - Design Phase**	**27 wks**	**Mon 4/22/24**	**Fri 10/25/24**		
14	**60% Design**	**12 wks**	**Mon 4/22/24**	**Fri 7/12/24**		
15	Alignment Verifications	3 wks	Mon 4/22/24	Fri 5/10/24	7	
16	City of Seguin Review of Alignment	1 wk	Mon 5/13/24	Fri 5/17/24	15	
17	Plan Sheets	4 wks	Mon 5/20/24	Fri 6/14/24	16	KFA
18	Specifications	2 wks	Mon 6/3/24	Fri 6/14/24	17FF	KFA
19	Cost Estimates	1 wk	Mon 6/17/24	Fri 6/21/24	17	KFA
20	60% ITRT Review	1 wk	Mon 6/24/24	Fri 6/28/24	19	KFA
21	Address comments from ITRT	1 wk	Mon 7/1/24	Fri 7/5/24	20	KFA
22	60% Submittal to City of Seguin	0 wks	Fri 7/5/24	Fri 7/5/24	21	KFA
23	City of Seguin Review of 60% Submittal	1 wk	Mon 7/8/24	Fri 7/12/24	22	City of Seguin
24	**90% Design**	**9 wks**	**Mon 7/15/24**	**Fri 9/13/24**		
25	Plan Sheets	5 wks	Mon 7/15/24	Fri 8/16/24	23	KFA
26	Specifications	2 wks	Mon 8/5/24	Fri 8/16/24	25FF	KFA
27	Cost Estimates	1 wk	Mon 8/19/24	Fri 8/23/24	26	KFA
28	90% ITRT Review	1 wk	Mon 8/26/24	Fri 8/30/24	27	KFA
29	Address comments from ITRT	1 wk	Mon 9/2/24	Fri 9/6/24	28	KFA



City of Seguin
Hannah Heights 12" Waterline
Design, Bid, & Construction Phase Schedule

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
30	90% Submittal to City of Seguin	0 wks	Fri 9/6/24	Fri 9/6/24	29	KFA
31	City of Seguin Review of 90% Submittal	1 wk	Mon 9/9/24	Fri 9/13/24	30	City of Seguin
32	**100% Design**	**6 wks**	**Mon 9/16/24**	**Fri 10/25/24**		
33	Plan Sheets	3 wks	Mon 9/16/24	Fri 10/4/24	31	KFA
34	Specifications	2 wks	Mon 9/23/24	Fri 10/4/24	33FF	KFA
35	Cost Estimates	1 wk	Mon 9/30/24	Fri 10/4/24	33FF	KFA
36	100% ITRT Review	1 wk	Mon 10/7/24	Fri 10/11/24	35	KFA
37	Address comments from ITRT	1 wk	Mon 10/14/24	Fri 10/18/24	36	KFA
38	100% Submittal to City of Seguin	0 wks	Fri 10/18/24	Fri 10/18/24	37	KFA
39	City of Seguin Review of 100% Submittal	1 wk	Mon 10/21/24	Fri 10/25/24	38	City of Seguin
40	**TCEQ Permitting**	4 wks	Mon 9/9/24	Fri 10/4/24	30	KFA
41	**TxDOT Permitting**	4 wks	Mon 9/23/24	Fri 10/18/24	38FF	KFA
42	**Easements**	**32 wks**	**Mon 5/27/24**	**Fri 1/3/25**		
43	Draft Plat Notes	4 wks	Mon 5/27/24	Fri 6/21/24	16FS+1 wk	MTR
44	Review	2 wks	Mon 6/24/24	Fri 7/5/24	43	KFA
45	Revised Plat Notes	2 wks	Mon 7/8/24	Fri 7/19/24	44	MTR
46	Easement Acquisition (Assumed)	24 wks	Mon 7/22/24	Fri 1/3/25	45	City of Seguin
47	**Phase 3 - Bid/Award/Execution**	**10 wks**	**Mon 1/6/25**	**Fri 3/14/25**		
48	Advertise and Bid	4 wks	Mon 1/6/25	Fri 1/31/25	46	City of Seguin
49	Review Bids	2 wks	Mon 2/3/25	Fri 2/14/25	48	KFA
50	Execution	4 wks	Mon 2/17/25	Fri 3/14/25	49	City of Seguin
51	**Phase 4 - Construction**	**32 wks**	**Mon 3/17/25**	**Fri 10/24/25**		
52	Notice to Proceed	1 wk	Mon 3/17/25	Fri 3/21/25	50	
53	Submittals	8 wks	Mon 3/24/25	Fri 5/16/25	52	
54	Construction	20 wks	Mon 5/19/25	Fri 10/3/25	53	
55	Cleanup and Restoration	3 wks	Mon 10/6/25	Fri 10/24/25	54	
56	**Contract Close-out**	4 wks	Mon 10/27/25	Fri 11/21/25	55	



December 29, 2023

Ms. Allison Densler, P.E.
Project Engineer
K FRIESE + ASSOCIATES
1120 S. Capital of Texas Highway,
City View 2, Suite 100
Austin, Texas 78746

512-338-1704
512-838-3294 Direct

Re: **Seguin –Hannah Heights 12-inch Water Main**
Survey Services Proposal

Ms. Densler,

Moy Tarin Ramirez Engineers, LLC (MTR) is pleased to provide a proposal for professional services for the above referenced project. The following is our understanding of the current scope of services required. Scope of services shall be in general conformance with the Survey Proposal Request attached. Additional items may be included or removed from this scope of services at your request. The proposed services and associated fees are:

Survey for installation of water main:
Work to provide a tree (greater than 6"), topographic, and improvement survey of the areas as identified on the attached project limits exhibit. Survey is limited to areas within the limits as shown on the attached exhibit (Total approximately 8,300 lf). Boundary work is limited to boundary adjacent to the pipeline. All other boundary work is excluded. Survey will be provided with a 50 ft by 50 ft grid. Existing utilities will be located if marked by the utility provider prior to the start of the survey work for water, sewer, communications, gas and electric lines. Maps of the utilities provided by client can be shown on the survey. Survey includes top and inverts of sanitary sewer manholes that are within the project limits. Control, horizontal and vertical, will be based on the Texas State Plane Coordinate System, North American Datum of 1983 and the North American Vertical Datum of 1988.

Work project limits and scope as defined in the attached exhibit. Any phasing of the project will be considered additional services. All work will be provided in AutoCAD, Civil 3D format. Topographic work can be completed within 4 weeks from NTP. Easement metes and bounds will follow as boundary resolution is completed.

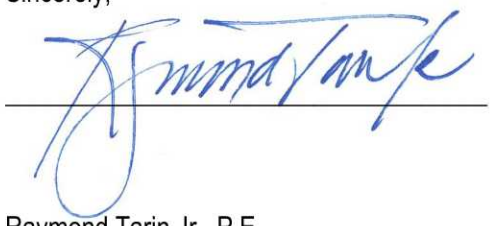
Proposed Fee: $136,150.00 Lump Sum (see attached hourly breakdown)
Work will be invoiced lump sum as a percentage of completion.

THIS PROPOSAL ASSUMES AND/OR EXCLUDES THE FOLLOWING:
- *Subsurface Utility locates are not included.*
- *Survey Boundary work beyond the immediately adjacent right of way is excluded.*
- *Right of way or easement work for purposes of acquisition is limited as defined herein.*
- *Construction Phase Services are not included.*
- *City, State or County required fess are not included.*
- *Taxes are excluded since the work will be performed for the City.*

Additional Services
Additional services performed for the Client which are not outlined in the above description shall be compensated for on an hourly basis in accordance with the attached "Schedule of Hourly Rates" or through a lump sum fee negotiated with the Client. Other incidental costs will be billed separately as reimbursable expenses.

The attached terms and conditions are made a part of this agreement. If this proposal meets with your approval, please acknowledge such by signing below and faxing a copy back to our office. Thank you for the opportunity to submit this proposal. If you have any questions or require additional information, please don't hesitate to contact our office.

Sincerely,



Raymond Tarin Jr., P.E.
Principal

Accepted By:

Signature: _____

Title: _____

Printed Name: _____

Date: _____

CONFIDENTIAL

2024 SCHEDULE OF HOURLY RATES

POSITION	HOURLY RATE*
ENGINEERING:	
Principal	$ 235.00
Sr. Project Manager	$ 215.00
Project Manager	$ 195.00
Assistant Project Manager	$ 170.00
Engineer IV	$ 210.00
Engineer III	$ 195.00
Engineer II	$ 170.00
Engineer I	$ 160.00
CADD Technician IV	$ 130.00
CADD Technician III	$ 120.00
CADD Technician II	$ 115.00
CADD Technician I	$ 110.00
Project Administrator	$ 115.00
Administrative Assistant	$ 95.00
Clerical	$ 75.00
SURVEYING:	
Registered Professional Land Surveyor	$ 185.00
Survey Crew - 4 Man Crew	$ 235.00
Survey Crew - 3 Man Crew	$ 215.00
Survey Crew - 2 Man Crew w/ Robotic TS	$ 205.00
Survey Crew- 2 Man Crew	$ 190.00
Survey Technician II	$ 130.00
Survey Technician I	$ 120.00

***Note: The above rates are subject to change at the beginning of each following calendar year.**

The above information is privileged, confidential, and/or otherwise protected from disclosure to anyone other than its intended recipient(s). Any dissemination or use of this information by persons other than the intended recipient(s) is strictly prohibited.

SURVEYING PROPOSAL REQUEST

Project Name: City of Seguin Hannah Heights 12" WL

KFA Contact: Allison Densler

KFA Contact Email: ADensler@Kfriese.com

KFA Contact Phone Numbers: (512)-838-3294

Survey Consultant: MTR Engineers

Survey Consultant Contact: Raymond Tarin

Survey Consultant Contact Email: rtarin@mtrengineers.com

Survey Consultant Contact Phone Numbers: (210)-698-5051

Date of Request: 12/20/2023

Date Proposal Needed: 12/29/2023

SURVEY CONSULTANTS' SCOPE OF SERVICES and STANDARDS

Provide a scope of services proposal based on the scope listed below. Services to be provided in accordance with required standards (i.e., A.L.T.A., T.S.P.S. Categories, T.B.P.L.S. minimum standards, etc). Proposal must include a statement to utilize and apply CAD Standards previously used for the **Aransas Pass – Alley Between Lamont and Whitney; Alley at Myrtle Intersection; Alley at Maddox Intersection; and Future Pryor project. Survey CAD files shall be provided in Civil 3D 2022.**

COST OF SERVICES

Provide an hourly cost of services breakdown using approved rate schedules (if any). Include hours for:

1. Registered Professional Land Surveyor (RPLS)
2. Field Crew hours
3. Computer Aided Design (CAD) / Technician
4. Abstracting/Research
5. Global Positioning System (GPS) (# of receivers, personnel, hourly rates)
6. Other services (specify) _____

PROJECT DESCRIPTION

The project consists of installing approximately 8,300 LF of 12" water main within the Hannah Heights development located in the City of Seguin. The project begins at SH 123 and then follows the Hannah Heights subdivision boundary, beginning north of Northview Pass, continuing south to FM 20, and then terminating at Grayson Lane. Additionally, there will be approximately 10 permanent and temporary easements that will need to be acquired.

PRODUCTION SCHEDULE*

Schedule to be coordinated separately.

GENERAL SURVEY REQUIREMENTS

Survey Control

☒ Texas State Plane Coordinates, S Central Zone, NAD 83 (93), NAVD 88, in Surface Coordinates, Units in US survey feet. **Note: Establish and provide scale factor within the survey file and as a separate Word document.**

☒ Establish Control points for construction (2 minimum). Control should be suitably established to ensure it will remain for the duration of design and construction.

Survey Limits

The survey limits will be a 60 foot wide corridor following the preliminary pipe alignment. The survey limits at the SH 123 crossing will extend approximately 50 feet south of the fire hydrant located at the Seguin H&P Field Yard. See attached exhibits.

Property Information

☐ Apparent ROW Survey

☒ ROW Boundary Survey

☒ Property owner information: County AD number, owner name, physical address and lot number.

☒ Locate and establish existing ROW and easements

☒ Prepare legal description(s) and drawing(s) for 10 easements

Note: Record information on drawing shall include all easements or instruments pertaining to the subject property from a Title Report and other public records. Title Commitment letters to be provided with the approved field notes.

Street Features

☐ Edge of existing pavement*

☐ Pavement type*

☐ Curb lines**

☐ Gutter (flow) lines*

☒ All Features

☐ Ramps*

☐ Sidewalk locations*

☐ Grade breaks

☐ Elevation at ROW

- ☐ Lip of gutter*
- ☐ Driveway locations*
- ☐ Highway/Road Station
- ☐ Beyond ROW _____ feet
- ☐ X-Sec. at _____ intervals***

* Shots collection to be taken using a section approach
**Curb shots taken at the back of curb.
*** Maximum interval of 50 feet if not specified.

Drainage Features ☒ **All Features**

- ☐ High banks
- ☐ Flow lines
- ☐ Break lines
- ☐ Swales
- ☐ Channel X-Sec. at _____ intervals*
- ☐ Centerline
- ☐ Culverts
- ☐ Bridge details
- ☐ Ponds
- ☐ Edge of water (creeks and ponds)
- ☐ Gabions

* Drainage Task Lead to provide sketch with approximate locations

Waterline Features ☒ **All Features**

- ☐ Valves
- ☐ Valve nut elevations
- ☐ Meters
- ☐ Manholes/Valve Boxes
- ☐ Hydrants
- ☐ Sprinklers

Wastewater Features ☒ **All Features**

- ☐ Manholes
- ☐ Manhole rim elevations
- ☐ Manhole invert details*
- ☐ Pump structure details
- ☐ Cleanouts
- ☐ Cleanout inverts

*Include individual sketches with pipe diameters

Storm Sewer Features ☒ **All Features**

- ☐ Manholes
- ☐ Manhole rim elevations
- ☐ Manhole invert details*
- ☐ Inlet structures
- ☐ Inlet details
- ☐ Outlet structures

*Include individual sketches with pipe diameters

Building Structures and Property ☐ All Features

- ☐ Structure type/material
- ☐ Structure dimensions
- ☐ Finish floor elevations
- ☐ Building overhangs
- ☐ Building overhangs
- ☒ **Fences (location/type/condition)**

Tree Features (4 inches and larger per City of Seguin Unified Development Code Section 5.2.3.G)

☒ **All Features**

- ☐ Trunk diameter
- ☐ Tag number
- ☐ Edge of canopy
- ☐ Tree condition
- ☐ Species Level identification (Apply correct name of tree (i.e., American Elm, Live Oak, etc.)

Note: Scale tree symbol (1 inch trunk diameter = 1 foot canopy radius). Survey all trees with drip line extending into project limits.

Misc. Features

- ☐ Signs
- ☐ Utility poles
- ☐ Guy anchors
- ☐ Overhead power lines
- ☐ Electric facilities
- ☐ Traffic control facilities
- ☐ Traffic control loops
- ☐ Pavement markings
- ☐ One Call Utilities
- ☐ Nearest Railroad Mile Marker

☒ **All Features**

- ☐ Telecom facilities
- ☐ Telecom markers
- ☐ Gas valves
- ☐ Gas line markers
- ☐ Gas line vents
- ☐ Bore holes _____ holes
- ☐ One-Call markings
- ☐ SUE Elevations _____ locates
- ☐ Topography _____ foot contours

Staking

- ☐ Pipeline Alignment Centerline
- ☒ Easement Boundaries – Easement corners with no more than 500 ft between stakes.
- ☐ Other (describe)

CAD

General

- File updates shall be of the entire survey file and include a separate listing of changes and additions.
- Combined project scale factor to be noticeably identified on PDF and in the CAD file.
- Drawing file in 3D. Linework for TIN, breaklines, triangles (3D Faces) and contours in 3D. **Remaining linework at elevation = 0.**
- All text, symbology and other presentation information shall be at **elevation = 0.**
- Contours shall be representative of the TIN (i.e. contours should be reproducible from the TIN). They should not be "hand modified" as a substitute for insufficient point data during TIN creation.
- Points used for TIN creation shall not include utility features, trees, or other features not representative of the topography.
- Adequate points shall be gathered for sufficient breakline and TIN creation, especially along features with curvature. Points shall be acquired at the PC, PT, and midpoint of curb & gutter at all intersections, with additional points for large radii (15' apart maximum).
- TIN shall be represented in the drawing file by 3D graphic triangles instead of individual line segments.

- Provide a text file for all survey points.
- All drawn elements set to ByLevel, ByLayer, ByBlock, etc.
- The Linetype scale set to 1 for all linework.
- Provide a list (in text format and PDF) of which levels / layers are turned on (or in a level / layer filter) to generate contours and TIN.

DELIVERABLES

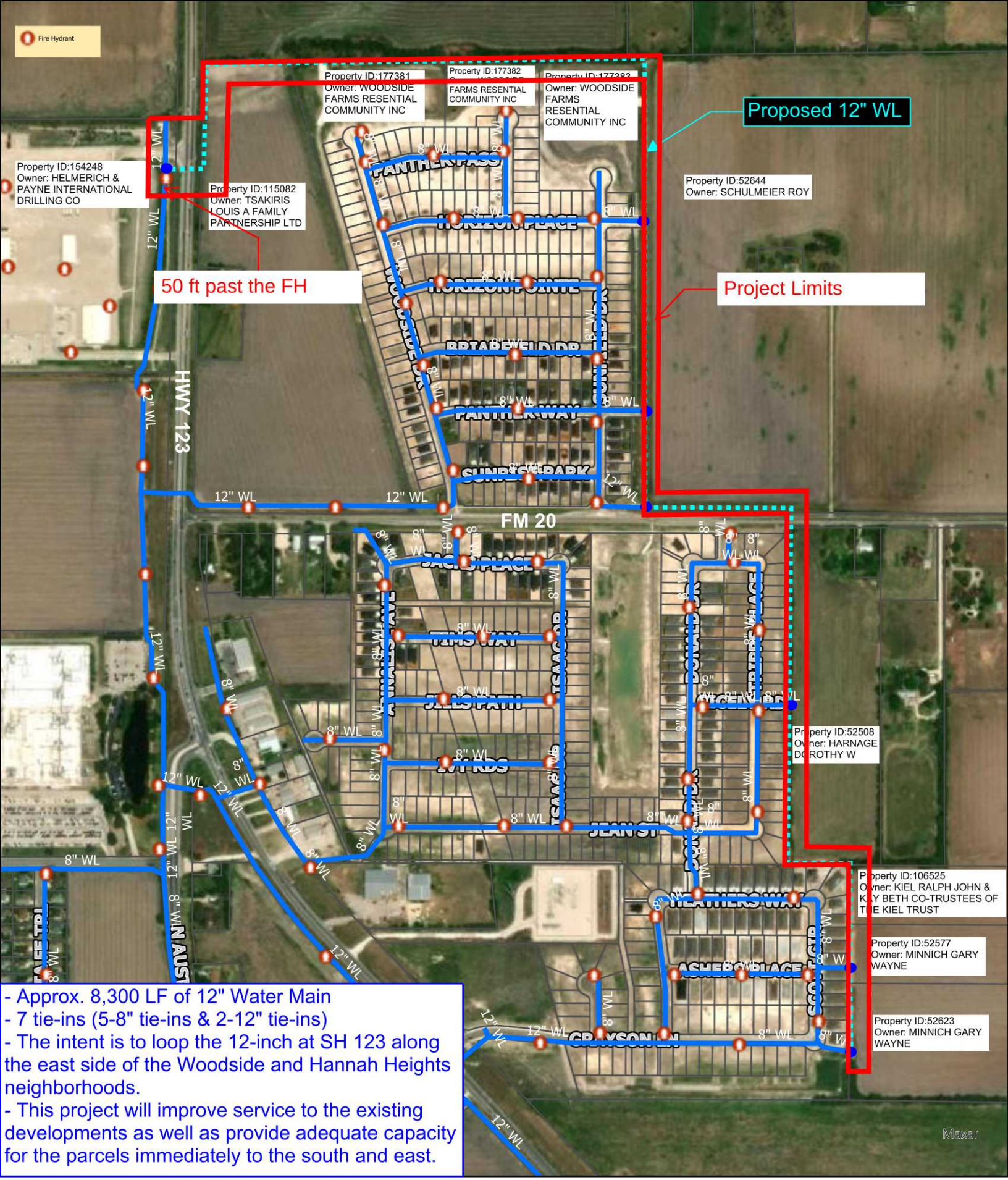
- CAD files - The file should display the data in surface (ground) coordinates.
- The delivered dataset should be free of any non-standard data when it comes about layers, blocks, hatches, and annotations. If some collected data does not have corresponding elements within the provided standards, that data can be added with the note for the reason it needs to be in the dataset.

Seguin- Hannah Heights 12-in Water

PROJECT WORK PLAN AND FEE PROPOSAL BREAKDOWN

Project: **Seguin-Hannah Heights 12-in Water**
Prime Consultant: **K Friese + Associates**
Subconsultant: **MOY TARIN RAMIREZ (MTR) ENGINEERS**
Proposal Date: **12/29/2023**
Prepared By: **Raymond Tarin Jr., P.E.**

TASK CODE AND DESCRIPTION	Surveyor /RPLS $185.00 HOURS	Survey Crew w/Robotic $205.00 HOURS	Survey Technician $130.00 HOURS	Admin / Clerical $95.00 HOURS	Abstractor/ Title Search $95.00 HOURS	TASK HOURS	TASK / PHASE FEE
	60	310	381	28	98	**877**	**$136,150.00**
02. Right of Way Surveying and Mapping							
02.010. Acquire Ownership Information	2		16	4		22	$2,830.00
02.020. Secure Right-of-Entry _(Limited-10 tracts- 2 attempts max)			45			45	$5,850.00
02.030. Survey ROW (Adjacent Boundary Only) Concurrent with Topo	6	20	8	4	8	46	$7,390.00
03. Topographic Surveying/Base Mapping							
03.010. Establish Primary Project Control	4	20	4	0	0	28	$5,360.00
03.020. Establish Secondary Project Control (EXCLUDED)						0	$0.00
03.040. Survey Topographic Features with Trees 6-in and larger	4	140	70			214	$38,540.00
03.060. Secure Utility Maps			8	4		12	$1,420.00
03.110. Develop Project Layout Sheet With Control Points	4		16	0		20	$2,820.00
						0	$0.00
04. Locate SUE Markings and Potholes concurrent with topo survey		10	4			14	$2,570.00
05 Temporary and Permanent Easement Metes and Bounds (limited to 10 temporary and 10 permanent- Additional at $3,500 per each)	40	120	210	16	90	476	$69,370.00
Construction Phase (EXCLUDED)	0	0	0	0	0	**0**	**$0.00**
13. Construction Management						0	$0.00
13.010. Reestablish Project Control Points for Contractor Prior to Construction						0	$0.00
	60	**310**	**381**	**28**	**98**	**877**	**$136,150.00**



- Approx. 8,300 LF of 12" Water Main
- 7 tie-ins (5-8" tie-ins & 2-12" tie-ins)
- The intent is to loop the 12-inch at SH 123 along the east side of the Woodside and Hannah Heights neighborhoods.
- This project will improve service to the existing developments as well as provide adequate capacity for the parcels immediately to the south and east.

Water Infrastructure

SEGUIN TEXAS
It's real.

Disclaimer: This map is for information purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. The City of Seguin assumes no liability for errors on this map or use of this information.

Proposal No. PSF23-364-00
December 21, 2023

RABA KISTNER

12821 W. Golden Lane
San Antonio, TX 78249

PO Box 690287
San Antonio, TX 78269

P 210.699.9090
F 210.699.6426
TBPE Firm F-3257

WWW.RKCI.COM

Ms. Allison Densler, PE
Project Engineer
K Friese + Associates
1120 S. Capital of Texas Highway
CityView 2, Suite 100
Austin, Texas 78746

RE: Phase I Environmental Site Assessment Proposal
Hannah Heights Water Utility Project
Highway 123
Seguin, Guadalupe County, Texas

Dear Ms. Densler:

Pursuant to your request on behalf of the K Friese + Associates (CLIENT), **Raba Kistner, Inc. (RKI)** is pleased to submit this proposal for a Phase I Environmental Site Assessment (ESA-I) for the above-referenced Hannah Heights Water Utility Project, hereinafter referred to as the Project Corridor, which consists of approximately 8,300 linear feet of new 12" water main installation with seven tie-ins from Highway 123 along an eastern route around the Woodside and Hannah Heights subdivisions to Grayson Lane, in Seguin, Texas.

The purpose of this proposal is to define the scope of work, cost, limitations, and terms and conditions associated with completing the ESA-I for the above-referenced site. The American Society for Testing and Materials (ASTM) E 1527-21, Standard Practice for Environmental Site Assessments will be used as a guidance document for the performance of the ESA-I. This standard is consistent and compliant with the Environmental Protection Agency's All Appropriate Inquiry (AAI) Rule and may be used to comply with the provisions of the All Appropriate Inquiry Final Rule.

The objective of the ESA-I is to evaluate historical and present uses of the Project Corridor and adjacent properties regarding recognized past or current uses of hazardous substances or evidence of contaminants, as set forth within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (*42 U.S.C. §9601*) and petroleum products, within the Project Corridor. The ESA-I will be conducted by an environmental professional meeting requirements as set forth in *40 CFR §312.10(b)* under standards of good commercial and customary practices.

SCOPE OF WORK

The scope of work for the ESA-I include the following components as a minimum:

Review of Existing Data and Records

Review of Records and Resource Materials: **RKI** will review reasonably ascertainable pertinent records and resource materials that are practically reviewable within the cost and time constraints of the ESA-I.

Readily available regulatory files from the Texas Commission on Environmental Quality will be reviewed as part of this Phase I ESA.

Site Reconnaissance

RKI will perform reconnaissance activities in an attempt to identify *recognized environmental conditions* in connection with the Project Corridor. The environmental professional shall visually and physically observe the Project Corridor for environmental hazards and conditions related to the corridor. The adjoining properties, structures, and potential recognizable environmental hazards and conditions of the Project Corridor shall be observed visually from all adjacent public thoroughfares, roads, or access points.

Information Request

A request for environmental information will be sent to the City of Seguin under the Public Information Act. Any chemical spill responses from the fire department that meet the objectives and performance factors of the AAI rule will be reviewed, if available. In the event that records are not obtained, this possible data gap will be discussed in the report.

Findings Evaluation and Report Preparation

The final report of the ESA-I will include: 1) documentation of information sources; 2) the facts and description of environmental conditions relevant to the Project Corridor; 3) the opinion by the environmental professional of the impact of *recognized environmental conditions* in connection with the project corridor; and 4) recommendations for further action if deemed warranted.

LIMITATIONS

The ESA-I is a limited inquiry into the environmental characteristics of the project corridor. It includes an opinion on the existence of regulated environmental conditions and contamination (e.g., hazardous substances and petroleum products) by an environmental professional based upon visual inspection and an examination of readily available public and facility records.

ASTM E 1527-21 defines "*recognized environmental conditions*" as “the presence or likely presence of any hazardous substances or petroleum products within the property being assessed per the following conditions along the Project Corridor: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.”

This ESA-I does not include intrusive investigations or sampling or analyses of any kind unless authorized as additional scope considerations. Furthermore, the location or identification of undocumented buried tanks or concealed wastes, hidden conditions, and subsurface conditions are not included.

Items to be Provided by CLIENT

Provision for access to project corridor on a schedule agreed upon by CLIENT.

ADDITIONAL BUSINESS ENVIRONMENTAL RISK CONSIDERATIONS

This ESA-I is not intended to be a detailed study to identify or quantify all potential environmental concerns. Other issues not included within the standard ESA-I scope of work, but which may be performed as additional scope services include, but are not limited to, the investigation and/or evaluation of asbestos-containing building materials (ACBM), lead-based paint, lead and other contaminants in drinking water, radon gas, indoor air quality, or ecological, cultural and historical resources (i.e., threatened or endangered species, archeological resources, sole source aquifers, etc.). Such factors could pose an additional "*business environmental risk*" to parties involved and can also be evaluated in conjunction with, or supplemental to the ESA-I.

No additional *business environmental risk* considerations are proposed for the ESA-I at this time.

We will provide the above scope of service for a **LUMP SUM FEE of $4,850.^{00}**. We are prepared to initiate this project immediately after we receive written authorization to proceed and anticipate that we can complete the scope of work described above within three business weeks after we receive written authorization to proceed.

This fee does not include intrusive investigations, sampling, or analyses of any kind, unless authorized as additional scope considerations. Additional services, if requested, will be billed in accordance with our standard fees for professional services, as indicated on the attached ***Schedule of Fees***.

We will issue one electronic copy of the report addressed to the undersigned. Should the undersigned wish to receive one copy of the report, please indicate so by initialing here:_____. If other parties wish to rely on the ESA-I reports, please have them contact us so that a mutual understanding and agreement of the terms and conditions for our services can be established prior to their use of this information.

ACCEPTANCE

We appreciate the opportunity of submitting this proposal and look forward to working with you in the development of this project. This proposal and the attachments listed below constitute the contract between us. Please sign below as your acceptance of this contract and to authorize **RKI** to proceed with this project.

Attachment	Description
I	Standard Terms and Conditions
II	Schedule of Fees for Professional Services

Our invoices are due and payable upon receipt at P.O. Box 971037, Dallas, Texas 75397-1037. All parties hereby agree that this contract upon acceptance will be performable in Bexar County, Texas.

RKI considers the data and information contained in this proposal to be proprietary. This statement of qualifications and any information contained herein shall not be disclosed and shall not be duplicated or used in whole or in part for any purpose other than to evaluate this proposal.

Very truly yours,

RABA KISTNER, INC.

Brian D. Strye, M.S.
Environmental Project Manager

BDS/srw

Attachments:
I – Standard Terms and Conditions
II – Schedule of Fees for Professional Services

Copies Submitted: Above (1 Electronic PDF Copy)

Accepted By_____
(Signature)

_____
(Typed or Printed Name)

_____
(Title)

Date_____

RABA KISTNER

SCHEDULE OF FEES FOR PROFESSIONAL SERVICES

PERSONNEL:

Principal	$135 to $250/hour
Professional	$70 to $200/hour
Auto Cad Operator	$65 to $110/hour
Technical/Clerical/Administrative	$40 to $80/hour

The specific hourly rate within each classification listed above depends on the experience, special training, and qualifications of the personnel needed for the project. For projects requiring work at any hazardous waste site, there will be a $10 per hour surcharge added to the normal billing rate for all personnel. Consultants to Raba Kistner (RK) will be charged according to their professional classification.

EXPENSES: Use of company automobiles will be charged at $1.00 per mile. Automobiles and light trucks assigned to field sites will be charged at $70.00 per day, plus $1.00 per mile over 50 miles per day. Copies will be charged at $0.25 per page.

Other project specific charges for use of RK equipment or for RK testing will be in accordance with established fee schedules. All other project specific, third-party costs will be charged at cost plus 15 percent.

Invoices will be submitted monthly for work in progress in our standard format. They are due and payable upon receipt and become past due 30 days after the billing date. Past due invoices may be subject to late charges at the rate of 1-1/2 percent per month (18 percent per annum). In the event that the State of Texas legislates a sales tax on Professional Services, the amount of the tax will be PAYMENT added to the appropriate service rate charged. Our invoices are due and payable upon receipt at P.O. Box 971037, Dallas, Texas 75397-1037.

Preparation of non-standard invoice will be charged on a time and materials basis in accordance with the rates in this fee schedule.

CONDITIONS: Services will be performed in accordance with our Standard Terms and Conditions.

The proposal to which this schedule is an attachment is valid for 90 days from the date of the proposal.

Proposal No. PSF23-371-00
December 28, 2023

12821 W. Golden Lane
San Antonio, TX 78249

PO Box 690287
San Antonio, TX 78269

P 210.699.9090
F 210.699.6426
TBPE Firm F-3257

WWW.RKCI.COM

Ms. Allison Densler, PE
Project Engineer
K Friese + Associates
1120 S. Capital of Texas Highway
CityView 2, Suite 100
Austin, Texas 78746

RE: Proposal for a Cultural Resources Desktop Study
Hannah Heights Water Utility Project
Seguin, Guadalupe County, Texas
N 29*37'09.36"
W 97*57'38.25"

Dear Ms. Densler:

Raba Kistner, Inc. (RKI) is pleased to submit this proposal to K Friese + Associates (CLIENT), on behalf of the City of Seguin, in support of the above referenced project. The project is located in north Seguin, Texas, east of State Highway 123 near its intersection with Farm to Market 20. The proposed undertaking will involve 8,300 linear feet of new 12-inch water main installations with tie-ins within a developing residential neighborhood. The exact horizontal and vertical impacts for the proposed undertaking are not yet known but may extend more than 6 feet (2 meters [m]) below current grade for utility installations, within a 100 foot (30 m) wide corridor for both permanent and temporary access easements.

Because the undertaking will be conducted on lands to be owned and controlled by the City of Seguin, a political subdivision of the state, the project is subject to review under the Antiquities Code of Texas (ACT) (Texas Natural Resource Code, Title 9, Chapter 191). Oversight of compliance with the ACT is administered by the Texas Historical Commission (THC).

RKI proposes to conduct an in-depth archaeological desktop study for the proposed undertaking for planning and development purposes. The review will examine a variety or historical and archaeological resources including, but not limited to, historic-age aerial photography, historical plat and road maps, newspapers, the THC's Texas Archeological Sites *Atlas*, city and county archives, and genealogical records. The purpose of the review will be to determine land use and development of the Project Area overtime, and to determine the likelihood of encountering significant cultural deposits within the project boundaries that may have the potential to be listed on the National Register of Historic Places (NRHP) or may be formally designated as State Antiquities Landmarks (SALs). The results of the review will help to pinpoint high-probability areas within the Project Area that will require intensive archaeological investigations.

Following the archaeological desktop study, **RKI** Archaeologists will produce a technical report of the findings and recommendations for additional work (i.e., intensive archaeological investigations and/or construction monitoring investigations). The technical report will be submitted to the CLIENT for review. Upon approval, **RKI** will submit copies of the letter report to the THC Archaeological Division

for consultation. Consultation with the CLIENT and the THC will determine the level of effort required for the undertaking prior to construction.

COST AND SCHEDULE

RKI will provide the above service at a **lump sum fee of $5,652.00**. We are prepared to begin efforts within 7-10 business days from receipt of a Notice to Proceed. The archaeological desktop review will be completed within 25-30 business days. Reviewing agencies reserve a 30-day review period for consultation submissions.

ACCEPTANCE

We appreciate the opportunity of submitting this proposal and look forward to working with you in the development of this project. This proposal and the attachments listed below constitute the contract between us. Please sign below as your acceptance of this contract and to authorize **RKI** to proceed with this project.

Attachment	Description
I	Standard Terms and Conditions
II	Schedule of Fees for Professional Services

Our invoices are due and payable upon receipt at P.O. Box 971037, Dallas, Texas 75397-1037. All parties hereby agree that this contract upon acceptance will be performable in Guadalupe County, Texas.

RKI considers the data and information contained in this proposal to be proprietary. This statement of qualifications and any information contained herein shall not be disclosed and shall not be duplicated or used in whole or in part for any purpose other than to evaluate this proposal.

Very truly yours,

RABA KISTNER, INC.

Rhiana D. Ward
Assistant Director, Cultural Resources

RDW/srw

Attachments:
I – Standard Terms and Conditions
II – Schedule of Fees for Professional Services

Copies Submitted: Above (1 Electronic PDF Copy)

Accepted By_____
(Signature)

_____
(Typed or Printed Name)

_____
(Title)

Date_____

RABA KISTNER

SCHEDULE OF FEES FOR PROFESSIONAL SERVICES

PERSONNEL:

Principal	$135 to $250/hour
Professional	$70 to $200/hour
Auto Cad Operator	$65 to $110/hour
Technical/Clerical/Administrative	$40 to $80/hour

The specific hourly rate within each classification listed above depends on the experience, special training, and qualifications of the personnel needed for the project. For projects requiring work at any hazardous waste site, there will be a $10 per hour surcharge added to the normal billing rate for all personnel. Consultants to Raba Kistner (RK) will be charged according to their professional classification.

EXPENSES: Use of company automobiles will be charged at $1.00 per mile. Automobiles and light trucks assigned to field sites will be charged at $70.00 per day, plus $1.00 per mile over 50 miles per day. Copies will be charged at $0.25 per page.

Other project specific charges for use of RK equipment or for RK testing will be in accordance with established fee schedules. All other project specific, third-party costs will be charged at cost plus 15 percent.

Invoices will be submitted monthly for work in progress in our standard format. They are due and payable upon receipt and become past due 30 days after the billing date. Past due invoices may be subject to late charges at the rate of 1-1/2 percent per month (18 percent per annum). In the event that the State of Texas legislates a sales tax on Professional Services, the amount of the tax will be PAYMENT added to the appropriate service rate charged. Our invoices are due and payable upon receipt at P.O. Box 971037, Dallas, Texas 75397-1037.

Preparation of non-standard invoice will be charged on a time and materials basis in accordance with the rates in this fee schedule.

CONDITIONS: Services will be performed in accordance with our Standard Terms and Conditions.

The proposal to which this schedule is an attachment is valid for 90 days from the date of the proposal.

HVJ ASSOCIATES

2391NE Loop 410, Suite 204
San Antonio, Texas 75217
512.447.9081 Ph
512.443.3442 Fax
www.hvj.com

December 22, 2023

Ms. Allison Densler, P.E.
K Friese & Associates, A Lochner Company.
1120 S. Capital of Texas Highway, City View 2, Suite 100
Austin, Texas 78746

Re: Hannah Heights Water Line Project
Geotechnical Site Investigation
Owner: City of Seguin
HVJ Proposal No. SG 23 10517

Dear Ms. Densler:

HVJ South Central Texas, M&J Inc. (HVJSCTx) is pleased to submit this proposal to provide geotechnical investigation services for the above referenced project.

Our scope work, as outlined in this proposal, provides the necessary and appropriate level of geotechnical engineering support during the design phase of the project.

Project Description
We understand that K Friese & Associates, Inc. (KFA) is assisting with the design and construction of approximately 8,300 LF of 12-inch water main at Hannah Heights Subdivision in Seguin, Texas. The proposed water main will improve service to the existing developments and provide adequate capacity for the parcels south and east of SH 123 and FM 20 intersection. We were requested by KFA to provide geotechnical investigation for the proposed water line.

Scope of Work
For this project, HVJSCTx will conduct the following:

- Subsurface Exploration: To investigate subsurface conditions and characterize soil at the project area, geotechnical borings will be drilled. The boring locations and depths were provided by KFA. The exploration will consist of total eight (8) borings as presented in the following table:

Proposed Installation	Number of Borings	Boring Depth (feet)	Total (feet)
Trenchless	4	25	100
Open Cut	4	10	40
		Total Footage	140

Based on the project location and its expected geology, clay/granular soil deposits overlaying the clay-shale are anticipated at this site. However, if different soil conditions are encountered during drilling activities, the boring depths may be adjusted.

The borings will be completed with a truck-mounted rig, equipped with flight augers and sampling tools. Soil samples will be collected using Shelby tubes and/or split-spoon

samplers. Soil sampling will be performed continuously to a depth of 10 feet and at 5-ft. interval thereafter. Field-testing of soil samples will include pocket penetrometer readings in the cohesive soils and Standard Penetration Tests (SPT) in cohesionless soils. Continuous rock coring is not included in our scope of work.

Groundwater data will be obtained during and immediately after drilling, if encountered. Upon completion of drilling and groundwater readings, boreholes will be backfilled using cuttings and bentonite pellets.

- Laboratory Tests: Laboratory index tests will be performed on select soil samples recovered from the test borings. The index tests will include Atterberg limits, minus 200 sieve, moisture content, unconfined compressive strength and corrosivity (pH, Sulfate, Chloride, Resistivity) tests.

The collected field and laboratory data will be interpreted and used to develop geotechnical investigation report for the project. The report will include the following specific items:

- Site vicinity map,
- Geology map,
- Plan of borings,
- Boring logs,
- Field and Laboratory test results summary,
- Recommendations for open-cut installation of the utility lines,
- Trench safety recommendations,
- Pipe bedding and backfill recommendations,
- General trenchless construction recommendations, and
- General discussion of construction and excavation recommendations.

The above-described reports will be prepared by an engineer specializing in soil mechanics after reviewing available boring and laboratory data.

Assumptions

The following assumptions were made in developing the scope and fee estimate for this project:

- Site clearing is not included in the scope. If site clearing is required, boring locations will be offset to avoid site clearing.
- Traffic control is not included in the basic scope of work.
- Final boring locations will be mutually agreed upon by KFA and HVJSCTx.
- Right of Entry permits will be required and provided by KFA.
- KFA shall provide HVJSCTx with an electronic site map.
- Surveying of the boring locations will be done by others, if required.
- HVJ SCTx will be responsible for avoiding conflicts with utility facilities by contacting the One Texas calling facility.
- Preparation of Geotechnical Baseline Report for trenchless installation, pavement design recommendations and slope stability analyses are not included in our scope of work.

Ms. Allison Densler, P.E.
Hannah Heights Water Line Project
December 22, 2023
SG 23 10517

Fee
HVJSCTx will perform the outlined scope of work for the **Lump Sum** amount of **$22,600.00.** If anomalous soil conditions are encountered, or if the project configuration changes significantly, additional work may be required. HVJSCTx will recommend such additional work when and if it is deemed necessary.

Supplemental Fee for Traffic Control
Based on the information provided by KFA, we understand that all the borings will be drilled within private ROE and traffic control will not be required. However, HVJSCTx proposes a **Lump Sum** amount of **$3,000.00** for traffic control (maximum 2 days) for performing drilling in the event it becomes necessary..

Schedule
We propose to initiate project scheduling and coordination, immediately upon receiving notice-to-proceed. We subsequently expect to complete the test borings approximately two (2) weeks after receiving notice to proceed. Laboratory testing, evaluation of test results, engineering analyses and report preparation will take approximately two (2) to three (3) weeks after completion of the fieldwork.

Sample Retainage
Soil samples will be retained in our laboratory for 30 days after the geotechnical investigation.

Invoices
Invoices will be submitted at the end of each month based on the time spent on the work and items completed by the last Saturday of each month, or based on an invoice schedule provided by KFA. HVJ SCTx understands that payment will be within 10 days of submission of the data report.

If this proposal meets with your approval, please sign and complete the indicated spaces below and forward a copy of the proposal to us. Thank you for this opportunity. We appreciate your business.

Sincerely,

HVJ SOUTH CENTRAL TEXAS – M&J INC.

Golam Kibria

Golam Kibria, Ph.D., P.E.
Office Manager/Senior Geotechnical Engineer

Agreed to this _____ day of _____, 20_____

By: _____

Title: _____

Firm: _____

Date to Start Work: _____

Ms. Allison Densler, P.E.
Hannah Heights Water Line Project
December 22, 2023
SG 23 10517

Geotechnical Investigation					
City of Seguin - Hannah Heights Water Main					
HVJ South Central Texas M&J, Inc.					
HVJ SCTx Proposal No. SG 23 10517					
Geotechnical Field Investigation - Drilling and Soil Sampling					
Mobilization/Demobilization	1	@	$600.00	per mobilization	$600.00
Drilling & Sampling - Soil Drilling	160	@	$25.00	per foot	$4,000.00
Drilling & Sampling - Rock Coring	0	@	$35.72	per foot	$0.00
Shelby Tube (Thin Wall)	20	@	$20.00	each	$400.00
Standard Penetration Tests (SPT) - assuming 3 per boring	20	@	$20.00	each	$400.00
Backfilling Soils/Bentonite	160	@	$6.00	per foot	$960.00
Driller Standby time	2	@	$180.00	per hour	$360.00
Logging	20	hr @	$85.00	per hour	$1,700.00
Staking, Utility Clearance , permit Coordination	8	hr @	$85.00	per	$680.00
Support Truck	3	@	$125.00	each	$375.00
				Sub Total	**$9,475.00**
Laboratory Testing - Standard					
Moisture Content	30	@	$25.00	each	$750.00
Atterberg Limits	25	@	$80.00	each	$2,000.00
#200 Sieve Analysis	25	@	$55.00	each	$1,375.00
Unconfined Compressive Strength Tests-Soil	12	@	$65.00	each	$780.00
pH	4	@	$45.00	each	$180.00
Sulfate	4	@	$75.00	each	$300.00
Chloride	4	@	$75.00	each	$300.00
Electrical Resistviity (Wenner 4 Point Method)	4	@	$110.00	each	$440.00
				Sub Total	**$6,125.00**
Geotechnical Engineering & Reporting					
Project Manager	6	hr @	$185.00	hr	$1,110.00
Professional Engineer III	16	hr @	$140.00	hr	$2,240.00
Engineer In Training I	30	hr @	$115.00	hr	$3,450.00
Administrative Assistant III	4	hr @	$50.00	hr	$200.00
				Sub-Total	**$7,000.00**
				TOTAL	**$22,600.00**
Supplemental Fee for Traffic Control					**$3,000.00**

Underground Services, Inc.

A Professional Corporation Specializing in Subsurface Utility Engineering

SoftDig

Design Accurately, Build Confidently

Allison Densler
K-Friese + Associates
1120 S. Capitol of TX Hwy, CityView 2, Suite 100
Austin, TX 78746
adensler@KFriese.com
512-338-1704

December 28, 2023

USI Job #: 635810

RE: Surface / Sub-Surface Utility Locating (QL-B & QL-A)
Hannah Heights By CastleRock Communities
401 Jack's Place, Seguin, TX 78155

Dear Ms. Densler,

We are pleased to provide following information regarding the referenced project. This letter and following exhibits constitute our proposal based on the scope of work outlined in Exhibit A on page 3. This agreement is valid for 90 (ninety) calendar days. Any cost estimates stated herein are subject to equitable adjustment in the event of differing site conditions, changes in applicable laws or the scope of services, unforeseeable delays or difficulties beyond the reasonable control of Underground Services, Inc.

Professional Services to be provided under this contract are as follows:

- [x] Test Holes / Vacuum Excavation (Quality Level A)
- [x] Utility Markouts / Designating (Quality Level B)
- [ ] Records, Research and Recon (Quality Level C & D)
- [ ] Surveying & Mapping
- [ ] Video Pipe Inspection (CCTV) / Hydro Jetting
- [ ] Concrete Slab Imaging
- [x] Traffic Control
- [ ] Other:

For a description of the above professional services, please refer to Exhibit B on page 4 and for definitions refer to Exhibit C on Page 5.

SoftDig® and ***SafeDig***® are registered trademarks of Underground Services, Inc.

Exhibit A: Scope of Work and Fees

Underground Services, Inc.:

A. Field mark and provide field sketches of utilities detected in area(s) shown and as directed. SoftDig® will not be liable for any claims resulting from damage to public utilities not field marked by TX-811Utility Call Center because of non-notification by client to the Call Center subsequent to SoftDig® markouts.
B. Not able to mark water if non-conductive without a tracer wire.
C. Not mark irrigation and is therefore excluded from the scope.
D. Not be able to designate utilities beneath stockpiled/stored materials/supplies or parked vehicles/trailers.
E. Not be able to mark designated utilities on snow or wet pavement conditions.

K-Friese + Associates:

A. Restrict parking so as not to impede SoftDig's work.
B. Field direct areas of work and work activity.
C. Provide site access including mechanical rooms/basements.
D. Provide all available utility records and/or site facility contact.
E. Provide base map showing work area(s), exact site address and site contact representative with phone number prior to SoftDig's mobilization.

Fees

Surface Utility Locating (QL-B)	
40 Hours @ $262.50 Per Hour	$10,500.00
Sub-Surface Utility Locating (QL-A) Approx. 7 THs	
48 Hours @ $352.50 Per Hour	$16,920.00
Traffic Control - 4 Lane Closures	
4 Lane Closures @ $450.00 Per Closure	$1,800.00
Coring & Restoration - Permit Regulated	
7 Cores @ $350.00 Per Core	$2,450.00
TxDOT Permit @ $1,000.00	$1,000.00
TOTAL	$32,670.00

Underground Services, Inc.: _____ December 28, 2023

Taylor Augustyn
Project Manager
Date

Client Accepted: _____ _____

Signature
Date

_____
Printed Name

_____
Title

SoftDig® and *SafeDig*® are registered trademarks of Underground Services, Inc.

Exhibit B: Scope of Services

All work in conformance with ASCE Publication CI/ASCE 38-02, Common Ground Alliance (CGA) and American Public Works Assoc. / Utility Location and Coordination Council (APWA/ULCC)

Records Research and Reconnaissance: (Quality Level D & C)

- •Meet with owner's Project Engineer to discuss specifics and requirements of the assignment.
- •Research and retrieve all available utility records.
- •Conduct a site reconnaissance to validate probable utilities.
- •Verify the existence of survey control and plan operational procedures.
- •Research permit and special insurance requirements with appropriate agencies.

Surface Locates: (Quality Level C & B)

- Designate, record and mark the approximate horizontal location (accurate within 12± in.) of existing utilities by geophysical prospecting techniques.
- SoftDig® will use its best professional expertise and geophysical prospecting techniques to designate subsurface utilities. SoftDig® does not guarantee that utilities marked constitute all utilities within the project area.
- SoftDig® uses electromagnetic equipment and GPR; however, there exists the possibility that due to circumstances beyond the control of the designating technicians utilities may be non-detectable, or the horizontal location mark is not directly over the center-line of the utility. The following factors may limit or exceed the capabilities, accuracy, and reliability of the geophysical equipment: composition of the utility structure (non-metallic), soil characteristics (mineral content, debris, rocks), the salinity of groundwater, depth of utility, surface covering, embedded structures (re-bar, wire mesh), confined spaces, and external interference (power lines, guard rails, traffic, rail lines).
- Utility depths obtained by instrument readings (only if requested by client) are not guaranteed and are not to be used for design or basis for construction. Clients relying on instrument reading of depths do so at their own risk. True depth is only obtained by exposing the utility.
- Data Management (Survey and CADD Mapping) is not included unless specifically requested and included in Exhibit A – Schedule of Fees.

Subsurface Locates: (Quality Level A)

- SoftDig® will provide routinely and normally carried cones and warning signs for Maintenance of Traffic. Traffic conditions, location of test holes in roadway and permit requirements may require other devices (T.M.A., arrowboards, etc.) and/or flaggers or police detail. Such costs will be invoiced as an expense, as stated in Exhibit A – Schedule of Fees.
- Coordinate with utility company inspectors as required by the resultant agreement and by law.
- Neatly cut and remove existing paving, with the cut area not exceeding 12 in. x 12 in. Excavate using the SoftDig® vacuum excavation system.
- Excavate test holes with care as to prevent damage to utilities, however, any damage resulting from the condition of the utility due to age, burial conditions, covering, etc. is not the responsibility of SoftDig®.
- Back-fill with excavated material and compact in 6 inch lifts.
- Furnish, install and color-code a permanent above-ground marker (e.g. P.K. nail, peg, steel pin, or hub) directly above the center-line of the structure, as well as "down the hole" color-coded plastic ribbon.
- Provide a bituminous cold patch of pavement within the limits of the original cut at the time of back-fill. Pavement restoration is guaranteed for 3 years. If the test hole is excavated in an area other than the roadway pavement, the area disturbed will be restored to the condition prior to excavation. Excluded from this provision would be any disturbance to sub soil and ground water conditions that may result in a "quick condition" or "bubbling" of water to the surface from hydro-static pressure release resulting from excavation and through no fault of SoftDig®. Also excluded is restoring pavement with hot mixed/hot laid bituminous pavement or key-holing operations.
- Provide the following test hole information:
    - Elevation of top and/or bottom of utility tied to vertical control provided, to within 0.01 ft. If control is not provided, control will be assumed.
    - Locate the test hole by swing ties to 3 physical objects.
    - Elevation of existing grade over utility at test hole to within 0.01 ft.
    - Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
    - Utility structure material compositions, and condition when possible.
    - Pavement thickness, generalized soil type and unusual conditions.
- Should suspected hazardous material be encountered in the test hole, SoftDig® crews will immediately contact the client representative and our office. We will also comply with DOT Hazardous Material Regulation Procedures.
- Data Management (Survey and CADD Mapping) is not included unless specifically requested and included in Exhibit A – Schedule of Fees.

NOTE: Test holes shall be terminated if subsurface conditions (rock, boulders, groundwater, soil conditions, soil cave-in, trash / debris, or excessive depth) prevent advancement of excavation to expose the utility or to reach required depth.

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Exhibit C: Definitions

Underground Services Inc. SoftDig® provides "Subsurface Utility Engineering", (SUE), that can reduce unforeseen conflicts between construction and underground utilities. It provides accurate information on the horizontal and vertical location of the underground utility facilities during the early development of projects. Through the use of this technology, designers can identify conflict points and design to accommodate and avoid delays and/or re-design during construction. The three main components of subsurface utility engineering [as defined by The Federal Highway Administration] are Designation, Location, and Data Management.

Designation (QL-B): The process of using a surface geophysical method or methods such as electro-magnetics and GPR to interpret the presence of a subsurface utility. The approximate horizontal location of a designated utility is marked on the ground surface with paint or other marking devices surveyed, and CADD mapped (if requested). This phase of the process allows broad-scope engineering decisions to be made early in the project.

Location (QL-A): Designation alone does not provide the high accuracy required for the detailed design of a project. Locating is the process of exposing, surveying, and recording the precise vertical and horizontal location of a subsurface utility. Factors such as utility material and condition may influence specific techniques. The typical technique for utility exposures is the use of the minimally intrusive SoftDig® air-entrainment/vacuum excavation technology, which significantly reduces the potential for damage to the structure being uncovered. This allows technicians to measure and record a utility line's precise vertical depth and horizontal position through a hole that may be no larger than 203 x 203 mm (8 x 8 in), preserving both utility and surface integrity. Vacuum excavation may also be utilized for "pilot" holes to excavate below the probable zone of underground utilities (6'± depth) for soil test borings, wells, caissons, etc.

Data Management: The key phase is Data Management/Quality Assurance which involves incorporating, correlating and reviewing information on the location and quality level of utilities - integral to the process of designing a project. Depiction of utilities from subsurface utility engineering and survey sources is usually accomplished via computer-aided design and drafting onto electronic files or other appropriate documents. Written reports, test hole summary sheets, photographs, and other data may accompany and supplement plan sheets. The earlier the data is used, the better. A project's impact on underground utilities may be a critical factor in determining a cost-effective design.

***Quality Levels:**

Work performed at a certain Quality Level is predicated on performing all lower-tiered Quality Levels. Example – for true Quality Level A work, Quality Level D through B as well as Quality Level A must be performed.

QL "D" -- Information derived from existing records or oral recollections.

QL "C" – Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to Quality Level D information.

QL "B" -- Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities.

QL "A" -- Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point.

*Source: ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, American Society of Civil Engineers, Publication No. CI/ASCE 38-02

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