



July 12, 2017

Mr. Craig Light, PE
Chief Engineer
City of Jonesboro
300 South Church
Jonesboro, AR 72401

**Re: Professional Services related to Proposed Improvements for Northside Park
Access Road from North Patrick Street to North Church Street (SR 141)
Jonesboro, Arkansas**

Mr. Light:

Pickering Firm, Inc., herein known as Pickering (the "Consultant"), is pleased to submit this Scope of Work and Fee Proposal to the City of Jonesboro, herein known as the City (the "Client"), for providing Professional Engineering services for the development of the referenced project. The project is more specifically defined as the design of a new access road from North Patrick Street to Warren Street, aligned with existing Hickory Street. In addition, Hickory Street will be improved and widened from Warren Street to North Church Street (SR 141). Improvements will consist typically of a two lane roadway with a 10' pedestrian trail, proposed bridge crossing over Lost Creek, and roadway lighting. Final design shall be based on \$3,000,000 maximum budget based on state weighted unit averages. Our scope of services, schedule, and fee are shown below.

SCOPE OF SERVICES

Task A – Topo & Boundary Surveys

1. All topography and cross-sections will be obtained using ground, not aerial, mapping methods. Locations, topography, and cross-sections will be performed along project corridor and all adjoining roadways within the project limits. Surveys along the mainline will be a width of 50 feet on each side of the existing centerline, for a total width of 100 feet.
2. Cross-section and profiles will be gathered on Lost Creek for the required hydraulic analysis. This will include a total six (6) cross-sections from approximately 400' upstream to 400' downstream.
3. In addition to the topographic survey, existing right-of-way will be determined on existing side roads (North Patrick Street, Warren Street, Hickory Street, and North Church Street). This includes a section of right-of-way that exists between the City property and existing Warren Street that is currently unused.
4. A boundary will also be performed on the existing City owned property located on both sides of Lost Creek. In addition to the City property, sufficient boundary work will be performed on adjacent properties to determine the required right-of-way acquisition from

Facility Design • Civil Engineering • Surveying • Transportation • Natural / Water Resources

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east of the City owned property to North Patrick Street. A legal description and plat will be provided for this acquisition. Additional takes will be shown on the plans if required. If additional takes are necessary, the production of plats and legal descriptions will be considered additional services.

5. One Call will be contacted for field locations of underground utilities. These locations will be field located and shown on our plans. Arkansas One Call fees are included in the fees shown.

Task B - Geotechnical Investigation

1. A geotechnical investigation will be performed for the roadway in general accordance with AHTD standard practices. The geotechnical information gathered will be used for design recommendations such as pavement design, deep foundation recommendations, and a liquefaction analysis. It will also be used to identify areas that may require undercut and select backfill. Field testing will include 5 pavement borings 10 foot deep and two bridge borings; one to 30 feet and another to 80 feet.
2. In addition, two pavement cores will be obtained on the existing section of Hickory Street to determine if the existing section needs to be removed or remain in place and widened. Required traffic control to obtain the pavement cores is included.
3. The City must facilitate access on private land and provide tree removal for access if required.
4. A geotechnical investigation will be performed for the bridge over Lost Creek. The geotechnical information gathered will be used for foundation design and scour analysis.
5. A site specific seismic study is not included.

Task C - Roadway Designs

1. Pickering will prepare construction plans in accordance with City standards and design guidelines.
2. The access road will generally consist of a two (2) lane section with a 10' pedestrian trail on one side. Additional turn lanes at the existing intersections may be required. This includes new construction from North Patrick Street to Warren Street and widening/improving the existing section of Hickory Street from Warren Street to North Church Street. The total distance of the section is approximately 0.50 miles.

No improvements are proposed to existing side roads other than minimum adjustments required to tie to the proposed improvements.

3. Roadway plans will include some or all of the following sheets: title, index, standard drawings, estimated bridge quantities and bridge index, estimated roadway quantities, typical sections, general notes, special notes, details, standard plan and profile sheets, private drive profiles, culvert sections, EPSC, traffic control, signing and pavement marking, roadway cross sections, and storm water pollution prevention plan (SWPPP) if required.
4. All designs, plans, details and specifications for relocations of any utility or the addition of new utilities (other than street lighting) will be prepared by the utility owner or negotiated as additional services.

Task D – Hydraulic Study

1. Pickering will conduct a bridge hydraulic study of the proposed bridge over Lost Creek in accordance with City and FEMA standards. Pickering will obtain the “effective” model from FEMA for use in the study. Pickering will develop a corrected “effective” model using the current field surveyed cross sections with the existing flows published in the FIS. The corrected “effective” model will be validated to address any discrepancies between the WSE’s in the FIS data and the corrected model. The corrected model will then be used to develop the proposed model with the proposed bridge structure.
2. Pickering will review the Corp’s model and coordinate the hydraulic analysis and structure opening with the future plans for Lost Creek.
3. A bridge hydraulic report will be prepared and submitted for review and approval. In addition, a “No-Rise” certificate will be prepared and submitted to the City.
4. If for some reason during the development of the hydraulic study it is determined that a CLOMR or LOMR is required, effort beyond obtaining a “No-Rise” certificate will be considered additional services.

Task E – Bridge Design

1. Pickering will prepare designs for a single span bridge at the Lost Creek crossing. It is assumed the bridge structure will be a single span crossing, founded on piles, reinforced concrete superstructure, spill-through abutments, and prestressed AASHTO concrete beams. The bridge will be designed to current AHTD seismic standards and will be sized to provide no rise to the current channel flow conditions. It will also adhere to AHTD’S specifications and list of required standard drawings.
2. If required due to vertical geometry restrictions, the bridge design will be modified to a 3-span bridge. The modified bridge will include bent design and foundation design. Bent foundations will be coordinated with scour analysis to determine appropriate depth of footings.

Task F – Lighting Designs

1. Pickering will prepare roadway lighting plans and specifications based upon IES RP-8 standards or criteria specified by the owner.
2. Standard City Water & Light poles and fixtures will be used. Data sheets on both the poles and fixtures will be provided by the City.

Task G - Bid Phase

1. Pickering will print plans for project review meetings and approvals. Printing of plans and specification for bidding purposes is not included and will be considered a reimbursable expense.
2. Bid phase services are not included.

Task H - Construction Phase

1. Construction phase services are not included.

OPTIONAL SERVICES

If the City requires services beyond what is provided in the scope of services listed above, said services can be performed based upon a negotiated lump sum fee agreed to by both parties. Additional services will only be performed after written authorization is received.

PROPOSED PROJECT SCHEDULE

It is our understanding that the City would like to have a construction contract in place to begin construction on this project in early 2018. To facilitate that schedule, Pickering will submit final construction documents by January 31, 2018.

FAILURE TO COMPLETE WORK ON TIME

Time is an essential element of the Agreement and it is important that the work be pressed vigorously to completion in accordance with the proposed project schedule. The cost to the Owner (City of Jonesboro) of the administration of this Agreement will be increased as the time occupied in the work is lengthened. Loss will accrue to the public due to delayed completion of the design and construction documents.

This being the case the Owner reserves the right to withhold payment from the Consultant for failure to perform services in a timely manner as per the mutually agreed upon schedule for factors within the Consultant's control. Payment will be withheld from the Consultant until the Owner is satisfied that the Consultant is progressing towards meeting the agreed upon schedule or upon completion of the project.

The Owner and consultant are aware that many factors outside the Consultant's control may affect the Consultant's ability to complete the services to be provided under this Agreement. The Consultant will perform these services with reasonable diligence and expediency consistent with sound professional practices.

If the Consultant becomes aware of delays due to time allowances for review and approval being exceeded, delay by the Owner, the Owner's consultants, reviews by governing agencies, or any other cause beyond the control of the Consultant, which will result in the schedule for performance of the Consultant's not being met, the Consultant shall promptly notify the Owner. If the Owner becomes aware of delays or other caused that will affect the Consultant's schedule, the Owner shall promptly notify the Consultant. In either event, the Consultant's schedule for performance of its services shall be equitably adjusted.

SUMMARY OF PROJECT FEES (TITLE I)

Design (Labor, Overhead, and Fee)	\$145,041.06
Direct Expenses	
Miscellaneous Expense	\$ 1,270.50
Ridge Surveying	\$ 8,200.00
Geotechnology, Inc.	\$ 15,644.08

Subtotal Direct Costs \$ 25,114.58
Total Title I (Not to Exceed) \$170,155.64

See Appendix A for a detailed scope and man-hour estimates for each of the required tasks.

TERMS AND CONDITIONS

The obligation to provide further services under this Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. In the event of termination, Pickering Firm, Inc. will be paid for services rendered to the date of termination.

The fees shown in this proposal are based on the Owner agreeing to limit the Professional's liability for all planning, engineering and analytical services to the Owner due to the Professional's negligent acts, errors, or omissions, such that the total aggregate liability of the Professional to all those named shall not exceed the Professional's total fee for services rendered on this project.

This proposal represents the entire understanding between you and us in respect to the "Project" and may only be modified in writing signed by both of us. If it satisfactorily sets for your understanding of the arrangement between us, please sign the acceptance of this proposed Letter Agreement in the space provided below and return it to us.

Please advise if further information is desired.

Sincerely,

PICKERING FIRM INCORPORATED



Michael L. Foster, P.E.
Project Manager

Accepted by: _____ Date: _____

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**Justification of Fees and Costs
and
Scope of Work
FOR
Northside Park Access Road
City of Jonesboro, Arkansas**

12-Jul-17

Appendix A

Northside Park Access Road
City of Jonesboro, Arkansas

TITLE I

Plans Total Labor, Overhead, and Fee	\$ 145,041.06
Direct Expenses	\$25,114.58
Grand Total TITLE I	\$ 170,155.64

TITLE II

Plans Total Labor, Overhead, and Fee	Not Included
Direct Expenses	Not Included
Grand Total TITLE II	Not Included

Appendix A
Justification of Fees and Costs
Nothside Park Access Road
City of Jonesboro, Arkansas
TITLE I

	Estimated Hours							Total Hours
	Principal	Project Manager	Senior Engineer	Engineer	Senior Designer	Engineer Intern	Clerical	
Plan Preparation								
Roadway Design								
1. Project Administration	8.0	16.0						24
2. Perform Site Visit to Verify Survey			8.0	8.0		4.0		20
3. Title Sheet				1		2		3
4. Typical Sections			2		8			10
5. Index, General Notes, Standard Drawings				2	2	8		12
6. Horizontal Alignment		1	2		4	4		11
7. Vertical Alignment		1	8		8	8		25
8. Summary of Quantities		2	8		16	8		34
9. Plan & Profile Sheets (6 Sheets)			2	8	8	24		42
10. Drainage Design			4	24	16	16		60
11. Utility Coordination			2	4	8	8		22
12. Maintenance of Traffic Plans			8	8	16	24		56
13. Permanent Pavement Markings and Signs			2	4		12		18
14. EPSC Plans			2			12		14
15. Cross Sections			8		8	24		40
16. Permits (SWPPP, STAA, ACOE, etc.)			4	16	16	24		60
17. Coordination with Bridge Design			4	4				8
18. QA/QC		16	16					32
19. Plan Review Meetings			16	16				32
20. Address Comments from Review Meetings		4	2	8	16	16		46
21. Prepare Bid Book			4				12	16
Hydraulic Design								
1. Effective Model				8				8
2. Corrected Effective Model				24				24
3. Proposed Model (ACOE)		4	8	72				84
4. Certification and Submittal		4	4	8				16
Bridge Design								
1. Project Administration	4	32						36
2. Girder Design			16					16
3. Deck Design			16					16
4. Substructure			8					8
5. Detailed Index			2	4	4			10
6. Summary of Quantities			2	8	8			18
7. Generalized Soil Profile			2	4	4			10
8. End Bents			8	16	8			32
9. End Bent Details			4	8	8			20
10. Interior Bents			8	16	8			32
11. Span Details			8	16	8			32
12. Typical Sections			8	16	8			32
13. Miscellaneous Span Details			2	6	4			12
14. Railing Details			2	4	4			10
15. Quantity Calculations			24		8			32
16. Plan Review Meetings			12	12				24
17. Coordination with Roadway Design			4	4				8
18. QA/QC			24					24
Lighting Design								
1. Project Administration	1	2						3
1. Site Visit			8					8
2. Photometric Calculations			2	4	8			14
3. Plans and Specifications			2	12	16			30
4. QA/QC		2	2					4
Totals	13	84	278	345	222	194	12	1148

Labor Rates

\$ 62.00 \$ 50.00 \$ 48.00 \$ 42.00 \$ 35.00 \$ 30.00 \$ 17.00

Labor Cost \$ 806.00 \$ 4,200.00 \$ 13,344.00 \$ 14,490.00 \$ 7,770.00 \$ 5,820.00 \$ 204.00 \$ 46,634.00

Overhead % 177.50% \$ 82,775.35

Total Labor and Overhead \$ 129,409.35

Fixed Fee % 12.00% \$ 15,529.12

FCCM Overhead 0.22% \$ 102.59

Total Labor, Overhead, and Fee: \$ 145,041.06

Direct Costs:

	Qty.	Unit Price	
Mileage	1,400	\$ 0.535	\$749.00
Meals	2	\$ 41.00	\$82.00
Lodging	2	\$ 96.00	\$192.00
Postage	0	\$ 100.00	\$0.00
Reproductions: 8 1/2" x 11"	100	\$ 0.10	\$10.00
Reproductions: 11" x 17"	250	\$ 0.15	\$37.50
Reproductions: Full Size	100	\$ 2.00	\$200.00
Ridge Surveying	1	\$ 8,200.00	\$8,200.00
Geotechnology, Inc.	1	\$ 15,644.08	\$15,644.08

Total Direct Costs: \$25,114.58

Project Total \$ 170,155.64



311 South Church Suite H
Jonesboro, Arkansas
May 3, 2017

Pickering Engineering, Michael Foster, Jonesboro, AR
RE: Proposal for Surveying Services-Roadway Corridor Patrick St to Church St

Thank you for the opportunity to offer you our Professional Surveying Services. Ridge Surveying & Consulting PLLC will perform the following scope of work for a fee of **\$7200.00**. (Estimated Arkansas One Call, not to exceed \$1000.00. Not included in our \$7200.00 fee)

- Verify & Establish Site Survey Control.
- Research for project.
- Boundary Ties as needed to determine Right of Way.
- Topo data for R/W as discussed.
- Cross Sections & profiles along Lost Creek as discussed.
- Any Easements or Plats as needed for this project.
- Cad drawing with points and line work, as discussed.
- Professional Surveyor Computations & Calculations.
- Professional Surveyor Supervision.

Please note that we anticipate being able to complete this task as outlined above in approximately 15 working days from the time we have received a notice to proceed (depending on weather). If you find this proposal acceptable, please sign & return this document via email.

Name:

Date:

*DIVISION OF MATERIALS AND TESTS
GEOTECHNICAL ENGINEERING SECTION*

GEOTECHNICAL SERVICES

MANHOUR REQUIREMENTS AND COST ESTIMATE

CRAIGHEAD

NORTHSIDE PARK ACCESS ROAD

INTERSECTION IMPROVEMENT

GEOTECHNOLOGY, INC.

Prepared By: ASHRAF ELSAYED, PH.D., P.E.

Date prepared: 5/4/2017

Federal Project No. N/A

State Project No. N/A

Geotechnical Office No. N/A

Pin No. N/A

Contract No, Work Order No. N/A

<Invoice Number>

ASHRAF ELSAYED, PH.D., P.E.

5501 Kreuger Drive, Suite 110

Jonesboro, AR 72401

<CONTACT ADDRESS>

901-353-1981

a_elsayed@geotechnology.com

Section III
 Standard Cost Estimate For Soil And Geological Survey Report
1.00 Drilling Services

County: CRAIGHEAD
 Route: NORTHSIDE PARK ACCESS ROAD
 Description: N/A
 Project No.: N/A
 Geotechnical Office No.: N/A
 Consultant: GEOTECHNOLOGY, INC.
 Prepared By: ASHRAF ELSAYED, PH.D., P.E.
 Date Prepared: 5/4/2017
 Contract Number: N/A

For further explanation of Item No. and Description refer to attached "Pay Item Numbers and Methods of Measurement for Cost Estimates".

Item No.	Description	Estimated Quantities	Basis of Payment		Price	Amount
1.01	Mobilization	1	each	@	\$1,200.00	\$1,200.00
1.02	Standby / Moving between Borings	4	each	@	\$200.00	\$800.00
1.06	Soil Drilling and Split Barrel Type Sampling on Land	160	vertical foot	@	\$18.50	\$2,960.00
1.07	Soil Drilling and Thin Wall Tube Type Sampling on Land	5	vertical foot	@	\$70.00	\$350.00
1.09 ^a	Traffic Control	1	Day	@	\$1,900.00	\$1,900.00
1.10	Pav. Patching and Site Restoration	1	each	@	\$75.00	\$75.00
1.13	Pavement Coring	2	per each	@	\$250.00	\$500.00
Total Estimated Drilling Costs						\$7,785.00

a: Direct Cost

Section III
 Standard Cost Estimate for Soil and Geological Survey Report
2.00 Laboratory Services

County: CRAIGHEAD
 Route: NORTHSIDE PARK ACCESS ROAD
 Description: N/A
 Project No.: N/A
 Geotechnical Office No.: N/A
 Consultant: GEOTECHNOLOGY, INC.
 Prepared By: ASHRAF ELSAYED, PH.D., P.E.
 Date Prepared: 5/4/2017
 Contract Number: N/A

For further explanation of Item No. and Description refer to attached "Pay Item Numbers and Methods of Measurement for Cost Estimates".

Item No.	Description	Estimated Quantities	Basis of Payment		Rate	Amount
2.01	Atterberg Limits	8	each	@	\$71.00	\$568.00
2.02	Natural Moisture Content	42	each	@	\$7.00	\$294.00
2.03	Particle Size Analysis	7	each	@	\$85.00	\$595.00
2.05	Proctor Density Test	1	each	@	\$180.00	\$180.00
2.06	California Bearing Ratio (per point)	2	each	@	\$150.00	\$300.00
2.10	Triaxial Compression UU	0	strength properties	@	\$369.19	\$0.00
2.12	Unconfined Compression	3	per test	@	\$85.00	\$255.00
2.63	CD Direct Shear	0	strength properties	@	\$493.31	\$0.00
Total Estimated Laboratory Services Cost:						\$2,192.00

Section III
Standard Cost Estimate for Soil and Geological Survey Report
3.00 Manpower Requirements

County: CRAIGHEAD
Route: NORTHSIDE PARK ACCESS ROAD
Description: N/A
Project No.: N/A
Geotechnical Office No.: N/A
Consultant: GEOTECHNOLOGY, INC.
Prepared By: ASHRAF ELSAYED, PH.D., P.E.
Date Prepared: 5/4/2017
Contract Number: N/A

See "Pay Item Numbers and Methods of Measurement for Cost Estimates" for further description of services required by state.

Item No.	ACTIVITY	PRINCIPAL	SENIOR ENGINEER	STAFF ENGINEER	SENIOR GEOLOGIST	STAFF ENGINEER	SUPERVISIN G DRILLER	STAFF CADD TECHNICIAN	STAFF ENGINEER
		MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR
3.10	Project Planning and Coordination				2.0		2.0		
3.20	Field Activities								20.0
3.30	Data Assimilation			4.0					
3.40	Flexible Pavement Design			3.0					
3.50	Final Report Preparation	2.0		22.0				2.0	
3.70	Design-Phase and Post-Design Support	2.0							
Total Estimated Hours		4.0		29.0	2.0		2.0	2.0	20.0
Hourley Wages		\$57.53	\$38.12	\$26.10	\$32.60	\$24.25	\$38.36	\$25.10	\$21.50
Subtotal		\$ 230.12	\$ -	\$ 756.90	\$ 65.20	\$ -	\$ 76.72	\$ 50.20	\$ 430.00
Overhead 205.96%		\$ 473.96	\$ -	\$ 1,558.91	\$ 134.29	\$ -	\$ 158.01	\$103.39	\$ 885.63
Subtotal		\$ 704.08	\$ -	\$ 2,315.81	\$ 199.49	\$ -	\$ 234.73	\$153.59	\$1,315.63
Fees		\$ 84.49	\$ -	\$ 277.90	\$ 23.94	\$ -	\$ 28.17	\$ 18.43	\$ 157.88
FCCM 0.84%		\$ 1.93	\$ -	\$ 6.36	\$ 0.55	\$ -	\$ 0.64	\$ 0.42	\$ 3.61
Subtotal of Estimated Man-hour Costs		\$ 790.50	\$ -	\$ 2,600.07	\$ 223.97	\$ -	\$ 263.54	\$172.44	\$1,477.12

Total Estimate of Man-hour Requirements:

\$5,527.64

Section III
 Standard Cost Estimate for Soil and Geological Survey Report
3.00 Manpower Requirements, Hourly Rate Breakdown

County: CRAIGHEAD
 Route: NORTHSIDE PARK ACCESS ROAD
 Description: N/A
 Project No.: N/A
 Geotechnical Office No.: N/A
 Consultant: GEOTECHNOLOGY, INC.
 Prepared By: ASHRAF ELSAYED, PH.D., P.E.
 Date Prepared: 5/4/2017
 Contract Number: N/A

Hourly Rate Breakdown		PRINCIPAL	SENIOR ENGINEER	STAFF ENGINEER	SENIOR GEOLOGIST	STAFF ENGINEER	SUPERVISING DRILLER	STAFF CADD TECHNICIAN	STAFF ENGINEER
		MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR	MAN-HOUR
Direct Pay Rate		\$57.53	\$38.12	\$25.89	\$32.00	\$25.89	\$39.35	\$26.25	\$21.50
Pay Range		\$55-\$60	\$38-\$42	\$23-\$28	\$29-\$34	\$24-\$28	\$37-\$42	\$23-\$29	\$19-\$23
Overhead		105.96	105.96	105.96	105.96	105.96	105.96	105.96	205.96
FCCM		0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84

Section III
Standard Cost Estimate for Soil and Geological Survey Report
4.0 Other Expenses

County: CRAIGHEAD

Project No.: N/A

Route: NORTHSIDE PARK ACCESS ROAD

Geotechnical Office No.: N/A

Description: N/A

Contract No: N/A

Prepared By: ASHRAF ELSAYED, PH.D., P.E.

Consultant: GEOTECHNOLOGY, INC.

Date Prepared: 5/4/2017

Distance to Jobsite:

Company Headquarters: <CITY,STATE>	Job Site: <CITY,STATE>
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Travel Expenses				
Item No.	Description	Days	Rate*	Total
4.10	Travel Expenses		\$34.50	\$0.00
4.12	Lodging		\$83.00	\$0.00

*Must be in accordance with applicable AHTD Travel Regulations

Milage\Transportation Expenses				
Item No.	Description	Miles	Milage Rate*	Total
4.20	Passenger Truck	332	\$0.42	\$139.44

*Must be in accordance with applicable AHTD Travel Regulations

Equipment Rental				
Item No.	Description	Days	Daily Rate	Total

Plans Reproduction Costs				
Item No.	Description	Units	Unit Price	Total
4.43	Photocopies		\$0.47	\$0.00

Other Expenses				
Item No.	Description	Units	Unit Rate	Total

Total Estimate of Other Expenses:	\$139.44
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Section III
Standard Cost Estimate for Soil and Geological Survey Report
SUMMARY OF COST ESTIMATES

County: CRAIGHEAD
Route: NORTHSIDE PARK ACCESS ROAD
Description: N/A
Project No.: N/A
Geotechnical Office No.: N/A
Consultant: GEOTECHNOLOGY, INC.
Prepared By: ASHRAF ELSAYED, PH.D., P.E.
Date Prepared: 5/4/2017

1.00 Drilling Services	\$7,785.00
2.00 Laboratory Services	\$2,192.00
3.00 Manpower Requirements	\$5,527.64
4.00 Other Expenses	\$139.44
Total Not-to-Exceed Costs	\$15,644.08