



FISHER ARNOLD
ENGINEERING INTEGRATION

May 25, 2016

Mr. Craig Light, P.E.
City Engineer
City of Jonesboro
300 S. Church Street
Jonesboro, AR 72401

**RE: PROPOSAL FOR
HIGHWAY 18 AND MAIN STREET
INTERSECTION IMPROVEMENTS**

Dear Mr. Light:

Fisher & Arnold, Inc. is pleased to submit the following Scope of Work and Proposal for providing design and final construction documents for improvements to the Highway 18 and Main Street Intersection. The Scope of Work will include improvements for approximately 500 feet north and south of Highway 18 to accommodate an additional northbound through lane and a double southbound left turn lane. This includes maintaining the existing westbound to northbound acceleration lane. The Scope of Work is more particularly described as follows:

SURVEY

1. Boundary, ROW, and utility research
2. Boundary and ROW location survey
3. CAD and Survey computations for Boundary and ROW
4. Topo 50' beyond curb line
5. Topo within the streets

The above survey will be performed as per AHTD Requirements in SDMS.

TOTAL LUMP SUM FEE.....\$33,953.00

NEPA

Environmental Document Preparation

F&A proposes to prepare environmental documents in the form of an expected Categorical Exclusion (CE) to meet the AHTD and FHWA process. The CE will be developed in accordance with applicable regulations. The various subtasks to be addressed in this component will include the following:

1. Purpose and Description
2. Mapping
3. Endangered Species
4. Fish and Wildlife
5. Floodplain
6. SHPO/Historical Resources Impacts
7. Bicycle and Pedestrian Impacts
8. Hazardous Materials / Sites Study
9. Prepare CE Document for Submittal to AHTD
10. Amend CE Document per ADEQ Comments as required to obtain approval
11. Expenses (LIST)

TOTAL LUMP SUM FEE.....\$13,652.00

Task Deliverables:

Environmental Document (Two hard copies and an electronic copy to the City).

Exclusions

It is anticipated that formal public involvement (project web-site, public involvement plan, public meeting, etc.) will not be required for this project.

Any permitting, application, or similar project fees will be paid directly by the City.

DESIGN

1. Project Administration
2. Title Sheet
3. Typical Sections
4. Draw Topo
5. Create Sheets
6. Horizontal Alignment
7. Vertical Alignment
8. Create DTM
9. Run Pattern Lines
10. Cut Existing and Final Cross Sections
11. Property Map
12. ROW Acquisition Table
13. Plats and Descriptions
14. Drainage Design

- 15. Retaining Wall Design
- 16. Maintenance of Traffic Plan
- 17. Signing and Pavement Marking Plan
- 18. Traffic Signal Modifications
- 19. Erosion Control Plans
- 20. Lighting Plans
- 21. Plan Submittals (30%, 60%, 90%)
- 22. Revise Plans Per Reviews
- 23. Item Nos./Quantity Calculations
- 24. Prepare Cost Estimate
- 25. QA/QC of Plans
- 26. Meetings, Correspondence, etc. (Meetings to occur monthly during the course of the design)

TOTAL LUMP SUM FEE.....\$75,630.00

Task Deliverables: Deliverables will include Preliminary Plans (30%) and Right-of-Way Plans (60%) which will include Plats and Descriptions, 90% Construction Plans, and Final Construction Plans.

BID PHASE

- 1. Answer questions from contractors during bid phase
- 2. Issue addenda
- 3. Attend Bid Opening
- 4. Review and certify bids for construction
- 5. Issue letter of recommendation for acceptance of bid

TOTAL LUMP SUM FEE.....\$2,860.00

GEOTECHNICAL (See Attachment "A").....\$6,532.00

SUMMARY:

| | |
|---|----------------------------|
| SURVEY..... | \$33,953.00 |
| NEPA | \$13,652.00 |
| DESIGN..... | \$75,630.00 |
| BID PHASE..... | \$2,860.00 |
| Miscellaneous Expense (Mileage, Printing, Deliveries, Mail, etc.)..... | <u>\$1,000.00</u> |
| TOTAL | \$127,095.00 |
| GEOTECHNICAL | <u>\$6,532.00</u> |
| PROJECT TOTAL LUMP SUM..... | <u>\$133,627.00</u> |

Mr. Craig Light, P.E.

May 25, 2016

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We are looking forward to working with you on this project. If you have any questions regarding this proposal, please do not hesitate to call.

Sincerely,

FISHER & ARNOLD, INC.



Richard E. Gafford, P.E.

Vice President

REG/mkg

Cc: Mr. Mark Nichols, P.E.

Mr. John Pankey, P.E.

Terms and Conditions

An invoice will be sent on a monthly basis until the completion of the project. Payment is due by the 10th of each month. Interest in the amount of 1.5% per month on the outstanding balances (18% per year) will be assessed the contracting party after the payment due date.

In the event of breach or non-payment, the contracting party agrees to pay reasonable expenses of enforcement including attorney fees and costs. Exclusive venue for enforcement of this agreement shall be in Shelby County, Tennessee.

The obligation to provide further services under the 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, Fisher & Arnold, Inc. will be paid for all 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 the 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 this satisfactorily sets forth 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.

ACCEPTED BY:

CITY OF JONESBORO, AR

Name

Date

Title

ATTACHMENT "A"

*DIVISION OF MATERIALS AND TESTS
GEOTECHNICAL ENGINEERING SECTION*

GEOTECHNICAL SERVICES

MANHOUR REQUIREMENTS AND COST ESTIMATE

CRAIGHEAD

HIGHWAY 18 / MAIN STREET INTERSECTION IMPROVEMENTS

GEOTECHNOLOGY, INC.

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

Date prepared: 5/20/2016

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: HIGHWAY 18 / MAIN STREET INTERSECTION IMPROVEMENTS
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: 5/20/2016
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 | @ | \$795.00 | \$795.00 |
| 1.06 | Soil Drilling and Split Barrel Type Sampling on Land | 50 | vertical foot | @ | \$16.00 | \$800.00 |
| 1.07 | Tube Type Sampling on Land | 2 | vertical foot | @ | \$50.00 | \$100.00 |
| 1.09 | Borehole Grouting | 0 | vertical foot | @ | \$4.00 | \$0.00 |
| 1.10 | Water Hauling | 0 | working day | @ | \$265.22 | \$0.00 |
| 1.13 | Site Restoration ^a | 5 | per each | @ | \$50.00 | \$250.00 |
| Total Estimated Drilling Costs | | | | | | \$1,945.00 |

a: Includes patching the holes with asphalt

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

County: CRAIGHEAD
Route: HIGHWAY 18 / MAIN STREET INTERSECTION IMPROVEMENTS
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: 5/20/2016
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 | 5 | each | @ | \$60.00 | \$300.00 |
| 2.02 | Natural Moisture Content | 5 | each | @ | \$5.00 | \$25.00 |
| 2.03 | Particle Size Analysis | 5 | each | @ | \$75.00 | \$375.00 |
| 2.05 | Proctor Density Test | 1 | each | @ | \$180.00 | \$180.00 |
| 2.06 | California Bearing Ratio (per point) | 3 | each | @ | \$135.00 | \$405.00 |
| 2.10 | Triaxial Compression UU | 0 | strength properties | @ | \$369.19 | \$0.00 |
| 2.12 | Unconfined Compression | 0 | per test strength | @ | \$75.00 | \$0.00 |
| 2.63 | CD Direct Shear | 0 | properties | @ | \$493.31 | \$0.00 |
| Total Estimated Laboratory Services Cost: | | | | | | \$1,285.00 |

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

County: CRAIGHEAD
 Route: HIGHWAY 18 / MAIN STREET INTERSECTION IMPROVEMENTS
 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: 5/20/2016
 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 | SUPERVISING 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 | 1.0 | | | 1.0 | | 2.0 | | |
| 3.20 | Field Activities | | | | | | | | 10.0 |
| 3.30 | Data Assimilation | | | 2.0 | | | | | 1.0 |
| 3.40 | Flexible Pavement Design | | | 6.0 | | | | | |
| 3.50 | Final Report Preparation | 2.0 | | 8.0 | | | | 2.0 | |
| 3.70 | Design-Phase and Post-Design Support | 2.0 | | | | | | | |
| Total Estimated Hours | | 5.0 | | 16.0 | 1.0 | | 2.0 | | 11.0 |
| Hourley Wages | | \$55.62 | \$38.12 | \$25.89 | \$31.70 | \$24.25 | \$38.36 | \$23.25 | \$21.50 |
| Subtotal | | \$ 278.10 | \$ - | \$ 414.24 | \$ 31.70 | \$ - | \$ 76.72 | \$ - | \$ 236.50 |
| Overhead 165.88% | | \$ 461.31 | \$ - | \$ 687.14 | \$ 52.58 | \$ - | \$ 127.26 | \$ - | \$ 392.31 |
| Subtotal | | \$ 739.41 | \$ - | \$ 1,101.38 | \$ 84.28 | \$ - | \$ 203.98 | \$ - | \$ 628.81 |
| Fees | | \$ 88.73 | \$ - | \$ 132.17 | \$ 10.11 | \$ - | \$ 24.48 | \$ - | \$ 75.46 |
| FCCM 0.76% | | \$ 2.11 | \$ - | \$ 3.15 | \$ 0.24 | \$ - | \$ 0.58 | \$ - | \$ 1.80 |
| Subtotal of Estimated Man-hour Costs | | \$ 830.26 | \$ - | \$ 1,236.70 | \$ 94.64 | \$ - | \$ 229.04 | \$ - | \$ 706.06 |

| | |
|---|-------------------|
| Total Estimate of Man-hour Requirements: | \$3,096.69 |
|---|-------------------|

Section III

Standard Cost Estimate for Soil and Geological Survey Report

3.00 Manpower Requirements, Hourly Rate Breakdown

County: CRAIGHEAD
 Route: HIGHWAY 18 / MAIN STREET INTERSECTION IMPROVEMENTS
 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: #####
 Contract Number: N/A

| | 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 |

Hourly Rate Breakdown

| | | | | | | | | |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Direct Pay Rate | \$55.62 | \$38.12 | \$25.89 | \$31.70 | \$24.25 | \$38.36 | \$23.25 | \$21.50 |
| Pay Range | \$55-\$58 | \$38-\$42 | \$25-\$28 | \$29-\$31 | \$24-\$26 | \$37-\$40 | \$23-\$25 | \$21-\$23 |
| Overhead | 165.88 | 165.88 | 165.88 | 165.88 | 165.88 | 165.88 | 165.88 | 165.88 |
| FCCM | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| | | | | | | | | |
| | | | | | | | | |

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

County: CRAIGHEAD

Project No.: N/A

Route: HIGHWAY 18 / MAIN STREET INTERSECTION IMP 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: 5/20/2016

Distance to Jobsite:

| | |
|------------------------------------|------------------------|
| Company Headquarters: <CITY,STATE> | Job Site: <CITY,STATE> |
|------------------------------------|------------------------|

| 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 | 200 | \$0.56 | \$112.00 |
| | | | | |
| | | | | |
| | | | | |

*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 | 200 | \$0.47 | \$94.00 |
| | | | | |

| Other Expenses | | | | |
|----------------|-------------|-------|-----------|-------|
| Item No. | Description | Units | Unit Rate | Total |
| | | | | |
| | | | | |
| | | | | |

| | |
|--|-----------------|
| Total Estimate of Other Expenses: | \$206.00 |
|--|-----------------|

a: Item includes down-Hole testing and site-specific seismic analysis. This item will only apply with prior City approval

Section III
Standard Cost Estimate for Soil and Geological Survey Report
SUMMARY OF COST ESTIMATES

County: CRAIGHEAD
Route: HIGHWAY 18 / MAIN STREET INTERSECTION IMPROVEMENTS
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: 5/20/2016

| | |
|----------------------------------|-------------------|
| 1.00 Drilling Services | \$1,945.00 |
| 2.00 Laboratory Services | \$1,285.00 |
| 3.00 Manpower Requirements | \$3,096.69 |
| 4.00 Other Expenses | \$206.00 |
| Total Not-to-Exceed Costs | \$6,532.69 |