

## ACTION FORM BRYAN CITY COUNCIL

<b>DATE OF COUNCIL MEETING:</b> January 27, 2015		<b>DATE SUBMITTED:</b> December 30, 2014	
<b>DEPARTMENT OF ORIGIN:</b> Public Works / Engineering		<b>SUBMITTED BY:</b> W. Paul Kaspar	
<b>MEETING TYPE:</b>	<b>CLASSIFICATION:</b>	<b>ORDINANCE:</b>	<b>STRATEGIC INITIATIVE:</b>
<input type="checkbox"/> BCD	<input type="checkbox"/> PUBLIC HEARING	<input type="checkbox"/> 1ST READING	<input checked="" type="checkbox"/> PUBLIC SAFETY
<input type="checkbox"/> SPECIAL	<input type="checkbox"/> CONSENT	<input type="checkbox"/> 2ND READING	<input type="checkbox"/> SERVICE
<input checked="" type="checkbox"/> REGULAR	<input checked="" type="checkbox"/> STATUTORY		<input checked="" type="checkbox"/> ECONOMIC DEVELOP.
<input type="checkbox"/> WORKSHOP	<input type="checkbox"/> REGULAR		<input checked="" type="checkbox"/> INFRASTRUCTURE
			<input checked="" type="checkbox"/> QUALITY OF LIFE
<b>AGENDA ITEM DESCRIPTION:</b> Consider awarding an Engineering Design Contract for the Highway Safety Improvement Grant Project (City Job Number 750-D7-1504) to HDR, Inc. in the not to exceed amount of \$196,712.00.			
<b>SUMMARY STATEMENT:</b> The City of Bryan applied for and was awarded grant funds under the Highway Safety Improvement Grant Program administered by the Texas Department of Transportation (TXDOT). The obligation for providing design services for the improvements falls on the local municipality awarded the grant at the Municipalities sole cost. The construction of the improvement are funded 100% by TXDOT for on-system roadways and funded as a 90% State and 10% local match for off-system roadways. The City of Bryan's grant award was \$1,150,250 for off-system roads for which we have to match it with \$115,025 of local funds in order to receive \$1,035,225 of TXDOT funds. We were also awarded \$485,000 in on-system funds. The improvements included in the grant award are the following:			
Off-System Projects:			
<ol style="list-style-type: none"> <li>1. Finfeather Road (southern city limits to Groesbeck) - \$732,000 – Asphalt overlay followed by pavement markings changing the lane configuration from 4 lanes to 3 lanes with bike lanes.</li> <li>2. Finfeather Road at the Carson / Turkey Creek intersection - \$215,250 – Replace Traffic Signal</li> <li>3. South College Avenue at Carson Street - \$203,000 – Replace Traffic Signal</li> </ol>			
On-System Projects:			
<ol style="list-style-type: none"> <li>1. Texas Avenue at the E. 29<sup>th</sup> Street Intersection - \$221,000 – Replace Traffic Signal</li> <li>2. FM1179 (Villa Maria) at South College Avenue intersection - \$209,000 – Replace Traffic Signal</li> <li>3. State Highway 21 at Marino Road intersection - \$55,000 – Modernize Intersection Flashing Beacons</li> </ol>			
<p>HDR was selected through a 2012 request for qualifications (RFQ) process where they scored high in both streets and traffic signal projects. This engineering contract includes design and preparation of plans, specifications and cost estimates for traffic signal modifications, flashing beacon modifications, and pavement modifications/markings/signing at various locations outlined above. HDR will prepare the design in accordance with TXDOT standards. TXDOT, not the City of Bryan, will be the entity releasing the project for bid and managing the project through construction; the “project” includes both off-system and on-system projects listed above.</p>			
<p>TXDOT is currently working to prepare an Advanced Funding Agreement (AFA) for this project with the City of Bryan; however it is not ready at this time. So to not hold up the design any longer, this contract is proceeding at this time and the AFA will be brought to the City Council when TXDOT has it prepared.</p>			

Funds for the design and construction will come from Fund 240, the Transportation Fee. The preliminary construction costs for the scope of this project have been estimated at approximately \$1.64 million. The engineering design fees are 7.75% of the construction cost with the total cost of engineering, surveying and geotechnical work making up 12% of the construction cost. The schedule is proposed to take just over ten (10) months for design. TXDOT will make the final decision on the bid and construction schedule and their current expectation for a bid date is September 2016. If the design is completed earlier the bid date could be as early as summer 2016. Construction is estimated to take approximately eight (8) months.

**STAFF ANALYSIS AND RECOMMENDATION:** Staff recommends awarding the Engineering Design Contract for the Highway Safety Improvement Grant Project (City Job Number 750-D7-1504) to HDR, Inc. in the not to exceed amount of \$196,712.00. By awarding the engineering design contract, this project can proceed forward and meet TXDOT's anticipated bid schedule.

**OPTIONS (In Suggested Order of Staff Preference):**

1. Execute the Engineering Design Contract with HDR.
2. Do not execute the Engineering Design Contract with HDR and forego the grant funds.

**ATTACHMENTS:** Engineering Design Contract with HDR

**FUNDING SOURCE:** Fund 240 – Transportation Fee

**APPROVALS:** Jayson E. Barfknecht 12/31/14; Hugh R. Walker, 01/11/2015

**APPROVED FOR SUBMITTAL: CITY MANAGER** Kean Register, 1-13-2015

**APPROVED FOR SUBMITTAL: CITY ATTORNEY** Janis K. Hampton, 1-15-2015

**CONTRACT FOR ENGINEERING SERVICES  
HDR ENGINEERING, INC.**

**Highway Safety Improvement Program Grant Design Contract**

**City Job Number 750-D7-1504**

This Contract, dated \_\_\_\_\_, is between the **City of Bryan**, a Texas home-rule municipal corporation, (the City) and HDR Engineering, Inc., a corporation (the Engineer), whereby the Engineer agrees to provide the City with certain professional services as described herein and the City agrees to pay the Engineer for those services.

**1. Scope of Services**

In consideration of the compensation stated in paragraph 2, the Engineer agrees to provide the City with the professional services as described in Attachment A, the Scope of Services, which is incorporated herein by reference for all purposes, and which services may be more generally described as follows: Engineering design, topographic survey, geotechnical investigation and environmental services for modifications of traffic signals, flashing beacon, pavement markings and signing.

**2. Payment**

In consideration of the Engineer's provision of the professional services in compliance with all terms and conditions of this Contract, the City shall pay the Engineer according to the terms set forth in Attachment B. Except in the event of a duly authorized change order, approved by the City in writing, the total cost of all professional services provided under this Contract may not exceed One Hundred Ninety-Six Thousand Seven Hundred Twelve and 00/100 Dollars (\$196,712.00).

**3. Time of Performance**

- A. All design work and other professional services for Basic Services described in Attachments A and B to be provided under this Contract must be completed by the following date: August 31, 2016. The City Engineer may agree to an extension of the time for completion. Any extension of the time for completion approved by the City Engineer, however, shall only be effective upon the execution of an instrument in writing stating the terms of the extension and signed by both the City Engineer and the Engineer. The Schedule is more fully defined in Attachment C.
- B. **Time is of the essence of this Contract.** The Engineer shall be prepared to provide the professional services in an expedient and efficient manner commensurate with the professional standard of care in order to complete the work by the times specified.

**4. Indemnification & Release**

- A. As an experienced and qualified design professional, the Engineer represents that the information provided by the Engineer reflects the customary professional and industry standards, procedures, and performances. The Engineer represents the design preparation of drawings, the designation or selection of materials and equipment, the selection and supervision of personnel, and the performance of other services under this Contract, is pursuant to the customary standard of performance in the profession. The Engineer represents that the Engineer will exercise diligence and due care and perform all of the services pursuant to this Contract in accordance with the customary standard of care in the profession. Approval of the City shall not constitute, or be

deemed, a release of the responsibility and liability of the Engineer, its employees, agents, or associates for the exercise of skill and diligence in accordance with the customary standard of care to promote the accuracy and competency of their designs, information, plans, specifications or any other document, nor shall the City's approval be deemed to be the assumption of responsibility by the City for any defect or error in the aforesaid documents prepared by the Engineer, its employees, associates, agents, or subcontractors.

- B. The Engineer shall promptly correct any defective designs or specifications furnished by the Engineer at no cost to the City. The City's approval, acceptance, use of, or payment for, all or any part of the Engineer's services hereunder or of the Project itself shall in no way alter the Engineer's obligations or the City's rights hereunder.
- C. In all activities or services performed hereunder, the Engineer is an independent contractor and not an agent or employee of the City. The Engineer and its employees are not the agents, servants, or employees of the City. As an independent contractor, the Engineer shall be responsible for the professional services and the final work product contemplated under this Contract. Except for materials furnished by the City, the Engineer shall supply all materials, equipment, and labor required for the professional services to be provided under this Contract. The Engineer shall have ultimate control over the execution of the professional services. The Engineer shall have the sole obligation to employ, direct, control, supervise, manage, discharge, and compensate all of its employees or subcontractors, and the City shall have no control of or supervision over the employees of the Engineer or any of the Engineer's subcontractors.
- D. The Engineer must at all times exercise reasonable precautions on behalf of, and be solely responsible for, the safety of its officers, employees, agents, subcontractors, and licensees, as well as their personal property, while in the vicinity of the Project or any of the work being done on or for the Project. It is expressly understood and agreed that the City shall not be liable or responsible for the negligence of the Engineer, its officers, employees, agents, subcontractors, invitees, licensees, and other persons.
- E. Responsibility for damage claims (indemnification): Engineer shall defend, indemnify and save harmless the City and all its officers, agents, and employees from all suits, actions, or claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person or persons or property resulting from the Engineer's negligent performance of the work, or by or on account of any claims or amounts recovered under the Workmen's Compensation Law or any other law, ordinance, order or decree. Engineer shall defend, indemnify and save harmless the City, its officers, agents and employees in accordance with this indemnification clause only for that portion of the damage caused by Engineer's negligence.
- F. Release. The Engineer releases, relinquishes, and discharges the City, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to, sickness or death of the Engineer or its employees and any loss of or damage to any property of the Engineer or its employees that is caused by or alleged to be caused by, arises out of, or is in connection with the Engineer's negligent performance of the work. Both the City and the Engineer expressly intend that this release shall apply regardless of whether said claims, demands, and causes of action are covered, in whole or in part, by insurance.

## 5. Engineer's Insurance

The Engineer agrees to maintain, on a primary basis, for the duration of this contract the insurance coverages and limits as described below. See Attachment D for insurance example. The Engineer must deliver to the City a certificate(s) of insurance evidencing that such policies are in full force and effect within 5 business days of notification of the City's intent to award a contract. Failure to meet the insurance requirements and provide the required certificate(s) and any necessary endorsements within five business days **may cause the contract to be rejected.** The City reserves the right to obtain complete, certified copies of all required insurance policies at any time.

The requirements as to types and limits, as well as the City's review or acceptance of insurance coverage to be maintained by Engineer, is not intended to nor shall in any manner limit or qualify the liabilities and obligations assumed by the Engineer under the Agreement.

- A. **Commercial General Liability Insurance** – Limit of liability not less than \$1,000,000 per occurrence Engineer agrees to maintain a standard ISO version Commercial General Liability occurrence form, or its equivalent providing coverage for, but not limited to, Bodily Injury and Property Damage, Premises/Operations, Products/Completed Operations, Independent Engineers.
- B. **Professional Liability Insurance** – Limit of liability not less than \$1,000,000 per claim Engineer agrees to maintain Professional (Errors & Omissions) Liability to pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages by reason of any negligent act, malpractice, error or omission of the Engineer or Engineer's employees. Engineer agrees to maintain a retroactive date prior to or equal to the effective date of this contract and that continuous coverage will be maintained or a supplemental extended reporting period will be purchased with a minimum reporting period not less than two years after the completion of this contract. The Engineer is solely responsible for any additional premium for continuous coverage or the supplemental extended reporting period.
- C. **Business Automobile Liability Insurance** – Limit of liability not less than \$1,000,000 per occurrence Engineer agrees to maintain a standard ISO version Business Automobile Liability, or its equivalent, providing coverage for all owned, non-owned and hired automobiles. Should the Engineer not own any automobiles, the business auto liability requirement shall be amended to allow the Engineer to agree to maintain only Hired & Non-Owned Auto Liability. This amended coverage requirement may be satisfied by way of endorsement to the Commercial General Liability, or separate Business Auto policy.
- D. **Workers' Compensation Insurance & Employers' Liability Insurance** – Statutory & \$500,000/\$500,000/\$500,000. The Engineer agrees to maintain Worker's Compensation Insurance & Employers Liability. In the event any work is sublet, the Engineer shall require the subcontractor similarly to provide the same coverage and shall himself acquire evidence of such coverage on behalf of the subcontractor.
- E. **Additional Insured Endorsements** The Engineer agrees to endorse the City as an Additional Insured on each insurance policy required to be maintained, with the exception of the worker's compensation, employer's liability and professional liability policy.
- F. **Waiver Of Subrogation** Waiver of subrogation in favor of the City of Bryan for each required policy. When required by the insurer or should a policy condition not permit Engineer to enter into a pre-loss agreement to waive subrogation without an endorsement, then Engineer agrees to notify the insurer and request the policy be endorsed with a Waiver of Transfer of rights of

Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy, which includes a condition specifically prohibiting such an endorsement, or voids coverage should Engineer enter into such an agreement on a pre-loss basis.

- G. **Deductibles, Coinsurance Penalties, & Self-Insured Retention** Engineer shall agree to be fully and solely responsible for any costs or expenses as a result of a coverage deductible, coinsurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, coinsurance penalty, or self-insured retention.
- H. **Subcontractor's Insurance** The Engineer shall agree to cause each subcontractor employed by Engineer to purchase and maintain insurance of the type specified, provided the Engineer's insurance does not afford coverage on behalf of the subcontractor.
- I. **Certificate Of Insurance** Engineer shall furnish the City with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements. The certificate must be from a company with an A.M. Best rating of "A-VI" or better and/or otherwise acceptable to the City. Certificates must be submitted using the ACORD form and all endorsements must be included with the submittal. Engineer has the affirmative obligation to advise City at the address listed below within 5 business days of the cancellation or substantial change of any required insurance policy, and failure to do so shall be construed as a breach of this contract.

Failure of the City to demand such certificate(s) or other evidence of full compliance with these insurance requirements or failure of the City to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

In the event the City is notified that a required insurance coverage will cancel or non-renew during the contract period, the Engineer shall agree to furnish prior to the expiration of such insurance, a new or revised certificate(s) as proof that equal and like coverage is in effect. The City reserves the right, but not the obligation, to withhold payment to Engineer until coverage is reinstated. If the Engineer fails to maintain the required insurance, the City shall have the right, but not the obligation, to purchase the required insurance at Engineer's expense.

Certificates and notices should be given to the City at the following address:

**City of Bryan  
Attn: Risk Management Department  
300 S. Texas Ave.  
Bryan, TX 77803**

**RIGHT TO REVIEW AND ADJUST** The City reserves the right to review these requirements and to modify insurance coverage and their limits when deemed necessary and prudent. Any additional premium costs resulting from required increases in coverage shall be the responsibility of the City. Furthermore, the City reserves the right, but not the obligation, to review and reject any insurer providing coverage because of poor financial condition.

## **6. Termination**

- A. The City may terminate this Contract at any time upon **thirty (30)** calendar days written notice. Upon the Engineer's receipt of such notice, the Engineer shall cease work immediately. The Engineer shall be compensated for the services satisfactorily performed prior to the termination date.

- B. If, through any cause, the Engineer fails to fulfill its obligations under this Contract, or if the Engineer violates any of the agreements of this Contract and fails to cure within **seven (7)** calendar days, the City has the right to terminate this Contract by giving the Engineer **five (5)** calendar days written notice to the Engineer. The Engineer will be compensated for the services satisfactorily performed before the termination date.
- C. No term or provision of this Contract shall be construed to relieve the Engineer of liability to the City for damages sustained by the City because of any breach of contract by the Engineer. The City may withhold payments to the Engineer for the purpose of setoff until the exact amount of damages due the City from the Engineer is determined and paid.

**7. Miscellaneous Terms**

- A. This Contract has been made under and shall be governed by the laws of the State of Texas. The parties agree that performance and all matters related thereto shall be in Brazos County, Texas.
- B. Notices shall be mailed to the addresses designated herein or as may be designated in writing by the parties from time to time and shall be deemed received when sent postage prepaid U.S. Mail to the following addresses:

The City of Bryan  
Attn: W. Paul Kaspar, P.E.  
P.O. Box 1000  
Bryan, Texas 77805

The Engineer:  
Rashed Islam, P.E., PTOE  
HDR Engineering, Inc.  
504 Lavaca Street, Suite 1175  
Austin, Texas 78701

- C. No waiver by either party hereto of any term or condition of this Contract shall be deemed or construed to be a waiver of any other term or condition or subsequent waiver of the same term or condition.
- D. This Contract represents the entire and integrated agreement between the City and the Engineer and supersedes all prior negotiations, representations, or agreements, either written or oral. This Contract may only be amended by written instrument approved and executed by the parties.
- E. This Contract and all rights and obligations contained herein may not be assigned by the Engineer without the prior written approval of the City.
- F. The Engineer, its agents, employees, and subcontractors must comply with all applicable federal and state laws, the charter and ordinances of the City of Bryan, and with all applicable rules and regulations promulgated by local, state, and national boards, bureaus, and agencies. The Engineer must obtain all necessary permits and licenses required in completing the work and providing the services required by this Contract.
- G. The parties acknowledge that they have read, understood, and intend to be bound by the terms and conditions of this Contract.

Party of the First Part  
**CITY OF BRYAN, TEXAS**

**Approved as to Form: Approved:**

\_\_\_\_\_  
Janis K. Hampton, City Attorney

Prepared and Recommended:

\_\_\_\_\_  
W. Paul Kaspar, P.E., City Engineer

Approved for Processing:

\_\_\_\_\_  
Jayson Barfknecht, P.E., Ph.D  
Public Works Director

\_\_\_\_\_  
Kean Register, City Manager

By: \_\_\_\_\_  
Jason P. Bienski, Mayor

Attest:

By: \_\_\_\_\_  
Mary Lynne Stratta, City Secretary

Date: \_\_\_\_\_

Party of the Second Part  
**ENGINEER:**

By \_\_\_\_\_  
Rashed Islam, P.E., PTOE  
Title: Vice President  
Date: \_\_\_\_\_  
Texas TBPE Firm No. F-754

\_\_\_\_\_  
Witness



## **ATTACHMENT A SCOPE OF SERVICES**

### **Project Understanding**

The Engineer will design and prepare plans, specifications and estimate for traffic signal modifications, flashing beacon modifications, and pavement modifications/markings/signing at various locations within the City of Bryan, Texas in TxDOT format to be let for bids by TxDOT.

### **BASIC SCOPE OF SERVICES**

The basic scope of services proposed for this project includes the following:

#### **Traffic Signal/Flashing Beacon Design**

The existing traffic signals will be replaced with new mast arm traffic signals at the following locations:

1. Texas Avenue (BR 6) and E. 29<sup>th</sup> Street
2. Villa Maria Road (FM 1179) and South College Avenue
3. Finfeather Road and Turkey Creek Road/Carson Street
4. South College Avenue and Carson Street

The existing flashing beacon will be replaced with a new flashing beacon at SH 21 and Marino Road.

The following tasks will be undertaken for each of the signals/beacon identified above in preparation of the design plans:

1. Conduct a field review of the existing intersections to note and verify power source, signal head types, signal-related signs, type of control, intersection geometrics, physical constraints, power connection, utility placement, and any other details necessary for signal plan preparation.
2. Meet with the City to discuss the following:
  - a. Signal design requirements (two meetings assumed)
  - b. Review meetings to resolve comments (two meetings assumed, one for each submittal)
3. Obtain as-built signal plans, if available, for the intersections. This information will be provided by the City.
4. Obtain example plans to illustrate format, content, etc., desired by the City and/or TxDOT. This information will be provided by the City.
5. Design and/or modify pedestrian ramps/sidewalk at intersections to provide ADA compliant ramp and pushbutton design only if existing sidewalk/ramps exist and if pedestrian crossing is allowed/required by City/TxDOT. Pedestrian elements will not be included as part of flashing beacon design for SH 21 and Marino Road.
6. Prepare signal plans/flashing beacon design plans and quantity estimates for the intersections. The following information will be shown for each intersection:
  - a. Signal quantity summary
  - b. Existing signal/intersection layout
  - c. Proposed signal/intersection layout (also includes pavement marking, signing, and pedestrian ramps, as necessary)
  - d. Phasing, signing, signal head legend, and conductor/conduit schedule
  - e. Cable termination chart and load switch information
  - f. Elevations
  - g. Detection Zones

- h. Traffic signal pole foundation (TSFD) schedule
  - i. Applicable City/TxDOT standards
7. Complete TDLR forms (Request For Inspection and Project Registration ab005) and submit plans for TDLR review and inspection by Eddie Hare or other local firm. The estimated fee for this work is included in the budget as an expense item.
  8. The intersection of Finfeather Road and Turkey Creek Road/Carson Street is adjacent to an at-grade railroad crossing. The Engineer will complete preliminary coordination with the railroad agency for tie-in of the new signal conduits to the railroad controller and preemption requirements. Based on the preliminary preemption analysis, if significant changes are required by the railroad agency to adjust the preemption timings for the rail, a separate scope/fee will be submitted. It should be noted that it is difficult to estimate the work involved unless the preliminary analysis and coordination is completed with the railroad. In most cases the preliminary coordination should be sufficient.
  9. The Engineer will prepare and implement traffic signal timing/phasing plans in cooperation with the Contractor selected for the proposed construction, based on timing/phasing plans for existing traffic operations. No traffic count information will be collected.

### **Pavement Marking and Signing Design**

The Engineer will prepare pavement marking and signing design plans to include a continuous center left-turn lane along Finfeather Road from the South City Limits to Groesbeck Street (approximately 3.3 miles). Plans will include a 1.5" hot mix asphalt overlay prior to new pavement marking installation.

The following tasks will be undertaken in preparation of the pavement marking and signing design plans:

1. Conduct a field review of the existing roadway segment to note and verify existing pavement markings, signing, roadway and lane cross section widths, existing intersection controls, physical constraints, utility placement, and any other details necessary for plan preparation.
2. Meet with the City to discuss the following:
  - a. Project requirements (one meeting assumed)
  - b. Review meetings to resolve comments (two meetings assumed, one for each submittal)
3. Obtain as-built roadway plans and proposed cross-section for restriping. This information will be provided by the City.
4. Prepare pavement marking and signing design plans and quantity estimates for the roadway. The following information will be shown in the plan sheets:
  - a. Pavement marking and signing quantities (1 sheet)
  - b. Pavement marking removal limits/signing removals / asphalt overlay (1 sheet)
  - c. Proposed pavement markings and proposed signs, along with existing signs to remain within the project limits
  - d. Sign details for non-standard signs required within the project limits
  - e. Summary of small signs with sign post design
  - f. Applicable standards

## **Environmental Services**

Environmental services will be provided by HDR. These data will be used for the preparation of the signal design, flashing beacon, and pavement marking plans. The environmental services scope is described below:

### **On-System Locations**

Three of the locations are on-system roads maintained by TxDOT but do not add capacity, require new ROW, or require new roadway to be constructed. These three locations would be considered C-list (8) projects and would require that a CE determination form be included in the project file. The checklist would be completed by TxDOT Bryan District personnel. HDR will support TxDOT Bryan District personnel with the checklist by telephone and/or email as needed. No impacts to environmental resources are anticipated for the proposed locations. If a Project Scope and checklist are required, the work would be completed under a separate scope and fee.

### **Off-System Locations**

Three of the locations are off-system roads maintained by the City. Because they are off-system, do not add capacity, do not require new ROW, and will not require new roadway to be constructed, based on preliminary discussion with TxDOT, no environmental documentation coordination with TxDOT would be required for those three locations. Because all locations will be included in a single bid package and letting, the checklist would be completed by TxDOT Bryan District personnel. HDR will support TxDOT Bryan District personnel with the checklist by telephone and/or email as needed. No impacts to environmental resources are anticipated for the proposed locations. If a Project Scope and checklist are required, the work would be completed under a separate scope and fee.

## Topographic Survey

Topographic survey data will be provided by McClure & Browne Engineering/Surveying Inc. (MBESI). The survey files will be used as the base for the preparation of the signal design, flashing beacon, and pavement marking plans. The survey scope is described below:

### Project Control

1. Two (2) horizontal and vertical control points will be established at each location. The survey control points (5/8" iron rods with "MBESI Control" plastic caps) will be set in locations that will likely be undisturbed by construction or City/State maintenance.
2. The Texas Coordinate System of 1983 (NAD83 State Plane Coordinates) applicable to the zone in which the work is performed, with values in *U.S. Survey Feet*, shall be used as the basis for all horizontal coordinates derived for this project, unless otherwise directed by the City. All horizontal values will be in surface coordinates.
3. Elevations shall be based on the North American Vertical Datum 88 (NAVD88), unless otherwise directed by the City.

### Design Survey

1. 3D field survey data will be obtained within the survey limits listed above at each location. Survey at the signalized intersections will collect location data for all ground boxes, traffic poles, pedestrian poles, signs, back of curb, edge of pavement, medians, sidewalks, ramps, and pavement markings, as well as any visible improvements, visible property pins, fences, and utilities (underground and overhead). The signal survey at each intersection will extend 200 feet on each leg of the intersection. Survey for the proposed pavement marking and signing design for Finfeather Road will collect location data for curb and gutter, pavement markings, and signs, as well as any visible improvements, visible property pins, fences, and utilities (underground and overhead).
2. ADA ramp data will be obtained. The ADA ramp survey data will be sufficient for pedestrian ramp and pushbutton design including, but not limited to the following:
  - a. Pavement marking and signing quantities
  - b. Curb (top back of curb) and gutter (at flow line and at edge) will be collected through the curves with observations every three feet along the arc near existing or proposed ADA ramps.
  - c. Drainage structures (and any other utility located in or adjacent to the curb and gutter) near existing or proposed ADA ramps will be located as they affect ADA ramp design.
  - d. If an ADA ramp exists, enough information will be collected to properly define the existing conditions.
  - e. Both ends of existing sidewalk joints will be mapped to determine limits of sidewalk replacement during ADA ramp design.
3. MBESI and/or Terracon will notify Texas811 to have underground utilities located and field-located and marked.
4. Available record ROW maps at each location listed above will be obtained from the City.

## **Geotechnical Investigation**

Geotechnical investigation services will be provided by Terracon Consultants, Inc. These data will be used for the preparation of the signal design, flashing beacon, and pavement marking plans. The geotechnical investigation scope is described below:

### **Field Program**

1. Terracon and/or MBESI will notify Texas811 to help locate public utilities within the dedicated public utility easements.
2. Borings - Two borings at each of the five intersections to receive new signal poles to a depth of 20 feet
3. Soil Sampling - Continuous to 12 feet, then at 5 foot intervals, tube samplers in cohesive soils and split-barrel sampler in non-cohesive soils
4. Groundwater - Water level observations during drilling, and upon completion of drilling
5. Borehole Backfilling - Boreholes will be backfilled with soil cuttings. Excess auger cuttings will be disposed of on the site.
6. Sample Discarding - Samples will be discarded 30 days after the report is issued.

The drilling services will be performed by a drilling subcontractor or Terracon's in-house drillers. During drilling, test samples will generally be collected utilizing either tube samplers or the Standard Penetration Test. Once the samples have been collected and classified in the field, they will be properly prepared and placed in appropriate sample containers for transport to the laboratory. Upon completion of field program, the borings will be backfilled with soil cuttings. Standard truck mounted drilling equipment will be used to access the boring locations.

Laboratory Testing - The sample classifications will be reviewed and a laboratory testing program will be assigned which will be specific to the project requirements and the subsurface conditions observed. The testing program could include, but may not be limited to, moisture contents, unit dry weights, Atterberg Limits, compressive strength tests, and grain-size analyses.

Engineering Report - The results of field and laboratory programs will be evaluated by a professional geotechnical engineer licensed in the State of Texas. Based on the results of the evaluation, an engineering report will be prepared which details the results of the testing performed and provide Boring Logs and a Boring Location Plan. The report will also provide geotechnical engineering recommendations which will address the following:

1. Site and subgrade preparation
2. Foundation design considerations, "N" (penetrometer) value for signal foundation design.

## **REVIEW SUBMITTALS AND DELIVERABLES**

### **Design**

Two review submittals will be made to the City and TxDOT (50% and 90%). The 50% submittal will include the design sheets at a 50% level of completion with all applicable standards and a preliminary cost estimate. For the 90% submittal, completed design plans will be included with all standards, special specifications and a construction cost estimate. The final submittal (100%) will address all of the City and TxDOT Bryan District comments and will be a complete package that includes construction drawings and construction cost estimate.

A preliminary estimate of probable construction cost with the preliminary plans submittal.

The final project deliverables will be design sheets as described above, the construction cost estimates and specifications. The construction plans will consist of the following: electronic PDF of 11"x17" sheets for 50% and 90% submittals, one copy of 11"x17" on paper signed/sealed for 100% submittal as well as electronic files in Microstation format, PDF, and plot files for 100% submittal.

Applicable pedestrian elements of the project will be inspected for ADA compliance by Eddie Hare or other local firm. The estimated fee for this work is included in the budget as an expense item.

"As-built" information from the construction contractor will be incorporated into the plan set to produce record drawings for the project. The contractor will provide a marked plan set to the Engineer showing the "as-built" information. The final plan sheets will be revised to indicate the "as-built" conditions.

### **BID PHASE SERVICES**

HDR will prepare and assemble the bid package, specifications and bid item quantities. City/TxDOT shall provide the standard boiler plate documents to be used in the bid package. The Engineer does not need to provide bid tabulation services for the City or TxDOT but will attend one pre-bid meeting. TxDOT will let all of the projects for bids and handle the bid opening and award.

### **CONSTRUCTION PHASE SERVICES**

The Engineer will provide construction phase services to include the following:

1. One pre-construction meeting with the selected contractor
2. Review submittals
3. Responses to requests for information (RFI's)
4. Review change orders
5. Attend monthly progress meetings (four [4] meetings are assumed)
6. Attend one final inspection upon completion of construction

**ATTACHMENT B**  
**FEE SUMMARY & ESTIMATED MONTHLY FEE SCHEDULE**

Payment to the ENGINEER will be made as follows:

A. Invoice and Time of Payment

Monthly invoices will be issued by the ENGINEER for all work performed under this Agreement. Invoices are due and payable on receipt. Invoices will be prepared in a format approved by the CITY prior to submission of the first monthly invoice. Monthly payment of the fee will be in proportion to percent completion of the total work for each fee item outlined below.

B. Upon completion of services enumerated in Attachment A, Scope of Services, the final payment of any balance will be due upon receipt of the final invoice.

**BASIC SERVICES -HDR      Not to Exceed Fee**

Traffic Signal/Flashing Beacon Design	\$84,954.56
Pavement Marking and Signing Design	41,465.17
Environmental Services	<u>809.47</u>
<b>SUBTOTAL BASIC SERVICES- HDR</b>	<b>\$127,229.20</b>

**BASIC SERVICES - SUBCONSULTANTS**

Topographic Survey - MBESI	8,080.40
Geotechnical Investigation - Terracon	<u>30,000.00</u>
<b>SUBTOTAL BASIC SERVICES - SUBS</b>	<b>\$38,080.40</b>

**BID PHASE SERVICES** \$8,934.13

**CONSTRUCTION PHASE SERVICES** \$13,988.97

**DIRECT EXPENSES** \$8,479.30

**TOTAL CONTRACT SERVICES** **\$196,712.00**

**ESTIMATED MONTHLY FEES**

February 1, 2015	\$ 46,601.93	Notice to Proceed, Survey & Geotech
March 1, 2015	\$ 6,634.26	Preliminary Engineering
April 1, 2015	\$ 13,268.51	Preliminary Engineering
May 1, 2015	\$ 13,268.51	50% Plan Submittal/review
June 1, 2015	\$ 19,902.77	90% Plan Development
July 1, 2015	\$ 19,902.77	90% Plan Development
August 1, 2015	\$ 19,902.77	90% Plan Development
September 1, 2015	\$ 13,268.51	90% Plan Submittal & Review
October 1, 2015	\$ 13,268.51	100% Plan Development
November 1, 2015	\$ 6,634.26	100% Plan Submittal Signed/Sealed
December 1, 2015	\$ 9,376.91	Bidding
January 1, 2016	\$ 1,468.23	Construction Services
February 1, 2016	\$ 1,468.23	Construction Services
March 1, 2016	\$ 1,468.23	Construction Services
April 1, 2016	\$ 2,202.34	Construction Services
May 1, 2016	\$ 2,202.34	Construction Services
June 1, 2016	\$ 2,202.34	Construction Services
July 1, 2016	\$ 2,202.34	Final Walk Through and Record Drawings
August 1, 2016	\$ 1,468.24	Project Close Out
Total	\$196,712.00	



**ATTACHMENT C  
PROJECT SCHEDULE**

**TASK COMPLETION OR MILESTONE**

Submit Preliminary Plans for City Review (50%):	May 1, 2015
Submit 90% Plans for Last City Review:	September 4, 2015
Submit Final Plans and Specifications:	November 6, 2015
Begin Advertisement:	December 4, 2015
Pre Bid Meeting:	December 11, 2015
Open Contractor Bids:	December 18, 2015
Construction Contract Award:	January 8, 2016

