

EXHIBIT "A"

PROFESSIONAL ENGINEERING SERVICES

PROFESSIONAL (Wier & Associates, Inc.) will perform full topographic surveys of the Dick Price Road proposed alignment (140-foot wide topo survey limits) and the proposed realignment of Gertie Barrett Road (80-foot wide topo survey limits). Topographic surveys will be performed on Main Street (Business U.S. Highway 287) for 400-feet to the north and south of the proposed Dick Price Road intersection. Additionally, topographic surveys will be performed along the existing drainageway that the project watershed drains to for purposes of designing project drainage improvements. The anticipated project survey limits are provided on the attached Exhibit "B".

The topographic survey will include ties to all visible features and break lines including franchise and City utilities, overhead utility lines, appurtenances and flow lines; drainage structures and flow lines, trees 6" in diameter or greater (*tree drip line ties are not included in this scope of services*), landscaped areas, bushes, shrubs, mailboxes, driveways, retaining walls, signs, curb lines, edges of pavement, flumes, gutters, sidewalk, pedestrian ramps, fences, and gates. The topographic survey will be included in a base map to be used for design purposes.

The location of existing underground utilities will be included in the base mapping from record drawing information provided to Wier & Associates, Inc. by the City, through coordination with the franchise utility owners and above ground field surveyed features.

PROFESSIONAL shall assist the CITY with services associated with this Project related to special surveys, tests, test borings, or other subsurface investigations necessary to complete the Project. Such surveys, tests, and investigations shall be made only upon authorization by and at the expense of the CITY. Professional will be performed Subsurface Utility Engineering (SUE) services to locate the two Tarrant Regional Water District raw water lines and a City of Arlington raw line that cross the proposed project alignment. A total of six test holes will be performed (two per line) to establish an elevation on the lines crossing the proposed roadway.

PROFESSIONAL will prepare paving and drainage design and plans designed in accordance with the City of Mansfield Design Criteria. The following are the anticipated specific components of the plan set.

A. Cover Sheet/General Notes

Wier & Associates, Inc. will include a cover sheet for the plan set and general notes / legend sheet will be included in the plan set based on standard City general notes as well as any notes specific to the project.

B. Quantity Summary

Quantities will be calculated for the project bid items and summarized in tabular format in the plan set and organized by project component. Each bid item will be quantified by plan sheet.

C. Demolition Plans

Demolition plans identifying all items to be removed, salvaged or abandoned in place will be included.

D. Paving Plans, Profiles, and Cross Sections

Paving plan and profile sheets will be included for Dick Price Road and Gertie Barrett Road, including street geometry, drive approach replacement, pedestrian ramp replacement and sidewalks. Roadway profile will be designed in consideration of a future at-grade crossing of the Union Pacific and Burlington Northern Sante Fe Railroad immediately west of the project end. Proposed cross sections will depict proposed and existing ground, pavement section depth and sidewalk where included.

E. Signing and Pavement Marking Layouts

Wier & Associates, Inc. will prepare proposed signing and pavement markings as required. Proposed signing will utilize standard MUTCD signs.

F. Drainage Plans

Wier & Associates, Inc. will prepare drainage area maps, drainage calculations, storm drainage designs and storm drainage improvement plan & profile sheets as required for the project in accordance with the City of Mansfield Design Criteria..

G. Illumination Plans

Wier & Associates, Inc. will prepare plans for the installation of street light bases and conduits for street light pole and electrical service installation by ONCOR. Lighting and electrical design will be provided by ONCOR.

H. Project Details

Wier & Associates, Inc. will include necessary and required non-standard details or TxDOT Standard details as part of the paving, drainage, and illumination details included in the project construction plans.

Structural design services, if required, are excluded from this scope of services, but can be provided for additional compensation.

PROFESSIONAL shall prepare an Initial Erosion Control Plan and Final Erosion Control Plan consistent with the latest NCTCOG Construction Controls Technical Manual to be utilized by contractor in the preparation of a Storm Water Pollution Prevention Plan (SWPPP) for this Project. The Erosion Control Plans shall be included in the bid set of plans and specifications.

PROFESSIONAL will prepare a general construction sequence and traffic control plan illustrating the anticipated construction phasing of the project and public access to the adjacent developed property including traffic control details.

PROFESSIONAL will engage a subconsultant to provide the following services:

- A. Perform a Traffic Signal Warrant Study for the proposed intersection of Dick Price Road and Main Street (U.S. Highway 287). Warrant Study will include traffic data collection, geometric evaluation of improvements to Dick Price Road and Main Street, forecasted traffic volume development and Warrants analysis. Operational Analysis and Signal Timing preparation are not included but can be provided as an additional service.
- B. If a traffic signal is deemed to be warranted, design and prepare plans for a traffic signal at the Dick Price Road and Main Street (U.S. Highway 287) intersection. Plans will include traffic signal poles, conduit runs, signal pull boxes, detectors, controller, electrical service and signal timing design. Signal design and plans will be in compliance with City of Mansfield and TxDOT requirements. The signal plans will be part of the street connection

permit plans submitted to TxDOT for review and permit. Bid Phase services will be included as part of the signal design including responding to bid questions, addenda preparation, bid review, contractor qualification review, pre-construction conference, review and respond to construction phase RFI's, shop drawing review and record plans.

PROFESSIONAL will assist the City in TxDOT street connection permitting for the intersection of proposed Dick Price Road and Main Street (U.S. Highway 287). TxDOT permitting will include the Traffic Signal plans if a signal is warranted and included in the project.

PROFESSIONAL shall provide detailed design data, profiles, cross-sections where appropriate, opinions of probable cost, complete detailed half size (11" x 17") plans as required by the CITY, and specifications for each interim review deliverable milestone and final deliverable milestone. The deliverables to the CITY shall include:

Digital files formatted in Adobe Acrobat (.pdf) and up to three (3) hard copies of each interim and final review set of plans and specifications and one (1) copy of each interim and final review itemized opinion of cost.

Digital files formatted in Adobe Acrobat (.pdf) and one (1) hard copy of the bid plans and specifications.

Digital files formatted in Adobe Acrobat (.pdf) and four (4) hard copies of the conformed for construction plans and specifications.

Record Drawings formatted in Adobe Acrobat (.pdf) and in AutoCAD (.dwg) on the same bearing structure and coordinate system as the City of Mansfield Geodetic Control Network.

PROFESSIONAL shall determine the right-of-way and easement needs necessary for the construction of the project and furnish same to the CITY. This contract includes design surveys. PROFESSIONAL shall provide the necessary land survey, Deed and Abstract Records search, right-of-way maps and descriptions of properties to be acquired.

PROFESSIONAL shall prepare individual right-of-way or easement parcel exhibits for use by the CITY in acquiring any needed right-of-way or easements for this project. It is estimated that five (5) right-of-way acquisition parcels and ten (10) easement parcels will be required.

PROFESSIONAL shall assist in the tabulation and review of all bids received for the construction of the improvements and shall make recommendations for award to the CITY.

PROFESSIONAL shall review, interpret, and provide direction to the CITY during the construction phase. Such consultation and reviews shall be for general conformance with the design concept and general compliance with the plans and specifications under the Construction Contract. When necessary, PROFESSIONAL shall assist City in preparing Change Orders for construction of the project.

CITY shall make available to PROFESSIONAL for use in performing services hereunder all existing plans, maps, field notes, statistics, computations, and other data in City's possession relative to existing facilities and to this Project.

CITY, through its surveying contractor, shall provide all surveys for design, right-of-way, easements, and construction control staking. Soils testing, and construction-phase services for this project are not to be provided by PROFESSIONAL beyond that identified in this Exhibit.

SCHEDULE

Engineering work on this project shall be completed according to the following schedule:

- (1) Topographic and Boundary / Right-of-way surveys and Preliminary review plans shall be submitted for City review within **182** calendar days after receipt of Notice to Proceed post Railroad Crossing Conceptual review.
- (2) Final review plans and specifications shall be submitted for City review within **63** calendar days after receipt of City's preliminary review comments.
- (3) Construction plans and specifications shall be submitted for advertising within **21** calendar days after receipt of City's final review comments.
- (4) Advertising documents shall be prepared and submitted to City within **14** calendar days of City approval of the construction plans and specifications.

PAYMENT FOR SERVICES

Right-of-way and Design Topographic Survey Fee:	\$53,000.00
Base Design Fee:	\$180,000.00
TxDOT Permitting	\$15,000.00
Traffic Signal Warrant Study (Dick Price Road & Main Street intersection)	\$14,000.00
Traffic Signal Design (if warranted & authorized by Client) including Bid Phase Services	\$64,500.00
Subsurface Utility Engineering (SUE) Services	\$18,500.00
Right-of-way / Easement Parcel Preparation [Estimated eleven (11) Parcels]:	\$28,300.00
Printing / Reproduction:	\$1,500.00
TOTAL PROJECT FEE:	\$374,800.00

Progress payments shall be made monthly upon receipt of an invoice from PROFESSIONAL outlining the work tasks performed and an estimated percent completion of the work along with itemized charges for services performed during the period in accordance with the standard hourly rates.

The aggregate of monthly progress payments shall not exceed the following:

- A. Until satisfactory completion of 75% interim review plans and specifications hereunder, a sum not to exceed 75% of the total fee, less previous payments.
- B. Until satisfactory completion of 90% interim review plans and specifications hereunder, a sum not to exceed 90% of the total fee, less previous payments.
- C. Until satisfactory completion of 100% final review plans and specifications hereunder, a sum not to exceed 98% of the total fee, less previous payments.
- D. Balance of earnings to be due and payable upon completion and preparation of the "Record Drawings".

WAGE RATE SCHEDULE

Hourly reimbursable services will be provided on the basis of the specific staff positions engaged to complete the project/task and such staff positions will be invoiced at the firm's current rates.

Billing rates for individual staff members or for survey crews may be adjusted twice annually (at April 1 and/or October 1) if ENGINEER/SURVEYOR adjusts salary or pay rates of employees.

Current billing rates are listed below.

<u>Office staff</u>	<u>Billing Rate Per Hour</u>
Principal/Founder PE or RPLS	\$299.00
Senior Project Manager PE or RPLS	\$261.00
Project Manager PE or RPLS	\$234.00
Senior Reg. Professional PE/RPLS or Team Leader	\$214.00
Registered Professional PE or RPLS	\$188.00
Graduate Engineer/Surveyor-in-Training (EIT/SIT)	\$165.00
Senior CADD Technician	\$158.00
CADD Technician	\$137.00
Junior CADD Technician	\$117.00
Admin/Support	\$95.00

Field Survey Crew staff

Party Chief	\$137.00
Instrument Man	\$ 58.00

Based on billing rates for individual crew members as shown above, the billing rates for survey crews will be as follows:

One-man Field Survey Crew	\$137.00
Two-man Field Survey Crew	\$195.00
Scanner Survey Crew	\$235.00