# ENGINEERING SERVICES AGREEMENT

**THIS AGREEMENT** is made and entered by and between the COLLIN COUNTY TOLL ROAD AUTHORITY, a political subdivision of the State of Texas, hereinafter referred to as "CCTRA", and, BROWN & GAY ENGINEERS, INC., a Texas Corporation, hereinafter referred to as "Engineer", to be effective from and after the date as provided herein.

**WITNESSETH:**

**WHEREAS**, the CCTRA desires to engage the services of the Engineer for preparation of preliminary engineering, alignment refinement, right-of-way (ROW) mapping, detailed design schematic and to perform other related engineering services in connection with the ultimate build-out of the **Collin County Outer Loop Segment 3 from FM 2478 to US 75** in Collin County, hereinafter referred to as the "Project"; and

**WHEREAS**, the Engineer desires to render such engineering services for the CCTRA upon the terms and conditions provided herein.

**NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:**

That for and in consideration of the covenants contained herein, and for the mutual benefits to be obtained hereby, the parties hereto agree as follows:

## 1. Retention of the Engineer

The CCTRA hereby agrees to retain the Engineer to perform professional engineering services in connection with the Project; Engineer agrees to perform such services in accordance with the terms and conditions of this Agreement, exercising the same degree of care, skill, and diligence as is ordinarily possessed and exercised by a member of the same profession, currently practicing, under similar circumstances.

## II. Scope of Services

2.1 The parties agree that Engineer shall perform such services as are set forth herein and described in Exhibit "A", which is attached hereto and thereby made a part of this Agreement. Work for each phase shall be preceded by a Notice to Proceed issued by CCTRA. The parties understand and agree that deviations or modifications in the form of contract amendments may be authorized from time to time by the CCTRA.

2.2 The Engineer will serve as CCTRA's professional engineering representative under this Agreement, providing professional engineering, consultation, advice and furnishing customary services incidental thereto.

2.3 The Engineer shall advise the CCTRA with regard to the necessity for subcontract work such as special surveys, tests, test borings, or other subsurface investigations in connection with design and engineering work to be performed hereunder. The Engineer shall also advise the CCTRA concerning the results of same. Such survey, test, and investigations shall be furnished to the CCTRA.

2.4 The Engineer shall assist the CCTRA in the preparation and filing of documents required for the approval of governmental authorities having jurisdiction over the Project.

## III. Schedule of Services

3.1 The Engineer agrees to commence its services immediately upon execution of this Agreement, or as otherwise directed in writing by the CCTRA, and to proceed diligently with said services to completion as described in the Completion Schedule attached hereto as Exhibit "B" and thereby made a part of this Agreement. Engineer shall not be considered in default of this Agreement for delays in performance caused by circumstances beyond its reasonable control. Should such circumstances occur, the Engineer shall, within a reasonable time of being prevented from performing, give written notice to the CCTRA describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement.

3.2 In the event that the Engineer is delayed in the progress of the work on the Project by an act or neglect of the CCTRA, CCTRA's employees, or separate contractors employed by the CCTRA, or by changes ordered in the Project, fire, adverse weather conditions not reasonably anticipated, unavoidable casualties or other causes beyond the Engineer's control, or delay authorized by the CCTRA pending arbitration, or by other causes which the CCTRA and Engineer agree may justify delay, then the Contract Time shall be reasonably extended by Contract Amendment. The CCTRA shall have the right at any time to delay or suspend the work or any part thereof for any reasonable time and if this happens, the Engineer's sole remedy for any delays or suspension shall be any extension of time. However, should the delay continue for more than one year past the original completion date in the completion schedule, the Engineer may request to renegotiate their professional fee provided that the fee is reasonable and substantiated by documents showing the need for the requested increase. Any request for a fee increase shall be submitted to CCTRA for final approval. The CCTRA shall not be independently liable to the Engineer for any delay or interference caused by circumstances beyond the CCTRA's control or any delay caused by any other person or entity.

## IV. Compensation and Method of Payment

The parties agree that Engineer shall be compensated for all services provided pursuant to this Agreement in the amount and manner described and set forth in the Payment Schedule attached hereto as Exhibit "C" and thereby made a part of this Agreement. Engineer further agrees that it will prepare and present such monthly progress reports and itemized statements as are described in said Exhibit "C". Payment will be made in accordance with The Texas Government Code, Title 10, Subtitle F, Chapter 2251. Engineer further agrees to the following terms prior to payment being due by CCTRA:

A. Invoice and Payment

(1) The Engineer shall provide the CCTRA sufficient documentation to reasonably substantiate the invoices.
(2) The Engineer will issue monthly invoices for all work performed under the Agreement.
(3) In the event of disputed or contested billing, only that portion so contested will be withheld from payment, and the undisputed portion will be paid. The CCTRA will exercise reasonableness in contesting any portion thereof. NO interest will accrue on any contested portion of the billing until mutually resolved.
(4) In the event of any conflict between Paragraph IV and Chapter 2251 of the Texas Government Code, The Texas Government Code shall prevail.

## V. Information to be provided by the CCTRA

5.1 The CCTRA agrees to furnish to Engineer, prior to the Engineer's commencement of its services, all that information set forth and described on Exhibit "D", which is attached hereto and thereby made a part of this Agreement.

5.2 The CCTRA will make its facilities accessible to the Engineer as required for the Engineer's performance of its services. The Engineer represents that it understands the scope of this Agreement and has reviewed and inspected the Project sites, and can fully perform its obligations pursuant to this Agreement. Any failure of the Engineer to acquaint itself with the available information will not relieve the Engineer from its responsibilities pursuant to this Agreement.

5.3 The CCTRA shall disclose, to the extent known to the CCTRA, the results of prior tests, inspections or investigations conducted for the Project upon request by the Engineer.

## VI. Progress Meetings

In addition to providing the monthly progress reports as required under Paragraph IV herein above, Engineer agrees to attend all monthly progress meetings scheduled by CCTRA, and at such meetings to outline work accomplished and special problem or delays encountered in connection with the Project during the previous report period, as well as planned work activities and special problems and delays anticipated for the next report period. The Engineer agrees to cooperate and coordinate with other design professionals, the CCTRA and its contractors to help facilitate efficient construction of the Project and maintain the Project schedule.

## VII. Insurance

Engineer agrees to meet all insurance requirements as set forth on Exhibit "E" which is attached hereto and thereby made a part of this Agreement.

## VIII. Indemnity

Engineer agrees to indemnify the CCTRA to the fullest extent allowed by section 271.904 of the Texas Local Government Code, including payment of the CCTRA's reasonable attorneys' fees to the extent such is allowed under 271.904(b).

## IX. Independent Contractor

In the performance of services hereunder, the Engineer shall be deemed an independent contractor and shall not, with respect to its acts or omissions, be deemed an agent, subcontractor or employee of the CCTRA.

## X. Assignment and Subletting

The Engineer agrees that neither this Agreement nor the services to be performed hereunder will be assigned or sublet without the prior written consent of the CCTRA. The Engineer further agrees that the assignment or subletting or any portion or feature of the services required in the performance of this Agreement shall not relieve the Engineer from its full obligations to the CCTRA as provided by this Agreement.

## XI. Audits and Records/Prohibited Interest

11.1 The Engineer agrees that at any time during normal business hours, and as often as CCTRA may deem necessary, Engineer shall make available to representatives of the CCTRA for examination all of its records with respect to all matters covered by this Agreement, and will permit such representatives of the CCTRA to audit, examine, copy and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment and other data relating to all matters covered by this Agreement, all for a period of three (3) years from the date of final settlement of this Agreement or of such other or longer period, if any, as may be required by applicable statute or other lawful requirements.

11.2 The Engineer agrees that it is aware of the conflict of interest requirements of the state law which are applicable to persons entering into contracts with the CCTRA and will abide by the same. Further, a lawful representative of Engineer shall execute the Affidavit shown in Exhibit "F". Engineer understands and agrees that the existence of a conflict of interest during the term of this Agreement will render the agreement voidable.

11.3 The Engineer acknowledges to the CCTRA that it has made full disclosure in writing of any existing conflicts of interest or potential conflicts of interest, including personal financial interest, direct or indirect, in property abutting the proposed Project and business relationships with persons or entities with interest in abutting properties.

## XII. Contract Termination

The parties agree that CCTRA shall have the right to terminate this Agreement without cause upon thirty (30) days written notice to Engineer. In the event of such termination without cause, Engineer shall deliver to CCTRA all finished or unfinished documents, data, studies, surveys, drawings, maps, models, reports, photographs or other items prepared by Engineer in connection with this Agreement. Engineer shall have the right to terminate this Agreement upon thirty (30) days written notice to CCTRA in the event of the CCTRA's breach of any material term of this Agreement, including but not limited to compensation and method of payment. Regardless of which party initiates termination, Engineer shall be entitled to compensation for any and all services completed to the satisfaction of CCTRA in accordance with the provisions of this Agreement prior to termination.

## XIII. Cost Estimates

The parties recognize and agree that any and all Engineer's estimates of probable construction costs (estimates) prepared by Engineer in connection with the Project represent the best judgment of Engineer as a design professional familiar with the construction industry, but that the Engineer has no control over costs or the price of labor, equipment or materials or over the Contractor's methods of pricing and does not guarantee that any bids solicited or received in connection with the Project will not vary from estimates prepared by Engineer.

## XIV. Ownership of Documents

Original drawings and specifications (Instruments of Service) created by Engineer are the property of the Engineer; however, the Project is the property of the CCTRA, and Engineer may not use the drawings and specifications for any purpose not relating to the Project without CCTRA's consent. CCTRA shall be furnished with such reproductions of drawings and specifications as CCTRA may reasonably require. Upon completion of the services or any earlier termination of this Agreement under Article XII, and payment in full of all monies due Engineer, Engineer will revise drawings to reflect significant changes made during construction

as per the marked-up prints, drawings, and other data furnished to the Engineer by or through the CCTRA or Contractor. Engineer will promptly furnish the CCTRA with one (1) complete set of reproducible record prints. All such reproductions shall be the property of the CCTRA who may use them without the Engineer's permission for any proper purpose relating to the Project, including but not limited to, maintenance of the Project, additions to the Project, or completion of the Project. The aforementioned revisions will be based upon information supplied by the CCTRA's construction contractor and will be assumed by Engineer to be complete and accurate. As such, Engineer shall not be responsible for errors or omissions resulting therefrom. Prints shall be furnished, as an additional service, at any other time requested by CCTRA. The CCTRA may use such drawings in any manner it desires; provided, however, that the Engineer shall not be liable for the use of such drawings for any project other than the Project described herein.

## XV. Complete Contract

15.1 This Agreement, including the exhibits hereto numbered "A" through "F", constitute the entire agreement by and between the parties regarding the subject matter hereof and supersedes all prior written or oral understandings. This Agreement may only be amended, supplemented, modified or canceled by a duly executed written instrument, signed by the CCTRA and the Engineer.

15.2 Warranties contained in this Agreement are in addition to and not in lieu of, any and all other liability imposed upon the Engineer by law with respect to the Engineer's duties, obligations, and performance hereunder. The Engineer's liability hereunder shall survive the CCTRA's final acceptance and payment for the Project. All representations and warranties set forth in this Agreement, including without limitation, this paragraph, shall survive the final completion of the Work or earlier termination of this Agreement. The Engineer acknowledges that the CCTRA is relying upon the Engineer's skill and experience in performing the services pursuant to this Agreement.

## XVI. Mailing of Notices

Unless instructed otherwise in writing, Engineer agrees that all notices or communications to the CCTRA permitted or required under this Agreement shall be addressed to the CCTRA at the following address:

Collin County Engineering
Attn: Clarence Daugherty, P.E.
4690 Community Ave., Suite 200
McKinney, TX 75071

CCTRA agrees that all notices or communications to Engineer permitted or required under this Agreement shall be addressed to Engineer at the following address:

Brown & Gay Engineers, Inc.
Attn: Michael H. Garrison, P.E.
2595 Dallas Parkway, Suite 204
Frisco, TX 75034

All notices or communications required to be given in writing by one party or the other shall be considered as having been given to the date such notice or communication is posted by the sending party.

## XVII. Miscellaneous

### A. Paragraph Headings

The paragraph headings contained herein are for convenience only and are not intended to define or limit the scope of any provision in this Agreement.

### B. Interpret Contract Fairly

Although this Agreement is drafted by CCTRA, should any part be in dispute, the parties agree that the Agreement shall not be construed more favorable for either party.

### C. Venue/Governing Law

The parties agree that the laws of the State of Texas shall govern this Agreement, and that it is performable in Collin County, Texas. The venue for any litigation related to this Agreement shall be in Collin County, Texas.

### D. Expenses for Enforcement

In the event either Party hereto is required to employ an attorney to enforce the provisions of this Agreement or is required to commence legal proceedings to enforce the provisions hereof, the prevailing Party shall be entitled to recover from the other, reasonable attorney's fees and court costs incurred in connection with such enforcement, including collection.

### E. Parties Bound

CCTRA and Engineer, and their partners, successors, subcontractors, executors, legal representatives, and administrators are hereby bound to the terms and conditions of this Agreement.

### F. Severability

In the event a term, condition, or provision of this Agreement is determined to be void, unenforceable, or unlawful by a court of competent jurisdiction, then that term, condition, or provision shall be deleted and the remainder of the Agreement shall remain in full force and effect.

### G. Effective Date

This Agreement shall be effective from and after execution by both parties hereto.

### H. Term of Agreement

The term of Agreement shall conform to the schedule as stipulated in Exhibit "B" attached herein. No other extension shall be authorized unless granted by written agreement between the CCTRA and Engineer.

### I. Observe and Comply

Engineer shall at all times observe and comply with all federal and State laws and regulations and with all City ordinances and regulations which in any way affect this Agreement and the work hereunder, and shall observe and comply with all orders, laws, ordinances and regulations which may exist or may be enacted later by governing bodies having jurisdiction or authority for such enactment. No plea of misunderstanding or ignorance thereof shall be considered. Engineer agrees to defend, indemnify and hold harmless CCTRA and all of its officers, agents, and employees from and against all claims or liability arising out of the violation or any such order, law, ordinance, or regulation, whether it be by itself or its employees, as applicable by law.

**WITNESS OUR HANDS AND SEALS** on the date indicated below.

COLLIN COUNTY, TEXAS

Date: 7/26/16

By: _____
Michalyn Rains, CPPO, CPPB
Purchasing Agent
Court Order No. 2016-3022-07-19

BROWN & GAY ENGINEERS, INC.

Date: July 25, 2016

By: _____

Michael H. Garrison, PE
Print Name

Title: Vice President

## ACKNOWLEDGMENT

**STATE OF TEXAS** }
}
**COUNTY OF COLLIN** }

**BEFORE ME**, Pati Doherty on this day personally appeared Michael H. Garrison, of Brown & Gay Engineers, Inc., a Texas Corporation, known to me (or proved to me on the oath of _____ or through Texas Drivers License (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same as the act and deed of the corporation, for the purposes and consideration therein expressed and in the capacity therein stated.

**GIVEN** UNDER MY HAND AND SEAL OF OFFICE, this 25 day of July 2016.

Pati Doherty
Notary Public, State of Texas

Pati Doherty
Printed Name

My Commission expires on the 2nd day of May, 2019.

PATI DOHERTY NOTARY PUBLIC STATE OF TEXAS EXPIRES MAY 2, 2019 NOTARY ID: 6111067

**STATE OF TEXAS** }
}
**COUNTY OF COLLIN** }

**BEFORE ME**, Sherrie LaFollett on this day personaly appeared Michalyn Rains, Purchasing Agent of COLLIN COUNTY, TEXAS, a political subdivision of the State of Texas, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same as the act and deed of COLLIN COUNTY, TEXAS, for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 26 day of July, 2016.

Sherrie LaFollett
Notary Public, State of Texas

Sherrie LaFollett
Printed Name

SHERRIE LAFOLLETT Notary Public STATE OF TEXAS Notary ID # 12482976-6 My Comm. Exp. March 5, 2020

My Commission expires on the 5 day of March, 2020.

# EXHIBIT "A"

## Collin County Outer Loop Segment 3
## Schematic Design
## FM 2478 to US 75

### Purpose

The Scope of Work to be performed by the ENGINEER under this contract will consist of the preparation of preliminary engineering, alignment refinement, right-of-way (ROW) mapping, and the detailed design schematic for the ultimate build-out of the Collin County Outer Loop facility along Segment 3 approximately 9 miles from FM 2478 to US 75 (the "Project") utilizing existing approved corridor alignments and previous design concepts completed within the project limits. The alignment refinement study area will be based on the existing *Technically Approved Alignment (CH2M Hill, August 2012)*.

### Details

1. The Engineer will prepare a detailed design schematic exhibit (Plan and Profile) consisting of future frontage roads, mainlanes, ramps, and interchanges. ROW limits will be determined based on an approved corridor typical section and proposed geometric design.
2. Design Criteria for the project shall comply with TxDOT 4R guidelines for freeways.
3. This Project will be developed utilizing English units of measure and all final schematic exhibits will be provided in roll format.
4. The work described in this scope of services will include the following major work tasks: Assembly and Review of Data; Corridor Section Evaluation; Diagrammatic Corridor Refinement; Schematic Development; Hydrologic and Hydraulic Investigation; Environmental Studies; Public Involvement; Project Management; Survey and Right-of-Way; and Utility Investigation.

## BASIC SERVICES

### BS1. ASSEMBLY AND REVIEW OF DATA

A. Collection of Data, Reports, and Maps

The determination of data requirements, availability, and sources will be coordinated with the COUNTY. Once the data needs and sources are identified, the ENGINEER will contact the appropriate agencies and organizations to obtain the data. Data to be collected will include, but not be limited to:

- Previous studies, exhibits, design, and reports.
- Stakeholder planning documents (zoning information, thoroughfare maps, preliminary plats, design schematics).
- Utility plans and documents from appropriate municipalities and utility companies.
- Readily available plan sets for crossing or abutting sections within the Project Limits.
- Readily available flood plain information and studies from the Federal Emergency Management Agency, FEMA, the Corps of Engineers and/or other governmental agencies.
- The ENGINEER will obtain electronic and/or hard copies from the COUNTY: GIS Data, drainage reports, mapping, survey, and improvement plans within the scoped area. The ENGINEER will acquire from the COUNTY any aerial mapping and soil

data for the designated area.
- Topographic contours (2') and georeferenced aerial photos obtained from the North Central Texas Council of Governments (NCTCOG).
- Obtain desktop level environmental constraints mapping from NCTCOG based on existing environmental databases.

B. Field Reconnaissance

The ENGINEER will perform a corridor site visit to obtain field notes and digital photos along the project corridor. This will include both environmental and engineering staff.

C. Review of Data/Base File Creation

The ENGINEER will review the data collected and from this information will:
- Integrate additional data into the study file as it becomes available.
- Develop base CAD files (Microstation V8i) that will be utilized for corridor evaluation including, but not limited to, 2007 2' NCTCOG topographic contours converted from GIS base file; 2015 NCTCOG georeferenced aerial imagery; existing utilities from visual analysis and additional research; FEMA flood plain limits converted from GIS; parcels and right-of-way converted from the latest Collin County Appraisal District GIS database.
- Initial environmental constraints (from NCTCOG) mapping will be utilized to refine corridor limits to minimize impacts to known environmentally sensitive areas.

Note: 2' NCTCOG GIS contours will be converted to CAD and utilized to create a 3D topographic existing ground surface for use in the corridor evaluation process. The surface will be utilized to create conceptual profile alignments and geometrics to refine corridor location and limits. After the corridor evaluation is completed, the project will be flown to create design-level survey from aerial photogrammetry and augmented with field survey to fill voided areas (see survey section). The final corridor geometrics will be confirmed and refined, as needed, to best match the design-level survey and to meet the latest TxDOT Roadway Design Manual standards.

Task BS1 Deliverables
1. Field Notes and Site Photographs

**BS2. CORRIDOR SECTION EVALUATION**

The ENGINEER will take the previously approved ultimate Outer Loop corridor design criteria/typical section and provide up to two (2) alternate corridor typical sections for COUNTY consideration along with a technical memorandum describing the alternatives and associated design criteria. Alternate sections will determine feasibility and alternate solutions for the location of the mainlanes, frontage roads, ramps, and future rail/transit facilities.

The COUNTY will provide selection and approval of any alternate design criteria and typical corridor section.

The ENGINEER shall apply appropriate Roadway Design Criteria based on TxDOT 4R guidelines and prepare a Design Criteria Tabulation for the project and will submit to the COUNTY for approval. The ENGINEER will use the design criteria to identify the maximum and minimum values for all design elements including drainage criteria and will identify the project preferred values.

Coordination meetings with the County and Stakeholders are included in **Task BS8**.

Task BS2 Deliverables

1. Technical Memorandum of up to two (2) alternate corridor typical sections including any applicable exhibits.
2. Design Summary Report (DSR)

**BS3. DIAGRAMMATIC CORRIDOR REFINEMENT**

The ENGINEER will utilize information described in **Task BS1** to update the existing *Technically Approved Alignment (CH2M Hill, August 2012)* corridor map based on revisions to the *Technically Approved Alignment* since it was approved in 2012 (corridor alignment, property boundaries/ownership, available stakeholder planning data, utilities, etc.).

A. FM 2478 (Custer Road) to US 75

The ENGINEER will coordinate and determine a corridor alignment based on the current approved location of the ultimate FM 2478 overpass and fixed location of the ultimate US 75 interchange. The alignment will be based on the technically approved alignment but may vary to better fit existing property boundaries and to avoid displacements where practical. The alignment refinement exercise will be conducted with input from the cities of McKinney, Anna, Melissa, and Weston, along with other stakeholders along this corridor.

Alternate corridor evaluation will include the following:

1. High-Level Environmental Constraints Evaluation
2. Identification of impacts in each of the following categories:
    a. Enhanced Mobility and Safety
        i. Accessibility
        ii. Safety
    b. Cost Effectiveness
        i. Construction Cost
        ii. ROW Acquisition Impact
        iii. Utility & Infrastructure
    c. Engineering Feasibility
        i. Compatibility with Other Projects
    d. Environmental Impacts
        i. Previous Public Input
        ii. Socio-Economic & Neighborhood Impacts
        iii. Noise Impacts
        iv. Natural Impacts
        v. Cultural Impacts
        vi. Stakeholder Input
        vii. Hazardous Materials
3. Preparation of Scoring Matrix for each impact (shown above)

B. Interchange Evaluation

The ENGINEER will discuss and provide concept alternatives for potential grade separated interchanges at CR 126, FM 543, CR 204, CR 206, CR 281, and CR 286 based on available traffic data and coordination with stakeholders. This concept analysis will not include any design but will determine feasibility of interchange type (e.g. Diamond, Directional, Box, etc.).

C. Outer Loop Corridor Alternatives Exhibit

The ENGINEER will provide a corridor exhibit map in roll format showing the following information:

1. Best available aerial imagery along the corridor
2. Property boundaries and legal descriptions based on GIS data provided by COUNTY and surveyed data from Segment 3 (FM 2478 to US 75). Zoning information will be shown if available.
3. Existing features: Existing roadways, floodplains, streams, developments, and major structures.
4. Future features: Planned thoroughfares, utility corridors/improvements, and approved plats.
5. Approved corridor alignment (500' typical width) based on the previously approved corridor.
6. Approximate location(s) of future interchange(s).
7. Up to two (2) alternate corridor alignments (500' typical width) based on approved corridor design criteria (one alignment being the *Technically Approved Alignment* (August 2012)).
8. Technical report providing an evaluation of any alternate corridor alignments including socioeconomic, environmental, cost, development feasibility, and design implications of each. Evaluation will be based on best available data and any previous stakeholder input.

The ENGINEER will provide a diagrammatic ramping concept exhibit in roll format showing the following information:

1. Stick diagram of proposed Outer Loop corridor and major current and future cross streets.
2. Stick diagram showing proposed ramping configuration based on spacing and control of access criteria defined in the TxDOT Roadway Design Manual or as directed by the COUNTY.

D. Final Outer Loop Corridor Exhibit

Based on COUNTY review of the Outer Loop Corridor Alternatives Exhibit and any stakeholder input, the ENGINEER will refine and provide a final corridor exhibit map in roll format showing the following information:

1. Best available aerial imagery along the corridor
2. Property boundaries and legal descriptions based on GIS data provided by COUNTY and surveyed data from Segment 3a (DNT to East of Preston Road). Zoning information will be shown if available.
3. Existing features: Existing roadways, floodplains, streams, developments, and major

structures.

4. Future features: Planned thoroughfares, utility corridors/improvements, and approved plats.
5. Approved corridor alignment (500' typical width) based on the previously approved corridor and any corridor alignment adjustments based on stakeholder and COUNTY coordination.
6. Approximate location(s) of future interchange(s).

Based on COUNTY review of the draft diagrammatic ramping concept and any stakeholder input, the ENGINEER will provide a final diagrammatic ramping concept exhibit in roll format showing the following information:

1. Stick diagram of proposed Outer Loop corridor and major current and future cross streets.
2. Stick diagram showing proposed ramping configuration based on spacing and control of access criteria defined in the TxDOT Roadway Design Manual or as directed by the COUNTY.

E. Public Meeting & Hearing

For additional public involvement related tasks, see section BS7. Public Involvement

The ENGINEER will provide a response to any stakeholder comments to the COUNTY, including engineering backup figures and/or exhibits.

F. Corridor Presentation

The ENGINEER will prepare a technical PowerPoint presentation and present a refined corridor alignment for COUNTY approval.

Task BS3 Deliverables

1. Preliminary Corridor Exhibit Map
2. Technical Report of Alternate Corridors
3. Final Corridor Exhibit Map
4. All design files and deliverable in electronic format (PDF, DOC, DGN, DWG, etc.)

**BS4. SCHEMATIC DEVELOPMENT**

The ENGINEER will utilize the refined approved corridor alignment and diagrammatic ramping concept (**Task BS3**) and approved corridor section (**Task BS2**) to develop a detailed design schematic for the ultimate build-out of the Collin County Outer Loop from FM 2478 to US 75.

The Engineer will prepare a schematic layout to a scale of 1"=100' depicting the proposed improvements for the project. The schematic shall include: the location of interchanges, grade separations, retaining walls, frontage roads and ramps; the geometric (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of proposed highway ramps, frontage roads, and cross roads; the vertical and horizontal alignment of ramps, frontage roads, and cross roads at proposed interchanges or grade separations; the degree of horizontal curves and vertical curve data, including "K" values, shall also be shown;

the location and text of any newly proposed main lane guide signs; the lane lines and/or arrows indicating the number of lanes; the existing and proposed ROW limits; the existing and proposed drainage and construction easements; the control of access lines; the direction of traffic flow on all roadways; the geometrics of speed change (acceleration, deceleration, climbing) lanes; removal items, and major utility conflicts. The schematic will be prepared using the English system of units. All designs will be prepared in accordance with the latest versions of: Roadway Design Manual (TxDOT), A Policy on Geometric Design of Highways and Streets (AASHTO), Standard Specifications for Construction of Highways, Streets and Bridges (TxDOT), Highway Operations Manual of the Traffic Operations Manual (TxDOT), and Highway Capacity Manual (Transportation Research Board).

In preparing the schematic, the ENGINEER will:

A. General

1. Develop typical roadway sections for proposed mainlanes, frontage roads, ramps, major cross streets, and other locations with specific design features (bridges, retaining walls, and intersections). Typical sections for future cross streets will be based on best-available data provided by the COUNTY.
2. Produce plan & profile schematic exhibits on roll plots at a scale of 1" = 100' showing proposed features, existing features, title block, and legend.
3. Develop a 3D corridor model of the mainlanes, ramps, and frontage roads and provide design of roadway templates and end conditions throughout the corridor according to the proposed design.
4. Evaluate potential utility conflicts based on Level C/D SUE data and label crossings on the schematic.

B. Mainlanes

1. Design preliminary horizontal alignments for mainlanes based on the approved corridor alignment (**Task BS3**). Any proposed deviation from this approved alignment will require COUNTY approval and re-design of a non-approved alignment is not included in this scope of services.
2. Design necessary superelevation rates and transition distances in accordance with the project DSR.
3. Design of preliminary profiles of mainlanes based on preliminary horizontal alignments (excluding at grade separated locations).
4. Design preliminary locations and limits of retaining walls (no retaining wall profiles will be provided – based on cross section data).
5. Show preliminary location of major cross culverts including preliminary sizing. Studied floodplain areas within the project corridor will be displayed based on available GIS data. (**Task BS5**).
6. Identify approximate major utility locations based on Level C/D subsurface utility engineering (SUE).
7. Design and show preliminary pavement markings.

C. Mainlane Ramps

1. Design preliminary horizontal alignments for mainlane ramps based on the approved corridor ramping scheme (**Task BS3**). Any proposed deviation from this approved alignment will require COUNTY approval and re-design of a non-approved alignment is not included in this scope of services.
2. Design necessary superelevation rates and transition distances in accordance with the project DSR.

3. Design of preliminary profiles of mainlane ramps based on preliminary horizontal alignments.
4. Design preliminary locations and limits of retaining walls (no retaining wall profiles will be provided – based on cross section data).
5. Show preliminary location of major cross culverts including preliminary sizing. Studied floodplain areas within the project corridor will be displayed based on available GIS data. (**Task BS5**).
6. Identify approximate major utility locations based on Level C/D subsurface utility engineering (SUE).
7. Design and show preliminary pavement markings.

D. Frontage Roads (Eastbound & Westbound)

1. Design preliminary horizontal alignments for the eastbound and westbound frontage roads based on the approved corridor alignment (**Task BS3**). Any proposed deviation from this approved alignment will require COUNTY approval and re-design of a non-approved alignment is not included in this scope of services.
2. Design necessary superelevation rates and transition distances in accordance with the project DSR.
3. Design of preliminary profiles of the eastbound and westbound frontage roads based on preliminary horizontal alignments.
4. Evaluate and show proposed control of access based on entrance and exit ramp locations.
5. Design preliminary locations and limits of retaining walls (no retaining wall profiles will be provided – based on cross section data).
6. Show preliminary location of major cross culverts including preliminary sizing. Studied floodplain areas within the project corridor will be displayed based on available GIS data. (*Refer to Task BS5)*
7. Identify approximate major utility locations based on Level C/D subsurface utility engineering (SUE).
8. Design and show preliminary pavement markings.
9. Determine preliminary right-of-way and easement limits and need including any necessary easements based on proposed geometric design. Property boundaries will be displayed based on surveyed property corners.
10. Determine and show control of access limits based on preliminary ramp locations using TxDOT's Access Management criteria or other provided by the COUNTY.

E. Intersections, Interchanges & Grade Separated Locations

The ENGINEER will evaluate the County Thoroughfare Plan at the following crossing facilities to determine the need for frontage road intersections and ultimate grade separations. For those that are planned 4-lane and greater, design preliminary locations of bridge crossings including preliminary sizing and limits:

a. CR 126
b. Honey Creek (waterway bridge)
c. FM 543 (anticipated grade separation)
d. CR 204
e. CR 206
f. CR 281
g. East Fork Trinity River (proposed waterway bridge)
h. CR 286

At each location the ENGINEER will:

1. Design preliminary horizontal alignments for the interchanges and grade-separated locations based on the approved corridor alignment and interchange concepts (**Task BS3**). Any proposed deviation from this approved alignment will require COUNTY approval and re-design of a non-approved alignment is not included in this scope of services.
2. Design of preliminary profiles for the interchanges and grade-separated locations based on preliminary horizontal alignments and vertical clearance requirements.
3. Determine preliminary bridge configuration including overall length, span lengths, and an assumed structure depth. Bridge sizing will not include bridge layouts and will be based on needed span length, an assumed substructure depth, and proposed profile.
4. Design preliminary locations and limits of retaining walls (no retaining wall profiles will be provided – based on cross section data).
5. Show preliminary location of major cross culverts including preliminary sizing. Studied floodplain areas within the project corridor will be displayed based on available GIS data. (*Refer to Task BS5)*
6. Identify approximate major utility locations based on Level C/D subsurface utility engineering (SUE).
7. Design and show preliminary pavement markings.
8. Determine preliminary right-of-way and easement limits and need including any necessary easements based on proposed geometric design. Property boundaries will be displayed based on surveyed property corners.

The proposed ultimate interchange design located at the intersection of the Outer Loop with FM 2478 (Custer Road) and the Outer Loop and US 75 will be provided by others and is not included in this scope of work. For this location the ENGINEER will coordinate the determined design with the COUNTY'S engineer and integrate into the schematic exhibit. Any design work at these interchanges, as described in Items 1-8 above, is not included in this scope of work.

F. Project Delivery

The schematic will be provided to the County for review at the following stages of completion:

a. Concept (30%) – Plan view only
b. Preliminary (60%) – Plan & Profiles Developed; Cross Sections Provided; Cost Estimate Provided
c. Pre-Final (90%) – Full deliverable; Cost Estimate Provided
d. Final (100%) – Full deliverable; Cost Estimate Provided

Prior to each submission, the ENGINEER will:

1. Log any previous County or stakeholder comments in a Comment Response Log spreadsheet and provide a resolution for each comment.
2. Provide a Quality Control (QC) review of plans, calculations, documents, and other supporting design data based on the Project Quality Management Plan (PQMP).
3. Provide a Quality Assurance (QA) audit of the QC review to assure all comments were addressed and/or resolved.
4. Complete a Certificate of Compliance with Quality Procedures (COCQP) form to document the QA/QC process was followed.
5. Coordinate production of the milestone deliverable including printing, compiling electronic files, and preparation of a transmittal letter.

G. Project Update Presentations

The ENGINEER will prepare and present up to two (2) technical PowerPoint presentations during the schematic design providing a briefing on project schedule, design development, and future tasks.

Task BS4 Deliverables

1. Concept Schematic (30%)
2. Preliminary Schematic, Cross Sections, and Estimate (60%)
3. Pre-Final Schematic, Cross Sections, and Estimate (90%)
4. Final Schematic, Cross Sections, and Estimate (100%)
5. QA/QC Documentation for each milestone deliverable
6. Technical PowerPoint Presentation
7. Final Electronic Design Files placed on DVD

**BS5. HYDROLOGIC AND HYDRAULIC INVESTIGATION**

The Engineer shall perform the following tasks in the preparation of the schematic layout:

A. Minor Drainage

1. Drainage Area Mapping
   Delineate drainage area boundaries based on United States Geological Survey (USGS) contour maps, North Central Texas Council of Governments (NCTCOG) contour maps or other suitable topographic maps, if available.

2. Calculate Discharges
   Determine conveyance paths, channel slopes, time of concentration, and runoff coefficients and Soil Conservation Service (SCS) curve numbers and other factors as required to determine frequency-discharge relationships using hydrologic models.

3. Size Cross Drainage Structures
   Determine approximate cross drainage structure sizes denoting size, type, orientation, flowlines, tailwater, and headwater conditions. Approximate sizing will be shown on the schematic along with needed drainage easements. HY-8 culvert analysis software will be used to size minor culvert crossings.

B. Major Drainage

1. Obtain and Review Available FEMA Data & Reports
   The ENGINEER will obtain available Flood Insurance Studies (FIS), Flood Insurance Rate Maps (FIRMs), Letters of Map Revisions (LOMR), and electronic data readily available from FEMA for Honey Creek and East Fork Trinity River.

2. Drainage Area Mapping
   Delineate drainage area boundaries based on United States Geological Survey (USGS) contour maps, North Central Texas Council of Governments (NCTCOG) contour maps, FEMA data, or other suitable topographic maps, if available.

3. Calculate Discharges
   Determine conveyance paths, channel slopes, time of concentration, and runoff coefficients and Soil Conservation Service (SCS) curve numbers and other factors as required to determine frequency-discharge relationships using hydrologic models. If discharge data is available from FEMA, calculated discharges will be used as a check.

4. Develop Hydraulic Models
   Develop water surface profile models of open channels for existing/pre-project and proposed design conditions in accordance with Collin County drainage criteria and to meet Federal Emergency Management Agency (FEMA) requirements, as necessary. All relevant conveyance features, (channels, culverts, slab bridges, encroachments) will be included in the hydraulic analysis using HEC-RAS, HEC-2, HY-8, or other models as approved by Collin County. A preliminary HEC-RAS model will be developed for Honey Creek and East Fork Trinity River.

5. Develop Alternative Drainage Schemes
   Based on the results of the discharge calculations and water surface profile models, develop alternative schemes to alleviate potential adverse drainage issues associated with the highway construction. Determine optimum drainage scheme to be used for schematic design.

6. Identify Easement Requirements
   The Engineer shall identify any required drainage easements needed to accommodate drainage facilities at inlet and discharge points along the route.

7. Prepare Drainage Report
   Upon completion of the hydraulic analyses and alternative evaluations of potential improvements, the ENGINEER shall prepare a Drainage Report. A preliminary report will be submitted with the 60% schematic deliverable and the final report will be submitted with the 100% schematic submittal. The report shall include the following sections:
   i. INTRODUCTION: location, study objectives, general stream and watershed information, and other pertinent facts.
   ii. HYDROLOGY: watershed description, soil and land use information, source of hydrologic data and methodology/models used to develop flow data, pertinent input data and parameters for hydrologic analyses; summary table of results for full range of peak discharges for 10-, 25-, 50-, and 100-year events.
   iii. HYDRAULICS: overview of hydraulic modeling process, including data sources, specific model uses, descriptions of existing drainage structures, discussion of design alternatives and the results of respective hydraulic modeling for the scenarios evaluated; hydraulic model output data including existing, hydraulic data sheet, and proposed conditions summary tables.
   iv. SUMMARY OF CONCLUSIONS / RECOMMENDATIONS: summary of study objectives, alternatives being considered, opinions of probable costs and identification of preferred design alternatives.
   v. PHOTOGRAPHS, FIGURES AND APPENDICES: all items necessary to support the analysis.
   vi. COMPACT DISK: computer files of hydrologic and hydraulic modeling with appropriate labeling of location, CSJ, and submittal date.
   vii. FINALIZED DOCUMENT: one (1) copy of final report with CD (CD to include a PDF of the entire report).

Task BS5 Deliverables

1. Preliminary Drainage Report
2. Final Drainage Report

**BS6. ENVIRONMENTAL STUDIES**

The ENGINEER will provide electronic CAD shapefiles to the North Central Texas Council of

Governments (NCTCOG) at the 60% schematic milestone and again, if necessary, at the 90% milestone. These shape files will delineate the limits of the proposed ROW as well as the embankment fill limits. It is assumed that the local environmental document (prepared by NCTCOG) will be finalized in conjunction with the final 100% milestone of the design schematic. Wetlands delineation mapping, threatened and endangered species research, and cultural resource investigations are included in this scope of services.

Coordination with NCTCOG

The ENGINEER will attend up to two (2) coordination meetings with the North Central Texas Council of Governments (NCTCOG) through the duration of the environmental document preparation. These meetings will be scheduled by the ENGINEER and meeting minutes will be provided to the COUNTY.

After collecting preliminary constraints mapping from NCTCOG, a draft constraints map will be developed by the ENGINEER. A field visit will be performed by environmental staff to verify and augment the constraints mapping with any significant environmental constraints.

**BS7. PUBLIC INVOLVEMENT**

The ENGINEER shall plan, coordinate, execute and conduct Public Involvement to consist of one (1) Open House/Public Meeting and one (1) Open House/Public Hearing. The ENGINEER shall execute the logistics with selecting and securing the Open House/Public Meeting/Hearing site with the COUNTY. The ENGINEER shall identify local media publications and prepare all COUNTY-approved Public Meeting/Hearing notices and mail individual notices of same per the Project Mailing List prepared by the ENGINEER. The ENGINEER shall publish and pay for legal notices in local media publications. The ENGINEER shall prepare sign-in sheets, comment sheets, and other materials for Open House/Public Meeting/Hearing as necessary, as well as provide informed, affable personnel to support the Open House/Public Meeting/Hearing. The ENGINEER shall compile comments received at the Open House/Public Meeting and document the same in the form of a Public Meeting Summary. The ENGINEER shall compile comments received at the Open House/Public Hearing and document the same in the form of a compact, bound Summary and Analysis Report containing comment cards, letters, attendance sheets, and summary of verbal and written input. This report shall include photographs of informational displays, displayed schematics, handouts, and questionnaires distributed at the public hearing; comment cards, letters, and attendance sheets, and any non-transcript verbal input. This Report shall be supplemented by one computer disc containing the Microsoft PowerPoint presentation and other materials prepared for the Public Hearing. The COUNTY shall provide a court-reporter transcript for the Open House/Public Hearing. All public involvement shall abide by 43 TAC 11.80-11.90, CFR Title 23, Part 771.

Task BS7 Deliverables

1. Public Meeting sign-in sheets, comment sheets, project information handout, and meeting summary report.
2. Public Hearing sign-in sheets, comment sheets, project information handout, PowerPoint presentation, and meeting summary report.

**BS8. PROJECT MANAGEMENT**

The ENGINEER's project manager, in coordination with the County's Director of Engineering, will be responsible for directing and coordinating all activities and personnel associated with this project.

A. Schedule, Progress Reports, and Invoices

The ENGINEER will prepare a simple graphic milestone schedule indicating completion dates of major work items, deliverables, and reviews.

The ENGINEER will submit monthly progress reports to the County. Invoices for all work completed during the period will be submitted monthly to the County. Monthly progress reports will include verbal description of all activities ongoing or completed during the reporting period, activities planned for the following month, problems encountered and action required to remedy them. The progress report will include a tabulation of percent complete by task.

The ENGINEER will prepare subcontracts for subconsultants, direct and monitor subconsultant activities, and review and recommend approval of subconsultant work and invoices.

B. Progress Meetings

Attend an estimated six (6) project team meetings with Collin County. The purpose of these meetings is to discuss project status, plan upcoming events, and discuss and resolve any key project issues. Meeting minutes will be prepared by the ENGINEER and distributed for all meetings.

C. Stakeholder Coordination Meetings

Attend miscellaneous coordination meetings with project stakeholders to include adjacent cities, utility companies, property owners, or Collin County Commissioners Court meetings or workshops. This has been estimated at a total of 18 meetings. The ENGINEER will prepare meeting minutes and distribute for all meetings.

Task BS8 Deliverables

1. Monthly Progress Reports and Invoices
2. Design Schedule
3. Meeting Sign-In Sheets and Minutes (24 Meetings)

## SPECIAL SERVICES

### SS1. SURVEY AND RIGHT-OFWAY

General Standards

All surveys shall meet or exceed the standards set in the Professional Land Surveying Practices Act, the General Rules of Procedures and Practices promulgated by the Texas Board of Professional Land Surveying (TBPLS), and TxDOT's Survey Manual, latest edition, and shall be accomplished in an organized and workman-like manner, subject to the approval of the COUNTY.

TxDOT's Right-of-Way Procedures Preliminary to Project Release, Volume 1, (online at: http://manuals.dot.State.tx.us/) and TxDOT's Survey Manual, latest edition, will serve as a guide for the format and preparation of all right-of-way documents produced, including Right-of-Way maps, property descriptions (including parcel plats), and other Right-of-Way work products, unless otherwise directed by the COUNTY.

The North American Datum of 1983 (NAD83), Texas Coordinate System of 1983 (State Plane Coordinates), applicable to the zone or zones in which the work is performed, with values in U.S. Survey Feet, will be used as the basis for all horizontal coordinates derived, unless otherwise directed by the COUNTY.

Elevations will be based on the North American Vertical Datum 88 (NAVD88), unless otherwise directed by the COUNTY.

All GPS work, whether primary control surveys or other, shall meet or exceed the current TxDOT's GPS Manual of Practice, latest edition, to the order of accuracy specified in the categories listed below or in a work authorization. If the order of accuracy is not specified in this contract or in a work authorization, the work shall meet or exceed the order of accuracy specified in the publications listed in this paragraph.

All conventional horizontal and vertical control surveys shall meet or exceed the current, TxDOT's Survey Manual, latest edition, and the Texas Society of Professional Surveyors (TSPS) Manual of Practice for Land Surveying in the State of Texas, latest edition, to the order of accuracy specified, and in the categories listed below or in a work authorization. If the order of accuracy is not specified in this contract or in a work authorization, the work shall meet or exceed the order of accuracy specified in the publications listed in this paragraph.

In order to ensure accuracy and accountability of the services provided under this contract, the Surveyor may be required to certify work performed under this contract as true and correct according to, TxDOT's Survey Manual, latest edition, TxDOT's GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

The Surveyor shall provide temporary signing and traffic control in and around survey operations. All signs, flags and safety equipment shall be provided by the Surveyor. The COUNTY shall be notified at least 48 hours in advance of any lane closures.

The Surveyor shall provide all personnel, equipment, and survey supplies necessary for the performance of the activities required by this agreement or by any work authorization.

Data (original and processed) shall be provided to the COUNTY on a compact disk or other approved medium and shall be in the following formats: Microsoft Word for word processing, MicroStation, Geopak V8i for graphics applications.

Variations from these software applications or other requirements listed above shall only be allowed if requested in writing by the Surveyor and approved by the COUNTY.

The Surveyor shall perform Quality Control/Quality Assurance on all procedures, field surveys, data, and products prior to delivery to the COUNTY. If, at any time, during the course of reviewing a submittal of any item it becomes apparent to the COUNTY that the submittal contains errors, omissions, and inconsistencies, the COUNTY may cease its review and return the submittal to the Surveyor immediately for appropriate action by the Surveyor. A submittal returned to the Surveyor for this reason is not a submittal for purposes of the submission schedule.

The Standards for services that are not boundary-related but that relate to surveying for engineering projects may be determined by the project Engineer, construction specifications, or design specifications.

Survey Location

Survey will be performed along the approved corridor determined in **Task BS3**.

Specific Work to Be Performed (Survey)

1. The Surveyor shall establish Horizontal and Vertical Control Monuments, consisting of a 5/8" capped iron rod set in concrete, at approximately 2000' intervals. The monuments shall be set outside the future construction limits, when possible. GPS RTK will be utilized to establish the horizontal locations and differential leveling will be utilized to establish vertical values. A Horizontal and Vertical Data Sheet shall be produced for each Monument. Each data sheet shall contain Grid and Surface horizontal coordinates, a Surface Adjustment Factor, an elevation and a locative sketch. Engineer shall supply this data to the County.
2. Provide cross-sections of any existing public roadways in the corridor with shots being taken at the ROW, ditch line, edge of shoulder, edge of travel lane and centerline.
3. Provide structure details of all visible cross culverts including flow line elevations, inside top of slab elevations, top of road profile and structural dimensions, and downstream channel cross sections within the project limits.
4. Locate existing visible improvements within the project limits, including but not limited to, manholes, water valves, concrete, fences, buildings and other visible utilities.
5. Surveyor shall obtain Right-of-Entry permission prior to physically accessing any private property. Surveyor will utilize public records to determine ownership data and secure permission to enter private property for purposes of performing Land Surveying. A right-of-entry (ROE) letter will be prepared on County letterhead and mailed to each property owner in the project limits. A written response will be requested either confirming or denying ROE. The Surveyor will make reasonable attempts to contact each landowner verbally prior to conducting any fieldwork if written correspondence is not successful. A log of all contact with landowners will be maintained.
6. Prepare a final design and topographic drawing in MicroStation, Geopak V8i showing

all features located in the field, an ASCII coordinate file of the associated points located in the field and a hard copy of all field notes and field sketches.

7. Determine boundary lines and rights-of-way lines for approximately 100 parcels and/or rights-of-way that are within or adjacent to the technically preferred alignment.
8. Perform Aerial Mapping survey to produce a design grade topographic map supplemented with traditional land surveying methods within the obscured areas. The aerial survey will include a 700 foot wide path for topographic features, a 1500 foot wide path for ortho photos, at a flight scale of 1"=180' (0.1' yield on vertical accuracy on solid surfaces), mapping at a 1"=50' scale with 1.0 foot contours and color ortho photos at 0.2' pixel resolution in Mr. Sid format.
9. All Surveying shall be performed under the direct supervision of a Professional Land Surveyor licensed and in good standing with the State of Texas.
10. All Aerial Mapping shall be performed under the direct supervision of a Certified Photogrammetrist certified and in good standing with the American Society of Photogrammetry and Remote Sensing.

Deliverables (Survey)

1. ROE Contact Log, copies of ROE permission letters
2. DGN file containing planimetrics, contours, breaklines, and property lines and ownership information (combined with previous survey data along corridor)
3. Microstation GeoPak DTM file
4. ASCII file of points, field notes and field sketches
5. Control Monument Data Sheets
6. Mr. Sid Ortho Photos

Specific Work to Be Performed (Right-of-Way)

1. The Surveyor will prepare overall Parcel Exhibit Map. The Surveyor shall use the previously established Aerial mapping image as a backdrop for the new parcel configuration that comprises the length of the new Right-of-Way corridor. The overall Parcel Exhibit Map will show the new right-of-way lines, parcel boundaries, current ownership, bearings and distances and set or found monumentation for the new right-of-way corridor. Each 22"x 34" sheet will cover approximately 2300 feet of length of the new right-of-way corridor.
2. The Surveyor will prepare up to 65 Parcel Exhibits. These will show the individual configurations that comprise the new right-of-way corridor. These will show new right-of-way lines, parcel boundaries, current ownership, bearings and distances and set or found monumentation. They will be reviewed by COUNTY and ENGINEER representatives for correctness and parcel configuration. These will include area designations for any determined prescriptive easement areas within the boundaries of the Parcel Exhibits and shown for appraisal purposes. There are approximately 60 Parcels that need Right-of-Entry permission within the Right-of-Way corridor. If Right-of-Entry can't be obtained, the Surveyor will be unable to set the new Right-of-Way monuments on those Parcels. The Surveyor could prepare Parcel Exhibits omitting the new Right-of-Way monumentation to be set. New Right-of-Way monuments can be set after Collin County obtains title to these parcels.
3. The Surveyor will prepare up to 65 Metes and Bounds descriptions that describe the Parcel boundaries. These will be signed and sealed by a Texas Registered Professional Land Surveyor and will become part of each Parcel Exhibit and suitable for acquisition purposes. These will be prepared after Parcel Exhibits have been

reviewed and approved by others.

4. The Surveyor will use an outside Abstractor to abstract up to 100 parcels. The Abstractor will research for easements back for a period of fifty (50) years. Each current parcel deed could have multiple previous smaller tracts that comprise the current total acreage. In this event, each separate smaller tract will need Abstracting research for the previous fifty (50) years also.
5. The Surveyor will use the Abstractor findings to place the existing easements in relation to current parcel boundaries. This could include existing drainage easements, existing gas easements, existing electrical easements, existing right-of-way easements/dedications and other existing utility easements that may affect the right-of-way corridor alignment, placement of new easements and prescriptive right-of-way locations. This includes field crew time to locate additional utility appurtenances aiding in the placement of newly discovered existing easements.
6. All Surveying shall be performed under the direct supervision of a Professional Land Surveyor licensed and in good standing with the State of Texas.

Deliverables (Right-of-Way)

1. DGN files containing bearings, distances, monumentation of each parcel configuration (with easements) required to reproduce the overall Parcel Exhibit Maps.
2. Three (3) copies of signed and sealed Parcel Exhibits that include the associated Metes and Bounds for one hundred (100) Parcels with PDF copies.
3. Two hard copies (22"x34" & 11"x17") and PDF copies of the overall Parcel Exhibit Map.

**SS2. UTILITY INVESTIGATION**

Introduction

The ENGINEER will perform the SUE work required for this project in general accordance with the recommended practices and procedures described in ASCE Publication CI/ASCE 38-02 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data). As described in the mentioned ASCE publication, four levels have been established to describe the quality of utility location and attribute information used on plans. The four quality levels are as follows:

- Quality Level D (QL"D") – Information derived from existing records.
- Quality Level C (QL"C") - QL"D" information supplemented with information obtained by surveying visible above-ground utility features (i.e. valves, hydrants, meters, manhole covers, etc.).
- Quality Level B (QL"B") – Two-dimensional (x, y) information obtained through the application and interpretation of non-destructive surface geophysical methods. Also known as "designating" this quality level provides the horizontal position of subsurface utilities within approximately one foot.
- Quality Level A (QL"A") – Also known as "locating", this quality level provides precise three dimensional (x, y, z) information at critical locations by exposing specific utilities. Non-destructive vacuum excavation equipment is used to expose the utilities at specific points which are then tied down by survey.

It is the responsibility of the SUE provider to perform due-diligence with regard to records research (QL "D") and acquisition of available utility records. The due-diligence provided for

this project will consist of contacting the applicable "one call" agency, visually inspecting the work area for evidence of utilities; and reviewing the available utility record information. Utilities that are not identified through these efforts will be here forth referred to as "unknown" utilities. The ENGINEER's personnel will perform a field visit to the defined work area to validate utility data collected and identify any "unknown" utilities. However, the ENGINEER is not responsible for designating and locating "unknown" utilities that were not detected during the record research and field surveying phase.

Scope of Work

The scope of work described may be modified, with COUNTY concurrence, during the performance of the SUE fieldwork if warranted by actual field findings.

For this project, the ENGINEER will provide QL"D" and "C" for the width of the approved corridor including along any proposed intersections.

The ENGINEER will perform all surveying that is required for collection of SUE field data.

Deliverables

As a QL"C" SUE deliverable, the ENGINEER will produce a SUE CAD file depicting the type and horizontal location of the designated utilities. The size and material type will be provided only if the information is indicated on available record drawings. The ENGINEER will utilize its standard utility line styles and symbology to produce the QL"C" deliverable of one CAD reference file in DGN format.

**EXHIBIT "B"**

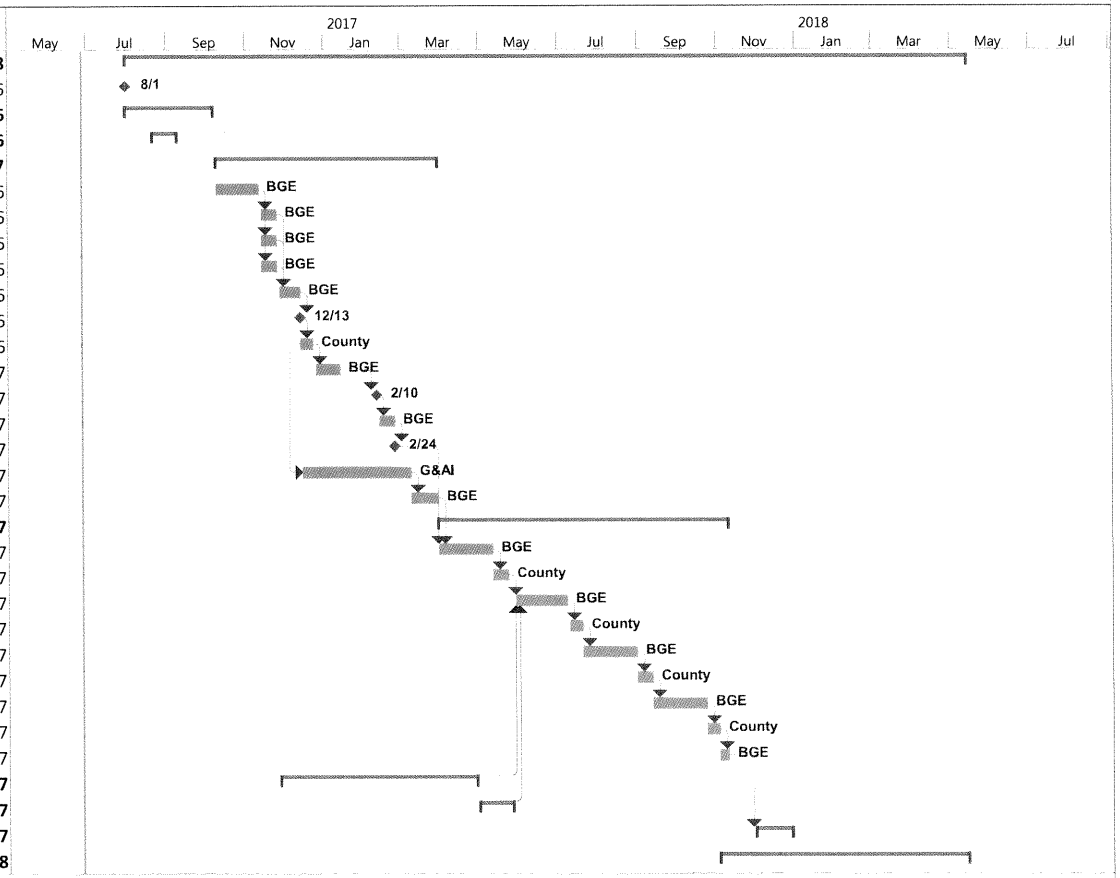
FINAL DESIGN COMPLETION SCHEDULE

**Collin County Outer Loop Segment 3**
**Schematic Design**
**FM 2478 to US 75**

Refer to the attached schedule for deliverable/milestone dates. Actual deliverable/milestone dates may be subject to change based on delayed critical path task items that are outside of the control of the ENGINEER and/or the COUNTY. A revised project design schedule will be provided by the ENGINEER in the event that an adjustment is necessary.

COLLIN COUNTY OUTER LOOP SEG 3 - FM 2478 TO US 75
SCHEMATIC, ENVIRONMENTAL, AND ROW MAPPING SCHEDULE

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **CCOL SEG 3 - FM 2478 TO US 75** | **465.6 days** | **Mon 8/1/16** | **Mon 5/14/18** |
| 2 | NOTICE TO PROCEED | 0 days | Mon 8/1/16 | Mon 8/1/16 |
| 3 | **BS1. ASSEMBLY AND REVIEW OF DATA** | **50 days** | **Mon 8/1/16** | **Fri 10/7/16** |
| 12 | **BS2. CORRIDOR TYPICAL SECTIONS** | **15 days** | **Mon 8/22/16** | **Fri 9/9/16** |
| 16 | **BS3. DIAGRAMMATIC CORRIDOR REFINEMENT** | **123.6 days** | **Mon 10/10/16** | **Thu 3/30/17** |
| 17 | Develop Alignment Alternatives | 25 days | Mon 10/10/16 | Fri 11/11/16 |
| 18 | Develop Intersection and Circulation Concepts | 10 days | Mon 11/14/16 | Fri 11/25/16 |
| 19 | Coordinate with Local Stakeholders | 10 days | Mon 11/14/16 | Fri 11/25/16 |
| 20 | Coordinate with Adjacent Property Owners | 10 days | Mon 11/14/16 | Fri 11/25/16 |
| 21 | Develop Outer Loop Corridor Alternatives Exhibit | 12 days | Mon 11/28/16 | Tue 12/13/16 |
| 22 | Present Alternatives for Approval | 0 days | Tue 12/13/16 | Tue 12/13/16 |
| 23 | Collin County Review of Alternatives | 8 days | Wed 12/14/16 | Fri 12/23/16 |
| 24 | Develop Final Corridor Exhibit | 15 days | Mon 12/26/16 | Fri 1/13/17 |
| 25 | Public Outreach/Meeting | 0 days | Fri 2/10/17 | Fri 2/10/17 |
| 26 | Develop Tech Report of Alternate Corridors | 10 days | Mon 2/13/17 | Fri 2/24/17 |
| 27 | County Presentation | 0 days | Fri 2/24/17 | Fri 2/24/17 |
| 28 | Set CL/Wing Panels and Fly Project | 60 days | Thu 12/15/16 | Thu 3/9/17 |
| 29 | Survey Void Areas and Culverts | 15 days | Thu 3/9/17 | Thu 3/30/17 |
| 30 | **BS4. SCHEMATIC DEVELOPMENT** | **160.4 days** | **Thu 3/30/17** | **Thu 11/9/17** |
| 31 | 30% Concept Schematic | 30 days | Thu 3/30/17 | Thu 5/11/17 |
| 32 | County Review of 30% | 8 days | Thu 5/11/17 | Tue 5/23/17 |
| 33 | 60% Preliminary Schematic | 30 days | Mon 5/29/17 | Fri 7/7/17 |
| 34 | County Review of 60% | 8 days | Mon 7/10/17 | Wed 7/19/17 |
| 35 | 90% Pre-Final Schematic | 30 days | Thu 7/20/17 | Wed 8/30/17 |
| 36 | County Review of 90% | 8 days | Thu 8/31/17 | Mon 9/11/17 |
| 37 | 100% Final Schematic | 30 days | Tue 9/12/17 | Mon 10/23/17 |
| 38 | County Review of 100% | 8 days | Tue 10/24/17 | Thu 11/2/17 |
| 39 | Technical PowerPoint Presentation | 5 days | Fri 11/3/17 | Thu 11/9/17 |
| 40 | **BS5. HYDROLOGIC AND HYDRAULIC INVESTIGATION** | **110 days** | **Mon 11/28/16** | **Fri 4/28/17** |
| 46 | **BS6. ENVIRONMENTAL STUDIES** | **20 days** | **Mon 5/1/17** | **Fri 5/26/17** |
| 48 | **BS7. PUBLIC INVOLVEMENT** | **20 days** | **Fri 12/1/17** | **Thu 12/28/17** |
| 51 | **SS1. ROW MAPPING** | **136.6 days** | **Fri 11/3/17** | **Mon 5/14/18** |




Project: CCOL_Seg3_BGE_Schedule
Brown & Gay Engineers, Inc.
Date: Tue 6/28/16

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Task | Project Summary | Manual Task | Start-only | Deadline | |
| Split | Inactive Task | Duration-only | Finish-only | Progress | |
| Milestone | Inactive Milestone | Manual Summary Rollup | External Tasks | Manual Progress | |
| Summary | Inactive Summary | Manual Summary | External Milestone | | |

**EXHIBIT "C"**

PAYMENT SCHEDULE

**Collin County Outer Loop Segment 3**
**Schematic Design**
**Denton County Line to FM 2478**

Payment will be made on a Lump Sum basis. Invoices will be transmitted to the CCTRA on a monthy basis based on a percentage of completion up to that time, and payments to the Engineer will be made as follows:

A derivation of the total contract fee amount is attached.

**EXHIBIT "C" - FEE SCHEDULE**
**Brown & Gay Engineers, Inc.**
**Collin County Outer Loop Segment 3 Schematic Design: FM 2478 to US 75**

| *Collin County Outer Loop Segment 3 Schematic Design*<br>*FM 2478 to US 75* | |
|---|---|
| | |
| *Total Brown & Gay Engineers, Inc. Fee* | $1,359,016.48 |
| | |
| *Total ARS Engineers, Inc. Fee* | $72,718.80 |
| | |
| *Total Gorrondona & Associates, Inc. Fee* | $124,199.92 |
| | |
| *Total Brown & Gay Engineers, Inc. TeamFee* | $1,555,935.20 |

**EXHIBIT "C" - FEE SCHEDULE**
**Brown & Gay Engineers, Inc.**
**Collin County Outer Loop Segment 3: FM 2478 to US 75**

| *Collin County Outer Loop FM 2478 to US 75* | Principal / Project Manager | Task Manager | Senior Engineer | Project Engineer | Design Engineer | EIT | Senior Civil Designer | Senior Env. Scientist | Clerical | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| **Rate** | **$275.00** | **$220.00** | **$195.00** | **$135.00** | **$115.00** | **$105.00** | **$145.00** | **$170.00** | **$85.00** | |
| BASIC SERVICES | | | | | | | | | | |
| ***TASK BS1 - ASSEMBLY AND REVIEW OF DATA*** | | | | | | | | | | |
| A. COLLECTION OF DATA, REPORTS, AND MAPS | | | | | | | | | | |
| Data Collection (includes coordination with other Firms) | 8 | 8 | 8 | 8 | 16 | 32 | | 4 | 4 | 88 |
| B. FIELD RECONNAISSANCE | | | | | | | | | | |
| Field Reconnaissance (initial site visit) | 8 | 8 | 8 | 8 | | | | 8 | | 40 |
| C. REVIEW OF DATA | | | | | | | | | | |
| Review of Data / Base Files Creation / Project Setup | 8 | 6 | 16 | 16 | 40 | 40 | 40 | 4 | 4 | 174 |
| **TASK BS1 TOTALS (HOURS)** | **24** | **22** | **32** | **32** | **56** | **72** | **40** | **16** | **8** | **302** |
| **TASK BS1 TOTALS (COST)** | **$6,600.00** | **$4,840.00** | **$6,240.00** | **$4,320.00** | **$6,440.00** | **$7,560.00** | **$5,800.00** | **$2,720.00** | **$680.00** | **$45,200.00** |
| ***TASK BS2 - CORRIDOR SECTION EVALUATION*** | | | | | | | | | | |
| A. CORRIDOR SECTION EVALUATION | | | | | | | | | | |
| Development of Alternate Sections | 1 | 4 | | 4 | | 16 | 16 | | | 41 |
| Technical Memo | 1 | 4 | | 4 | | 8 | | | | 17 |
| Development of final DSR | 1 | 2 | | 2 | | 8 | | | | 13 |
| **TASK BS2 TOTALS (HOURS)** | **3** | **10** | **0** | **10** | **0** | **32** | **16** | **0** | **0** | **71** |
| **TASK BS2 TOTALS (COST)** | **$825.00** | **$2,200.00** | **$0.00** | **$1,350.00** | **$0.00** | **$3,360.00** | **$2,320.00** | **$0.00** | **$0.00** | **$10,055.00** |
| ***TASK BS3 - DIAGRAMMATIC CORRIDOR REFINEMENT*** | | | | | | | | | | |
| A. FM 2478 TO US 75 | | | | | | | | | | |
| Determination of Alternate Corridor (Alts. Analysis) | 4 | 24 | 40 | 60 | | 120 | 80 | 4 | | 332 |
| High Level Environmental Constraints Determination | | 2 | | 8 | | 16 | 8 | 16 | | 50 |
| Identification of Impacts | 2 | 8 | | 16 | | 24 | | 8 | | 58 |
| Alternate Corridor Matrix Evaluation | 2 | 12 | | 24 | 8 | 8 | | | 2 | 56 |
| B. INTERCHANGE EVALUATION | | | | | | | | | | |
| CR 126 | | 2 | | 2 | | 8 | | | | 12 |
| FM 543 | | 2 | | 16 | | 8 | | | | 26 |
| CR 204 | | 2 | | 2 | | 8 | | | | 12 |
| CR 206 | | 2 | | 2 | | 8 | | | | 12 |
| CR 281 | | 2 | | 2 | | 8 | | | | 12 |
| CR 286 | | 2 | | 2 | | 8 | | | | 12 |
| C. OUTER LOOP CORRIDOR ALTERNATIVES EXHIBIT | | | | | | | | | | |
| Exhibit Preparation including Ramping Config | 2 | 24 | 4 | 60 | | 80 | 40 | | | 210 |
| Technical Report | 2 | 16 | 24 | | | | | | 16 | 58 |
| D. FINAL OUTER LOOP CORRIDOR EXHIBIT | | | | | | | | | | |
| Final Exhibit Preparation | 2 | 24 | 4 | 80 | | 60 | 32 | | | 202 |
| E. PUBLIC MEETINGS | | | | | | | | | | |
| (See section BS7) | | | | | | | | | | |
| Engineer's responses to public/stakeholder comments | 4 | 8 | 8 | | | 16 | 16 | 8 | 4 | 64 |
| (all meetings) | | | | | | | | | | |
| F. CORRIDOR PRESENTATIONS | | | | | | | | | | |
| Prepare Presentations (2) | 4 | 12 | | 12 | | | | | 12 | 40 |
| Conduct Presentations (2) | 12 | 12 | | | | | | | | 24 |

**EXHIBIT "C" - FEE SCHEDULE**
**Brown & Gay Engineers, Inc.**
**Collin County Outer Loop Segment 3: FM 2478 to US 75**

| *Collin County Outer Loop FM 2478 to US 75* | Principal / Project Manager | Task Manager | Senior Engineer | Project Engineer | Design Engineer | EIT | Senior Civil Designer | Senior Env. Scientist | Clerical | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| **TASK BS3 TOTALS (HOURS)** | **34** | **154** | **80** | **286** | **8** | **372** | **176** | **36** | **34** | **1,180** |
| **TASK BS3 TOTALS (COST)** | **$9,350.00** | **$33,880.00** | **$15,600.00** | **$38,610.00** | **$920.00** | **$39,060.00** | **$25,520.00** | **$6,120.00** | **$2,890.00** | **$171,950.00** |
| ***TASK BS4 - SCHEMATIC DEVELOPMENT*** | | | | | | | | | | |
| A. GENERAL | | | | | | | | | | |
| Typical Sections | 1 | 16 | | 20 | | 32 | 24 | | | 93 |
| Schematic Exhibit Development | 4 | 40 | 40 | | | 80 | | | | 164 |
| 3D Corridor Model Development (Geopak) | | 16 | | 40 | | 60 | 60 | | | 176 |
| Evaluate Utility Conflicts | | 4 | 20 | | 20 | 20 | | | | 64 |
| ROW Development | 2 | 8 | | 24 | | 24 | | | | 58 |
| B. MAINLANES | | | | | | | | | | |
| Horizontal Alignments | 2 | 8 | | 16 | | 40 | 24 | | | 90 |
| Superelevation & Transitions | | 2 | 8 | | | 24 | 16 | | | 50 |
| Vertical Alignments | 2 | 4 | | 32 | | 40 | 32 | | | 110 |
| Plan Development | | 8 | | 32 | | 40 | 24 | | 1 | 105 |
| Pavement Markings | | 2 | | | 40 | 16 | | | | 58 |
| C. MAINLANE RAMPS | | | | | | | | | | |
| Horizontal Alignments | 2 | 12 | | 32 | | 40 | 24 | | | 110 |
| Superelevation & Transitions | | | 24 | | | 32 | 8 | | | 64 |
| Vertical Alignments | | 12 | | 50 | | 60 | 40 | | | 162 |
| Plan Development | | 8 | 32 | | | 40 | 24 | | 1 | 105 |
| Pavement Markings | | 2 | | | 20 | | | | | 22 |
| D. FRONTAGE ROADS | | | | | | | | | | |
| Horizontal Alignments | 2 | 8 | | 40 | | 40 | 24 | | | 114 |
| Superelevation & Transitions | | 2 | 24 | | | 32 | 8 | | | 66 |
| Vertical Alignments | 2 | 4 | | 40 | | 60 | 24 | | | 130 |
| Evaluate Control of Access | 1 | 4 | 40 | | 16 | 40 | | | | 101 |
| Plan Development | | 8 | | 40 | | 40 | 32 | | 1 | 121 |
| Pavement Markings | | 2 | | | 30 | | | | | 32 |
| E. INTERSECTIONS, INTERCHANGES & GRADE SEPARATIONS | | | | | | | | | | |
| Coordination of the FM 2478 Design (by Others) | | 24 | | 40 | | | | | | 64 |
| CR 126 | 1 | 12 | | 24 | | 40 | 8 | | | 85 |
| Honey Creek (waterway bridge) | 1 | 20 | | 40 | | 100 | 24 | | | 185 |
| FM 543 (grade separation) | 4 | 20 | | 40 | | 120 | 48 | | | 232 |
| CR 204 | 1 | 12 | | 24 | | 40 | 8 | | | 85 |
| CR 206 | 1 | 12 | | 24 | | 40 | 8 | | | 85 |
| CR 281 | 1 | 12 | | 24 | | 40 | 8 | | | 85 |
| East Fork Trinity River (waterway bridge) | 1 | 20 | | 40 | | 100 | 8 | | | 169 |
| CR 286 | 1 | 12 | | 24 | | 40 | 8 | | | 85 |
| F. PROJECT DELIVERY | | | | | | | | | | |
| Prepare and Submit 30% including QA/QC | 6 | 16 | 20 | 16 | 8 | 60 | 40 | | 8 | 174 |
| Prepare and Submit 60% including QA/QC | 6 | 16 | 20 | 16 | 8 | 60 | 40 | | 8 | 174 |
| Prepare and Submit 90% including QA/QC | 6 | 16 | 20 | 16 | 8 | 60 | 40 | | 8 | 174 |
| Prepare and Submit 100% including QA/QC | 6 | 16 | 20 | 16 | 8 | 60 | 40 | | 8 | 174 |
| G. PROJECT UPDATE PRESENTATIONS | | | | | | | | | | |
| Prepare Presentations | 12 | 16 | | 32 | | 32 | 8 | | 6 | 106 |
| Conduct Presentations | 12 | 16 | | | | | | | | 28 |

**EXHIBIT "C" - FEE SCHEDULE**
**Brown & Gay Engineers, Inc.**
**Collin County Outer Loop Segment 3: FM 2478 to US 75**

| *Collin County Outer Loop FM 2478 to US 75* | Principal / Project Manager | Task Manager | Senior Engineer | Project Engineer | Design Engineer | EIT | Senior Civil Designer | Senior Env. Scientist | Clerical | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| **TASK BS4 TOTALS (HOURS)** | **77** | **410** | **268** | **742** | **158** | **1,552** | **652** | **0** | **41** | **3,900** |
| **TASK BS4 TOTALS (COST)** | **$21,175.00** | **$90,200.00** | **$52,260.00** | **$100,170.00** | **$18,170.00** | **$162,960.00** | **$94,540.00** | **$0.00** | **$3,485.00** | **$542,960.00** |
| ***TASK BS5 - HYDROLOGIC AND HYDRAULIC INVESTIGATION*** | | | | | | | | | | |
| A. MINOR DRAINAGE | | | | | | | | | | |
| DA Mapping, Discharges and Prelim Structure Sizing | **REFER TO ARS ENGINEERS, INC. FEE** | | | | | | | | | |
| Coordinate and Incorporate Culvert Layouts into Schematic | | 8 | | | 24 | | 8 | | | 40 |
| Coordinate and Review Drainage Impact Study (by ARS) | | 8 | 24 | | 40 | | 8 | | | 80 |
| B. MAJOR DRAINAGE | | | | | | | | | | |
| Develop HEC-RAS Models for Drainage Impact Study | | 16 | 80 | | 120 | 160 | 48 | | 40 | 464 |
| **TASK BS5 TOTALS (HOURS)** | **0** | **32** | **104** | **0** | **184** | **160** | **64** | **0** | **40** | **584** |
| **TASK BS5 TOTALS (COST)** | **$0.00** | **$7,040.00** | **$20,280.00** | **$0.00** | **$21,160.00** | **$16,800.00** | **$9,280.00** | **$0.00** | **$3,400.00** | **$77,960.00** |
| ***TASK BS6 - ENVIRONMENTAL STUDIES*** | | | | | | | | | | |
| A. ENVIRONMENTAL STUDIES | | | | | | | | | | |
| Field Verification; translation/development of Shape Files | 1 | 40 | | | | 60 | | 60 | | 161 |
| Coordination Meetings | 4 | 8 | | | | 16 | | 16 | 4 | 48 |
| **TASK BS6 TOTALS (HOURS)** | **5** | **48** | **0** | **0** | **0** | **76** | **0** | **76** | **4** | **209** |
| **TASK BS6 TOTALS (COST)** | **$1,375.00** | **$10,560.00** | **$0.00** | **$0.00** | **$0.00** | **$7,980.00** | **$0.00** | **$12,920.00** | **$340.00** | **$33,175.00** |
| ***TASK BS7 - PUBLIC INVOLVEMENT*** | | | | | | | | | | |
| A. PUBLIC INVOLVEMENT | | | | | | | | | | |
| PUBLIC MEETING (includes client coordination) | | | | | | | | | | |
| Coordinate, Select and Secure Meeting Location | 1 | 2 | | | 4 | 8 | | | 2 | 17 |
| Prepare Public/Stakeholder Mailing List | 1 | 2 | | | | 16 | | | 2 | 21 |
| Prepare Public Notices | 1 | 2 | | 4 | | 4 | | | 1 | 12 |
| Prepare Public Meeting Materials (All) | 2 | 4 | 8 | | 16 | 32 | 8 | | 8 | 78 |
| Setup, Attend, and Breakdown Public Meeting | 8 | 8 | 8 | | | 8 | | 4 | 4 | 40 |
| Prepare Public Meeting Summary Report | 1 | 4 | | 4 | | 16 | | | 8 | 33 |
| PUBLIC HEARING (includes client coordination) | | | | | | | | | | |
| Coordinate, Select and Secure Hearing Location | 1 | 2 | | | 4 | 8 | | | 2 | 17 |
| Update Public/Stakeholder Mailing List | 1 | 1 | | | | 8 | | | 2 | 12 |
| Prepare Public Hearing Notices | 1 | 2 | | 4 | | 4 | | | 1 | 12 |
| Prepare Public Hearing Materials (All) | 2 | 4 | 8 | | 16 | 32 | 8 | | 8 | 78 |
| Setup, Attend, and Breakdown Public Hearing | 8 | 8 | 8 | | | 8 | | 4 | 4 | 40 |
| Prepare Public Hearing Summary Report | 1 | 4 | | 4 | | 16 | | | 8 | 33 |
| **TASK BS7 TOTALS (HOURS)** | **28** | **43** | **32** | **16** | **40** | **160** | **16** | **8** | **50** | **393** |
| **TASK BS7 TOTALS (COST)** | **$7,700.00** | **$9,460.00** | **$6,240.00** | **$2,160.00** | **$4,600.00** | **$16,800.00** | **$2,320.00** | **$1,360.00** | **$4,250.00** | **$54,890.00** |
| ***TASK BS8 - PROJECT MANAGEMENT*** | | | | | | | | | | |
| A. SCHEDULE, PROGRESS REPORTS, AND INVOICES | | | | | | | | | | |
| Schedule and Updates | 4 | 12 | | | | | | | | 16 |

# EXHIBIT "C" - FEE SCHEDULE
## Brown & Gay Engineers, Inc.
## Collin County Outer Loop Segment 3: FM 2478 to US 75

| *Collin County Outer Loop FM 2478 to US 75* | Principal / Project Manager | Task Manager | Senior Engineer | Project Engineer | Design Engineer | EIT | Senior Civil Designer | Senior Env. Scientist | Clerical | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| Progress Reports | 8 | 8 | | | | | | | 8 | 24 |
| Preparing Invoices | 4 | 4 | | | | | | | 16 | 24 |
| B. PROGRESS MEETINGS | | | | | | | | | | |
| Prepare for and Attend Coordination Meetings (6) | 18 | 36 | | | | 12 | 6 | | 24 | 96 |
| Prepare and Distribute Meeting Minutes | 3 | 6 | | | | | | | 3 | 12 |
| C. STAKEHOLDER COORDINATION MEETINGS | | | | | | | | | | |
| Coordination Meetings (18); Prep. & Documentation | 80 | 144 | | | | 40 | 16 | | 40 | 320 |
| **TASK BS8 TOTALS (HOURS)** | **117** | **210** | **0** | **0** | **0** | **52** | **22** | **0** | **91** | **492** |
| **TASK BS8 TOTALS (COST)** | **$32,175.00** | **$46,200.00** | **$0.00** | **$0.00** | **$0.00** | **$5,460.00** | **$3,190.00** | **$0.00** | **$7,735.00** | **$94,760.00** |
| **TOTAL BGE HOURS (BASIC SERVICES)** | **288** | **929** | **516** | **1,086** | **446** | **2,476** | **986** | **136** | **268** | **7,131** |
| **TOTAL BGE LABOR COST (BASIC SERVICES)** | **$79,200.00** | **$204,380.00** | **$100,620.00** | **$146,610.00** | **$51,290.00** | **$259,980.00** | **$142,970.00** | **$23,120.00** | **$22,780.00** | **$1,030,950.00** |
| SPECIAL SERVICES | | | | | | | | | | |
| ***TASK SS1 - SURVEY AND RIGHT-OF-WAY*** | | | | | | | | | | |
| A. SURVEY | | | | | | | | | | |
| Aerial Mapping | **REFER TO GORRONDONA AERIAL MAPPING FEE** | | | | | | | | | |
| Survey Voided Areas, Cross Roads, and Streams | **REFER TO BGE SURVEY FEE** | | | | | | | | | |
| Append Existing TIN file with Void Survey Data | 1 | 12 | | 16 | | | 40 | | | 69 |
| B. RIGHT-OF-WAY | | | | | | | | | | |
| Right-of-Way Mapping | **REFER TO BGE ROW FEE** | | | | | | | | | |
| **TASK SS1 TOTALS (HOURS)** | **1** | **12** | **0** | **16** | **0** | **0** | **40** | **0** | **0** | **69** |
| **TASK SS1 TOTALS (COST)** | **$275.00** | **$2,640.00** | **$0.00** | **$2,160.00** | **$0.00** | **$0.00** | **$5,800.00** | **$0.00** | **$0.00** | **$10,875.00** |
| ***TASK SS2 - UTILITY INVESTIGATION*** | | | | | | | | | | |
| A. UTILITY INVESTIGATION | | | | | | | | | | |
| SUE Investigation (Level C & D) | 4 | 80 | | | | 80 | 120 | | | 284 |
| **TASK SS2 TOTALS (HOURS)** | **4** | **80** | **0** | **0** | **0** | **80** | **120** | **0** | **0** | **284** |
| **TASK SS2 TOTALS (COST)** | **$1,100.00** | **$17,600.00** | **$0.00** | **$0.00** | **$0.00** | **$8,400.00** | **$17,400.00** | **$0.00** | **$0.00** | **$44,500.00** |

**EXHIBIT "C" - FEE SCHEDULE**
**Brown & Gay Engineers, Inc.**
**Collin County Outer Loop Segment 3: FM 2478 to US 75**

| *Collin County Outer Loop FM 2478 to US 75* | Principal / Project Manager | Task Manager | Senior Engineer | Project Engineer | Design Engineer | EIT | Senior Civil Designer | Senior Env. Scientist | Clerical | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL BGE HOURS (SPECIAL SERVICES)** | **5** | **92** | **0** | **16** | **0** | **80** | **160** | **0** | **0** | **353** |
| **TOTAL BGE LABOR COST (SPECIAL SERVICES)** | **$1,375.00** | **$20,240.00** | **$0.00** | **$2,160.00** | **$0.00** | **$8,400.00** | **$23,200.00** | **$0.00** | **$0.00** | **$55,375.00** |

| ***Reimbursable Direct Expenses*** | | | **Unit** | **Quantity** | **Rate** | **Total** |
|---|---|---|---|---|---|---|
| 8.5" x 11" Copies (b&w) | | | EA | 2,000 | $0.10 | $200 |
| 8.5" x 11" Copies (color) | | | EA | 1,500 | $0.75 | $1,125 |
| 11" x 17" Copies (b&w) | | | EA | 3,000 | $0.20 | $600 |
| 11"x17" Copies (color) | | | EA | 1,500 | $1.25 | $1,875 |
| Report Binding | | | EA | 10 | $20.00 | $200 |
| Mileage | | | MILE | 6,000 | $0.54 | $3,240 |
| FEMA Data | | | LS | 2 | $350.00 | $700 |
| CD/DVD | | | EA | 4 | $5.00 | $20 |
| Bond Plots (Color) | | | SF | 1,500 | $2.75 | $4,125 |
| Exhibit Mounting (Directional Signs, etc) | | | EA | 15 | $120.00 | $1,800 |
| Meeting Location Rental | | | EA | 2 | $500.00 | $1,000 |
| Advertisements (Local Papers, Etc.) | | | EA | 6 | $500.00 | $3,000 |
| Miscellaneous Supplies (w/approval from County PM) | | | EA | 5 | $100.00 | $500 |
| Overnight letter | | | EA | 10 | $25.00 | $250 |
| Postage (Express Mail) | | | EA | 3,000 | $2.00 | $6,000 |
| **Total Reimbursable Direct Expenses** | | | | | | **$24,635.00** |
| ***Total Brown & Gay Engineers, Inc. Fee*** | | | | | | **$1,110,960.00** |

# EXHIBIT "C" - FEE SCHEDULE
## ARS Engineers, Inc.
## Collin County Outer Loop Segment 3: FM 2478 to US 75

| *Collin County Outer Loop FM 2478 to US 75* | | Project Manager | Project Engineer | Design Engineer | EIT | CADD Tech | Clerical | Totals |
|---|---|---|---|---|---|---|---|---|
| **Rate** | | **$235.00** | **$135.00** | **$115.00** | **$105.00** | **$90.00** | **$72.00** | |
| BASIC SERVICES | | | | | | | | |
| ***TASK BS5 - HYDROLOGIC AND HYDRAULIC INVESTIGATION*** | | | | | | | | |
| A. MINOR DRAINAGE | | | | | | | | |
| | Drainage Area Mapping | 12 | 32 | 12 | 20 | 40 | 2 | 118 |
| | Calculate Discharges | 8 | 22 | 8 | 20 | 28 | 2 | 88 |
| | Size Cross Drainage Structures | 14 | 24 | 20 | 10 | 76 | 2 | 146 |
| | Prepare Overall Drainage Report | 4 | 46 | 4 | 50 | 4 | 8 | 116 |
| **TASK BS5 TOTALS (HOURS)** | | **38** | **124** | **44** | **100** | **148** | **14** | **468** |
| **TASK BS5 TOTALS (COST)** | | **$8,930.00** | **$16,740.00** | **$5,060.00** | **$10,500.00** | **$13,320.00** | **$1,008.00** | **$55,558.00** |
| ***TASK BS8 - PROJECT MANAGEMENT*** | | | | | | | | |
| A. SCHEDULE, PROGRESS REPORTS, AND INVOICES | | | | | | | | |
| | Progress Reports | 10 | 6 | 4 | 4 | | 2 | 26 |
| | Preparing Invoices | 10 | 6 | | | | 8 | 24 |
| B. PROGRESS MEETINGS | | | | | | | | |
| | Coordination Meetings (4) | 16 | 16 | 12 | | | 4 | 48 |
| **TASK BS8 TOTALS (HOURS)** | | **36** | **28** | **16** | **4** | **0** | **14** | **98** |
| **TASK BS8 TOTALS (COST)** | | **$8,460.00** | **$3,780.00** | **$1,840.00** | **$420.00** | **$0.00** | **$1,008.00** | **$15,508.00** |
| **TOTAL ARS HOURS (BASIC SERVICES)** | | **74** | **152** | **60** | **104** | **148** | **28** | **566** |
| **TOTAL ARS LABOR COST (BASIC SERVICES)** | | **$17,390.00** | **$20,520.00** | **$6,900.00** | **$10,920.00** | **$13,320.00** | **$2,016.00** | **$71,066.00** |
| ***Reimbursable Direct Expenses*** | | | | | **Unit** | **Quantity** | **Rate** | **Total** |
| | 8.5" x 11" Copies | | | | EA | 800 | $0.10 | $80 |
| | 11" x 17" Copies | | | | EA | 800 | $0.15 | $120 |
| | Roll Plots 36" x 48" | | | | SQ FT | 108 | $1.60 | $173 |
| | Report Binding | | | | EA | 12 | $20.00 | $240 |
| | Mileage | | | | MILE | 550 | $0.54 | $297 |
| | FEMA Data | | | | LS | 2 | $350.00 | $700 |
| | CD/DVD | | | | EA | 5 | $5.00 | $25 |
| | Postage (Express Mail) | | | | EA | 6 | $3.00 | $18 |
| **Total Reimbursable Direct Expenses** | | | | | | | | **$1,652.80** |
| ***Total ARS Engineers, Inc. Fee*** | | | | | | | | **$72,718.80** |

# EXHIBIT "C" - FEE SCHEDULE
## GORRONDONA & ASSOCIATES, INC.
## Collin County Outer Loop Segment 3: FM 2478 to US 75

| *Collin County Outer Loop FM 2478 to US 75* | PROJECT MANAGER | STAFF SURVEYOR | PROJECT COORD. AM | SR. TECHNICIAN | SURV. TECHNICIAN | SURVEY 2 MAN FIELD CREW | PHOTOGRAM. | AERIAL TRIANG SPEC | DIGITAL ORTHO SPEC | COMP. SPEC | PILOT | PHOTOGR. | ADMIN/ CLERICAL | TOTAL LABOR HRS. & COSTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| **TASK SS1 - SURVEY AND ROW** | | | | | | | | | | | | | | |
| Project Control | 1 | 2 | | 6 | 8 | 40 | | | | | | | | 57 |
| Set Horizontal and Vertical Control Monuments | 1 | 2 | | 6 | 8 | 40 | | | | | | | | 57 |
| Ground Survey/Preparation for Aerial Mapping | 3 | 10 | | 30 | 124 | 312 | | | | | | | | 479 |
| Obtain names and addresses of property owners along the corridor that will require right-of-entry. Prepare and mail ROE letters. | 1 | 4 | | | 80 | | | | | | | | | 85 |
| Set approximately 15 centerline and 45 wing panels Centerline and Wing panel points on approximate 1500 – 1800 foot intervals. | 2 | 6 | | 30 | 40 | 300 | | | | | | | | 378 |
| Remove panel points on private property once the project has been flown and the film received and verified. | | | | | 4 | 12 | | | | | | | | 16 |
| Aerial Photography and Mapping | | | 36 | | | | 12 | 22 | 38 | 420 | 6 | 6 | 18 | 558 |
| Fly project and process film. Scan negatives at 14 microns for use on softcopy digital photogrammetric workstations. | | | 12 | | | | 4 | | | | 6 | 6 | 6 | 34 |
| Prepare mapping to include all visible planimetrics for 1" = 50' scale mapping. Digital terrain model (DTM) breakline and mass point data will be collected suitable for producing 1' contours. TxDOT's Legend for Symbology will be used. In areas where the ground is not visible due to tree canopy or dense vegetation ground cover, the area will be outlined and defined as obscured. All electronic files shall be fully compatible with the State's MicroStation GeoPak system without further modification or conversion. The ENGINEER will utilize TxDOT MicroStation V8 seed files for all mapping. | | | 12 | | | | 4 | | | 420 | | | 6 | 442 |
| Produce digital color orthophoto images in US feet at ¼-foot pixel resolution in HMR, TIFF, and MR. Sid format with associated world file formats. | | | 12 | | | | 4 | 22 | 38 | | | | 6 | 82 |
| | | | | | | | | | | | | | | |
| HOURS SUB-TOTALS | 4 | 12 | 36 | 36 | 132 | 352 | 12 | 22 | 38 | 420 | 6 | 6 | 18 | 1094 |
| CONTRACT RATE PER HOUR | $ 145.00 | $ 120.00 | $ 123.97 | $ 96.00 | $ 86.00 | $ 150.00 | $ 104.00 | $ 97.00 | $ 94.00 | $ 83.00 | $ 92.00 | $ 84.00 | $ 51.00 | |
| TOTAL LABOR COSTS | $580.00 | $1,440.00 | $4,462.92 | $3,456.00 | $11,352.00 | $52,800.00 | $1,248.00 | $2,134.00 | $3,572.00 | $34,860.00 | $552.00 | $504.00 | $918.00 | $117,878.92 |
| | | | | | | | | | | | | | | |
| **SUBTOTAL (Aerial Mapping)** | $580.00 | $1,440.00 | $4,462.92 | $3,456.00 | $11,352.00 | $52,800.00 | $1,248.00 | $2,134.00 | $3,572.00 | $34,860.00 | $552.00 | $504.00 | $918.00 | **$117,878.92** |

# EXHIBIT "C" - FEE SCHEDULE
# GORRONDONA & ASSOCIATES, INC.
# Collin County Outer Loop Segment 3: FM 2478 to US 75

**Direct Costs**

| Task Description | Per Item Rate | Number of Items | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flight Lines (miles) | $28.00 | 13 | | | | | | | | | | | | $ 364.00 |
| Flight Transit (miles) | $7.00 | 210 | | | | | | | | | | | | $ 1,470.00 |
| Flight Turns (miles) | $6.00 | | | | | | | | | | | | | $ - |
| Foam Core Presentation Boards 24x36 Mounted (each) | $100.00 | | | | | | | | | | | | | $ - |
| Aerial Photography – Airborne GPS/IMU Data Collection/Processing | $2,225.00 | 1 | | | | | | | | | | | | $ 2,225.00 |
| Law Enforcement Officer (hour/officer) | $75.00 | | | | | | | | | | | | | $ - |
| Legal/General Advertisements (publication/day) | $2,500.00 | | | | | | | | | | | | | $ - |
| Lodging/Hotel (Taxes/fees not included) | $80.00 | | | | | | | | | | | | | $ - |
| Photo Lab Service - Digital Image Processing | $26.00 | 87 | | | | | | | | | | | | $ 2,262.00 |
| Meals (day/person) | $36.00 | | | | | | | | | | | | | $ - |
| Mileage (miles) | $0.54 | | | | | | | | | | | | | $ - |
| Noise Meter Rental (day) | $125.00 | | | | | | | | | | | | | $ - |
| Overnight Mail - letter size (each) | $25.00 | | | | | | | | | | | | | $ - |
| Overnight Mail - oversized box (each) | $50.00 | | | | | | | | | | | | | $ - |
| Photcopies B/W (8.5x11) (each) | $0.10 | | | | | | | | | | | | | $ - |
| Photcopies Color (8.5x11) (each) | $1.00 | | | | | | | | | | | | | $ - |
| Photocopies Color (11x17) (each) | $2.00 | | | | | | | | | | | | | $ - |
| Plots (B/W on Bond) (square foot) | $1.50 | | | | | | | | | | | | | $ - |
| Plots (Color on Bond) (square foot) | $2.50 | | | | | | | | | | | | | $ - |
| Rental Car (day) | $85.00 | | | | | | | | | | | | | $ - |
| Rental Car Fuel (day) | $100.00 | | | | | | | | | | | | | $ - |
| Report Binding (each) | $50.00 | | | | | | | | | | | | | $ - |
| Reproduction to DVD (each) | $15.00 | | | | | | | | | | | | | $ - |
| Required Permit Fees (each) | $1,000.00 | | | | | | | | | | | | | $ - |
| Space Rental (each) | $2,000.00 | | | | | | | | | | | | | $ - |
| Surveying Mobilization - 151 to 240 miles | $800.00 | | | | | | | | | | | | | $ - |
| TARL Research Fee (hour) | $50.00 | | | | | | | | | | | | | $ - |
| Toll Charges (each) | $10.00 | | | | | | | | | | | | | $ - |
| Traffic Control for Surveying (minor) (day) | $250.00 | | | | | | | | | | | | | $ - |
| Translator (or Sign Language)(event) | $1,000.00 | | | | | | | | | | | | | $ - |
| Type II ROW & Control Monuments (each) | $20.00 | | | | | | | | | | | | | $ - |
| | | | | | | | | | | | | | | $ - |
| **Direct Cost Totals** | | | | | | | | | | | | | | **$ 6,321.00** |
| | | | | | | | | | | | | | | |
| **Project Totals** | | | | | | | | | | | | | | **$124,199.92** |

# EXHIBIT "C" - FEE SCHEDULE
## Brown & Gay Engineers, Inc.
## Collin County Outer Loop Segment 3: FM 2478 to US 75

| *Collin County Outer Loop FM 2478 to US 75* | RPLS | SURVEY TECH | ABSTR. | RECORD RESEARCH | SURVEY CREW | ADMIN/ CLERICAL | TOTAL LABOR HRS. & COSTS |
|---|---|---|---|---|---|---|---|
| **TASK SS1 - SUPPLEMENTAL TOPGRAPHIC SURVEYING** | | | | | | | |
| Field Surveying | 12 | 160 | | | 80 | | 252 |
| Provide supplemental topo in aerial mapping void areas, surface utilities, and cross sections for all cross drainage structures and at Honey Creek and E. Fork Trinity River. | 8 | 80 | | | 80 | | 168 |
| Update planimetric and TIN file developed by Gorrondona | 4 | 80 | | | | | 84 |
| | | | | | | | |
| HOURS SUB-TOTALS | 12 | 160 | | | 80 | | 252 |
| CONTRACT RATE PER HOUR | $ 111.13 | $ 90.72 | $ 72.58 | $ 72.58 | $ 160.00 | $ 72.58 | |
| TOTAL LABOR COSTS | $1,333.56 | $14,515.20 | $0.00 | $0.00 | $12,800.00 | $0.00 | $28,648.76 |
| | | | | | | | |
| **SUBTOTAL (SUPPLEMENTAL TOPOGRAPHIC SURVEYING)** | $1,333.56 | $14,515.20 | $0.00 | $0.00 | $12,800.00 | $0.00 | **$28,648.76** |
| | | | | | | | |
| **TASK SS1 - ROW MAPPING** | | | | | | | |
| Develop Right of Way Maps, Deed Descriptions and Plats | 352 | 656 | | 184 | 340 | 224 | 1756 |
| Prepare overall Parcel Exhibit Strip Map | 40 | 96 | | | | | 136 |
| Research and locate existing property corners | 40 | 96 | | 120 | 160 | | 416 |
| Prepare up to 65 Parcel Exhibits | 120 | 160 | | 64 | | 120 | 464 |
| Prepare up to 65 Metes and Bounds descriptions | 48 | 160 | | | | 64 | 272 |
| Place new pins at new property corners | 64 | 80 | | | 180 | | 324 |
| Coordinate with outside Abstractor to abstract up to 65 parcels | 40 | 64 | | | | 40 | 144 |
| | | | | | | | |
| HOURS SUB-TOTALS | 352 | 656 | 0 | 184 | 340 | 224 | 1756 |
| CONTRACT RATE PER HOUR | $ 111.13 | $ 90.72 | $ 72.58 | $ 72.58 | $ 160.00 | $ 72.58 | |
| TOTAL LABOR COSTS | $39,117.76 | $59,512.32 | $0.00 | $13,354.72 | $54,400.00 | $16,257.92 | $182,642.72 |
| | | | | | | | |
| **SUBTOTAL (ROW MAPPING)** | $39,117.76 | $59,512.32 | $0.00 | $13,354.72 | $54,400.00 | $16,257.92 | **$182,642.72** |

# EXHIBIT "C" - FEE SCHEDULE
## Brown & Gay Engineers, Inc.
## Collin County Outer Loop Segment 3: FM 2478 to US 75

| Direct Costs | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Task Description** | **Per Item Rate** | **Number of Items** | **Unit** | | | | |
| ATV or Utility Vehicle (day) | $75.00 | 5 | DAY | | | | $ 375.00 |
| Deed Copies (sheet) | $5.00 | | SHEET | | | | $ - |
| GPS Unit (hours) | $25.00 | | HOURS | | | | $ - |
| Map Records (sheet) | $5.00 | | SHEET | | | | $ - |
| Mileage (miles) | $0.54 | 1000 | MILES | | | | $ 540.00 |
| Photcopies B/W (8.5x11) (each) | $0.10 | 1000 | EACH | | | | $ 100.00 |
| Plots (B/W on Bond) (square foot) | $1.50 | | SQUARE FOOT | | | | $ - |
| Toll Charges (each) | $10.00 | | EACH | | | | $ - |
| Abstractor Fee | $510.00 | 65 | EACH | | | | $ 33,150.00 |
| Type II ROW & Control Monuments (each) | $20.00 | 130 | EACH | | | | $ 2,600.00 |
| | | | | | | | $ - |
| | | | | | | | $ - |
| **Direct Cost Totals** | | | | | | | **$ 36,765.00** |
| | | | | | | | |
| **Project Totals** | | | | | | | **$248,056.48** |

**EXHIBIT "D"**

INFORMATION TO BE PROVIDED BY THE COUNTY

**Collin County Outer Loop Segment 3**
**Schematic Design**
**Denton County Line to FM 2478**

The COUNTY will furnish the Engineer the following items upon request, if available no later than 30 days from Notice to Proceed (NTP):

1. Assist the Engineer, as necessary, in order to obtain the required data and information from other local, regional, State and Federal agencies.
2. Assist in Coordinating Right of Entry for all properties within or adjacent to project limits.
3. Available existing and future right-of-way plans for entire project.
4. Perform all requirements of ROW acquisition including appraisals, negotiations, eminent domain, relocation and property management.
5. Assist the Engineer in negotiations with all local, state and federal agencies, utility companies and railroads for agreements and/or relocations required.
6. Assist the Engineer, as necessary, in order to obtain the following data:
    - Utility plans and documents from appropriate municipalities and utility companies.
    - Readily available plan sets for crossing sections and improvement plans within the Project Limits.
    - Readily available flood plain information, studies and models from the Federal Emergency Management Agency, FEMA, the Corps of Engineers and/or other governmental agencies.
    - Readily available GIS Data
    - Readily available drainage reports
    - Readily available aerial mapping and soil data for the designated area.
    - Prior environmental studies and reports
    - Topographic contours (2') (To be provided by the COUNTY)

## Exhibit "E"

INSURANCE REQUIREMENTS

1.1 Before commencing work, the vendor shall be required, at its own expense, to furnish the Collin County Purchasing Agent with certified copies of all insurance certificate(s) indicating the coverage to remain in force throughout the term of this contract.

1.1.1 Commercial General Liability insurance at minimum combined single limits of ($1,000,000 per-occurrence and $2,000,000 general aggregate) for bodily injury and property damage, which coverage shall include products/completed operations at $2,000,000 per occurrence. Coverage must be written on an occurrence form.

1.1.2 Workers Compensation insurance at statutory limits, including employers liability coverage at $500,000. In addition to these, the contractor must meet each stipulation below as required by the Texas Department of Insurance, Division of Workers' Compensation. (Note: If you have questions concerning these requirements, you are instructed to contact the DWC at (512)440-3789).

1.1.2.1 Definitions: Certificate of coverage ("certificate"); A copy of a certificate of authority of self-insure issued by the commission, or a coverage agreement (DWC-81, DWC-82, DWC-83, OR DWC-84), showing statutory workers compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

Duration of the project includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("subcontractor" in 406.096) includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

1.1.2.2 The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

1.1.2.3 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.

1.1.2.4 If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

1.1.2.5 The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

1.1.2.5.1 A certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

1.1.2.5.2 no later than seven (7) days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

1.1.2.6 The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

1.1.2.7 The contractor shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

1.1.2.8 The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

1.1.2.9 The contractor shall contractually require each person with whom it contracts to provide services on a project, to:

1.1.2.9.1 provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

1.1.2.9.2 provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

1.1.2.9.3 provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

1.1.2.9.4 obtain from each other person with whom it contracts, and provide to the contractor:

1.1.2.9.4.1 a certificate of coverage, prior to the other person beginning work on the project; and

1.1.2.9.4.2 a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

1.1.2.9.5 retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

1.1.2.9.6 notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

1.1.2.9.7 contractually require each person with whom it contracts, to perform as required by paragraphs 1.1.2.1 through 1.1.2.7, with the certificates of coverage to be provided to the person for whom they are providing services.

1.1.2.10 By signing this contract or providing or causing to be provided a certificate of coverage, the contractor is representing to the governmental entity that all employees of the contractor who will provide services on the project will be covered by workers compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

1.1.2.11 The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the governmental entity to declare the contract void if the contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

1.1.3 Commercial Automobile Liability insurance shall be no less than $1,000,000 combined single limits per accident for bodily injury and property damage, including owned, non-owned, and hired vehicle coverage.

1.1.4 Professional Liability Insurance at minimum limits of $1,000,000. This policy must have a two (2) year extended period of coverage, (i.e. tail coverage). If you choose to have project coverage endorsed onto your base policy, this would be acceptable.

1.2 The required limits may be satisfied by any combination of primary, excess or umbrella liability insurances, provided the primary policy complies with the above requirements and the excess umbrella is following form. The vendor may maintain reasonable and customary deductibles, subject to approval by CCTRA.

1.3 With reference to the foregoing insurance requirement, the vendor shall endorse applicable insurance policies as follows:

1.3.1 A waiver of subrogation in favor of CCTRA, its officials, employees, volunteers and officers shall be contained in all policies.

1.3.2 The vendor's insurance coverage shall name CCTRA as additional insured under the General Liability policy.

1.3.3 All insurance policies shall be endorsed to the effect that CCTRA will receive at least thirty (30) days' notice prior to cancellation, non-renewal or termination of the policy.

1.3.4 All copies of Certificates of Insurance shall reference the project/contract number.

1.4 All insurance shall be purchased from an insurance company that meets the following requirements:

1.4.1 A financial rating of A-VII or higher as assigned by the BEST Rating Company or equivalent.

1.5 Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agent, and shall contain provisions representing and warranting the following:

1.5.1 Sets forth all endorsements and insurance coverages according to requirements and instructions contained herein.

1.5.2 Sets forth the notice of cancellation or termination to CCTRA.

AGR 2016-045

**EXHIBIT "F"**

AFFIDAVIT OF REGULATION OF CONFLICTS OF INTEREST

The undersigned declares and affirms that during the term of this contract they will maintain compliance as defined in Vernon's Texas Codes Annotated, Local Government Code Title 5, Section C, Chapter 171.

I further understand and acknowledge that the existence of a conflict of interest at any time during the term of this contract will render the contract voidable.

Name of Firm: Brown & Gay Engineers, Inc.

Print Name of Officer: Michael H. Garrison

Signature of Officer: _____

Title of Officer: Vice President

Date: July 25, 2016

**ACKNOWLEDGMENT**

**STATE OF TEXAS** }
}
**COUNTY OF** COLLIN }

**BEFORE ME**, on this day personally appeared Michael H. Garrison , known to me (or proved to me on the oath of _____ or through _____ (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

**GIVEN** UNDER MY HAND AND SEAL OF OFFICE, this, the 25th day of July, 2016.

_____
Notary Public, State of Texas

Pati Doherty
Printed Name

PATI DOHERTY NOTARY PUBLIC STATE OF TEXAS EXPIRES MAY 2, 2019 NOTARY ID: 6111067

My Commission expires on the 2nd day of May, 2019.