

ENGINEERING SERVICES AGREEMENT

THIS AGREEMENT is made and entered by and between COLLIN COUNTY TOLL ROAD AUTHORITY, a political subdivision of the State of Texas, hereinafter referred to as "CCTRA", and, CH2M Hill, Inc., a Florida 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 to perform engineering and consulting services in connection with the schematic engineering of the Collin County Outer Loop, Segment 3 (Dallas North Toll Way to East of SH 289) 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:

I. Employment 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 written change orders may be authorized from time to time by the CCTRA.

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

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 Change Order. 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 Collin County Toll Road Authority 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

8.1 The Engineer agrees to the fullest extent permitted by law, to indemnify and hold harmless the CCTRA, Collin County, and its officers, agents and employees of and from damages, injuries (including death), claims, property damages (including loss of use), losses, demands, suits, judgments and costs, including reasonable attorney's fees and expenses, arising out of or occasioned by Engineer's breach of any of the terms or provisions of this Agreement, or by any other negligent act, error or omission of the Engineer, its agents, servants, employees, subcontractors, licensees, invitees, or any other persons or entities for whose acts the Engineer is legally liable.

8.2 In claims against any person or entity indemnified under this Section 8.1 by an employee of the Engineer, anyone directly or indirectly employed by the Engineer or anyone for whose acts the Engineer may be liable, the indemnification obligation under this Section 8.1 shall not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for the Engineer under workers' compensation acts, disability benefit acts or other employee benefit acts.

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/Conflict of 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 one (1) year 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 by data furnished to the Engineer by or through the CCTRA. 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. 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:

Mr. Ruben Delgado, P.E., Director
Collin County Engineering Department
4690 Community Ave, Suite 200
McKinney, Texas 75071

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

Mr. Will Barresi, PE
CH2M Hill, Inc.
12750 Merit Dr., Ste. 1100
Dallas, TX 75251

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. 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.

E. 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.

F. Effective Date

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

G. Term of Agreement

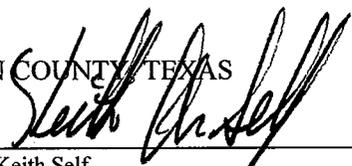
The term of Agreement shall conform to the schedule as stipulated in Exhibit "B" attached herein. No other extension shall be authorized unless granted by written agreement between the CCTRA and Engineer.

H. 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.

WITNESS OUR HANDS AND SEALS on the date indicated below.

Date: 4/4/13

COLLIN COUNTY, TEXAS
By: 
Keith Self
Collin County Toll Road Authority Board President
Court Order No. 2013-3009-03-11

Date: 4/1/2013


By: Glen McCabe
Title: Vice President

ACKNOWLEDGMENT

STATE OF TEXAS }

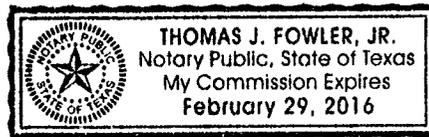
COUNTY OF Collin }

BEFORE ME, Thomas Fowler on this day personally appeared Glen McCabe, of CH2MHILL a Florida Corporation, 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 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 the 1st day of April, 2013.

[Signature]
Notary Public, State of Texas

Thomas Fowler
Printed Name



My Commission expires on the 29th day of February, 2016.

STATE OF TEXAS }

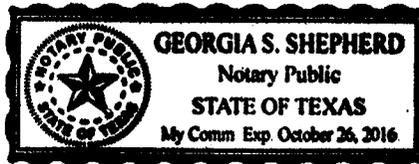
COUNTY OF COLLIN }

BEFORE ME, Georgia S. Shepherd on this day personally appeared **Keith Self, Board President** of the **COLLIN COUNTY TOLL ROAD AUTHORITY**, 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 the **COLLIN COUNTY TOLL ROAD AUTHORITY**, for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the ^{4th} day of April, 2013.

Georgia S. Shepherd
Notary Public, State of Texas

Georgia S. Shepherd
Printed Name



My Commission expires on the 26th day of October, 2016.

Agreement No. 2013-140

EXHIBIT "A"

SCOPE OF SERVICES

See attached document

Collin County Outer Loop Dallas North Tollway to East of SH 289 (Preston Road)

Scope of Work

The work to be performed by the Engineer shall consist of preparing a detailed schematic for the Collin County Outer Loop from the Dallas North Tollway (DNT) to approximately 2,000 LF East of SH 289 (Preston Road). The deliverables under this contract shall be aerial surveying and mapping, a hydraulic report, and preparation of a geometric schematic for a 2-lane, 2-way service road. Final design (PS&E) will be added by supplemental agreement to this contract as needed.

TASK 1 – DEVELOP SCHEMATIC LAYOUT

Using aerial and conventional survey methods, develop a schematic layout for the preferred alternative and submit to the County. The Engineer will prepare a schematic layout to a scale of 1"=200'. The schematic will be prepared using the English system of units. The Engineer will revise, as needed, the centerline horizontal and vertical alignments of the appropriate conceptual design and submit to the County for approval. 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) for urban roadways. The Engineer shall undertake the following tasks:

1. **Data Collection and Review**
The Engineer shall collect all pertinent project data from the Collin County, TxDOT, and any municipalities including plans, as-builts, survey information and other reports. The Engineer shall review this data for use in design of the project.
2. **Collect Utility Plans Municipalities and Franchise Utility Owners**
The Engineer shall collect all pertinent utility plans from municipalities and franchise/private utility owners who have utilities in the project corridor.
3. **Field Reconnaissance**
The Engineer shall visit the project site to record and photograph existing project conditions.
4. **Develop Roadway Design Criteria**
The Engineer shall apply appropriate roadway design criteria and complete the Design Summary Report (DSR) for the project in accordance with the TxDOT Roadway Design Manual and AASHTO design guidelines for urban roadways and will submit to Collin County for approval. The Engineer shall use the design criteria to identify the maximum and minimum values for all design elements and will identify the project preferred.

Scope of Work

5. **Preliminary Cost Estimate**
The Engineer shall develop an estimate of construction cost for this project based on a quantity take off of the design schematic using current average unit bid prices of TxDOT bid items.
6. **Design Schematic**
The Engineer shall develop a design schematic for the project including:
 - a. **Geometric Layout, Plan and Profile Schematic**
Prepare a design schematic depicting the proposed improvements for the project, including the transition and tie in of the Outer Loop service road to County Road 88, approximately 2,000 LF east of SH 289. The design elements to be shown will include the following:
Control data, horizontal alignment, curve data of centerline only, super elevation data, proposed pavement (type; thickness), pavement markings, signals, construction limits, culverts, easements, existing topography, existing and proposed right of way, existing utilities, existing ground profile and proposed vertical alignment. Include cross street centerline and profile.
 - b. **Preliminary Typical sections**
Prepare preliminary typical sections, which represent both the existing and proposed conditions. The typical sections shall incorporate the pavement design as specified by Collin County. Typical sections shall include representations of the various conditions proposed, such as slopes, number of lanes, retaining wall locations, shoulder widths, clear zones, border width and right-of-way width. This list is not all inclusive, and other information shall be added as needed to clarify the intent and purpose of the typical section.
 - c. **Preliminary Design Cross Sections**
In conjunction with the design schematic, preliminary design cross sections will be developed on 100' station intervals using Geopak. Each pavement layer and undercut, if any, will be shown together with the right of way limits, side slopes, pavement cross slopes, curbs and any retaining walls.
 - d. **Develop Preliminary Construction Sequence**
A conceptual construction sequence complete with typical sections and plan view depiction of the traffic control plan will be developed and provided to the State for approval. This will include traffic handling, roadway phasing and pedestrian routing during construction.
7. **Right of Way (ROW) Determination**
Based on the schematic and design cross sections, the Engineer shall verify preliminary right-of-way taking lines and they shall be depicted on the design schematic.

Deliverables – limited to one interim review cycle.

- Interim – Calculated horizontal and vertical alignments, typical sections, water surface elevations at major crossings, design cross-sections, and identification of utility constraints.

Scope of Work

- Final – Finalize interim submittal, preliminary ROW requirements, and sequence of construction

TASK 2 – HYDROLOGIC AND HYDRAULIC INVESTIGATION

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

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.
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 model will be developed for each highway stream crossing and for any affected parallel channels.
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.
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**
Prepare a Detailed Drainage Report summarizing the findings and recommendations of the drainage study. The report will document all relevant calculations, assumptions, exhibits and supporting documents.

Deliverables – limited to one interim review cycle

- Interim & Final Drainage Report

TASK 3 – SURVEY

The limits of this task are from DNT to approximately 3,500 LF East of SH 289.

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.

Collin County Outer Loop from the DNT to East of SH 289
Scope of Work

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. Collin 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.

Specific Work To Be Performed from DNT to approximately 3,500 LF East of SH 289

1. The Surveyor shall establish approximately seven (7) 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

Scope of Work

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 23 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 800 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.
11. This scope does NOT include the record research or abstracting of easements or other encumbrances (drainage easements, ingress-egress easements, gas leases, etc.) of properties located within the project limits or the location of such.

Deliverables for Task 3

1. ROE Contact Log, copies of ROE permission letters
2. DGN file containing planimetrics, contours, breaklines, and property lines and ownership information
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

TASK 4 – PROJECT MANAGEMENT/PROJECT ADMINISTRATION

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.

Collin County Outer Loop from the DNT to East of SH 289
Scope of Work

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.

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 and distributed for all meetings.

Miscellaneous 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 12 meetings. Meeting minutes will be prepared and distributed for all meetings.

Subconsultant Management

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

Quality Assurance/Quality Control

The Engineer will provide continuous monitoring throughout the life of the project.

TASK 5 – GEOTECHNICAL

No geotechnical investigation will be required under this scope of work.

TASK 6 – PLANS, SPECIFICATIONS, AND ESTIMATES (PS&E)

The plans, specifications, and estimates (PS&E) scope shall be determined after the schematic has been prepared and approved and will be included in this contract as a supplemental agreement.

Agreement No. 2013-140

EXHIBIT "B"

COMPLETION SCHEDULE

See attached

PROJECT SCHEDULE
CH2M HILL, INC.
Collin County Outer Loop: DNT to East of SH 289

ID	Task Name	Duration	Predecessors	Start	Finish	Feb '13	Mar '13	Apr '13	May '13	Jun '13	Jul '13	Aug '13	Sep '13	Oct '13	Nov '13
1	Contract NTP	1 day		Mon 3/4/13	Mon 3/4/13										
2	Develop Schematic Layout	167 days	1	Tue 3/5/13	Wed 10/23/13										
3	Aerial & Field Survey	65 days	1	Tue 3/5/13	Mon 6/3/13										
4	Hydrologic and Hydraulic Investigation	45 days	3FS-15 days	Tue 5/14/13	Mon 7/15/13										
5	Develop Preliminary Hydraulic Report	20 days	4FS-20 days	Tue 6/18/13	Mon 7/15/13										
6	Develop Preliminary Schematic	65 days	3	Tue 6/4/13	Mon 9/2/13										
7	Submit Preliminary Schematic and Hyrdraulic Report	1 day	5,6	Tue 9/3/13	Tue 9/3/13										
8	Collin County Review	10 days	7	Wed 9/4/13	Tue 9/17/13										
9	Develop Final Schematic and Hyrdraulic Report	25 days	8	Wed 9/18/13	Tue 10/22/13										
10	Submit Final Schematic and Hyrdraulic Report	1 day	9	Wed 10/23/13	Wed 10/23/13										

Project: CCOL 3 Schematics Schedule
 Date: Wed 1/23/13

Task
 Split



Progress
 Milestone



Summary
 Project Summary



External Tasks
 External Milestone



Deadline



EXHIBIT "C"

PAYMENT SCHEDULE

Invoices will be transmitted to the County on a monthly 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.

SUMMARY
CH2M HILL, INC.
Collin County Outer Loop Segment 3: DNT to East of SH 289

<i>Collin County Outer Loop Segment 3 DNT to SH 289</i>	
Total CH2M HILL Fee	\$222,979
Total Brown & Gay Fee	\$37,006
Total Lamb Star Fee	\$115,998
Total CH2M HILL Team Fee	\$375,983

<i>Collin County Outer Loop DNT to SH 289</i>	Project Manager	Senior Engineer	Project Engineer	EIT	Senior Designer	Clerical	Totals
Rate	\$195.18	\$170.39	\$133.21	\$93.56	\$132.53	\$70.88	
Task 4 -Project Management/Project Administration							
Schedule, Progress Reports, and Invoices	40					60	100
Progress Meetings (6)	18	12	8			6	44
Miscellaneous Coordination Meetings (12)	36	18	24			24	102
Quality Assurance/Quality Control	24	60				16	100
Task 4 Totals	118	90	32	0	0	106	346
Total Hours	168	308	226	472	272	130	1,576
Total Labor Costs	\$32,790	\$52,480	\$30,105	\$44,160	\$36,048	\$9,214	\$204,799
Reimbursable Direct Expenses							
				Unit	Quantity	Rate	Total
8.5" x 11" Copies				EA	500	\$0.10	\$50
11" x 17" Copies				EA	200	\$0.15	\$30
Mileage				MILE	1,000	\$0.55	\$550
Bond Plots				SF	500	\$1.50	\$750
Color Plots				SF	500	\$3.00	\$1,500
Total Reimbursable Direct Expenses							\$2,880
Total Markup on Subconsultants (10%)							\$15,300
Total CH2M HILL FEE							\$222,979

FEE PROPOSAL
Brown & Gay Engineers
Collin County Outer Loop Segment 3: DNT to East of SH 289

<i>Collin County Outer Loop DNT to E. of SH 289</i>	Project Manager	Senior Engineer	Project Engineer	EIT	Senior Designer	Clerical	Totals
Rate	\$190.00	\$160.00	\$120.00	\$105.00	\$130.00	\$60.00	
Task 2 - Hydrologic and Hydraulic Investigation							
Drainage Area Mapping	2	2	8	32	8		52
Calculate Discharges	2	8	72	40			122
Determine Approx. Cross Drainage Structure Sizes	2	8	64	40	16		130
						10	10
							0
Task 2 Totals	6	18	144	112	24	10	314
Total Hours	6	18	144	112	24	10	314
Total Labor Costs	\$1,140	\$2,880	\$17,280	\$11,760	\$3,120	\$600	\$36,780
Reimbursable Direct Expenses				Unit	Quantity	Rate	Total
8.5" x 11" Copies				EA	50	\$0.10	\$5
11" x 17" Copies				EA	100	\$0.15	\$15
Mileage				MILE	200	\$0.55	\$110
Bond Plots				SF	24	\$1.50	\$36
Color Plots				SF	20	\$3.00	\$60
Total Reimbursable Direct Expenses							\$226
Total Brown & Gay Fee							\$37,006

EXHIBIT NUMBER
Fee Estimate for
CH2M Hill
Collin County Outer Loop DNT to 0.75 Miles east of Preston Road
Lamb-Star Standard 2012-2013 Rates

LAMB-STAR ENGINEERING, L.P.											
LABOR	RPLS P.M.	RPLS Task Leader	SRC SURVEY TECH	SURVEY TECH	ABTRACTOR	1-MAN W/GPS	2-MAN W/GPS	3-MAN W/GPS	ADMIN	AERIAL MAPPING	TOTAL MAN HOURS
1. Establish Horizontal and Vertical control	3	18	36	8		16	56	10			147
2. Cross sections of roadways	2	10	24	4		16	70	8			134
3. Topo cross culverts	2	10	20	4		8	30	8			82
4. Topo SS, WW and other utility features	2	8	12	4		8	30	8			72
5. ROE Permits	1	10	16	36					28		91
6. Prepare topographic map	2	8	48	8							66
7. Determine boundary and ROW lines	4	40	48	16	40	12	32	12			204
8. Topo supplement for Aerial Mapping	2	16	32	8		12	48			1	119
											0
TOTAL HOURS	18	120	236	88	40	72	266	46	28	1	915
AVG. HOURLY RATE	\$ 136.00	\$ 130.00	\$ 95.00	\$ 85.00	\$ 60.00	\$ 90.00	\$ 115.00	\$ 150.00	\$ 60.00	\$20,000.00	
TOTAL LABOR	\$ 2,448.00	\$ 15,600.00	\$ 22,420.00	\$ 7,480.00	\$ 2,400.00	\$ 6,480.00	\$ 30,590.00	\$ 6,900.00	\$ 1,680.00	\$20,000.00	\$ 115,998.00

EXHIBIT "D"

INFORMATION TO BE PROVIDED BY THE COUNTY

The CCTRA will make available to Engineer any and all information, data, etc. as it may have in its possession relating to the project described herein.

EXHIBIT "E"

INSURANCE REQUIREMENTS

1.0 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) required by Texas Law indicating the coverage is to remain in force throughout the term of this contract. In addition to any coverage required by Texas Law, the vendor shall provide the following coverages.

1.1 Broad Form 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, independent contractors, and contractual liability each at \$1,000,000 per occurrence. Coverage must be written on an occurrence form.

1.2 Workers Compensation insurance at statutory limits, including employers liability coverage at minimum limits. 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.

1.2.1 Definitions: Certificate of coverage ("certificate"). A copy of a certificate of authority to self-insure issued by the commission, or a coverage agreement in a form approved by the DWC (i.e. 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 includes, but is not limited to, 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.

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 Title 5 of the Texas Labor Code, for all employees of the contractor providing services on the project, for the duration of the project.

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

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.

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

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

1.2.5.2 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.

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

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.

1.2.8 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.

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

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 Title 5 of the Texas Labor Code, for all of its employees providing services on the project, for the duration of the project;

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;

1.2.9.3 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;

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

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

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;

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

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

1.2.9.7 contractually require each person with whom it contracts, to perform as required by paragraphs 1.2.1 through 1.2.7, with the certificates of coverage to be provided to the person for whom they are providing services.

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.

1.2.11 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.

1.3 Commercial Automobile Liability insurance shall be no less than \$500,000 combined single limits per accident for bodily injury and property damage, including owned, non-owned, and hired vehicle coverage.

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.

2.0 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 the Collin County Toll Road Authority.

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

3.1 A waiver of subrogation in favor of the Collin County Toll Road Authority, its officials, employees, volunteers and officers shall be contained in the workers compensation coverage.

3.2 The vendor's insurance coverage shall name Collin County as an additional insured under the General Liability policy.

3.3 All insurance policies shall be endorsed to require the insurer to immediately notify the Collin County Toll Road Authority of any decrease in the insurance coverage limits.

3.4 All insurance policies shall be endorsed to the effect that the Collin County Toll Road Authority will receive at least thirty (30) days notice prior to cancellation, non-renewal or termination of the policy.

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

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

4.1 A financial rating of B+VII or better as assigned by the BEST Rating Company or equivalent.

5.0 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:

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

5.2 Sets forth the notice of cancellation or termination to the Collin County Toll Road Authority.

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 Engineer: Philip S. Yerby

Title of Officer: Vice President

Signature of Officer: *Philip S. Yerby*

Date: 04/02/2013

ACKNOWLEDGMENT

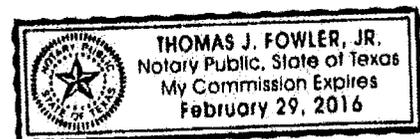
STATE OF TEXAS }
 }
 COUNTY OF Collin }

BEFORE ME, on this day personally appeared Philip S. Yerby, 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 2ND day of April, 2013.

Thomas J. Fowler, Jr.
 Notary Public, State of Texas

Thomas Fowler
 Printed Name



My Commission expires on the 29th day of February, 2016.