

**JULY 28, 2011 CTRMA BOARD OF DIRECTORS MEETING
Summary Sheet**

AGENDA ITEM # 12

Approve a new work authorization with HNTB Corporation relating to the US183/183A Intersection Improvement Project.

Department: Engineering

Associated Costs: \$625,000

Funding Source: General Fund; Reimbursed with TxDOT Pass Through Financing

Board Action Required: YES

Description of Matter:

The services to be performed by the GEC will include, but not be limited to, professional services and deliverables for various tasks related to the study, project development, and construction phase services for the US183/183A Intersection Improvement Project under TxDOT Pass Through Financing. The improvements will include the widening of the northbound and southbound lanes of US 183 and 183A to accommodate auxiliary lanes and turning lanes. Improvements will also include turnaround lanes, reconfiguration of US 183 west of US 183 / 183A, reconstruction of the intersection of US 183 and CR 276, and realignment and extension of the existing Access Road. The existing signalization equipment at the US 183 / 183A intersection will also be removed and replaced with new signalization equipment that will accommodate the new intersection configuration and turning movement requirements.

Attached documentation for reference:

Draft Work Authorization No. 10

Contact for further information:

Wesley M. Burford, P.E., Director of Engineering

APPENDIX D

WORK AUTHORIZATION

WORK AUTHORIZATION NO. 10.0

This Work Authorization is made as of this 1st day of August, 2011, under the terms and conditions established in the AGREEMENT FOR GENERAL CONSULTING ENGINEERING SERVICES, dated as of December 23rd, 2009 (the "Agreement"), between the Central Texas Regional Mobility Authority ("Authority") and **HNTB Corporation** ("GEC"). This Work Authorization is made for the following purpose, consistent with the services defined in the Agreement:

US 183 / 183A Intersection Improvement Project

Section A. - Scope of Services

A.1. GEC shall perform the following Services:

Please reference Attachment A – Scope of Work

A.2. The following Services are not included in this Work Authorization, but shall be provided as Additional Services if authorized or confirmed in writing by the Authority.

Please reference Attachment A – Scope of Work

A.3. In conjunction with the performance of the foregoing Services, GEC shall provide the following submittals/deliverables (Documents) to the Authority:

Please reference Attachment A – Scope of Work

Section B. - Schedule

GEC shall perform the Services and deliver the related Documents (if any) according to the following schedule:

Services defined herein are expected to be substantially complete within eighteen (18) months from the date this Work Authorization 10.0 becomes effective. This Work Authorization 10.0 will not expire until all tasks associated with the Scope of Services are complete.

Section C. - Compensation

C.1. In return for the performance of the foregoing obligations, the Authority shall pay to the GEC the amount not to exceed \$ 625,000, based on a Cost Plus fee listed in Attachment B – Fee Estimate. Compensation shall be in accordance with the Agreement.

The Authority and the GEC agree that the budget amounts contained in Attachment B-Fee Estimate are estimates and that these individual figures may be redistributed and/or adjusted as necessary over the duration of this Work Authorization. The GEC may alter the

compensation distribution between tasks or work assignments to be consistent with the Services actually rendered within the total Work Authorization amount. Upon written approval by the Authority, GEC may alter the compensation distribution between Work Authorizations. The GEC shall not exceed the maximum amount payable without prior written permission by the Authority.

C.2. Compensation for Additional Services (if any) shall be paid by the Authority to the GEC according to the terms of a future Work Authorization.

Section D. - Authority's Responsibilities

The Authority shall perform and/or provide the following in a timely manner so as not to delay the Services of the GEC. Unless otherwise provided in this Work Authorization, the Authority shall bear all costs incident to compliance with the following:

Section E. - Other Provisions

The parties agree to the following provisions with respect to this specific Work Authorization:

Authority:

**CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY**

By: _____

Name: Mike Heiligenstein

Title: Executive Director

Date: _____

GEC:

HNTB Corporation

By: _____

Name: _____

Title: _____

Date: _____

CENTRAL TEXAS RMA
ATTACHMENT A – SCOPE OF WORK
WORK AUTHORIZATION NO. 10

SERVICES TO BE PROVIDED BY THE GENERAL ENGINEERING CONSULTANT
(GEC)

General

The services to be performed by the GEC will include, but not be limited to, providing engineering design services required to develop plans, specifications and estimates (PS&E) and the construction engineering & inspection and construction management services necessary to oversee the construction of the US183/183A Intersection Improvement Project. This will entail those professional services and associated deliverables required to complete the inspection and oversight activities associated with the management and administration of the contractor's (hereinafter referred to as the Contractor) activities.

Project Description

The Central Texas Regional Mobility Authority is proposing a pass-through finance program to improve safety and driver expectation issues at the US 183 and 183A intersection in Leander, Texas. The improvements will include the widening of the northbound and southbound lanes of US 183 and 183A to accommodate auxiliary lanes and turning lanes. Improvements will also include turnaround lanes, reconfiguration of US 183 west of US 183 / 183A, reconstruction of the intersection of US 183 and CR 276, and realignment and extension of the existing Access Road on the west side of the intersection. The existing signalization equipment at the US 183 / 183A intersection will also be removed and replaced with new signalization equipment that will fit the new intersection configuration and turning movement requirements.

The project will be constructed under traffic. Capacity for the anticipated daily traffic volumes on US 183, 183A, and CR 276 will be provided for throughout all phases of construction whenever possible.

The GEC will provide the following services:

1. ROUTE AND DESIGN STUDIES

1.1. Traffic Evaluations and Projections

- The GEC will utilize previously collected traffic data to establish the appropriate queuing lengths for the proposed turning movements and to establish the appropriate timing of the proposed traffic signals.

1.2. Develop Roadway Design Criteria

- The GEC shall develop the roadway design criteria utilizing TxDOT design principles and practices.
- The GEC will fill in the TxDOT Design Summary Report (DSR) that will serve as the living document for the project.

1.3. Preliminary Cost Estimates

- The GEC will develop preliminary cost estimates utilizing the approved roadway design criteria and the Average Low Bid Unit Prices for Construction located on the TxDOT website as well as recent bidding history on local projects.
- The cost estimates will be prepared using a spreadsheet format and will be submitted at approximately 60% and updated at 100% completion of the design.

1.4. Design Schematic

- The GEC will develop a preliminary design schematic utilizing the approved roadway design criteria and information from the Design Concept Conference (DCC) if required by TxDOT. The schematic layouts will include the basic information necessary for the proper review and evaluation of the proposed improvement:
 - General project information including project limits, design speed, and functional classification.
 - Existing and proposed profiles and horizontal alignment data will not be shown on the schematic; however, it will be developed in sufficient detail to determine right of way needs.
 - Lane lines and/or arrows indicating the number of lanes should be shown.
 - An explanation of the sequence and methods of stage construction.
 - Tentative right of way limits.
 - The geometrics (pavement cross slope, lane and shoulder widths, slope ratio for fills and cuts) of the typical sections of proposed highway mainlanes, speed lanes, and auxiliary lanes, turnaround lanes, access road lanes and other side roads.
 - Existing and proposed control of access lines.
 - Direction of traffic flow on all roadways.
 - Design speed.
 - Existing roadways to be closed or removed.

2. RIGHT-OF-WAY DATA

2.1. Subsurface Utility Engineering (SUE) – Utility Surveys

- **Level “D” Survey:** Collect existing utility record information (as-built) from utility purveyors, TxDOT, municipalities, counties and other agency suppliers within the area of investigation.
- **Level “C” Survey:** Field locate and obtain accurate horizontal position of visible utility surface features for all of the utility systems described within Level D service.
- **Level “B” Survey:** Quality Levels D and C are inclusive with Level B services. Designate is to indicate, by marking with paint, the presence and approximate horizontal location of subsurface utilities using geophysical prospecting techniques, including, without limitations, electromagnetic, sonic and acoustical techniques.

2.2. The GEC will:

- Provide the following designating services to aid in the design of site, right-of-way, construction plans or project development plans, or for other purposes as agreed to by the parties.
 - Provide all equipment, personnel, and supplies required for performing designating services. The GEC shall determine which equipment; personnel and supplies are required to perform designating services.
 - Conduct appropriate investigation of site conditions.
 - Designate the approximate horizontal location of the existing utilities within the project limits.
 - Mark the utilities to be surveyed on the ground.
 - Markings on the ground are to be used for design purposes and not for construction excavation purposes. The use of information provided does not relieve any contractor from the duty to comply with applicable utility damage prevention laws and regulations, including, but not limited to, giving notification to utility owners or “one-call” centers before excavation.
 - The accuracy of subsurface data can be influenced by factors beyond our control, such as conductivity of materials and their surroundings, soil moisture content, proximity of other underground utilities or structures, depth of utility, etc. Therefore, only the accuracy of data obtained by actual physical verification (through vacuum excavation or otherwise) can be guaranteed to applicable engineering and/or surveying standards.
 - The GEC will provide all SUE services to the prevailing standard of care applicable in the subsurface utility engineering profession.
- **Overhead Utility Survey:** The GEC will collect record utility information for above ground utility systems. This information will be verified by visual inspection in the field. The types of overhead utilities will be shown and labeled on the plan sheets.

- **Data Management:** The GEC will analyze and correlate all of the field-collected information with the collected record information for ensuring continuity of the information collected. Resolve conflicts with Level D, C, and B information. All information will be correlated to the project's monumentation.
- **Plan Preparation:** Plan sheets will be prepared utilizing MicroStation format and meeting established standards. The utilities will be referenced by the type of utility, color coded to American Public Works Association standards, utility company or agency name, address, telephone number and contact person.
- **Standard of Care:** The GEC will provide all services to the standard of care applicable in the subsurface engineering profession. The GEC shall obtain all information related to the project and determine the significance of same as it relates to the project. The GEC shall obtain, review and evaluate existing data and appropriate plans provided by TxDOT, Williamson County, the City of Leander, and various utility districts and utility companies to determine the significance and usefulness as it relates to the project.
- **Disclaimer:** The GEC will not be responsible for any omission of utility information that is not obtainable via electromagnetic, sonic, or acoustical designating services. Non-metallic piping, inactive electric and/or communication lines may or may not be found by electromagnetic, sonic or acoustical designating practices. The GEC does not warrant and/or guarantee that existing utilities will be found.

2.3. Right of Way / Easement Staking:

- If deemed necessary for the facilitation of acquiring additional right of way and/or easements, the GEC will identify the general locations of the existing and proposed right of way and/or easement(s). Locations will be identified in the field one time with lath and flags using offset measurements from the baselines established for the project.

3. FIELD SURVEYING AND PHOTOGRAMMETRY

3.1. Field Surveying

- **Right-of-Entry:** The City of Leander shall obtain required Right-of-Entry (ROE) with all property owners associated with the project surveying efforts.
- **Control:** The GEC shall locate previously set horizontal control points (traverse points) and bench marks, within the limits of the project, and verify their validity. Establish additional bench marks at intervals not to exceed 1000 feet for the limits of the project and tie to project baseline. Bench marks shall be #6, 3/4 inch diameter iron rods 4 feet in length, or of a shorter length if driven to resistance, and located near the proposed right-of-way line at a measured distance and a given station. Bench marks will be looped in accordance with good surveying practice prior to performing surveying within this scope. All traverse and control

leveling work related to the project will be performed in substantial accordance with the current Manual of Practice for Land Surveying in the State of Texas published by the Texas Society of Professional Surveyors.

- **Control Location Maps:** The GEC shall prepare a Project Layout sheet which will include control location information. The information shown for the control points should tie the control point, by distance, to a minimum of three known topographic features. The information should identify the control point x, y, elevation, name and or number. The Project Layout sheet shall contain all pertinent information regarding the control point and bench mark locations in relation to the entire project.
- **Centerline Staking:** The design centerlines (or an offset if located within existing roadways) shall be staked at P.C.'s, P.T.'s and 100 foot station intervals.
- **Survey Information:** The GEC will utilize photogrammetric survey information that was previously obtained for the future US 183 / 183A roadway extension project. The GEC shall also obtain additional topographic survey information as needed to supplement the photogrammetric survey at proposed roadway tie-in locations and to locate any drainage structures, trees, utility covers and manholes, traffic and light poles, traffic, junction and pull boxes and other topographic features within the previously defined limits. The GEC shall also obtain topographic survey information the area in the northwest quadrant of the US 183 / CR 276 intersection for the proposed re-alignment of the Access Road.
- **Cross Sections:** For US 183 and 183A, the GEC shall obtain roadway cross sections (centerlines, edges of pavement, cross slope breaks, ditch bottoms, grade breaks) every 200 feet from approximately 1200 feet south of the US 183 / 183A intersection to approximately 1400 feet north of the intersection. Width of cross sections shall be approximately 200 feet centered on existing mainlanes. In addition, the GEC will survey roadway cross sections every 200 feet along the existing US 183 mainline from the intersection of the northbound US 183 / 183A mainlanes to approximately 1000 feet south of the US 183 / CR 276 intersection. Width of cross sections shall be approximately 200 feet centered on existing roadway. In addition, the GEC will survey roadway cross sections every 200 feet along the existing and projected alignment of the existing Access Road to a point approximately 1600 feet north of the US 183 / 183A intersection. Width of cross sections shall be approximately 150 feet measured from the existing right of way.

4. ROADWAY DESIGN CONTROLS

4.1. The GEC will:

- Provide overall Subtask Management and Coordination of Roadway Design efforts related to the project.
- Design horizontal and vertical alignments for US 183, 183A, CR 276, proposed access road, existing driveways and pavement transitions. Where applicable, the

geometric development shall be in conformance with the TxDOT Roadway Design Manual.

- Provide Quality Control/Quality Assurance for Roadway Design activities and plan sheets.

4.2. The GEC will develop:

- Project Layout sheets.
- Existing Typical Section sheets for US 183, 183A, CR 276, and access road.
- Proposed Typical Sections for US 183, 183A, CR 276, access road, turnarounds, and driveways.
- Horizontal Alignment Data, Survey Control and Benchmark Data sheets.
- Roadway Plan and Profile Sheets for US 183, 183A, CR 276, access road, turnarounds, and driveways. Plan layouts will be developed in English units at 1"= 100' scale or an appropriate scale necessary for the construction of the project on 11"x 17" sheets.
- Roadway Detail Sheets for US 183/183A, US 183/CR 276, and other intersections.
- Miscellaneous Roadway Detail sheets.
- Design Cross Sections and determine Earthwork Volumes.
- Roadway Quantity Summaries and Cost Estimates.
- Roadway Standard sheets.

4.3. Pavement Design

- **Flexible Pavement Design:** The proposed pavement section that is to be used to construct the widened sections of US 183 and 183A will match the existing pavement section used to construct those roadways. The GEC will provide flexible pavement designs for the portion of US 183 west of the intersection, CR 276, and the Access Road using TxDOT approved format.

5. DRAINAGE

5.1. The GEC will:

- Provide overall Subtask Management and Coordination of Drainage Design efforts related to the project.
- Determine basis of flow by performing hydrologic studies, including drainage area maps, discharge determination and stage-discharge determination.
- Perform hydraulic drainage data, including hydraulic computations for storm drains, culverts and channels (if applicable).
- Provide drainage design for swales and drainage structures to accommodate the surface drainage along the project limits (if applicable). All designs will be prepared in conformance with TxDOT standards.
- Prepare a SW3P plan for the project location in accordance with current US EPA requirements and local criteria. This will include preparation of the construction plan, the required narrative, the Notice of Intent document for filing with the EPA and the Notice of Termination document for filing at the completion of the project.

- Layout, design, and detail drainage features. Design may include new culverts, new storm drain systems, improvements to existing, subsurface drainage at retaining walls and outfall channels.
- Calculate drainage quantities.
- Provide Quality Control/Quality Assurance for Drainage design activities and plan sheets.

5.2. The GEC will develop:

- Hydraulic Data Sheets (if applicable).
- Roadway swale detail sheets as required (if applicable).
- SW3P plans and details as required.
- Drainage Plan and Profile sheets and miscellaneous details of proposed drainage facilities.
- Summary of drainage quantities sheets.
- Drainage Standards sheets.

6. SIGNING, MARKINGS AND SIGNALIZATION

6.1. Pavement Markings and Signing

6.1.1. The GEC will:

- Provide overall Subtask Management and Coordination of the Pavement Marking and Signing designs and plan preparation efforts.
- Calculate signing and pavement marking quantities.
- Provide Quality Control/Quality Assurance for Signing design activities and plan sheets.

6.1.2. The GEC will develop:

- Summary of Pavement Markings Quantities sheet.
- Summary of Small Signs Quantities sheet.
- Plans and details and prepare drawings for roadway Pavement Marking and Signing design.
 - Plan layouts will be developed in English units at 1"=100' scale or an appropriate scale necessary construction, on 11"x17" sheets. The roadway pavement marking and signing design drawings shall generally consist of the following:
 - Existing Sign Removal/Relocation and Small Sign Layouts. Layout will show the project centerline stationing and signing.
 - Pavement Marking and Delineation Layouts. Layout will show the project centerline stationing and proposed markings, delineators and object markers. Layouts will include a summary of existing markings to be removed and new marking to be installed (per sheet).
- Miscellaneous Sign Details as required.
- Pavement Marking standards
- Signing standards.

6.2. Traffic Signals (Permanent and Temporary)

6.2.1. The GEC will:

- Provide overall Subtask Management and Coordination of the Traffic Signal design and plan preparation efforts for the proposed (permanent) traffic signal installations at the US 183 / 183A intersection and for (temporary) traffic signal installations used for maintaining traffic during the different phases of construction.
- Calculate traffic signal quantities.
- Provide Quality Control/Quality Assurance for Traffic Signal design activities and plan sheet production.

6.2.2. The GEC will develop:

- Plans and details and prepare drawings for upgrading existing traffic signal to accommodate proposed and future improvements and for maintaining traffic during construction. Detection will be coordinated with TxDOT and utilized on all approaches.
 - Plan layouts will be developed in English units at 1"= 40' scale, 11"x 17" sheets. Permanent traffic signal plans shall consist of the following drawings for each intersection:
 - Existing Condition
 - Traffic Signal Layouts
 - Traffic Signal Elevations
 - Traffic Signal Wiring
 - Traffic Signal Phasing
 - Traffic Signal Basis of Estimate
 - Traffic Signal Notes
 - Traffic Signal Service Pole Summary
 - Standard Detail Drawings
 - Plan layouts will be developed in English units at 1"= 40' scale, 11"x 17" sheets. Temporary traffic signal plans shall consist of the following drawings for each phase of construction:
 - Temporary Traffic Signal Layouts
 - Temporary Traffic Signal Elevations
 - Temporary Traffic Signal Wiring
 - Temporary Traffic Signal Phasing
 - Temporary Traffic Signal Notes

NOTE: The traffic signal layouts shall be designed in conformance with TxDOT Austin District PS&E requirements. Material for construction of the proposed traffic signals shall conform to TxDOT standards and specifications. Safety lighting on traffic signal poles will be included in the signal design on this project. The traffic signal design shall be prepared in accordance with Americans with Disabilities Act (ADA) requirements as adopted by TxDOT. All required specifications, general notes and estimates will be included.

- Traffic Signalization standards.

- Electric Service Summary Sheet.
- Temporary Traffic Signal Layout sheets indicating equipment layout and phase sequencing for each construction phase.
- Summary of Traffic Signal Quantities sheet.

7. MISCELLANEOUS (ROADWAY)

7.1. Illumination

7.1.1. The GEC will:

- Provide overall Subtask Management and Coordination of the Roadway Illumination design and plan preparation efforts necessary for relocating and/or updating existing illumination equipment.
- Calculate illumination quantities.
- Provide Quality Control/Quality Assurance for all Illumination design activities and plan sheet production.

7.1.2. The GEC will develop:

- Plans and details and prepare drawings for roadway illumination design.
 - Plan layouts will be developed in English units at 1"=100' scale or an appropriate scale necessary for construction on 11"x17" sheets. The roadway illumination design drawings shall generally consist of the following:
 - Existing Condition
 - Lighting Layouts
 - Illumination Wiring
 - Illumination Details
 - Illumination Summary of Quantities
 - Illumination Service Pole Summary
 - Illumination Notes
 - Standard Detail Drawings

NOTE: All design shall conform to TxDOT Austin District requirements and shall coordinate fully with any existing illumination located adjacent to the Project. All required specifications, general notes and estimates will be included.

7.2. Utilities

7.2.1. The GEC will:

- Provide overall Subtask Management and Coordination for the Utility coordination activities associated with the design of the project. Coordination efforts will include TxDOT, City of Leander, and utility companies.
- Map information provided by the surveyor regarding utility locations, elevations, and directions of critical locations on the project design files.
- Provide existing utility information on plan sheets.
- Review proposed roadway design data for potential conflicts with existing utilities.

- Coordinate with the appropriate utilities to address solutions to utility conflicts.

NOTE: No utility conflicts are anticipated at this time. Utility relocation plans are not included in this scope of work. Any utility relocation plans to be completed by the GEC that may be necessary for the project shall be completed under a separate Work Authorization.

7.3. Construction Sequencing and Traffic Control Plan

7.3.1. The GEC will:

- Provide overall Subtask Management and Coordination of the Traffic Control design and plan preparation efforts necessary for maintaining traffic flows through the construction area.
- Prepare traffic control plans (TCP) for each phase necessary for the proposed construction. The TCP shall show the detailed construction sequences and the necessary phases, complete with barricades, signing, striping, delineation, detours, temporary traffic signals and their adjustments. Each phase of the TCP shall show the location of the traffic flow indicated by directional arrows.
- Prepare quantity estimates for each traffic control bid item. These quantities will be estimated for each sheet and totaled by phase.
- Determine the project construction sequence and design a traffic control plan based upon the Texas MUTCD (TxMUTCD) and the latest Austin District traffic control design requirements.
- Provide Quality Control/Quality Assurance for TCP design and plan production activities.

NOTE: Typical sections showing the traffic lanes, construction pavement markings, delineators, barriers, buffer zone for barrels and CTB, pavement drop-off and construction detail shall be shown on each sheet. Construction signing shall be represented pictorially and designated with the appropriate identification number as shown in the TxMUTCD.

7.3.2. The GEC will develop:

- Temporary detour sheets as necessary.
- Traffic control plans (TCP) for each phase necessary for the proposed construction.
- Miscellaneous TCP detail sheets as necessary.
- Barricade and Construction standards and other appropriate standard drawings.

NOTE: Temporary lighting during the construction sequencing is not anticipated in this project. If temporary lighting is required, it will be considered additional services.

7.4. Miscellaneous

7.4.1. The GEC will:

- Provide title sheet for the plan set.
- Provide general notes for the construction documents.
- Develop a project construction manual that includes bid instructions and documentation, contracting documentation, LGPP requirements and documentation, general conditions, special conditions, governing specifications, special provisions and other required items.
- Provide index of sheets.
- Provide Quality Control/Quality Assurance for all miscellaneous design and plan production activities.
- Prepare and submit all necessary permits that are required for the project.

8. PROJECT MANAGEMENT/ADMINISTRATION

8.1. Project Management and Coordination

The GEC shall manage all activities associated with the project. Establishment of project schedules and channels of communication will be included in this task. The GEC shall secure resources necessary to produce the project deliverables and meet the project schedule. All communications associated with the project will be directly channeled through the GEC for distribution to the project team as appropriate. The GEC shall designate one Texas Registered Professional Engineer Shawn B. Stover, P.E., as Project Manager to be responsible throughout the project for project management and all communications, including billing, with the Authority. The Authority must approve any replacements to the GEC's designated Project Manager.

The GEC will be required to meet with the Authority, TxDOT, City of Leander, and others, as necessary to report on progress and to ensure all components of the project are proceeding in compliance with the scope of services and according to the project schedule. The purpose of these meetings is to evaluate the project status, determine necessary adjustments to the project work plan and schedule, plan upcoming events and discuss and resolve project technical issues. The GEC will prepare minutes of each meeting and circulate to all attendees.

The engineering work on this project may be inspected by the Authority at any time in their office at 301 Congress, Suite 650, Austin, Texas, 78701. Other fieldwork and miscellaneous specialized subcontract work will be performed at HNTB's office at 601 E Whitestone Blvd., Suite 628, Cedar Park, TX 78613 or on site.

8.2. General Administration

Perform general administration duties required to maintain the project. These duties include:

- **Coordination with subconsultants:** If the need for subconsultant services is determined to be necessary, the GEC will prepare and execute contracts with

subconsultants, monitor subconsultant activities (staff and schedule), and review and recommend approval of subconsultant invoices. Subconsultant progress reports and invoices will be incorporated into the monthly progress report and invoices.

- **Preparation of monthly progress reports and invoices:** Invoices for work completed during the period will be submitted monthly for the GEC and subconsultants. The invoice content and format will be in accordance with the specified criteria. Monthly progress reports will include:
 - Activities during the reporting period.
 - Project action item
 - Overall status of project.
 - Pending issues that need short-term attention.
- Record keeping and file management
- Data management and file transfers for required elements of the project.
- Quality Control/Quality Assurance

DELIVERABLES

Deliverables will consist of the following:

- Three (3) roll plots and an electronic copy of the Design Schematic.
- One (1) 11"x17" signed and sealed mylar original of each plan sheet and two (2) electronic copies of the Plans, Specifications and Estimates (PS&E) and all related contract documents.
- A Contract Time Determination schedule.
- Three (3) copies of the PS&E at 60% completion for the Authority Plan Review.
- Two (2) copies of the PS&E at 60% completion for City of Leander Plan Review.
- Eight (8) copies of the PS&E at 60% completion for TxDOT District Plan Review and Area Office Review.
- Three (3) copies of the PS&E at 100% completion for the Authority Plan Review.
- Two (2) copies of the PS&E at 100% completion for City of Leander Plan Review.
- Eight (8) copies of the PS&E at 100% completion for TxDOT District Plan Review and Area Office Review.
- Ten (10) copies of the PS&E at 100% completion for TxDOT Division Review and Processing.

9. LOCAL GOVERNMENT PROJECT PROCEDURES (LGPP)

9.1. Local Government Project Procedures (LGPP)

These duties include:

- Statement and Payrolls
 - Labor Interviews must be conducted monthly and must be compared to corresponding certified payrolls
 - 10% of certified payroll must reviewed for compliance of Davis Bacon wages
- Audits – Prepare for and participate in TxDOT quarterly audits and will conduct a final audit when the project closes –

- Coordinate with TxDOT to ensure they approve all subcontractors before they are allowed to work on Project
- Obtain copies of all subcontracts to ensure they comply with LGPP
- Comply with the DBE Program (reports (SMS 4903), CUF checklist, Prompt Payment Certifications
- Maintaining material testing database/log
- Maintain site plan showing location of erosion control devices with date of installation, replacement and removal an measured quantity

10. CONSTRUCTION ENGINEERING & INSPECTION

10.1. Construction Inspection and Review Services

- General contract administration and oversight of construction
- Quantity verification for payment purposes
- Recommendation for approval of payment to Contractor
- Inspection for reasonable construction quality in conformance to plans and specifications
- Conduct SW3P inspections every 14 days or within 24 hrs after .5 inches or more of rainfall
- Maintain site plan showing location of erosion control devices with date of installation, replacement and removal an measured quantity
- Conduct day and night traffic control inspections (1 day and 1 night per month)
- Review testing and materials reports Contractor for conformance to specifications
- Verification of horizontal and vertical grades using random 3rd party surveys, as necessary, to verify reasonable conformance to plan line and grade
- Document construction using daily inspection reports and photos

NOTE: Construction Quality Control (QC) Testing and Quality Assurance (QA) Testing in addition to Independent Assurance of the Quality Assurance Program services are not included in this contract. It is anticipated that TxDOT will perform these duties. If these services are required of the GEC, they will be considered additional services and require a supplement to this Work Authorization.

10.2. Final Punch List / Final Inspection, and Project Close-out

- Coordinate with the Contractor in the generation of preliminary and final punch lists.
- Monitor the resolution of outstanding construction items.
- Perform a final walk-through with the Owner and the Contractor to make sure all aspects of the Project meet the Owner's satisfaction and reasonably conform to the contract plans and specifications.
- Verify and certify final inspection reports of the completed construction; issue recommendations and certification of construction completion.

DELIVERABLES

Deliverables will consist of the following:

- Diary (objective and consisting of documented facts and statements only)
- Pay Item Computation (if needed)
- Records generated and related to the construction and construction project management

11. PROJECT OVERSIGHT - CONSTRUCTION

11.1. Change Order Processing & Management

- Prepare change orders as required by the Owner.
- Review change orders and associated cost estimates prepared by the Contractor, evaluate Contractor claims for extension of time, and provide comments to the Authority.
- Maintain, log and retain all documents associated with change orders.

11.2. Request for Information (RFI) and Shop Drawing / Submittals, Processing, and Management

- Review and respond to RFIs on the Project.
- Maintain, log and retain all documents associated with RFIs and shop drawings.
- Review submittals and shop drawings for general conformance with contract plans and specifications.

11.3. Records Management

- Maintain and retain pertinent document on the Project.
- At the completion of the Project, return all such documentation to the Authority for their storage.
- Coordinate document integration with the Authority's EDMS.

11.4. Record Drawings

- Compile and provide the Authority with Record Plans incorporating construction revisions into the original "as bid" construction plans. The GEC is not responsible for any errors or omissions in the information provided by the Contractor that are incorporated into the record drawings.

DELIVERABLES

Deliverables will consist of the following:

- Change Order files and log
- RFI and shop drawing files and log
- Final Record Drawings

ATTACHMENT B
FEE ESTIMATE

TASK DESCRIPTION	CLASSIFICATION														TOTAL HOURS
	Group Director / Program Manager	Project Manager II	Project/Sr. Engineer	Engineer II	Engineer I	Sr. Technician	Resident Engineer	Sr. Inspector	Inspector III	Inspector I	Sr. ITS Design Engineer	Office Business Manager	Project Analyst	Office Tech Specialist I	
1. ROUTE AND DESIGN STUDIES															
1.1. Traffic Evaluations and Projections		8		12											
1.2. Develop Roadway Design Criteria		4		8											
1.3. Preliminary Cost Estimates		8		12											
1.4. Design Schematic		8		8	16	16									
SUBTOTAL	0	28	0	40	16	16	0	0	0	0	0	0	0	0	100
2. SURVEYING															
2.1. Subsurface Utility Engineering (SUE) – Utility Surveys		4		16											
2.2. GEC Provided Surveying		4		8	24										
2.3. Right of Way / Easement Staking		4		16	4										
SUBTOTAL	0	12	0	40	28	0	0	0	0	0	0	0	0	0	80
3. FIELD SURVEYING AND PHOTOGRAMMETRY															
3.1. Field Surveying				2	12										
SUBTOTAL	0	0	0	2	12	0	0	0	0	0	0	0	0	0	14
4. ROADWAY DESIGN CONTROLS															
4.1. GEC Provided Design Services		16		16		76									
4.2. PS&E Deliverables		16		16	430										
4.3. Pavement Design		4		8	8										
SUBTOTAL	0	36	0	40	438	76	0	0	0	0	0	0	0	0	590
5. DRAINAGE															
5.1. GEC Provided Design Services		12		60	24										
5.2. PS&E Deliverables		8		16	220										
SUBTOTAL	0	20	0	76	244	0	0	0	0	0	0	0	0	0	340
6. SIGNING, MARKINGS AND SIGNALIZATION															
6.1. Pavement Marking and Signing															
6.1.1. GEC Provided Design Services		4		8	16										
6.1.2. PS&E Deliverables		2		4	148										
6.2. Traffic Signals (Temporary and Permanent)															
6.2.1. GEC Provided Design Services		12	24	8							75				
6.2.2. PS&E Deliverables			2	4	280										
SUBTOTAL	0	18	26	24	444	0	0	0	0	0	75	0	0	0	587
7. MISCELLANEOUS (ROADWAY)															
7.1. Illumination															
7.1.1. GEC Provided Design Services		4	16	12							2				
7.1.2. PS&E Deliverables		2		2	74										
7.2. Utilities															
7.2.1. GEC Provided Design Services		12			12										
7.3. Construction Sequencing and Traffic Control Plan															
7.3.1. GEC Provided Design Services		12		80											
7.3.2. PS&E Deliverables		2		8	134										
7.4. Miscellaneous															
7.4.1. GEC Provided Design Services		20		22	35									40	
SUBTOTAL	0	52	16	124	255	0	0	0	0	0	2	0	0	40	489
8. PROJECT MANAGEMENT/ADMINISTRATION															
8.1. Project Management and Coordination	30	100										15	15		
8.2. General Administration		60											75	100	
SUBTOTAL	30	160	0	0	0	0	0	0	0	0	0	15	90	100	395
9. LOCAL GOVERNMENT PROJECT PROCEDURES															
9.1. Local Government Project Procedures	4	16					24		24					100	
SUBTOTAL	4	16	0	0	0	0	24	0	24	0	0	0	0	100	168
10. CONSTRUCTION ENGINEERING & INSPECTION															
10.1. Construction Inspection and Review Services		28		28			72	1200		632					
10.2. Final Punch List / Final Inspection, and Project Close-out		16		8			10	8		16					
SUBTOTAL	0	44	0	36	0	0	82	1208	0	648	0	0	0	0	2018
11. PROJECT OVERSIGHT - CONSTRUCTION															
11.1. Change Order Processing & Management				96			144							18	
11.2. Request for Information (RFI) and Shop Drawing / Submittals, Processing, and Management				72			100							27	
11.3. Records Management														124	
11.4. Record Drawings		8		40	80		40								
SUBTOTAL	0	8	0	208	80	0	284	0	0	0	0	0	0	169	749
TOTAL HOURS	34	394	42	590	1,517	92	390	1,208	24	648	77	15	90	409	5,530
BASE RATE	\$ 96.16	\$ 63.73	\$ 50.40	\$ 35.75	\$ 32.71	\$ 45.51	\$ 53.53	\$ 39.15	\$ 32.51	\$ 22.28	\$ 57.90	\$ 46.17	\$ 26.59	\$ 24.71	
	1%	7%	1%	11%	27%	2%	7%	22%	0.4%	12%	1%	0.3%	2%	7%	Overall Totals
TOTAL LABOR	\$ 3,269	\$ 25,109	\$ 2,117	\$ 21,093	\$ 49,627	\$ 4,187	\$ 20,877	\$ 47,289	\$ 780	\$ 14,434	\$ 4,458	\$ 693	\$ 2,393	\$ 10,106	\$ 206,431
LABOR BURDEN	\$ 6,086	\$ 46,742	\$ 3,940	\$ 39,266	\$ 92,386	\$ 7,794	\$ 38,864	\$ 88,033	\$ 1,452	\$ 26,871	\$ 8,299	\$ 1,289	\$ 4,455	\$ 18,814	\$ 384,292
TOTAL	\$ 9,356	\$ 71,851	\$ 6,057	\$ 60,358	\$ 142,013	\$ 11,981	\$ 59,741	\$ 135,322	\$ 2,233	\$ 41,305	\$ 12,757	\$ 1,982	\$ 6,848	\$ 28,920	\$ 590,723

EXPENSES & SUBCONSULTANTS	ITEM
MISCELLANEOUS EXPENSES	\$ 9,277
Survey Subconsultant	\$ 25,000
Additional Subconsultants as necessary - Estimated fee (\$50,000) included in labor prices	
TOTAL	\$ 34,277

SUBTOTALS BY TASK	TOTAL HOURS	TOTAL LABOR	TOTAL BURDENED LABOR
1. ROUTE AND DESIGN STUDIES	100	\$ 4,466	\$ 12,780
2. SURVEYING	80	\$ 3,111	\$ 8,902
3. FIELD SURVEYING AND PHOTOGRAMMETRY	14	\$ 464	\$ 1,328
4. ROADWAY DESIGN CONTROLS	590	\$ 21,512	\$ 61,558
5. DRAINAGE	340	\$ 11,974	\$ 34,264
6. SIGNING, MARKINGS AND SIGNALIZATION	587	\$ 22,183	\$ 63,478
7. MISCELLANEOUS (ROADWAY)	489	\$ 17,989	\$ 51,507
8. PROJECT MANAGEMENT/ADMINISTRATION	395	\$ 18,638	\$ 53,334
9. LOCAL GOVERNMENT PROJECT PROCEDURES	168	\$ 5,940	\$ 16,998
10. CONSTRUCTION ENGINEERING & INSPECTION	2,018	\$ 70,204	\$ 200,895
11. PROJECT OVERSIGHT - CONSTRUCTION	749	\$ 29,941	\$ 85,680
EXPENSES & SUBCONSULTANTS			\$ 34,277
JOB TOTALS	5,530	\$ 206,431	\$ 625,000

**GENERAL MEETING OF THE BOARD OF DIRECTORS
OF THE
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

RESOLUTION NO. 11-___

**APPROVE A NEW WORK AUTHORIZATION WITH HNTB CORPORATION
RELATING TO THE US183/183A INTERSECTION IMPROVEMENT PROJECT.**

WHEREAS, HNTB Corporation (“HNTB”) serves as a general engineering consultant to the Central Texas Regional Mobility Authority (“CTRMA”) under the Agreement for General Consulting Civil Engineering Services effective January 1, 2010 (the “Agreement”); and

WHEREAS, HNTB and the Executive Director have discussed and agreed to a proposed new Work Authorization No. 10 that sets forth a scope of services related to project development and construction phase services for the US183/183A Intersection Improvement Project under TxDOT Pass Through Financing, a copy of which is attached and incorporated into this resolution as Attachment A; and

WHEREAS, the Executive Director recommends approval of the proposed Work Authorization No. 10.

NOW THEREFORE, BE IT RESOLVED that the proposed Work Authorization No. 10 is approved; and

BE IT FURTHER RESOLVED that the proposed Work Authorization No. 10 in the form or substantially the same form as Attachment A may be finalized and executed by the Executive Director on behalf of CTRMA.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 28th day of July, 2011.

Submitted and reviewed by:

Approved:

Andrew Martin
General Counsel for the Central
Texas Regional Mobility Authority

Ray A. Wilkerson
Chairman, Board of Directors
Resolution Number: 11-___
Date Passed: 7/28/11

ATTACHMENT “A” TO RESOLUTION 11-
PROPOSED WORK AUTHORIZATION NO. 10

[on the following 17 pages]