



**CENTRAL TEXAS  
Regional Mobility Authority**

## AGENDA ITEM #4 SUMMARY

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Approve a supplement to the work authorization with HNTB Corporation for the development of the SH 45 SW Project.

Strategic Plan Relevance: Regional Mobility

Department: Engineering

Associated Costs: None

Funding Source: General Funds will be used and reimbursed by Hays/Travis County through Interlocal Agreement

Board Action Required: Yes

Description of Matter: At its June 29, 2011, meeting, the Board approved HNTB's Work Authorization No. 8 to provide project management, program oversight and administrative tasks required to assist the Mobility Authority for the SH 45 SW Project. This Supplement provides for continuation of current activities and for additional activities including design oversight services, context sensitive solutions, environmental and stakeholder commitment tracking, and providing renderings for use in outreach events. The cost for all services provided under the scope of services detailed in the proposed supplement to the work authorization is unchanged from the original work authorization's not-to-exceed cost of \$1,996,351.

Reference documentation: Draft Supplement No. 1 to Work Authorization No. 8  
Draft Resolution

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

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

**RESOLUTION NO. 11-082**

**APPROVE A WORK AUTHORIZATION UNDER THE GEC MASTER  
CONTRACT WITH HNTB CORPORATION FOR PROJECT SPECIFIC  
SERVICES RELATED TO THE DEVELOPMENT OF  
THE MANCHACA EXPRESSWAY (APPROXIMATELY 4 MILES OF THE SH  
45 SOUTHWEST CORRIDOR, FROM LOOP 1 TO FM 1626).**

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 work authorization, a copy of which is attached and incorporated into this resolution as Attachment A, for HNTB to perform certain project management, administrative tasks and program oversight duties related to CTRMA’s development of the Manchaca Expressway; and

WHEREAS, the Executive Director recommends approval of the proposed amendment.

NOW THEREFORE, BE IT RESOLVED that the Board of Directors approves the proposed Work Authorization No. 9, in the form or substantially the same form as Attachment A; and

BE IT FURTHER RESOLVED that the proposed supplemental work authorization, as approved, 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 29<sup>th</sup> day of June, 2011.

Submitted and reviewed by:

Approved:

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Andrew Martin  
General Counsel for the Central  
Texas Regional Mobility Authority

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Ray A. Wilkerson  
Chairman, Board of Directors  
Resolution Number: 11-082  
Date Passed: 6/29/11

**ATTACHMENT "A" TO RESOLUTION 11-082**  
**PROPOSED WORK AUTHORIZATION NO. 8**

**[on the following 10 pages]**

## APPENDIX D

### WORK AUTHORIZATION SUPPLEMENT

#### WORK AUTHORIZATION NO. 8

#### SUPPLEMENT NO. 1

This Supplement No. 1 to Work Authorization No. 8.0, is made as of this \_\_\_\_ day of \_\_\_\_\_, 2015, under the terms and conditions established in the AGREEMENT FOR GENERAL CONSULTING ENGINEERING SERVICES between the Central Texas Regional Mobility Authority (“Authority”) and HNTB Corporation (“GEC”). This Supplement is made for the following purpose, consistent with the services defined in the Agreement:

**Manchaca Expressway Project Development now to be referred to as SH 45 SW Design**

The following terms and conditions of Work Authorization No. 8.0 are hereby amended, as follows:

#### **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.

N/A

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 anticipated to be substantially complete on December 31, 2015.

This Work Authorization will not expire until all tasks associated with the Scope of Services are complete as defined by the Authority.

#### **Section C. - Compensation**

C.1. In return for the performance of the foregoing obligations, there shall be no change to the total Cost Plus fee. The not to exceed amount for Work Authorization No. 8.0 shall remain **\$1,996,351**. Compensation shall be in accordance with the Agreement.

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.

**Authority:**

**CENTRAL TEXAS REGIONAL  
MOBILITY AUTHORITY**

By: \_\_\_\_\_

Name: Mike Heiligenstein

Title: Executive Director

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

**GEC:**

**HNTB Corporation**

By: \_\_\_\_\_

Name: Richard L. Ridings, P.E.

Title: Vice President

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

Attachment A: Scope of Work

**CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY****ATTACHMENT A – SCOPE OF SERVICES****WORK AUTHORIZATION NO. 8**  
**Supplement No. 1****SERVICES TO BE PROVIDED BY the GENERAL ENGINEERING CONSULTANT**  
**(GEC)****General**

This Supplement No. 1 replaces the previous scope of services in its entirety. The services to be performed under this Supplement No. 1 by GEC will include, but not be limited to, professional services and deliverables for various tasks related to the study and development of the SH 45 SW Project, “the Project”. The limits of the services are from Loop 1 (MoPac) South to FM 1626. Because GEC has no control over the cost of labor, materials, or equipment furnished by others, or over the resources provided by others to meet project schedules, the GEC's opinion of probable costs shall be made on the basis of experience and qualifications as a practitioner of its profession. GEC does not guarantee that proposals, bids, or actual project costs will not vary from GEC's construction cost estimates and/or GEC's projected schedules. No review, coordination or monitoring services by GEC under this Agreement relieve other project participant's of their contractual obligations to the Authority or any other party.

**1.0 PROJECT MANAGEMENT & ADMINISTRATION**

The GEC will perform project management, administrative and coordination duties, including contract administration, project management, reporting, meeting minutes of required meetings and telephone conversations, and other related administrative tasks (e.g., direct costs) associated with the Project, including:

**1.1. Coordinate, Procure, and Administer Work Authorizations**

Prepare contracts, as required, between the GEC and the Authority, GEC and subconsultants, and Authority and its Subconsultants. The GEC will also assist in the preparation of and/or review of contracts between the Authority and subconsultants. Monitor and coordinate subconsultant activities, review all work products prepared by subconsultant, review and approve subconsultant progress reports and invoices.

**1.2. Progress Reports and Invoices**

Prepare and issue monthly reports on the Project's status which will document any issues, delays encountered, and corrective actions as necessary. The GEC will also provide a monthly update to the Authority on key milestones accomplished during the preceding month, meetings, and key activities for the upcoming month, and identify outstanding issues requiring resolution.

Prepare monthly invoices and progress reports for the work tasks, together with evidence of services accomplished during the time period since the previous report. Prepare a detailed schedule (provide in the Authority approved format) of anticipated monthly invoice billing linking to the project work authorization tasks. A monthly progress report will be submitted and will include: activities completed, initiated or ongoing, during the reporting period; challenges encountered and actions to remedy them; overall status, including a tabulation of percentage complete by task; updated project schedule; and DBE utilization status. This includes reporting and invoicing to TxDOT for reimbursement of funding, quarterly reports and presentations, and preparation and support for monthly Project updates for distribution to stakeholders.

### **1.3. Record Keeping and File Management**

Maintain, and, upload records and files, related to the Project, throughout the duration of GEC Services.

### **1.4. Correspondence**

Prepare written materials, letters, survey forms, etc. used to solicit information or collect data for the project and submit them to the Authority for review and approval prior to its use or distribution. Copies of relevant outgoing correspondence and incoming correspondence will be provided to the Authority on a continuing basis.

### **1.5. Work Authorization Schedule**

Prepare a detailed, graphic schedule linking work authorization tasks, subtasks, critical dates, milestones, deliverables, and the Authority/Texas Department of Transportation (TxDOT)/ Federal Highway Administration (FHWA) scheduled review requirements. The project schedule will be in a format that depicts the order and inter-dependence of the various tasks, subtasks, milestones and deliverables for each of the tasks identified therein. Progress will be reviewed periodically, and should these reviews indicate a substantial change in progress, a schedule recovery strategy will be developed collectively with the comprehensive Project team and the schedule will be revised accordingly. Implementation of the recovery schedule is subject to TxDOT's team.

### **1.6. Dashboard Update**

Prepare and submit updated project information, including schedule and budget, for the Authority's dashboard on a monthly basis; provide QC review of revised information on website.

## **2.0 PROJECT DEVELOPMENT**

This scope of services includes professional services and deliverables in support of the Authority's development of the Project from Loop 1 (MoPac) South to FM 1626.

### **2.1. Project Development Support**

The GEC will provide support to the Authority as required during the Project Development process. Specific efforts will include

- 2.1.1. Loan and/or Grant Applications: Assist the Authority in the development of loan and/or grant applications for the project as required. This will include preparation of various elements of the loan and/or grant form and associated documentation for the Authority's review and approval; it will also include participation in the coordination efforts with State and/or Federal agencies as requested by the Authority.
- 2.1.2. Engineering and Technical Support: Provide various engineering and technical tasks as requested by the Authority including but not limited to: general engineering assistance, general technology assistance, general environmental coordination, reports, research, presentations, and meetings.
- 2.1.3. Traffic Modeling: Conduct a peer review of the CORSIM and/or VISSIM Traffic Models and provide summary of suggested revisions. Assist with coordination between consultants.
- 2.1.4. TxDOT and FHWA Coordination: Provide appropriate staff as part of coordination efforts between the Authority and TxDOT and FHWA. GEC will provide coordination efforts on the Authority's behalf at the direction of the Authority.
- 2.1.5. Traffic and Revenue (T&R) Consultant Coordination: Provide coordination and support to the Authority's T&R Consultant, as directed by the Authority.
- 2.1.6. Project Development Agreement (PDA): Assist in the development of the PDA, generation of PDA exhibits, review of PDA drafts, and TxDOT coordination support, as directed by the Authority.
- 2.1.7. CAMPO Coordination: Provide appropriate staff as part of coordination efforts between the Authority and CAMPO. GEC will provide coordination efforts on the Authority's behalf at the direction of the Authority.
- 2.1.8. Provide DBE Outreach as requested by the Authority.
- 2.1.9. Litigation Support: Provide litigation support which includes answering questions, reviewing documents and clarifying information as requested by the Authority. In the event HNTB is requested to attend a deposition or provide fact witness testimony, such time and expenses is an additional cost under this agreement and will be billed to CTRMA at HNTB's hourly rate for such individual.
- 2.1.10. Utility and Right-of-Way Support: Support the Authority in its efforts to coordinate future utility relocations and right-of-way acquisitions if needed.

## **2.2. Financial Planning Support**

- 2.2.1. Operation, Maintenance, and Renewal & Replacement Estimate Updates
  - 2.2.1.1. Develop and/or update GEC's opinion of probable operations cost estimates using either a Sketch Level approach (i.e., an assumed per



transaction cost based on average operations costs of similar toll systems) or a Level 1 approach (i.e., estimate actual quantities for the various elements of the toll operations, enforcement and incident management and applying anticipated unit prices to same to develop an opening year cost estimate which can be escalated over time).

- 2.2.1.2. Develop and/or update GEC's opinion of probable annual/routine maintenance cost estimates using either a Sketch Level approach (i.e., an estimated per centerline mile cost based on the facility type which considers the number of lanes, pavement material, and location) or a Level 1 approach (i.e., estimate actual quantities for the various elements of the maintenance efforts and applying anticipated unit prices to same to develop an opening year cost that can be escalated over time).
- 2.2.1.3. Develop and/or update GEC's opinion of probable renewal & replacement budget cost estimates (non-routine maintenance estimates) using either a Sketch Level approach (i.e., an estimated per mile cost based on renewal & replacement budgets utilized on similar facilities) or a Level 1 approach (i.e., includes the identification of a long-term, periodic maintenance/replacement schedule, estimation of quantities for the associated elements, and inflated prices of same to assess the overall cost requirements of the system in the target years).

## 2.2.2. Project Cost Estimate Updates

GEC will provide opinion of probable project cost estimate updates for the project. GEC will prepare an estimate of probable construction costs which will include quantity/cost estimates for major components of work such as; roadway paving, roadway earthwork, roadway drainage, bridge structures, retaining walls, other structures, signing and marking, lighting, and signalization. The estimate of probable construction costs will be used to estimate total project costs that will also include program management and oversight, preliminary engineering, final engineering, right-of-way (ROW) acquisition, environmental compliance/mitigation, construction, toll collection systems utility relocation and construction engineering and inspection (CEI), and financing costs.

Provide updates to preliminary costs estimate, schedule, financial feasibility analysis necessitated by the on-going project scoping/sizing process.

Incorporate the use of risk-based cost estimating as appropriate.

## 2.2.3. Toll Feasibility Analysis Updates

GEC will assist the Authority in updating toll feasibility analyses which includes the incorporation of traffic and revenue forecast updates (by others); operations, maintenance, and renewal & replacement estimates; and total project cost estimates to determine the financial feasibility of the project.

## 2.2.4. Financial Advisor Support/Financial Plan Development

GEC will provide financial advisor support necessary for the Authority to conduct financial programming of their system, including assistance with funding

applications preparation. This will include the development of cash flow analyses which contemplate implementation costs and schedules. The tasks will include:

- Develop GEC's opinion of probable project costs based upon a design-bid-build approach. Assess third party related costs for utility adjustments/relocations.
- Coordinate the system financing plan which may include the 183A Phase I and II, the Mopac Improvement Project, and 290E Phase I and II projects, and may require the update and revision of the respective operations and maintenance costs, traffic and revenue studies, and renewal and replacement cost estimates.
- Analyze and document the financial implications of the various design options considered and include such things as project cost, schedule impact, local economic impact, length of useful life, and impact on financing options.

### **2.3. Toll Systems/Facilities Design**

2.3.1. The GEC will update the Toll Design Guidelines to reflect the Authority's Toll Integrator's current standards.

2.3.2. The GEC will coordinate design activities between the Authority's Toll Integrator and final design consultant as necessary.

### **2.4. Design Oversight Services**

2.4.1. The GEC shall support the Authority in the procurement and management of a final design consultant including but not limited to:

- Preparing procurement documents
- Participating in qualifications reviews and interviews
- Documenting processes and procedures
- Coordinating the negotiations and contract documents
- Responding to project related questions
- Tracking progress and reviewing invoices
- Coordinating and reviewing communications and submittals

2.4.2. Review Preliminary Design

The GEC will review plans and reports submitted by the Authority's design consultant at the direction of the Authority. Including but not limited to:

- Geotechnical Reports
- Bridge and retaining wall layouts
- Pavement design
- Design Summary Report
- Preliminary plan and profile sheets, typical sections, and cross sections
- Hydraulic reports, H&H models, drainage designs, water quality designs, detention design, scour analysis

- Utility layouts/SUE
- Traffic control phasing
- ITS, Tolling, and Signing layouts

#### 2.4.3. Review Final Design

The GEC will review PS&E submitted by the Authority's design consultant at the direction of the Authority. Including but not limited to:

- 100% Plan Set
- Specification List
- Quantity Estimate

### 2.5. Design Services – Context Sensitive Solutions (CSS)

The GEC will support the Authority in its efforts to provide context sensitive design solutions to the Project. Through the CSS process the GEC will develop aesthetic guidelines and landscape plans. This shall include:

#### 2.5.1. Sustainability Design Competition:

As requested by the Authority, coordinate and participate in a Sustainability Design Competition to solicit innovative, "green" concepts and ideas, as well as to promote sustainability within the roadway design process. Incorporate ideas, where appropriate, into the Environmental Impact Statement and/or schematic.

#### 2.5.2. CSS exhibits, website, meetings, guideline preparation

At the direction of the Authority the GEC shall:

- Prepare for and attend CSS meetings
- Prepare exhibits and renderings for use on interactive web site
- Based on results of CSS process, prepare a general guideline layout for the Authority's design consultant use in preparing structural details and other design accommodations

#### 2.5.3. Preparation of landscape and hardscape final design

The GEC will utilize the CSS results to prepare final plans for hardscape and landscape enhancements for insertion into the PS&E set including:

- Signed and sealed plans and details
- List of applicable specifications
- Quantity Estimate

### 2.6. Conceptual Operations Plan

Prepare a preliminary draft Conceptual Operations Plan for the Project which is intended to establish the basic framework for operations of the facility; including a basic definition of systems architecture for ITS and toll collection, incident management, safety and enforcement, and maintenance. The plan will include the roles and responsibilities of the various agencies. The basic approach for the development of the Conceptual Operations

Plan will utilize the “183A CONCEPT OF OPERATIONS” and “MANOR EXPRESSWAY CONCEPT OF OPERATIONS” prepared for the Authority to the extent possible as a starting point for the Conceptual Operations Plan. This living document will identify program goals and specific project operational requirements, infrastructure, personnel, operations and maintenance support efforts, and resource requirements. In addition, the Conceptual Operations Plan will provide a preliminary program schedule and timeline of various activities to meet the Authority’s goals within the desired timeframe.

This task involves assisting the Authority with professional consulting services that include conceptual operations plan development and coordination with TxDOT, the City of Austin, Travis County, Hays County, TTI, and the Authority’s Toll Systems Integrator. The work associated with the development of the Conceptual Operations Plan will include the following specific tasks.

#### 2.6.1. Operations Plan Development

Based, in part, on the findings of industry research and the development of “Best Practices” for the operation of toll projects, prepare a draft preliminary Conceptual Operations Plan which presents the concept for operation of the proposed Project to include:

- Definition of the Operations Concept
- Description of the toll facility
- Description of the Systems Architecture, including
  - Toll Collection System components
  - Communications Infrastructure
  - ITS System and Interface
- Incident Management
- Enforcement
- Facility Maintenance
- Review of CTRMA policies to ensure they are applicable to the Project

#### 2.6.2. Interagency Coordination

Assist the Authority in conducting a series of agency work sessions in order to develop a basic framework for establishment of the roles and responsibilities for the various respective agencies.

Based on discussions and conclusions identified during the interagency work sessions, prepare a basic organizational structure describing the roles and responsibilities of the agencies to be involved in the operation of the Project.

### **2.7. Finalize Letting Documents and Support Bidding and Award of Construction Contractor**

When PS&E is complete and all approvals are obtained by the Authority’s design consultant, the GEC will support the Authority in its efforts to issue bidding documents, review bids, and award and enter into a contract for the construction of the Project.

### **3.0 ENVIRONMENTAL SERVICES**

#### **3.1. Agency Coordination**

The GEC will provide support, coordination, and communication with various agencies as requested by the Mobility Authority. When requested by the Mobility Authority, the GEC will attend meetings with the various interested agencies involved. These agencies include, but are not necessarily limited to TxDOT, Barton Springs/Edwards Aquifer Conservation District (BSEACD), City of Austin, Hays & Travis County, City of Hays, Violet Crown Trail, Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service and the TCEQ.

#### **3.2. Document Review**

The GEC will review environmental documents prepared by the Authority's design consultant. Including but not limited to:

- Water Pollution Abatement Plan (WPAP) prior to Mobility Authority submittal to the TCEQ.
- Any re-evaluation of the FEIS, if required.

#### **3.3 Environmental and Stakeholder Commitment Tracking**

The GEC will prepare and maintain a tracking log of all environmental permits, issues and commitments included in current planning documents (State EIS and related coordination, Green Mobility Challenge, consent decree, stakeholder commitments, WPAP, SW3P, etc...) in order to confirm that all commitments are carried forward into design, construction, and operation of the Project.

### **4.0 Public Involvement Support**

GEC will provide public involvement outreach support on behalf of the Authority for the environmental process, noise workshops, context sensitive design, final design process, and other stakeholders as identified.

#### **4.1. Support for Environmental-Related Public Involvement**

Support the Authority in coordination activities with the TxDOT, as required; including:

- material preparation which may include agendas, graphics, name tags, sign-in sheets, comment cards, wayfinding signs for meetings, etc.
- preparation, coordination, participation, and/or attendance at stakeholder meetings, open houses, and public meetings
- review of public outreach support materials
- review of public outreach documentation and reports
- review and provide response support to public inquiries

#### **4.2. Public Involvement Activities**

Support the Authority in comprehensive services in planning, scheduling, developing, conducting, and documenting enhanced public involvement activities, as required; including:

- “Informed Consent”-driven Open Houses
- Elected Official Outreach
- Stakeholder Outreach and Facilitation
- Website Support
- E-Newsletters

Support the Authority in preparation of media outreach/media briefings, as requested by the Authority. It is anticipated that these services will be primarily handled by the Authority and the Authority’s public relations consultant.

#### **4.3. Renderings**

Provide renderings of the Project for use in outreach events and web site as requested by the Authority.

[END OF SECTION]